

An Eye for an Eye: Examining Personality-Based Predictors of Trait Vengefulness

SEAN E. WISNIESKI
Shepherd University

Vengeance is a form of aggression aimed at retaliating against another for some perceived transgression. Previous research suggests a strong basis for the prediction of vengefulness from individual personality traits. The present study examined unforgiveness, narcissism, self-esteem, locus of control, trait anger, self-control, age, and sex as possible predictors. Participants (N = 110) completed measures of trait anger, externality of personal control, subclinical narcissism, forgiveness, vengefulness, and global self-esteem. Only age and externality failed to contribute to the model's predictive power, which otherwise accounted for more than half the variance in vengefulness scores. The results suggest a strong basis for predicting vengefulness at the individual level independent of situational factors.

Social interactions sometimes give rise to interpersonal offense, whether in the form of a tasteless joke, a hurtful remark, or a betrayed trust. When an individual feels hurt by someone, feelings of unforgiveness often result. Unforgiveness refers to a constellation of generally negative emotions resulting from the perception of an interpersonal transgression; such emotions may include anger, bitterness, hatred, resentment, and rumination (Berry, Worthington, O'Connor, Parrott, & Wade, 2005). Different people attempt to resolve, reduce, or avoid these negative feelings in different ways (Worthington & Wade, 1999). Some may choose to forgive their transgressor, freely relinquishing those negative emotions and any claims they might have to restitution or justice for the harm they suffered (Exline, Baumeister, Bushman, Campbell, & Finkel, 2004). When people genuinely forgive their transgressors, the result is a motivational transformation away from retaliation and estrangement and toward goodwill, compassion, and mercy (McCullough, Worthington, & Rachal, 1997). By contrast, some may choose to seek vengeance. Vengeance is a form of retributive aggression in which the victim of some transgression responds in a manner that is usually aggressive, disproportionate, intense, highly personal, and temporally incontinent to the harm suffered, typically following a period of angry rumination (Stuckless & Goranson, 1992).

Although both forgiveness and vengeance have the

effect of reducing the negative feelings associated with unforgiveness (Worthington & Wade, 1999), there is abundant evidence that the two are unequal in most other respects. For instance, the literature indicates that vengeance is a highly malicious and antisocial behavior implicated in a number of violent crimes, including arson (O'Sullivan & Kelleher, 1987), homicide (Porporino, Doherty, & Sawatsky, 1987), and rape (Scully & Marolla, 1985). Conversely, the literature paints forgiveness as a prosocial behavior that confers both physical and mental health benefits on its practitioners. Forgiveness-based therapeutic interventions, such as that designed by Enright and the Human Development Study Group (1991), have resulted in significant long-term mental health improvements in participating clients who identified as suffering from recent emotional distress (e.g., Al-Mabuk, Enright, & Cardis, 1995).

Thus, forgiveness and vengefulness, although clearly related, are empirically distinct phenomena.

Author note. The author extends his sincerest thanks to Leah Shaffer, Professor Judy Spence, and Christen Wall for their immeasurable assistance in the collection of data. The author also thanks Dr. Larry Z. Daily of Shepherd University, the faculty sponsor for this paper, whose feedback and kind patience was nothing less than critical in its completion.

Correspondences concerning this article should be addressed to Sean E. Wisnieski at 28 W. Orndorff Dr, Brunswick, MD, 21716-1220. E-mail: swisni02@shepherd.edu.

Faculty mentor: Ashley Tempel

Moreover, Brown (2003) noted that although vengefulness, by definition, entails unforgiveness, unforgiveness does not necessarily lead to vengefulness; some unforgiving people may, for a variety of reasons, prefer simply to harbor a grudge or avoid their transgressor. What, then, makes some people more vengeful than others? Brown (2004) suggested the influence of certain personality traits and found that trait narcissism exerted just such an influence. Brown (2003) proposed that this influence might be attributable to narcissists' elevated self-efficacy and self-entitlement, which might lead narcissists to feel more able and willing to exact vengeance. The purpose of the present research was to investigate several other personality traits, including trait anger, externality of personal control, low self-control, high self-esteem, sex, and age, which might contribute significantly to the prediction of vengefulness.

One reason for these predictions is that prior research (e.g., Wilkowski & Robinson, 2007) has demonstrated that aggressive thoughts and feelings often result from failures in cognitive self-regulation. Wilkowski and Robinson (2007) likened this self-regulation to a kind of psychological home security system, in which the intrusion of unwanted negative thoughts results in the recruitment of limited cognitive resources to repel them. When such resources become depleted, affected individuals may momentarily lose the ability to inhibit such thoughts, feelings, and behaviors. In accordance with this theory, Stucke and Baumeister (2006) found that the depletion of self-control resources under experimental conditions resulted in an increased tendency toward aggression. It is possible that such aggression might manifest in the form of vengeance-seeking behaviors.

Thus, it is probable that any personality characteristic that taxes this limited self-control resource will result in a reduced ability to inhibit vengeful behaviors. That neuroticism, for instance, promotes vengefulness (McCullough, Bellah, Kilpatrick, & Johnson, 2001) is likely a function of its documented tendency to predispose people to experience more interpersonal stress (Gunthert, Cohen, & Armeli, 1999), which depletes self-control and permits the intrusion of hostile and vengeful thoughts. Likewise, Wilkowski and Robinson's (2008) finding that individuals high in trait anger suffer from a relative dearth of self-regulation dovetails neatly with other findings implicating trait anger in unforgiveness and vengeful rumination (e.g., Berry et al., 2005).

For these reasons, I hypothesized that vengefulness could be predicted from a combination of traits that promote emotional stress that, in turn, deplete self-control, removing one internal barrier to the exact

of vengeance. Narcissism is one such trait that earlier research has identified as a key predictor of vengefulness (e.g., Brown, 2004). Narcissists may be more vengeful because they tend to perceive transgressions more readily than nonnarcissists (McCullough, Emmons, Kilpatrick, & Mooney, 2003). Narcissists are also more globally aggressive than nonnarcissists, to an extent not captured by simple, healthy self-esteem (Bushman & Baumeister, 1998), which may also predispose them to vengeance-seeking. Another hypothesized predictor of vengefulness is externality of personal control, defined by Lefcourt (1976) as the belief that events in life are determined by luck, fate, chance, or the intervention of powerful others. Lefcourt related externality to learned helplessness, a contention supported by Benassi, Sweeney, and Dufour's (1988) meta-analysis linking externality to depression. Because positive affect can help guard against the depletion of self-control (Tice, Baumeister, Shmueli, & Muraven, 2007), it logically follows that persistent states of negative affect, such as depression, would exacerbate the depletion of self-control and dispose affected individuals to more aggressive thoughts and behaviors. Moreover, Bayse, Allgood, and Van Wyk (1992), in a study of family life education in correctional rehabilitation, found that nearly half of the inmates sampled were significantly more external than average. No study has yet linked locus of control with vengefulness but, as with narcissism, the general disposition of external individuals toward negative affectivity and criminal aggression indicates a poor capacity for self-regulation. In addition, Muraven's (2008) finding that autonomous exercise of self-control tends to deplete the resource less quickly than when the exercise of self-control is compelled conforms with Baumeister, Vohs, and Tice's (2007) earlier claim that motivations and perceptions of self-control exercise can temporarily guard against the negative effects of its depletion. Because externality is characterized by feelings of helplessness and captivity to the caprices of fate or powerful others, externality likely taxes the inhibitory self-control resource and therefore promotes vengefulness. I also anticipated that trait anger would contribute to the prediction of vengefulness, because previous research has established a direct link between trait anger and vengefulness. Berry et al. (2005), for instance, confirmed that high trait anger both inhibited forgiveness and promoted vengeful rumination.

Baseline self-control will likely also help predict vengefulness. Although all individuals possess self-control to some extent, there is ample evidence that this capacity varies from individual to individual (Tangney, Baumeister, & Boone, 2004). Accordingly, individuals with low trait self-control are likely less capable of inhibiting vengeful impulses, even in the

absence of traits that might tax self-control extensively, such as narcissism. This notion is critical because prior research (Muraven, Pogarsky, & Shmueli, 2006; Stucke & Baumeister, 2006) has implicated low self-control in retaliatory, violent aggression.

Finally, I hypothesized that age and sex would also relate to vengefulness. At least two studies (Cota-McKinley, Woody, & Bell, 2001; Stuckless & Goranson, 1992) have found that age correlated negatively with vengefulness and that men endorsed vengeful attitudes more than women.

Methods

Participants

One hundred and ten participants (57 women, 53 men) were sampled. Of these, 47 (42.7%) were Shepherd University students of various majors and area residents who participated on a voluntary basis, 41 (37.3%) were students enrolled in an introductory psychology course whose participation satisfied a course research participation requirement, and 22 (20.0%) were students in an introductory English course who participated for a small amount of extra credit. The mean age of the participants was 21.90 ($SD = 6.05$). The recruitment of human participants was approved by Shepherd University's Institutional Review Board prior to the start of the study, and all participants signed informed consent forms prior to participation.

Measures

I used seven inventories to assess forgivingness, vengefulness, trait anger, narcissism, self-esteem, self-control, and locus of control. Participants also completed a brief demographic questionnaire to record their age, sex, and reason for participation.

Forgivingness. I assessed forgivingness using Brown's (2003) Tendency to Forgive (TTF) Scale, a four-item measure intended to assess individual differences in forgivingness. Despite its brevity, the TTF is adequately reliable, with Cronbach's internal consistency coefficients in the .80 to .90 range and test-retest reliability of .71 (Brown, 2003; Brown & Phillips, 2005). The measure yields a final score ranging from 1.00 to 7.00, with higher scores representing higher forgivingness. Sample items include "I tend to get over it quickly when someone hurts my feelings" and "I have a tendency to harbor grudges" (reverse-scored).

Vengefulness. I measured vengefulness using the 20-item Vengeance Scale (VS) developed by Stuckless and Goranson (1992). Previous researchers have demonstrated the measure's reliability, finding internal consistency and test-retest reliability coefficients typically exceeding .80 (Brown, 2004; Holbrook, White, & Hutt, 1995; Hutt, Iverson, Bass, & Gayton, 1997).

The measure's final score ranges from 20 to 140, with higher scores representing a stronger endorsement of vengeful attitudes. Sample items include "There is nothing wrong in getting back at someone who has hurt you" and "It's not worth my time or effort to pay back someone who has wronged me" (reverse-scored).

Narcissism. I assessed participants' narcissism using a truncated version of the Narcissistic Personality Inventory (NPI). The NPI was originally developed by Raskin and Hall (1979) and consists of 50 items, with participants selecting which of a pair of sentences (one narcissistic, one nonnarcissistic) described them best. Raskin and Hall (1981) found that the NPI exhibited both adequate split-half and internal consistency reliability (both over .70). Emmons (1987) retained only 37 of the original 50 items, a true-false version of which I administered in this study per Brown (2004). I coded *true* responses as 1 and *false* responses as 0. I summed these responses to yield a final score between 0 and 37, with higher scores reflecting more extreme levels of narcissism. Sample items include "I usually dominate any conversation" and "I insist upon getting the respect that is due me."

Self-esteem. Several studies have established the importance of distinguishing narcissism from simple, healthy self-esteem (Brown & Zeigler-Hill, 2004; Bushman & Baumeister, 1998). To that end, I used Tafarodi and Swann's (2001) Revised Self-Liking (SL) Scale to assess self-esteem. The scale consistently exhibits internal consistency coefficients in the .90 and above range (Brown & Zeigler-Hill, 2004; Tafarodi & Swann, 2001). The SL produces a final score ranging from 8 to 40, with higher scores reflecting higher self-esteem. Sample items include "I never doubt my personal worth" and "I do not have enough respect for myself" (reverse-scored).

Trait anger. I used the Multidimensional Anger Inventory (MAI) to assess trait anger. Siegel (1986) developed the MAI in order to measure dimensions of anger that are clinically relevant for diagnoses of cardiovascular disease, but other researchers (e.g., Rogge & Bradbury, 1999) have established its usefulness as a measure of global trait anger, as well. Kroner, Reddon, and Serin (1992) found a full-scale internal consistency of .93 and factor internal consistencies of .90 and greater. The MAI consists of 38 statements that, when summed, yield a final score with a range from 38 to 190, with higher scores reflecting greater trait anger.

Locus of control. I used Duttweiler's (1984) Internal Control Index (ICI) to assess locus of control. The ICI is a measure of internality of personal control consisting of 28 statements, which I summed

to yield a final score ranging from 28 (*very external*) to 140 (*very internal*). At least two studies (Duttweiler, 1984; Meyers & Wong, 1988) have found Cronbach’s coefficients of .85, suggesting the measure is internally consistent. Sample items include “I like jobs where I can make decisions and be responsible for my own work” and “When faced with a problem, I try to forget it” (reverse-scored).

Self-control. In order to measure participants’ baseline self-control, I used the full version of the Self-Control (SC) scale developed by Tangney et al. (2004). The SC is a 36-item measure that yields a final score ranging from 36 to 180, with higher scores reflecting a greater capacity for self-control. Tangney et al. exhaustively established the measure’s convergent validity by measuring its relation to various traits such as depression, anxiety, hostility, and conscientiousness. Duckworth and Seligman (2006) found internal consistency of .86 for the brief version of the scale, and Tangney et al. reported a coefficient of .89 for the full version of the scale. Tangney et al. also found test-retest reliability of .89 and .87 for the full and brief versions of the scale, respectively. Sample items include “People

can count on me to keep on schedule” and “I have trouble saying no” (reverse-scored).

Procedure

I assembled the measures in packets in the following randomly determined order: NPI, TTF, VS, SL, ICI, MAI, and SC, with the brief demographic survey at the end. I informed participants that they were participating in a study of personality-based predictors of vengefulness. After briefing and informed consent, all participants completed their packets. Following completion of the study, I debriefed all participants and answered any questions. I analyzed the data using the Statistical Package for the Social Sciences (SPSS), version 17.0.

Results

Descriptive Statistics

Table 1 shows means, standard errors, minimum and maximum observed scores, and Cronbach’s α internal consistency coefficients for each of the measures used in the study. Because men scored significantly higher than women on both the Self-Control Scale,

TABLE 1

Descriptive Statistics for Measures

Measure	<i>M</i>	<i>SE</i>	Min	Max.	α
VS	59.64	1.87	21	121	.92
TTF	3.98	0.12	1.00	6.75	.78
ICI	103.95	1.15	60	131	.82
MAI	107.04	1.96	63	171	.89
NPI	17.42	0.59	2	32	.83
SC	113.69	1.72	64	157	.89
Men	117.36	2.36	82	157	--
Women	110.28	2.43	64	150	--
SL	27.94	0.74	8	40	.94
Men	29.79	0.90	13	40	--
Women	26.21	1.12	8	40	--

Note. VS = Vengeance Scale; TTF = Tendency to Forgive Scale; ICI = Internal Control Index; MAI = Multidimensional Anger Inventory; NPI = Narcissistic Personality Inventory; SC = Self-Control Scale; SL = Revised Self-Liking Scale.

$t(108) = -2.08, p = .04, d = .04$, and the Self-Liking Scale, $t(104.42) = -2.49, p = .01, d = .05$, separate descriptive statistics are provided for men and women.

Zero-Order Correlations

Table 2 displays a correlation matrix for all measures used in the study.

Regression Analysis

To test the ability of the hypothesized personality traits to predict vengefulness, I regressed scores on the VS in a simultaneous multiple regression analysis as a function of scores on the TTF, ICI, MAI, NPI, SC, and SL scales, as well as sex (dummy-coded 1 for men and 0 for women) and age. Prior to conducting the analysis, I mean-centered (converted to deviation-score form) each predictor in order to promote interpretability of the results (Aiken & West, 1991). This regression analysis returned an adjusted R^2 of .53 ($SEE = 13.38, f^2 = 1.31$), which differed significantly from 0, $F(8, 101) = 16.62, p < .001, MS_E = 178.97$. Of the terms included in the equation, the ICI term, $\beta = -.02, t(101) = -0.25, p = .80$, and the age term, $\beta = -.04, t(101) = -0.54, p = .59$, were nonsignificant. In addition, the sex term did not reach significance, $\beta = 5.37, t(101) = 1.92, p = .06$.

Because the ICI and age terms were nonsignificant, I removed them from the analysis and recalculated the regression equation to remove bias from the remaining

partial slope coefficients (Berry & Feldman, 1985). I retained the sex term because it was near significance and its inclusion was strongly supported by existing theory. The revised regression analysis showed a negligible improvement in the model's goodness-of-fit, with an adjusted R^2 of .54 ($SEE = 13.27, f^2 = 1.31$), which also differed significantly from 0, $F(6, 103) = 22.44, p < .001, MS_E = 176.21$. Table 3 displays a regression analysis summary with standardized and unstandardized partial slope coefficients, standard errors, t -test statistics, and semipartial correlations with the criterion for each term.

Variance inflation factors, calculated on uncentered predictors per Belsley's (1984) recommendation, confirmed that the model was not contaminated by multicollinearity (all VIFs < 2.1). In addition, both examination of the residuals plot and the calculation of a White (1980) test statistic showed that the model was not heteroskedastic, $LM = 22.66, df = 26, p = .65$.

As a secondary analysis, I examined the mediating effect of trait anger on the relation between age and vengefulness. Calculation of a Goodman test statistic revealed that trait anger completely mediated the predictive power of age on vengefulness, $z = -1.97, p < .05$, with the partial correlation between age and vengefulness after controlling for trait anger dropping to nonsignificance, $pr(107) = -.14, p = .15$.

TABLE 2

Zero-Order Correlation Matrix

Measure	1	2	3	4	5	6	7	8
1. VS	—	-.47 [†]	-.03	.59 [†]	.48 [†]	.38 [†]	.11	-.22 [*]
2. TTF	—	—	.05	-.60 [†]	-.10	.20 [*]	.24 [*]	.08
3. ICI	—	—	—	-.10	.24 [†]	.37 [†]	.35 [†]	.19 [*]
4. MAI	—	—	—	—	.26 [†]	-.32 [†]	-.29 [†]	-.19 [*]
5. NPI	—	—	—	—	—	-.20 [*]	.42 [†]	-.15
6. SC	—	—	—	—	—	—	.14	.18
7. SL	—	—	—	—	—	—	—	.02
8. Age	—	—	—	—	—	—	—	—

* $p < .05$, [†] $p < .01$, [‡] $p < .001$

Note. VS = Vengeance Scale; TTF = Tendency to Forgive Scale; ICI = Internal Control Index; MAI = Multidimensional Anger Inventory; NPI = Narcissistic Personality Inventory; SC = Self-Control Scale; SL = Revised Self-Liking Scale.

Discussion

I hypothesized that a linear combination of unforgiveness, externality of personal control, trait anger, narcissism, low self-control, high self-esteem, age, and sex could predict trait vengefulness. Of these traits, only age and internality did not significantly contribute to the prediction of vengefulness, the former despite a significant positive correlation; the remaining traits accounted for more than half of the variance in vengefulness scores. The results provide support for the notion that vengefulness is not merely a response to situational stimuli but is itself an individual personality trait (Brown, 2004; Stuckless & Goranson, 1992). The results furthermore suggest, consistent with the literature, that vengefulness tends to be one component of a generally violent and aggressive personality type that is also typically characterized by unforgiveness, anger, narcissism, elevated self-esteem, and poor self-control.

Of the eight variables expected to contribute to vengefulness, trait anger accounted for the largest proportion of the variance. It is unclear whether this relation is causal or cyclical: Although angry individuals may be less likely to forgive and more likely to seek vengeance, it is just as likely that vengeance-seeking reinforces their anger. Nonetheless, anger seems to be an inseparable prerequisite for vengefulness, which is characterized by angry feelings such as bitterness, resentment, and rumination on the transgression; this

study adds to the body of literature linking the two (Berry et al., 2005; McCullough et al., 2001; Worthington & Wade, 1999). The significant main effect of self-control also suggests that the predictive power of trait anger does not merely represent a failure to regulate the kind of angry motions that lead to vengefulness; rather, it provides the motivational impetus, along with unforgiveness and narcissism, to seek vengeance.

Unforgiveness also exerted a significant main effect on the prediction of vengefulness, a relation that is certainly intuitive. Individuals seek vengeance only to the extent that they have failed to forgive their transgressors. However, as Brown (2004) noted, unforgiveness alone is not a suitable basis for predicting vengefulness. Although unforgiveness may lead to vengeance-seeking, it may also result in mere grudge-holding or avoidance of the offender. This distinction is crucial because much of the prior literature on vengefulness tended to conflate the construct with simple unforgiveness (see Brown, 2003, for a discussion of the issue). The current study confirms that other personality variables, in addition to unforgiveness, can predict vengeance-seeking attitudes or behaviors. Future research should strive to examine the interaction of unforgiveness with other variables. Unfortunately, the low statistical power associated with the significance testing of interactive terms and the ineffectiveness of mean-centering in ameliorating such power issues (Echambadi & Hess, 2007) will make such studies difficult, as they will require relatively large sample sizes

TABLE 3

Revised Regression Analysis Summary

Variable	B	SEB	β	t(103)	sr
Intercept	56.86	1.81	—	31.38 [‡]	—
TTF	-3.77	1.25	-0.25	-3.02 [†]	-.20
MAI	0.36	0.09	0.37	4.04 [‡]	.26
NPI	0.69	0.26	0.22	2.66 [†]	.17
SC	-0.24	0.08	-0.22	-3.13 [†]	-.20
SL	0.48	0.21	0.19	2.27*	.15
Sex	5.78	2.69	0.15	2.15*	—

* $p < .05$, † $p < .01$, ‡ $p < .001$

Note. TTF = Tendency to Forgive Scale; MAI = Multidimensional Anger Inventory; NPI = Narcissistic Personality Inventory; SC = Self-Control Scale; SL = Revised Self-Liking Scale.

in order to produce meaningful results.

I also hypothesized that externality would contribute to vengefulness because previous research suggested that externals were typically predisposed to long-term psychological distress and, in some cases, criminal behavior (Bayse et al., 1992). Because vengeance-seeking is one possible method of reducing the distress that results from suffering an interpersonal transgression (Worthington & Wade, 1999), there was good reason to suspect that externals would be disproportionately likely to pursue it. However, the externality term had virtually no effect on the prediction of vengefulness, nor was it significantly correlated with vengefulness. Given the measure's adequate internal consistency and the low significance values observed, it is unlikely that either measurement error or inadequate power alone can account for this finding. The likeliest explanation is that internality is as conducive to vengefulness as externality. Internal individuals may well be empowered by their sense of self-efficacy and personal control to seek vengeance, similar to the manner in which externals' desire to reduce their feelings of helplessness and lack of control might produce vengeance-seeking behaviors. Klandermans (1983) suggested just such a distinction in an effort to explain political activism in terms of locus of control theory. He proposed that internals act to cement their feelings of personal control, whereas externals act to promote feelings of personal control. Crucially, he noted that behavioral differences should emerge only when particular individuals value the behavioral outcome and the resulting feelings of control. These hypotheses, if they apply to other forms of behavior than political action-taking, suggest that locus of control is not sufficient to predict vengefulness because internal or external individuals must already value vengeance in order to pursue it as a means of satisfying their desire for personal control. Bayse et al.'s (1992) finding that incarcerated criminals exhibited higher levels of externality may, then, simply be a product of the captive environment to which they are subject.

Consistent with Brown's (2004) findings, narcissism contributed significantly to the prediction of vengefulness. Brown posited that narcissism enables vengefulness because narcissists' inflated sense of self-worth leads them to believe they are capable of achieving revenge. Exline et al. (2004) likewise suggested that narcissistic self-entitlement leads individuals high in narcissism to demand retribution after suffering a transgression. As with trait anger and unforgiveness, narcissism appears to provide one motivational impetus to enacting vengeance by removing some of the social, affective, and cognitive barriers to its pursuit. Self-esteem, independent of narcissism, also

contributed significantly to the prediction of vengefulness. Although elevated self-esteem is characteristic of narcissism, it must be noted that narcissistic self-esteem tends to be brittle and prone to fluctuation, especially in the presence of ego threats (Bushman & Baumeister, 1998; Exline et al., 2004; Rhodewalt, Madrian, & Cheney, 1998), whereas self-esteem is a more globally stable construct. Thus, even in the absence of narcissistic extremes, elevated self-esteem can promote vengefulness, presumably because individuals with low self-esteem are less likely to feel themselves capable of enacting vengeance.

The significant influence of self-control on the prediction of vengefulness is consistent with studies that found that participants whose self-control had been experimentally depleted tended to react more aggressively to insulting provocations than those whose self-control had not been so depleted (Stucke & Baumeister, 2006). This study, however, dealt with situations in which state self-control was low; the current study found that low *trait* self-control similarly related to vengefulness, a relatively novel finding. The negligible relation between self-control and forgiveness (similar to that observed by Tangney et al., 2004) suggests that highly self-controlled individuals are as likely to forgive as not. In the case of unforgiving individuals, then, self-control appears to be one of the major barriers to vengefulness: When both forgiveness and self-control are low, vengeance-seeking attitudes and behaviors become more likely, especially where anger or narcissism provides the motivation.

As noted previously, age correlated negatively with vengefulness, consistent with prior findings (e.g., Cota-McKinley et al., 2001). However, once I controlled for the other variables in the model, age contributed virtually nothing to the prediction of vengefulness. The significant negative correlation between age and trait anger suggested, and the significant Goodman test statistic confirmed, that the relation between age and vengefulness can be attributed to the decreased tendency to experience anger with age. This finding is consistent with that of Blanchard-Fields and Coats (2008), who observed that older adults tended to experience less anger than younger adults. Schieman (1999) attributed this difference to younger adults' lower satisfaction with their social and financial arrangements compared to older adults. It is unclear to what extent cultural or generational issues may play a role in these groups' respective assessments of life satisfaction; future research should endeavor to answer such questions.

Sex also significantly predicted vengefulness, with men more vengeful than women, consistent with prior studies on the topic (e.g., Brown, 2004; Cota-McKinley et al., 2001). Knox, Breed, and Zusman (2007) sug-

gested that social learning theory accounts for this difference, as men are socialized to respond with angry, vengeful aggression when emotionally injured, whereas women are conditioned to respond with sorrow. Baumeister (2007) proposed that elevated male aggression has its roots in evolutionary psychology: More aggressive men have historically been more likely to attain more sexual partners and therefore to produce more offspring. Other research has linked male aggression to the presence of elevated levels of testosterone (Carré, Putnam, & McCormick, 2009). Whether biological, evolutionary, or cultural in origin, however, the consensus in the literature seems to favor the notion that men are predisposed to being more vengeful and aggressive than women, and the current study supported that idea.

This study established that personality traits account for a sizable proportion of the variance in vengefulness scores. Thus, there is considerable room to research what other traits might similarly contribute to vengefulness. Such traits might include emotional intelligence, fearfulness, interpersonal rejection sensitivity, introversion, and guilt/shame proneness, as each governs the way individuals conduct, perceive, and process social interactions (Worthington & Wade, 1999). It does not appear that any of these traits have previously been investigated.

The significant sex term also suggests the influence of nonpersonality demographic traits on vengefulness. For example, Cota-McKinley et al. (2001) found that religious background significantly predicted vengefulness, with Biblical literalists more likely to endorse vengeance than nonliteralists. Race may also play a role, with Pettit (1987) finding that racial differences partly accounted for the probability that individuals will use arson as a means of revenge. Leach and Spears (2008) explained *schadenfreude*, the tendency to delight in the misfortune of others, as a function of a sense of personal inferiority, potentially indicating that conditions such as low socioeconomic status and other forms of out-group identification may contribute to vengefulness.

As with most correlational research, caution should be exercised in interpreting these results in terms of causality. Brown (2004) recommended that future research in the area of vengefulness attempt the replication of these results in a more controlled setting, especially one in which researchers systematically manipulate transgressions and examine resultant levels of vengefulness. That recommendation is echoed here. In addition, although the current research focused exclusively on global dispositions and personality traits, there is a relative paucity of research on the situational contexts that encourage vengeful behaviors.

Specifically, although several researchers (e.g., Brown & Phillips, 2005) have hypothesized that relationship closeness and commitment, offense severity, and other situational variables might mitigate vengeful behaviors, no empirical verification for these hypotheses has been forthcoming. As Brown and Phillips (2005) pointed out, however, examinations of these hypotheses would require the manipulation of offenses that might need to reach ethically questionable extremes in order to generate useful data. Nonetheless, such research would fill a gap in the literature that has heretofore remained empty.

References

- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.
- Al-Mabuk, R. H., Enright, R. D., & Cardis, P. A. (1995). Forgiveness education with parentally love-deprived late adolescents. *Journal of Moral Education, 24*, 427-444.
- Baumeister, R. F. (2007, August). *Is there anything good about men?* Presented at the American Psychology Association, San Francisco, CA.
- Baumeister, R. F., Vohs, K. D., & Tice, D. M. (2007). The strength model of self-control. *Current Directions in Psychological Science, 16*, 351-355.
- Bayse, D. J., Allgood, S. M., & Van Wyk, P. C. (1992). Locus of control, narcissism, and family life education in correctional rehabilitation. *Journal of Offender Rehabilitation, 17*, 47-64.
- Belsley, D. A. (1984). Demeaning conditioning diagnostics through centering. *The American Statistician, 38*, 73-77.
- Benassi, V. A., Sweeney, P. D., & Dufour, C. L. (1988). Is there a relation between locus of control orientation and depression? *Journal of Abnormal Psychology, 97*, 357-367.
- Berry, J. W., Worthington, E. L., Jr., O'Connor, L. E., Parrott, L., III, & Wade, N. G. (2005). Forgiveness, vengeful rumination, and affective traits. *Journal of Personality, 73*, 183-225.
- Berry, W. D., & Feldman, S. (1985). *Multiple regression in practice*. London: Sage.
- Blanchard-Fields, F., & Coats, A. H. (2008). The experience of anger and sadness in everyday problems impacts age differences in emotion regulation. *Developmental Psychology, 44*, 1547-1556.
- Brown, R. P. (2003). Measuring individual differences in the tendency to forgive: Construct validity and links with depression. *Personality and Social Psychology Bulletin, 29*, 759-771.
- Brown, R. P. (2004). Vengeance is mine: Narcissism, vengeance, and the tendency to forgive. *Journal of Research in Personality, 38*, 576-584.
- Brown, R. P., & Phillips, A. (2005). Letting bygones be bygones: Further evidence for the validity of the Tendency to Forgive scale. *Personality and Individual Differences, 38*, 627-638.
- Brown, R. P., & Zeigler-Hill, V. (2004). Narcissism and the non-equivalence of self-esteem measures: A matter of dominance? *Journal of Research in Personality, 38*, 585-592.
- Bushman, B. J., & Baumeister, R. F. (1998). Threatened egotism, narcissism, self-esteem, and direct and displaced aggression: Does self-love or self-hate lead to violence? *Journal of Personality and Social Psychology, 75*, 219-229.
- Carré, J. M., Putnam, S. K., & McCormick, C. M. (2009). Testosterone responses to competition predict future aggressive behaviour at a cost to reward in men. *Psychoneuroendocrinology, 34*, 561-570.
- Cota-McKinley, A. L., Woody, W. D., & Bell, P. A. (2001). Vengeance: Effects of gender, age, and religious background. *Aggressive Behavior, 27*, 343-350.
- Duckworth, A. L., & Seligman, M. E. P. (2006). Self-discipline gives girls the edge: Gender in self-discipline, grades, and achievement test scores. *Journal of Educational Psychology, 98*, 198-208.
- Duttweiler, P. C. (1984). The Internal Control Index: A newly

- developed measure of locus of control. *Educational and Psychological Measurement*, 44, 209-221.
- Echambadi, R., & Hess, J. D. (2007). Mean-centering does not alleviate collinearity problems in moderated multiple regression models. *Marketing Science*, 26, 438-445.
- Emmons, R. A. (1987). Narcissism: Theory and measurement. *Journal of Personality and Social Psychology*, 52, 11-17.
- Enright, R. D., & The Human Development Study Group. (1991). The moral development of forgiveness. In W. M. Kurtines & J. L. Gewirtz (Eds.), *Handbook of moral behavior and development* (Vol. 1, pp. 123-152). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Exline, J. J., Baumeister, R. F., Bushman, B. J., Campbell, W. K., & Finkel, E. J. (2004). Too proud to let go: Narcissistic entitlement as a barrier to forgiveness. *Journal of Personality and Social Psychology*, 87, 894-912.
- Gunther, K. C., Cohen, L. H., & Armeli, S. (1999). The role of neuroticism in daily stress and coping. *Journal of Personality and Social Psychology*, 77, 1087-1100.
- Holbrook, M. I., White, M. H., & Hutt, M. J. (1995). The Vengeance Scale: Comparison of groups and an assessment of external validity. *Psychological Reports*, 77, 224-226.
- Hutt, M. J., Iverson, H. L., Bass, H., & Gayton, W. F. (1997). Further validation of the Vengeance Scale. *Psychological Reports*, 80, 744-746.
- Klandermans, P. G. (1983). Rotter's I. E.-Scale and socio-political action-taking: The balance of 20 years of research. *European Journal of Social Psychology*, 13, 399-415.
- Knox, D., Breed, R., & Zusman, M. (2007). College men and jealousy. *College Student Journal*, 41, 494-498.
- Kroner, D. G., Reddon, J. R., & Serin, R. C. (1992). The Multidimensional Anger Inventory: Reliability and factor structure in an inmate sample. *Educational and Psychological Measurement*, 52, 687-693.
- Leach, C. W., & Spears, R. (2008). "A vengefulness of the impotent": The pain of in-group inferiority and schadenfreude toward successful out-groups. *Journal of Personality and Social Psychology*, 95, 1383-1396.
- Lefcourt, H. M. (1976). *Locus of control: Current trends in theory and research*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- McCullough, M. E., Bellah, C. G., Kilpatrick, S. D., & Johnson, J. L. (2001). Vengefulness: Relationships with forgiveness, rumination, well-being, and the Big Five. *Personality and Social Psychology Bulletin*, 27, 601-610.
- McCullough, M. E., Emmons, R. A., Kilpatrick, S. D., & Mooney, C. N. (2003). Narcissists as "victims": The role of narcissism in the perception of transgressions. *Personality and Social Psychology Bulletin*, 29, 885-893.
- McCullough, M. E., Worthington, E. J., Jr., & Rachal, K. C. (1997). Interpersonal forgiving in close relationships. *Journal of Personality and Social Psychology*, 73, 321-336.
- Meyers, L. S., & Wong, D. T. (1988). Validation of a new test of locus of control: The Internal Control Index. *Educational and Psychological Measurement*, 48, 753-761.
- Muraven, M. (2008). Autonomous self-control is less depleting. *Journal of Research in Personality*, 42, 763-770.
- Muraven, M., Pogarsky, G., & Shmueli, D. (2006). Self-control depletion and the general theory of crime. *Journal of Quantitative Criminology*, 22, 263-277.
- O'Sullivan, G. H., & Kelleher, M. J. (1987). A study of firesetters in the south-west of Ireland. *British Journal of Psychiatry*, 151, 818-823.
- Pettway, L. E. (1987). Arson for revenge: The role of environmental situation, age, sex, and race. *Journal of Quantitative Criminology*, 3, 169-184.
- Porporino, F. J., Doherty, P. D., & Sawatsky, T. (1987). Characteristics of homicide victims and victimizations in prisons: A Canadian historical perspective. *International Journal of Offender Therapy and Comparative Criminology*, 31, 125-136.
- Raskin, R. N., & Hall, C. S. (1979). A Narcissistic Personality Inventory. *Psychological Reports*, 45, 590.
- Raskin, R., & Hall, C. S. (1981). The Narcissistic Personality Inventory: Alternate form reliability and further evidence of construct validity. *Journal of Personality Assessment*, 45, 159-162.
- Rhodewalt, F., Madrian, J. C., & Cheney, S. (1998). Narcissism, self-knowledge organization, and emotional reactivity: The effect of daily experiences on self-esteem and affect. *Personality and Social Psychology Bulletin*, 24, 75-87.
- Rogge, R. D., & Bradbury, T. N. (1999). Till violence does us part: The differing roles of communication and aggression in predicting adverse marital outcomes. *Journal of Consulting and Clinical Psychology*, 67, 340-351.
- Schieman, S. (1999). Age and anger. *Journal of Health and Social Behavior*, 40, 273-289.
- Scully, D., & Marolla, J. (1985). "Riding the bull at Gilley's": Convicted rapists describe the rewards of rape. *Social Problems*, 32, 251-263.
- Siegel, J. M. (1986). The Multidimensional Anger Inventory. *Journal of Personality and Social Psychology*, 51, 191-200.
- Stucke, T. S., & Baumeister, R. F. (2006). Ego depletion and aggressive behavior: Is the inhibition of aggression a limited resource? *European Journal of Social Psychology*, 36, 1-13.
- Stuckless, N., & Goranson, R. (1992). The Vengeance Scale: Development of a measure of attitudes toward revenge. *Journal of Social Behavior & Personality*, 7, 25-42.
- Tafarodi, R. W., & Swann, W. B., Jr. (2001). Two-dimensional self-esteem: Theory and measurement. *Personality and Individual Differences*, 31, 653-673.
- Tangney, J. P., Baumeister, R. F., & Boone, A. L. (2004). High self-control predicts good adjustment, less pathology, better grades, and interpersonal success. *Journal of Personality*, 72, 271-322.
- Tice, D. M., Baumeister, R. F., Shmueli, D., & Muraven, M. (2007). Restoring the self: Positive affect helps improve self-regulation following ego depletion. *Journal of Experimental Social Psychology*, 43, 379-384.
- White, H. (1980). A heteroskedasticity-consistent covariance matrix estimator and a direct test for heteroscedasticity. *Econometrica*, 48, 817-838.
- Wilkowski, B. M., & Robinson, M. D. (2007). Keeping one's cool: Trait anger, hostile thoughts, and the recruitment of limited capacity control. *Personality and Social Psychology Bulletin*, 33, 1201-1213.
- Wilkowski, B. M., & Robinson, M. D. (2008). Guarding against hostile thoughts: Trait anger and the recruitment of cognitive control. *Emotion*, 8, 578-583.
- Worthington, E. L., Jr., & Wade, N. G. (1999). The psychology of unforgiveness and forgiveness and implications for clinical practice. *Journal of Social and Clinical Psychology*, 18, 385-418.