
The Psychology of Forgiveness

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It would give us some comfort if we could only forget a past that we cannot change. If we could only choose to forget the cruelest moments, we could, as time goes on, free ourselves from their pain. But the wrong sticks like a nettle in our memory. The only way to remove the nettle is with a surgical procedure called forgiveness.

Smedes, *The Art of Forgiving*

Without being forgiven, released from the consequences of what we have done, our capacity to act would . . . be confined to a single deed from which we could never recover; we would remain the victims of its consequences forever.

Arendt, *The Human Condition*

Human beings appear to have an innate proclivity to reciprocate negative interpersonal behavior with more negative behavior. When insulted by a friend, forsaken by a lover, or attacked by an enemy, most people are motivated at some level to *avoid* or to *seek revenge against* the transgressor. Although both of these two post-transgression motivations can be destructive, revenge is usually the more potent and almost always the more glamorous of the two. Seeking

revenge also is so basic that Reiss and Haverkamp (1998) recently posited it to be one of 15 fundamental human motivations (also see Newberg, d'Aquili, Newberg, & deMarici, 2000).

The tendency to retaliate or seek retribution after being insulted or victimized is deeply ingrained in the biological, psychological, and cultural levels of human nature. Primatologists have documented that certain species of old-world primates (including chimpanzees and macaques) coordinate retaliatory responses after being victimized by another animal, sometimes even after considerable time has passed (Aureli, Cozzolino, Cordischi, & Scucchi, 1992; de Waal, 1996; Silk, 1992). Psychologically, the human proclivity for revenge is also codified in the norm of reciprocity (Gouldner, 1960): People are motivated to respond to injuries and transgressions by committing further injuries and transgressions equivalent to those they have suffered. However, revenge rarely is perceived as being equitable. Victims tend to view transgressions as more painful and harmful than do perpetrators. Moreover, when a victim exacts revenge, the original perpetrator often perceives the revenge as greater than the original offense and may retaliate to settle the score, thereby perpetuating a vicious cycle of vengeance (see Baumeister, Exline, & Sommer, 1998).

The motivation to return harm for harm has long been a part of human culture and is one of the most rudimentary approaches to dealing with perceived injustice (Black, 1998). Nearly all cultures have attempted to codify the *lex talionis* (i.e., the law of retaliation) so that revenge could be taken out of the hands of individuals and placed in the hand of a dispassionate third party (such as the society itself). Indeed, the formation of stable political life has been virtually dependent on the regulation of the revenge response (Shriver, 1995).

Forgiveness in Psychology

People have devised a variety of potential solutions to the corrosive effects of interpersonal transgressions (Fry & Björkqvist, 1997). One mechanism that can interrupt the cyclical nature of avoidance and vengeance is forgiveness, an approach whereby people quell their natural negative responses to transgressors and become increasingly motivated to enact positive ones instead. Many of the world's religions have articulated the concept of forgiveness for millennia (McCullough & Worthington, 1999; Rye et al., 2000). Indeed, the proposition that people have been forgiven by God and, as a result, should forgive their own transgressors is common to all three great monotheistic traditions (McCullough & Worthington, 1999).

Despite the importance of forgiveness within many religious traditions, social theorists and social scientists basically have ignored forgiveness for the last three centuries. Forgiveness fails to warrant even a footnote in 300 years of post-Enlightenment thought. In the final two decades of the 20th century, however, social scientists began to study forgiveness (McCullough, Pargament, & Thoresen, 2000b). They progressed in defining and measuring it, and in exploring its developmental, personality, and social substrates. They also made progress in assessing its value for individual and social well-being, and in designing interventions to promote forgiveness. Evidence of scientific progress can be found in the growing number of empirical journal articles, the convening of several national conferences, and the production of several edited collections devoted to forgiveness (e.g., Enright & North, 1998; McCullough, Pargament, & Thoresen, 2000a; Worthington, 1998). Moreover, in 1998 the John Templeton Foundation and other philanthropic foundations

began a campaign to provide \$10 million in funding for scientific research on forgiveness (Holden, 1999). With national interest in the topic, strong financial support, and scores of research teams, we may be entering a golden era of forgiveness research (McCullough, 2001).

In the present chapter, we first define the term *forgiveness* and differentiate three senses in which it can be applied as a psychological construct. Then we review the existing research on the psychology of forgiveness.

What Is Forgiveness?

Theorists and researchers generally concur with Enright and Coyle's (1998) assertion that forgiveness is different from pardoning (which is, strictly speaking, a legal concept); condoning (which involves justifying the offense); excusing (which implies that a transgression was committed because of extenuating circumstances); forgetting (which implies that the memory of a transgression has decayed or slipped out of conscious awareness); and denial (which implies an unwillingness or inability to perceive the harmful injuries that one has incurred). Most scholars also agree that forgiveness is distinct from *reconciliation*, a term that implies the restoration of a fractured relationship (Freedman, 1998). To go further in defining forgiveness, however, we must differentiate among three senses in which the term can be used. Forgiveness may be defined according to its properties as a response, as a personality disposition, and as a characteristic of social units.

As a response, forgiveness may be understood as a prosocial change in a victim's thoughts, emotions, and/or behaviors toward a blameworthy transgressor. A variety of conceptualizations of forgiveness as a response can be found in the published literature (McCullough & Worthington, 1994; Scobie & Scobie, 1998). All of these definitions, however, are built on one core feature: When people forgive, their responses (i.e., what they feel and think about, what they want to do, or how they actually behave) toward people who have offended or injured them become less negative and more positive—or prosocial—over time (McCullough, Pargament, & Thoresen, 2000b).

As a personality disposition, forgiveness may be understood as a propensity to forgive others across a wide variety of interpersonal circumstances. In this sense, people can be scaled along

a forgiving-unforgiving continuum, with most people (by definition) falling somewhere toward mean of the population. The disposition to forgive might itself have several aspects (Mullet, Houdbine, Laumonier, & Girard, 1998).

As a quality of social units, forgiveness may be understood as an attribute that is similar to intimacy, trust, or commitment. Some social structures (e.g., some marriages, families, or communities) are characterized by a high degree of forgiveness (e.g., marriages, families, or communities in which participants are forgiven readily for their transgressions), whereas other social structures are characterized by less forgiveness (e.g., social institutions that hasten to ostracize or retaliate against members who commit transgressions).

Measures of Forgiveness

A variety of measures have been developed to operationalize the three understandings of forgiveness described here. Several psychometric studies have focused on developing self-report measures that operationalize forgiveness as a response (McCullough, Hoyt, & Rachal, 2000). Instruments that assess how much a person has forgiven another person for a specific offense are widely available (e.g., McCullough et al., 1998; Subkoviak et al., 1995; Trainer, 1981; Wade, 1989). For example, Enright and colleagues (e.g., Subkoviak et al., 1995) developed the 60-item Enright Forgiveness Inventory (EFI), which consists of six subscales that assess the extent to which the victim experiences positive and negative affects, cognitions, and behaviors/behavioral intentions regarding a transgressor. Recently, McCullough et al. (1998) refined a set of items from Wade's (1989) Forgiveness Scale into a 12-item measure called the Transgression-Related Interpersonal Motivations (TRIM) Inventory. The TRIM Inventory consists of two subscales: one for assessing the extent to which an offended person is motivated to avoid a transgressor (Avoidance) and one for assessing the harm done to the transgressor (Revenge). The TRIM Inventory, which appears as an appendix at the end of this chapter, has good internal consistency, good convergent and discriminant validity, and the theoretically specified two-factor structure (McCullough et al., 1998; McCullough & Hoyt, 1999).

Many measures for assessing the disposition to forgive and other forgiveness-like personality

constructs are available or are under development (for review see McCullough, Hoyt, & Rachal, 2000). For example, Enright and colleagues (e.g., Enright, Santos, & Al-Mabuk, 1989) developed an interview measure for assessing the moral-cognitive development of reasoning about forgiveness. In addition, several paper-and-pencil measures have been developed to assess people's attitudes and behaviors related to revenge or forgiveness (e.g., Ashton, Pounonen, Helmes, & Jackson, 1998; Caprara, 1986; Emmons, 1992; Mauger et al., 1992; Mullet et al., 1998; Schratte, Iyer, Jones, Lawler, & Jones, 2000; Snyder & Yamhure, 2000; Stuckless & Goranson, 1992). Also, at least four scenario-based measures of the propensity to forgive are currently under development (Berry, Worthington, Parrot, O'Connor, & Wade, 2000; in press; Rye et al., 1999; Tangney, Fee, Reinsmith, Boone, & Lee, 1999). In Berry et al.'s (in press) Transgression Narrative Test of Forgiveness (TNTF), respondents rate how likely they would be to forgive offenders (e.g., a classmate, friend, or cousin) described in 5 paragraph-long scenarios. The TNTF has good test-retest reliability. Berry et al. (2000) have also developed the Trait Forgiveness Scale, in which respondents rate how much they agree or disagree with 10 statements related to forgiveness. This scale has adequate reliability and validity. The Forgiveness Likelihood Scale (Rye et al., 1999) assesses how likely respondents would be to forgive in 15 scenarios described in one or two sentences (e.g., a family member humiliates the respondent, a stranger breaks in and steals money, a significant other betrays the respondent). The Forgiveness Likelihood Scale shows good internal consistency and good test-retest reliability, and it is positively correlated with the Enright Forgiveness Inventory. Tangney et al.'s (1999) Multidimensional Forgiveness Inventory presents 16 one- to two-sentence scenarios in which the respondent alternates between taking the perspective of the perpetrator or the victim. The instrument measures how likely respondents are to ask for forgiveness and to forgive themselves when they are in the perpetrator role, and how likely they are to forgive their offenders when in the victim role. The Multidimensional Forgiveness Inventory also has good internal consistencies.

We are aware of only one measure that could be used to assess forgiveness as an attribute of social units or relationships (Hargrave & Sells, 1997). This measure can be used to assess the

extent to which people experience forgiveness for another person within a specific relationship, typically a family member with whom one has a long-standing history of relational transgression. Clearly, more psychometric work should be devoted to developing instruments for assessing the nature and extent of forgiveness within dyads, families, communities, and other social units.

Summary of Current Research Findings

Using measures such as those we have described, researchers have begun to shed light on several dimensions of forgiveness. In particular, they have explored: (a) how the propensity to forgive develops across the life span; (b) the personality traits that are linked to forgiveness; (c) the social-psychological factors that influence forgiveness; and (d) the links of forgiveness to health and well-being.

Development of the Disposition to Forgive

Darby and Schlenker (1982) were the first researchers to notice age-related trends in forgiveness. Consistent with Darby and Schlenker's (1982) original findings, other researchers have found that people appear generally to become more forgiving as they age (Enright et al., 1989; Girard & Mullet, 1997; Mullet & Girard, 2000; Mullet et al., 1998; Park & Enright, 1997; Subkoviak et al., 1995). For example, Enright et al. (1989) found that chronological age and reasoning about forgiveness were correlated strongly in a sample of American children, adolescents, and adults. Girard and Mullet (1997) also reported age differences in willingness to forgive among a sample of 236 French adolescents, adults, and older adults (age range, 15–96). They found that older adults reported significantly higher likelihoods of forgiving in a variety of transgression scenarios than did the adolescents and adults. Furthermore, the adults were more forgiving than were the adolescents. Mullet et al. (1998) also found that older adults scored considerably higher than did young adults on measures of the disposition to forgive (but cf. Mauger et al., 1992).

It is reasonable to ask whether these age-related trends in forgiveness are linked to age-related trends in general cognitive or moral de-

velopment. Enright and colleagues (e.g., Enright et al., 1989; Enright & Human Development Study Group, 1994) hypothesized that reasoning about forgiveness develops along the same trajectory as does Kohlbergian moral reasoning (Kohlberg, 1976). Correspondingly, they proposed that people at the earliest stages of moral reasoning about forgiveness—the stages of *revengeful forgiveness* and *restitutional forgiveness*—reason that forgiveness is only appropriate after the victim has obtained revenge and/or the transgressor has made restitution. People at the intermediate stages—*expectational forgiveness* and *lawful expectational forgiveness*—reason that forgiveness is appropriate because social, moral, or religious pressures compel them to forgive. People at the high stages—*forgiveness as social harmony* and *forgiveness as love*—reason that forgiveness is appropriate because it promotes a harmonious society and is an expression of unconditional love. In support of this hypothesis, Enright et al. (1989) found in two studies that Kohlbergian moral reasoning, as assessed with standard interview measures, was positively correlated with people's stage of reasoning about forgiveness.

Personality and Forgiveness

Forgiving people differ from less-forgiving people on many personality attributes. For example, forgiving people report less negative affect such as anxiety, depression, and hostility (Mauger, Saxon, Hamill, & Pannell, 1996). Forgiving people are also less ruminative (Metts & Cupach, 1998), less narcissistic (Davidson, 1993), less exploitative, and more empathic (Tangney et al., 1999) than their less-forgiving counterparts. Forgivers also tend to endorse socially desirable attitudes and behavior (Mauger et al., 1992). Moreover, self-ratings of the disposition to forgive correlate negatively with scores on hostility and anger (Tangney et al., 1999), as well as with clinicians' ratings of hostility, passive-aggressive behavior, and neuroticism (Mauger et al., 1996).

What can we deduce from this array of correlates? To some extent, they probably convey redundant information because many personality traits can be reduced to a handful of higher order personality dimensions. Within the Big Five personality taxonomy (e.g., John & Srivastava, 1999), for example, the disposition to forgive appears to be related most strongly to

agreeableness and neuroticism (McCullough & Hoyt, 1999). Adjectives such as *vengeful* and *forgiving* tend to be excellent markers for the Agreeableness dimension of the Big Five taxonomy, and other research confirms the link between agreeableness and forgiveness (Ashton et al., 1998; Mauger et al., 1996). Researchers have found also that forgiveness is related inversely to measures of neuroticism (Ashton et al., 1998; McCullough & Hoyt, 1999). Thus, the forgiving person appears to be someone who is relatively high in agreeableness and relatively low in neuroticism/negative emotionality.

Social Factors Influencing Forgiveness

Forgiveness is influenced also by the characteristics of transgressions and the contexts in which they occur. Generally, people have more difficulty forgiving offenses that seem more intentional and severe and that have more negative consequences (Boon & Sulsky, 1997; Girard & Mullet, 1997).

The extent to which an offender apologizes and seeks forgiveness for a transgression also influences victims' likelihood of forgiving (Darby & Schlenker, 1982; Girard & Mullet, 1997; McCullough, Worthington, & Rachal, 1997; McCullough et al., 1998; Weiner, Graham, Peter, & Zmuidinas, 1991). Why do apologies facilitate forgiveness? By and large, the effects of apologies appear to be indirect. They appear to cause reductions in victims' negative affect toward their transgressors (Ohbuchi, Kameda, & Agarie, 1989) and increases in empathy for their transgressors (McCullough et al., 1997; McCullough et al., 1998). Victims also form more generous impressions of apologetic transgressors (Ohbuchi et al., 1989). Perhaps apologies and expressions of remorse allow the victim to distinguish the personhood of the transgressor from his or her negative behaviors, thereby restoring a more favorable impression and reducing negative interpersonal motivations. In this way, apologies may represent an effective form of reality negotiation (Snyder, Higgins, & Stucky, 1983). Indeed, Snyder's theory of reality negotiation explains why many of transgressors' posttransgression actions (including cancellation of the consequences of the offense; Girard & Mullet, 1997) influence the extent to which victims forgive. Other general theories of social conduct (e.g., Weiner, 1995) lead to similar predictions.

Interpersonal Correlates of Forgiveness

Forgiveness may be influenced also by characteristics of the interpersonal relationship in which an offense takes place. In several studies (Nelson, 1993; Rackley, 1993; Roloff & Janiszewski, 1989; Woodman, 1991), researchers have found that people are more willing to forgive in relationships in which they feel satisfied, close, and committed.

McCullough et al. (1998) surveyed both partners in over 100 romantic relationships to examine more closely the association of relational variables to acts of forgiveness. Both partners rated their satisfaction with and commitment to their romantic partner. Partners also used the Transgression-Related Interpersonal Motivations (TRIM) Inventory to indicate the extent to which they had forgiven their partner for two transgressions—the worst transgression their partner ever committed against them, and the most recent serious transgression their partner committed against them. Partners' forgiveness scores were correlated both with their own relational satisfaction and commitment and with their partners' relational satisfaction and commitment. McCullough et al. (1998) also found evidence consistent with the idea not only that relationship closeness facilitates forgiveness but also that forgiveness facilitates the reestablishment of closeness following transgressions.

The proposition that forgiveness is related to relationship factors such as satisfaction, commitment, and closeness raises the question of whether the dynamics of forgiveness could vary for different types of relationships. We would not expect people to forgive perfect strangers in the same way they forgive their most intimate relationship partners, for example. However, currently we know little about the unique dynamics of forgiveness within specific types of relationships (Fincham, 2000).

Forgiveness, Health, and Well-Being

Empirical research on the links between forgiveness and mental health had a humble beginning in the 1960s. In the first known study of forgiveness and well-being, Emerson (1964) used a Q-sort method and found what he perceived as a link between emotional adjustment and forgiveness. Following Emerson's work, however, researchers did not consider the links between forgiveness, health, and well-being again until the 1990s.

Correlational Studies on Forgiveness, Mental Health, and Well-Being

In general, self-report measures of the propensity to forgive (and, conversely, the propensity toward vengeance) are correlated positively (or, conversely, negatively) with measures of mental health and well-being. In developing the Forgiveness of Others Scale and the Forgiveness of Self Scale, Mauger et al. (1992) correlated both measures with the clinical scales from the Minnesota Multiphasic Personality Inventory (MMPI; Hathaway & McKinley, 1943). Interestingly, low scores on the Forgiveness of Self Scale were more strongly related to depression, anger, anxiety, and low self-esteem than were scores on the Forgiveness of Others Scale, suggesting that people who had a propensity toward feeling forgiven were less prone to experience such psychological difficulties.

In validating the scenario-based Multidimensional Forgiveness Inventory, Tangney et al. (1999) found that the tendency to forgive others was related to lower depression, hostility-anger, paranoid ideation, and interpersonal sensitivity (i.e., inadequacy or inferiority). Similarly, the propensity to forgive oneself was inversely related to depression, paranoid ideation, interpersonal sensitivity, and psychoticism.

Other researchers have examined whether measures of forgiveness for specific real-life transgressions could be related to mental health and well-being (Hargrave & Sells, 1997; McCullough, Bellah, Kilpatrick, & Johnson, 2001; Subkoviak et al., 1995), and the results have not been impressive. Typically, researchers have found modest and/or statistically nonsignificant correlations between measures of forgiveness and self-report measures of negative affect or psychological symptoms. Furthermore, McCullough et al. (2001) found that although forgiveness of a particular transgressor and satisfaction with life were correlated cross-sectionally, there was no evidence that forgiving led to improvements in people's satisfaction with their lives over an 8-week follow-up period.

Whereas most of the literature on forgiveness has focused on interpersonal forgiving, Exline, Yali, and Lobel (1999) found that the experience of forgiving God was related to mental health variables. In a group of 200 undergraduates, difficulty forgiving God independently predicted anxious and depressed mood. In contrast, forgiving God for a particular negative life experience

was related to fewer depressive and anxious symptoms.

Much of the research on forgiveness, mental health, and well-being to date has had a major methodological weakness: To the extent that forgiveness is measured in terms of people's experiences of negative and/or positive affect toward a transgressor (as in many of the existing measures) and mental health is measured in terms of self-reported negative affect (e.g., depressive or anxious feelings), the observed correlations between measures of forgiveness and measures of affect or symptomatology may be due to their semantic overlap rather than substantive relationships between the concepts. Thus, in the future, researchers interested in the links between forgiveness and mental health should exert greater care to incorporate multimethod assessments that can circumvent such potential methodological confounds.

Forgiveness, Mental Health, and Well-Being in Small Groups and Structured Interventions

Could participation in small groups that help people forgive enhance mental health and well-being? Many members of such groups seem to think so. Wuthnow (2000) gathered survey data on 1,379 Americans' participation in small religious groups, along with their experiences with forgiveness, addictions, and well-being. Sixty-one percent of the respondents reported that their group had helped them forgive. Furthermore, membership in a group that explicitly fostered forgiveness was related significantly to self-reported attempts and successes in overcoming addiction, overcoming guilt, and perceiving encouragement when feeling discouraged.

Other data on the links between forgiveness, health, and well-being come from several experimental studies. In the first of these studies, Hebl and Enright (1993) tested the efficacy of a forgiveness intervention. Twenty-four elderly women who felt hurt by a particular interpersonal experience were randomly assigned to either an 8-week forgiveness intervention group or a discussion-based control group. Women in the forgiveness group scored higher on measures of forgiveness and willingness to forgive, although anxiety and depression scores improved in *both* groups. Nevertheless, when data from all participants were analyzed, higher lev-

els of forgiveness were associated with higher levels of self-esteem and lower levels of anxiety and depression at posttest.

Building on Hebl and Enright's work, Al-Mabuk, Enright, and Cardis (1995) conducted two studies on the effects of a group intervention designed to help adolescents forgive their parents for perceived love deprivation. In their first study, Al-Mabuk et al. compared the efficacy of a human relations group and a group designed to foster adolescents' commitment to forgive. Adolescents in the four-session, 2-week forgiveness group showed more hope and willingness to forgive, even though their forgiveness scores were not greater than those of the controls. In a second study Al-Mabuk et al. compared the efficacy of a human relations group and a group designed to help participants actually grant forgiveness. In this study, adolescents in the six-session, 6-week program showed significant improvements in forgiveness, hope, trait-anxiety, and attitudes toward their parents. They also showed higher self-esteem but did not differ on measures of depression or state-anxiety compared with people who participated in the human relations group. Analyses of the data from all participants across both studies revealed that forgiving one's parents was associated with higher self-esteem, better attitudes toward fathers and mothers, lower anxiety, lower depression, and higher hope.

Freedman and Enright (1996) conducted a forgiveness intervention with 12 female survivors of physical contact incest by a male relative 2 or more years prior. Pairs of women were matched on demographic and abuse history variables. One woman from each pair was randomly assigned to the one-on-one forgiveness treatment, and the other to a wait-list control group. Women in the forgiveness treatment group showed improvements in forgiveness, hope, anxiety, and depression in comparison to women in the control group. These improvements remained at a 1-year follow-up. Once the women in the control condition completed the forgiveness intervention, they also showed improvements on mental health and self-esteem measures, thereby reinforcing the conclusion that this intervention was more effective than a no-treatment control condition.

More recently, Coyle and Enright (1997) used a similar forgiveness intervention with 10 men who identified themselves as feeling hurt by their partners' decisions to have abortions.

They were randomly assigned to a 12-week one-on-one forgiveness intervention or a wait-list control group. Those men receiving the forgiveness intervention reported significant increases in forgiveness and significant decreases in grief, anger, and anxiety after treatment. They maintained these gains at a 3-month follow-up. Furthermore, once the wait-listed men completed treatment, they, too, showed significant improvements in forgiveness, anxiety, and grief.

Forgiveness and Physical Health

There is a growing interest in the possibility that forgiveness may be related to physical health (Kaplan, 1992; Thoresen, Harris, & Lusk, 2000). At present, however, researchers have only just begun to conduct studies on forgiveness and physical health, so the majority of relevant research has been focused on the physical costs of unforgiving responses rather than the potential physical benefits of forgiving responses.

Forgiveness-related studies of physical health have focused primarily on reducing the adverse cardiovascular effects of one type of unforgiving response: hostility (see Friedman & Rosenman, 1974). Most studies using the widely accepted measures of hostility have revealed that hostility has negative effects on physical health (Miller, Smith, Turner, Guijarro, & Hallet, 1996; Williams & Williams, 1993). Given these data, it stands to reason that reducing hostility ought to reduce coronary problems. Friedman et al. (1986) randomly assigned Type A patients who were at risk for recurring heart attacks to a behavioral modification program or standard treatment from a cardiologist. Those in the behavioral modification intervention program showed a greater reduction in hostile behavior and in heart problems than those who received standard care only. According to Kaplan (1992), forgiveness was an important antidote to hostility in this efficacious intervention. In a post-intervention assessment, patients indicated that learning how to cultivate the forgiving outlook (p. 6) was one of the keys to reducing their hostility. Kaplan's description provides some impetus for more formal investigations into how forgiveness might promote coronary health by reducing the adverse physical effects of sustained anger and hostility.

The results of psychophysiological research complement Kaplan's (1992) description (Witvliet, Ludwig, & Vander Laan, 2001). Using a

within-subjects repeated measures design, Witvliet and colleagues tested the physiological responses of undergraduates as they imagined responding to their real-life offenders in both unforgiving ways (mentally rehearsing the hurtful offense, nursing a grudge) and forgiving ways (empathizing with the humanity of the offender, granting forgiveness). Across multiple counterbalanced imagery trials, participants showed significantly greater reactivity in cardiovascular measures (heart rate, blood pressure) and sympathetic nervous system measures (skin conductance levels) during the unforgiving imagery trials compared with the forgiving imagery trials. Participants also reported significantly higher levels of negative emotion (e.g., anger, sadness) and lower levels of perceived control during the unforgiving imagery trials. In contrast, during the forgiving imagery conditions, participants experienced less physiological stress, lower levels of negative emotion, higher levels of positive emotion, and greater perceived control. These results suggest that when people adopt unforgiving responses to their offenders, they may incur emotional and physiological costs. In contrast, when they adopt forgiving responses, they may accrue psychophysiological benefits, at least in the short term.

Interventions to Promote Forgiveness

As described previously in this chapter, several research groups have developed and tested interventions for promoting forgiveness. Many of these interventions are designed for delivery to groups rather than to individuals. Several of the forgiveness intervention studies were based on the work of Enright (e.g., Al-Mabuk et al., 1995; Hebl & Enright, 1993), and others were based on the theoretical work of McCullough and colleagues (e.g., McCullough & Worthington, 1995; McCullough et al., 1997). Some of these intervention programs have focused on clinical populations, whereas others have had a more preventive or psychoeducational focus. Other researchers also are launching evaluations of intervention programs.

To summarize the effects of such interventions, Worthington, Sandage, and Berry (2000) conducted a meta-analysis of data from 12 group intervention studies. They reported that these group interventions were generally effective, improving group members' forgiveness

scores by 43% of a standard deviation (Cohen's $d = .43$). Among the 8 intervention studies that involved 6 hours or more of client contact, group members' forgiveness scores were 76% of a standard deviation higher than the scores of control group members (Cohen's $d = .76$). In contrast, the 4 intervention studies that involved less than 6 hours of client contact were substantially less efficacious (Cohen's $d = .24$). Thus, participation in short-term interventions (particularly those involving at least 6 hours of client contact) appears to be moderately effective in helping people to forgive specific individuals who have harmed them. As reviewed earlier, individual psychotherapy protocols that include forgiveness as a treatment goal also appear to be more efficacious than no-treatment control conditions (Coyle & Enright, 1997; Freedman & Enright, 1996).

Directions for Future Research

Research is beginning to illuminate several facets of forgiveness, but many more remain. We highlight a number of questions that still need to be addressed.

How does forgiveness unfold in specific relational contexts? As noted previously, one valuable research approach would be to explore how the dynamics of forgiveness unfold in specific relational contexts (McCullough, 2000; Fincham, 2000). Most likely, the conditions that foster and inhibit forgiveness among partners in long-standing, stable marriages are different from those that would foster and inhibit forgiveness among victims of violent trauma. Similarly, the effects of forgiveness might differ across relational contexts. Forgiving a friend for a minor transgression probably has few or no consequences for health and well-being, whereas forgiving an abusive spouse might have important psychological sequelae (indeed, these consequences could be negative; see Katz, Street, & Arias, 1997).

What are the precursors, processes, and outcomes associated with seeking and receiving forgiveness? With but a few noteworthy exceptions (e.g., Gassin, 1998; Tangney et al., 1999), forgiveness researchers typically have explored how people grant forgiveness to their transgressors. As a result, seeking and receiving forgiveness have been largely ignored. How do people go about asking for forgiveness? How do seeking and receiving forgiveness relate to con-

fession and to moral emotions such as guilt and shame? What are the effects of feeling truly forgiven? These and other questions are important in addressing the many psychological contours of forgiveness.

Is forgiveness really related to mental and physical health? Many clinicians are claiming that forgiveness is beneficial for preventing and ameliorating physical and mental health problems. However, empirical research is still in its early stages. As our understanding of forgiveness and health develops, we may discover that its story line has many subplots. Rather than a simple theme, such as "forgiveness is good for health," the plot may have twists and turns. For example, people who are more prone to feel wounded by a given transgression (that others shrug off) may suffer more health costs, even if they eventually forgive their transgressors. As another example, it is possible that in some cases, low-forgivers may function better than high-forgivers particularly when the offenses endured by the high-forgivers are severe or traumatic. Another scenario may be that some people derive significant satisfaction (and even some type of health benefit) from seeking revenge. In still other situations, victims may be surrounded by strong social support networks that encourage begrudging and hostile responses toward offenders in ways that make the victim feel justified, comforted, and satisfied with their unforgiving stance. With sufficient social support for unforgiving responses, victims may not experience any negative emotional or physical consequences. In contrast, people who feel coerced to "forgive and forget" may find their post-offense distress exacerbated in comparison to those given time to grieve the loss they experienced. As these scenarios suggest, the forgiveness-health connection is likely to have numerous nuances that qualify seemingly simple relationships.

How can methodological quality be improved? Regardless of the substantive directions that researchers take, the field would benefit greatly from additional experimental research. It is generally both ethical and feasible to manipulate experimentally many of the variables that might influence forgiveness (e.g., McCullough et al., 1997; Sandage & Worthington, 1999). It is possible also to manipulate (or at least simulate) forgiveness in laboratory settings (Witvliet et al., 2001) and clinical settings (e.g., Coyle & Enright, 1997; McCullough &

Worthington, 1995; McCullough et al., 1997) so that the possible effects of forgiveness can be studied experimentally. When experimental research is not ethical or feasible, researchers should consider utilizing longitudinal designs to strengthen their ability to make causal inferences.

In investigating such questions, regardless of the research design, we recommend that researchers move away from an exclusive reliance on self-report measures (McCullough, Hoyt, & Rachal, 2000). With but a few exceptions (e.g., Malcom & Greenberg, 2000; Trainer, 1981; Witvliet et al., 2001), researchers have relied exclusively on self-report measures of forgiveness. As forgiveness research progresses, monomethod bias will loom as a threat to the validity of the entire body of research unless alternative assessment methods are developed (McCullough, Hoyt, & Rachal, 2000). Multimethod assessments that include, for example, peer and partner ratings, physiological measures, and behavioral measures—such as "forgiveness" responses in the Prisoner's Dilemma Game (see, e.g., Wu & Axelrod, 1995)—also would sharpen our understanding of forgiveness and its relevance to human experience.

Conclusions

Forgiveness is an important corrective to the proclivities toward avoidance and revenge—people's typical negative responses to interpersonal transgressions, which seem to be etched deeply into the human template. For millennia, the world's great religious traditions have commended forgiveness as: (a) a response with redemptive consequences for transgressors and their victims; (b) a human virtue worth cultivating; and (c) a form of social capital that helps social units such as marriages, families, and communities to operate more harmoniously.

Psychologists are beginning to grapple empirically with the diverse dimensions of forgiveness. They have developed methods for assessing forgiveness, adducing data that point to the substrates of forgiveness in development, personality, and social interaction. They have begun to explore the potential links of forgiveness to health and well-being. Finally, they have investigated the promising efficacy of clinical and psychoeducational interventions to promote forgiveness.

We believe research on forgiveness is likely to flourish in the years to come for at least three reasons. First, many of the most important and interesting questions remain to be addressed. Second, many researchers and institutions are highly committed to advancing knowledge in this area. Finally, as interdependent people, we simply have too much at stake to ignore the promise of forgiveness as a balm for some of our species' destructive propensities.

APPENDIX Transgression-Related Interpersonal Motivations Scale—12-Item Form (TRIM-12)

For the following questions, please indicate your current thoughts and feelings about the person who hurt you. Use the following scale to indicate your agreement with each of the questions.

- 1 = Strongly Disagree
 2 = Disagree
 3 = Neutral
 4 = Agree
 5 = Strongly Agree
- ___ 1. I'll make him/her pay.
 ___ 2. I keep as much distance between us as possible.
 ___ 3. I wish that something bad would happen to him/her.
 ___ 4. I live as if he/she doesn't exist, isn't around.
 ___ 5. I don't trust him/her.
 ___ 6. I want him/her to get what he/she deserves.
 ___ 7. I find it difficult to act warmly toward him/her.
 ___ 8. I avoid him/her.
 ___ 9. I'm going to get even.
 ___ 10. I cut off the relationship with him/her.
 ___ 11. I want to see him/her hurt and miserable.
 ___ 12. I withdraw from him/her.

Scoring Instructions

Avoidance Motivations: Add up the scores for items 2, 4, 5, 7, 8, 10, and 12.

Revenge Motivations: Add up the scores for items 1, 3, 6, 9, and 11.

Source: McCullough et al. (1998).

References

- 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.
- Arendt, H. (1958). *The human condition*. Chicago: University of Chicago Press.
- 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.
- Aureli, F., Cozzolino, R., Cordischi, C., & Scucchi, S. (1992). Kin-oriented redirection among Japanese macaques: An expression of a revenge system? *Animal Behaviour, 44*, 283-291.
- Baumeister, R. F., Exline, J. J., & Sommer, K. L. (1998). The victim role, grudge theory, and two dimensions of forgiveness. In E. L. Worthington Jr. (Ed.), *Dimensions of forgiveness: Psychological research and theological perspectives* (pp. 79-104). Philadelphia: Templeton Foundation Press.
- Berry, J. W., Worthington, E. L., Jr., Parrott, L., III, O'Connor, L. E., & Wade, N. G. (in press). Dispositional forgivingness: Construct validity and development of the Transgression Narrative Test of Forgivingness (TNTF). *Personality and Social Psychology Bulletin*.
- Berry, J. W., Worthington, E. L., Jr., Parrott, L. III, O'Connor, L. E., & Wade, N. G. (2000). *The measurement of trait forgivingness*. Manuscript submitted for publication.
- Black, D. (1998). *The social structure of right and wrong*. San Diego, CA: Academic Press.
- Boon, S. D., & Sulsky, L. M. (1997). Attributions of blame and forgiveness in romantic relationships: A policy-capturing study. *Journal of Social Behavior and Personality, 12*, 19-44.
- Caprara, G. V. (1986). Indicators of aggression: The Dissipation-Rumination Scale. *Personality and Individual Differences, 17*, 23-31.
- Coyle, C. T., & Enright, R. D. (1997). Forgiveness intervention with postabortion men. *Journal of Consulting and Clinical Psychology, 65*, 1042-1046.
- Darby, B. W., & Schlenker, B. R. (1982). Children's reactions to apologies. *Journal of Personality and Social Psychology, 43*, 742-753.
- Davidson, D. L. (1993). Forgiveness and narcissism: Consistency in experience across real and hypothetical hurt situations. *Dissertation Abstracts International, 54*, 2746.
- de Waal, F. (1996). *Good natured: The origins of right and wrong in humans and other animals*. Cambridge, MA: Harvard University Press.

- Emerson, J. G. (1964). *The dynamics of forgiveness*. Philadelphia: Westminster Press.
- Emmons, R. A. (1992, August). *Revenge: Individual differences and correlates*. Paper presented at the 100th annual meeting of the American Psychological Association, Washington, DC.
- Enright, R. D., & Coyle, C. T. (1998). Researching the process model of forgiveness within psychological interventions. In E. L. Worthington Jr. (Ed.), *Dimensions of forgiveness: Psychological research and theological perspectives* (pp. 139–161). Philadelphia: Templeton Foundation Press.
- *Enright, R. D., & Human Development Study Group. (1994). Piaget on the moral development of forgiveness: Identity or reciprocity? *Journal of Moral Education*, 21, 63–80.
- *Enright, R. D., & North, J. (Eds.). (1998). *Exploring forgiveness*. Madison: University of Wisconsin Press.
- *Enright, R. D., Santos, M. J. D., & Al-Mabuk, R. (1989). The adolescent as forgiver. *Journal of Adolescence*, 12, 99–110.
- Exline, J., Yali, A. M., & Lobel, M. (1999). When God disappoints: Difficulty forgiving God and its role in negative emotion. *Journal of Health Psychology*, 4, 365–379.
- Fincham, F. D. (2000). The kiss of the porcupines: From attributing responsibility to forgiving. *Personal Relationships*, 7, 1–23.
- Freedman, S. (1998). Forgiveness and reconciliation: The importance of understanding how they differ. *Counseling and Values*, 42, 200–216.
- *Freedman, S. R., & Enright, R. D. (1996). Forgiveness as an intervention goal with incest survivors. *Journal of Consulting and Clinical Psychology*, 64, 983–992.
- Friedman, M., & Rosenman, R. H. (1974). *Type A behavior and your heart*. New York: Knopf.
- Friedman, M., Thoresen, C. E., Gill, J., Ulmer, D., Powell, L. H., Price, V. A., Brown, B., Thompson, L., Rabin, D. D., Breall, W. S., Bourg, W., Levy, R., & Dixon, T. (1986). Alteration of Type A behavior and its effect on cardiac recurrences in post-myocardial infarction patients: Summary results of the Recurrent Coronary Prevention Project. *American Heart Journal*, 112, 653–665.
- Fry, D. P., & Björkqvist, K. (Eds.). (1997). *Cultural variation in conflict resolution: Alternatives to violence*. Mahwah, NJ: Erlbaum.
- Gassin, E. A. (1998). Receiving forgiveness as moral education: A theoretical analysis and initial empirical investigation. *Journal of Moral Education*, 27, 71–87.
- *Girard, M., & Mullet, É. (1997). Propensity to forgive in adolescents, young adults, older adults, and elderly people. *Journal of Adult Development*, 4, 209–220.
- Gouldner, A. W. (1960). The norm of reciprocity: A preliminary statement. *American Sociological Review*, 25, 161–178.
- Hargrave, T. D., & Sells, J. N. (1997). The development of a forgiveness scale. *Journal of Marital and Family Therapy*, 23, 41–62.
- Hathaway, S. R., & McKinley, J. C. (1943). *The Minnesota Multiphasic Personality Inventory* (Rev. ed.). Minneapolis: University of Minnesota Press.
- 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: Wiley.
- Holden, C. (1999, May 21). Subjecting belief to the scientific method. *Science*, 284, 1257–1259.
- John, O. P., & Srivastava, S. (1999). The Big Five trait taxonomy: History, measurement, and theoretical perspectives. In L. A. Pervin and O. P. John (Eds.), *Handbook of personality: Theory and research* (pp. 102–138). New York: Guilford.
- Kaplan, B. H. (1992). Social health and the forgiving heart: The Type B story. *Journal of Behavioral Medicine*, 15, 3–14.
- Katz, J., Street, A., & Arias, I. (1997). Individual differences in self-appraisals and responses to dating violence scenarios. *Violence and Victims*, 12, 256–276.
- Kohlberg, L. (1976). Moral stages and moralization: The cognitive-developmental approach. In T. Lickona (Ed.), *Moral development and behavior* (pp. 31–53). New York: Holt.
- Malcom, W. M., & Greenberg, L. S. (2000). Forgiveness as a process of change in individual psychotherapy. In M. E. McCullough, K. I. Pargament, & C. E. Thoresen (Eds.), *Forgiveness: Theory, research, and practice* (pp. 179–202). New York: Guilford.
- Mauger, P. A., Perry, J. E., Freeman, T., Grove, D. C., McBride, A. G., & McKinney, K. E. (1992). The measurement of forgiveness: Preliminary research. *Journal of Psychology and Christianity*, 11, 170–180.
- Mauger, P. A., Saxon, A., Hamill, C., & Pannell, M. (1996, March). *The relationship of forgiveness to interpersonal behavior*. Paper presented at the annual convention of the Southeastern Psychological Association, Norfolk, VA.
- *McCullough, M. E. (2000). Forgiveness as human strength: Conceptualization, measurement, and links to well-being. *Journal of Social and Clinical Psychology*, 19, 43–55.
- McCullough, M. E. (2001). Forgiving. In C. R. Snyder (Ed.), *Coping with stress: Effective people and processes* (pp. 93–113). New York: Oxford University Press.

- 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., & Hoyt, W. T. (1999, August). *Recovering the person from interpersonal forgiving*. Paper presented at the 107th annual convention of the American Psychological Association, Boston.
- 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. T. (Eds.). (2000a). *Forgiveness: Theory, research, and practice*. New York: Guilford.
- McCullough, M. E., Pargament, K. I., & Thoresen, C. T. (2000b). The psychology of forgiveness: History, conceptual issues, and overview. In M. E. McCullough, K. I. Pargament, & C. E. Thoresen (Eds.), *Forgiveness: Theory, research, and practice* (pp. 1–14). 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. (1994). Models of interpersonal forgiveness and their applications to counseling: Review and critique. *Counseling and Values*, 39, 2–14.
- McCullough, M. E., & Worthington, E. L., Jr. (1995). Promoting forgiveness: A comparison of two brief psychoeducational group interventions with a waiting-list control. *Counseling and Values*, 40, 55–68.
- McCullough, M. E., & Worthington, E. L., Jr. (1999). Religion and the forgiving personality. *Journal of Personality*, 67, 1141–1164.
- *McCullough, M. E., Worthington, E. L., Jr., & 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 Ninth International Conference on Personal Relationships, Saratoga Springs, NY.
- Miller, T. Q., Smith, T. W., Turner, C. W., Gujjarro, M. L., & Hallet, A. J. (1996). A meta-analytic review of research on hostility and physical health. *Psychological Bulletin*, 119, 322–348.
- Mullet, É., & Girard, M. (2000). Developmental and cognitive points of view on forgiveness. In M. E. McCullough, K. I. Pargament, & C. E. Thoresen (Eds.), *Forgiveness: Theory, research, and practice* (pp. 111–132). New York: Guilford.
- Mullet, É., Houdbine, A., Laumonier, S., & Girard, M. (1998). "Forgivingness": Factor structure in a sample of young, middle-aged, and elderly adults. *European Psychologist*, 3, 289–297.
- Nelson, M. K. (1993). *A new theory of forgiveness*. Unpublished doctoral dissertation, Purdue University, West Lafayette, IN.
- Newberg, A. B., d'Aquili, E. G., Newberg, S. K., & deMarici, V. (2000). The neuropsychological correlates of forgiveness. In M. E. McCullough, K. I. Pargament, & C. E. Thoresen (Eds.), *Forgiveness: Theory, research, and practice* (pp. 91–110). New York: Guilford.
- Ohbuchi, K., Kameda, M., & Agarie, N. (1989). Apology as aggression control: Its role in mediating appraisal of and response to harm. *Journal of Personality and Social Psychology*, 56, 219–227.
- Park, Y. O., & Enright, R. D. (1997). The development of forgiveness in the context of adolescent friendship conflict in Korea. *Journal of Adolescence*, 20, 393–402.
- Rackley, J. V. (1993). *The relationships of marital satisfaction, forgiveness, and religiosity*. Unpublished doctoral dissertation, Virginia Polytechnic Institute and State University, Blacksburg, VA.
- Reiss, S., & Havercamp, S. M. (1998). Toward a comprehensive assessment of fundamental motivation: Factor structure of the Reiss profiles. *Psychological Assessment*, 10, 97–106.
- Roloff, M. E., & Janiszewski, C. A. (1989). Overcoming obstacles to interpersonal compliance: A principle of message construction. *Human Communication Research*, 16, 33–61.
- Rye, M. S., Loiacono, D., Kmett, C., Folck, C., Hovanscek, A., Olszewski, B., Martin, J., Madia, B., Danko, S., Heim, T., & Ryan, C. (1999, August). *Evaluation of the psychometric properties of two forgiveness scales*. Poster presented at the 107th annual meeting of the American Psychological Association, Boston.
- Rye, M. S., Pargament, K. I., Ali, M. A., Beck, G. L., Dorff, E. N., Hallisey, C., Narayanan, V., & Williams, J. G. (2000). Religious perspectives on forgiveness. In M. E. McCullough, K. I. Pargament, & C. E. Thoresen (Eds.), *Forgiveness: Theory, research, and practice* (pp. 17–40). New York: Guilford.
- Sandage, S. J., & Worthington, E. L., Jr. (1999, August). *An ego-humility model of forgiveness: An empirical test of group interventions*. Poster

- presented at the 107th annual meeting of the American Psychological Association, Boston.
- Schratter, A. K., Iyer, V. C., Jones, W. H., Lawler, K. A., & Jones, J. E. (2000, February). *Personality and interpersonal correlates of forgiveness*. Paper presented at the annual meeting of the Society for Personality and Social Psychology, Nashville, TN.
- Scobie, E. D., & Scobie, G. E. W. (1998). Damaging events: The perceived need for forgiveness. *Journal for the Theory of Social Behaviour*, 28, 373-401.
- Shriver, D. (1995). *An ethic for enemies*. New York: Oxford University Press.
- Silk, J. B. (1992). The patterning of intervention among male bonnet macaques: Reciprocity, revenge, and loyalty. *Current Anthropology*, 33, 318-324.
- Smedes, L. B. (1996). *The art of forgiving: When you need to forgive and don't know how*. Nashville, TN: Moorings.
- Snyder, C. R., Higgins, R. L., & Stucky, R. (1983). *Excuses: Masquerades in search of grace*. New York: Wiley-Interscience.
- Snyder, C. R., & Yamhure, L. C. (2000). *Heartland Forgiveness Scale*. Unpublished manuscript, University of Kansas, Lawrence.
- Struckless, N., & Goranson, R. (1992). The Vengeance Scale: Development of a measure of attitudes toward revenge. *Journal of Social Behavior and Personality*, 7, 25-42.
- 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.
- Tangney, J. P., Fee, R., Reinsmith, C., Boone, A. L., & Lee, N. (1999, August). *Assessing individual differences in the propensity to forgive*. Paper presented at the annual meeting of the American Psychological Association, Boston.
- Thoresen, C. E., Harris, A. H. S., & Luskin, F. (2000). Forgiveness and health: An unanswered question. In M. E. McCullough, K. I. Pargament, & C. E. Thoresen (Eds.), *Forgiveness: Theory, research, and practice* (pp. 254-280). New York: Guilford.
- Trainer, M. F. (1981). *Forgiveness: Intrinsic, role-expected, expedient, in the context of divorce*. Unpublished doctoral dissertation, Boston University, Boston.
- Wade, S. H. (1989). *The development of a scale to measure forgiveness*. Unpublished doctoral dissertation, Fuller Graduate School of Psychology, Pasadena, CA.
- Weiner, B. (1995). *Judgments of responsibility: A foundation for a theory of social conduct*. New York: Guilford.
- Weiner, B., Graham, S., Peter, O., & Zmuidinas, M. (1991). Public confession and forgiveness. *Journal of Personality*, 59, 281-312.
- Williams, R., & Williams, V. (1993). *Anger kills*. New York: Random House.
- *Witvliet, C. V. O., Ludwig, T., & Vander Laan, K. (2001). Granting forgiveness or harboring grudges: Implications for emotion, physiology, and health. *Psychological Science*, 121, 117-123.
- Woodman, T. (1991). *The role of forgiveness in marital adjustment*. Unpublished doctoral dissertation, Fuller Graduate School of Psychology, Pasadena, CA.
- *Worthington, E. L., Jr. (1998). *Dimensions of forgiveness: Psychological research and theological perspectives*. Philadelphia: Templeton Foundation Press.
- Worthington, E. L., Jr., Sandage, S. J., & Berry, J. W. (2000). Group interventions to promote forgiveness: What researchers and clinicians ought to know. In M. E. McCullough, K. I. Pargament, & C. E. Thoresen (Eds.), *Forgiveness: Theory, research, and practice* (pp. 228-253). New York: Guilford.
- Wu, J., & Axelrod, R. (1995). How to cope with noise in the iterated Prisoner's Dilemma. *Journal of Conflict Resolution*, 39(1), 183-189.
- Wuthnow, R. (2000). How religious groups promote forgiving: A national study. *Journal for the Scientific Study of Religion*, 36, 124-137.