EXPERIENTIAL AVOIDANCE AND FORGIVENESS AS MEDIATORS IN THE RELATION BETWEEN TRAUMATIC INTERPERSONAL EVENTS AND POSTTRAUMATIC STRESS DISORDER SYMPTOMS

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The present study investigates experiential avoidance and forgiveness, two general response styles to emotional distress that may impact reactions to trauma exposure, as potential mediators of the link between interpersonal trauma exposure and Posttraumatic Stress Disorder (PTSD) symptoms in a cross-sectional survey of 229 undergraduate students reporting interpersonal trauma exposure. Utilizing structural equation modeling techniques, both constructs were found to significantly partially mediate the relation between interpersonal trauma exposure and PTSD symptoms; experiential avoidance reduced the relation between interpersonal trauma exposure and PTSD symptoms by 22% while forgiveness reduced this relation by 14%. Thus, individuals who were lower in forgiveness and higher in experiential avoidance reported higher PTSD symptoms than those higher in forgiveness and lower in experiential avoidance. Implications for treatment and prevention of PTSD symptoms are discussed.

Following trauma exposure, a sizable minority of individuals will develop Posttraumatic Stress Disorder (PTSD), a potentially debilitating reaction to trauma exposure including re-experiencing symptoms (e.g., flashbacks), avoidance and numbing symptoms (e.g., avoidance of trauma reminders), and hyperarousal symptoms (e.g., exaggerated startle response) (American Psychiatric Association, 2000). Prospective...
studies suggest that approximately 30% of trauma–exposed individuals will meet criteria for PTSD within three months following the exposure (see e.g., Blanchard et al., 1996; Koren, Aron, & Klein, 1999; Shalev et al., 1998). Given that the majority of individuals generally appear resilient to trauma exposure, at least with respect to the development of PTSD, it is of interest to identify factors that may function as protective or risk factors for the development of PTSD symptoms. Such factors may serve to guide prevention and intervention efforts with respect to PTSD and other posttrauma pathology (e.g., substance use).

Although a variety of well–elaborated theoretical models of PTSD exist (e.g., Brewin, Dalgleish, & Joseph, 1996; Ehlers & Clark, 2000; Foa, Steketee, & Rothbaum, 1989), on a simple level, PTSD can be conceptualized as a failure to successfully integrate traumatic material into memory and experience. Specifically, traumatic material intrudes on present experience through nightmares, thoughts, and/or flashbacks, and such intrusions are associated with distress. Thus, one factor that may mediate the link between trauma exposure and PTSD symptomatology is one’s style of responding to, or coping with, negative interpersonal events. The present cross–sectional study examines the relation of two general response styles, experiential avoidance and forgiveness, with degree of PTSD symptomatology (which may be subclinical) following interpersonal trauma exposure. As will be presented below, these two response styles can be conceptualized, respectively, as representing avoidance or approach with experiential avoidance representing the avoidance of negative emotions and thoughts, and forgiveness requiring engagement with one’s negative emotions and thoughts after an interpersonal offense.

Experiential avoidance occurs when an individual is unwilling to experience private events, such as thoughts, memories, emotions, and bodily sensations, and takes action to change the experience or the frequency of these events and the contexts in which these events may arise (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). Experiential avoidance can be conceptualized as subsuming such constructs as thought suppression, alexithymia, and avoidance coping and has been linked to various forms of psychopathology (Hayes et al., 1996). More specifically, a response style characterized by avoiding, suppressing, and/or negatively evaluating distressing symptoms has been found to be related to PTSD symptoms (see e.g., Bryant & Harvey, 1995; Ehlers, Mayou, & Bryant, 1998; Jacobsen et al., 2002; Purdon, 1999; Sharkansky et al., 2000; Steil & Ehlers, 2000). Given that both experiential avoidance and PTSD (specifically the avoidance and numbing symptom cluster) contain elements of avoidance, it should be noted that there are limitations when examining these relationships cross–sectionally as in the
present study; prospective studies will ultimately be necessary to establish experiential avoidance as a risk factor for the development of PTSD. Theoretically, however, an individual who demonstrates experiential avoidance in reaction to the relatively common intrusive experiences following trauma exposure is hypothesized to be at higher risk of developing a pathological reaction such as PTSD symptomatology.

Although interpersonal forgiveness is clearly not a new construct, scientific exploration of this construct is a relatively recent phenomenon (e.g., McCullough, Pargament, & Thoresen, 2000, for a review). A number of complex issues exist in the operationalization and definition of interpersonal forgiveness. Among forgiveness researchers, there seems to be the most agreement about what forgiveness is not as opposed to what forgiveness is. Specifically, there is generally consensus among the forgiveness research community that forgiveness should not be conflated with forgetting, excusing, condoning, denying, and pardoning (e.g., McCullough & Witvliet, 2002). In addition, there appears to be consensus that forgiveness and reconciliation are distinct but related constructs. Fincham (2000) argues that reconciliation “involves the restoration of violated trust and requires the goodwill of both partners” (p. 7). Thus, forgiveness must be present for reconciliation to occur, but forgiveness can occur completely in the absence of reconciliation. It is important to acknowledge, particularly with regard to interpersonal trauma, which may involve incidents such as physical assault and sexual abuse, there may well be instances where it is not safe or appropriate for an individual to reconcile with an offender.

One unresolved issue with regard to the definition of forgiveness centers on benevolence. Specifically, does forgiveness require an increase in positive feelings toward the offender in addition to the absence of negative feelings (Exline, Worthington, Hill, & McCullough, 2003). For example, Worthington and Wade (Wade & Worthington, 2003; Worthington & Wade, 1999) draw a distinction between reducing unforgiveness and granting forgiveness. Unforgiveness is defined as the “delayed emotions of resentment, hostility, hatred, bitterness, anger and fear (in some combination) that arise after ruminating about a transgression” (Wade & Worthington, 2003, p. 344), while forgiveness is defined as “experiencing strong, positive, love–based emotions as one recalls a transgression” that motivate reconciliation/conciliation if appropriate (Worthington, Berry, & Parrott, 2001, p. 109). Wade and Worthington (2003) note the importance of this distinction by arguing that reductions in unforgiving emotions can occur without forgiveness occurring, such as by exacting successful revenge against an offender. Other theorists have not drawn such a clear distinction on the issue of benevolence, although, clearly, none would argue that benevolence is inconsistent with forgiveness.
One recent study provides interesting preliminary evidence about the potential interplay of avoidance/revenge motivations and benevolence motivations. Using sophisticated statistical modeling techniques, McCullough, Fincham, and Tsang (2003) examined avoidance motivations, revenge motivations, and benevolence motivations across time in two independent samples of college students who reported experiencing an interpersonal transgression. The first study followed students for five weeks (who had experienced a transgression within the last 16 weeks), while the second study followed students for up to nine weeks (who had experienced a transgression in the past seven days). The results of both studies indicated that avoidance and revenge motivations significantly decreased across time while benevolence motivations did not significantly change. The potentially independent functioning of avoidance/revenge motivations and benevolence motivations is consistent with mounting evidence for the relative independence of negative and positive affective systems (see Gable, Reis, & Elliot, 2003 for a discussion of integrative appetitive–aversive systems). Indeed, within the context of appetitive–aversive systems, it may be that some individuals may be more sensitive and motivated by a reduction in avoidance/revenge motivations (i.e., comparable to behavioral inhibition/aversive systems) while others may be more sensitive to and motivated by an increase in benevolent feelings (i.e., comparable to behavioral activation/appetitive systems). That is, perhaps forgiveness unfolds differently depending on an individual’s sensitivity to negative and positive emotions. Further research is clearly needed in this area to explore the relationship of forgiveness to appetitive–aversive systems models.

Another critical issue in forgiveness research relates to potential problems in measurement when lay conceptions of forgiveness are discrepant from researcher conceptions (which as noted above, generally distinguish forgiveness from forgetting, excusing, reconciliation, etc.). For example, Jeffress (2000, as cited in Exline et al., 2003) reported that, in a nationwide survey of 1,002 adults, a substantial percentage indicated it was somewhat (34%) or very (32%) accurate that “if you have really forgiven someone, you should be able to forget what they have done to you.” In addition, a substantial percentage agreed that if you forgive someone, that person should be released from the consequences of their actions (an idea very discrepant from the research conceptualization of forgiveness). In a series of five studies, Kearns and Fincham (2004) conducted a prototype analysis in order to identify central features in lay conceptions of forgiveness among a sample of undergraduate students. Results were supportive of the notion that people use a prototype for forgiveness. How did lay conceptions correspond to scientist definitions? Areas of overlap included the importance of decreased negative feelings
toward the offender, as well as the importance of a multidimensional conceptualization of forgiveness (i.e., forgiveness contains elements of affect, cognition, and behavior). A number of differences emerged, however, between laypeople’s prototypes of forgiveness and current research definitions. Specifically, 12% of participants found condoning to be an important, and even sometimes central, attribute of forgiveness while 28% of participants found forgetting to be an important attribute of forgiveness. In addition, 21% of participants felt that reconciliation was a central attribute of forgiveness. The potential discrepancy between scientific and lay definitions of forgiveness has important implications for measurement strategies.

Forgiveness is often measured at either the dispositional or offense–specific level (see McCullough, Hoyt, & Rachal, 2000 for a helpful taxonomy of forgiveness measurements). Two commonly used offense–specific measures (McCullough et al., 1998; Enright, 2001) require that participants identify an interpersonal transgression and then answer a series of questions about their current reactions to the perpetrator. The Transgression–Related Interpersonal Motivations Scale (TRIM; McCullough et al., 1998) is a 12–item measure that assesses both avoidance (e.g., I cut off the relationship with him/her) and revenge (e.g., I wish that something bad would happen to him/her) motivations. The Enright Forgiveness Inventory (Enright & Fitzgibbons, 2000) is a 60–item measure that assesses positive and negative affect (e.g., I feel warm toward him/her, I feel repulsed toward him/her), cognition (e.g., I think he or she is a good person, I think he or she is worthless), and behavior (e.g., I would do a favor, I would avoid) toward the perpetrator. The EFI also includes a single item at the end asking the extent to which the individual has forgiven the perpetrator. Thus, both the EFI and TRIM minimize the impact of lay definitions of the use of forgiveness and focus on assessing specific affect, cognitions, and behaviors consistent with the researcher’s definition of forgiveness. Most dispositional measures, however, employ the term “forgive” (e.g., Brown, 2003). Researchers employing measures that use the word forgiveness may need to be cognizant of the impact that lay definitions may have on participant responses. For example, the researcher may not consider forgetting to be an aspect of his/her forgiveness definition, but if the person answering the questionnaire considers this to be a central aspect of forgiveness, they may be more or less likely to rate themselves as forgiving. A number of dispositional measures of forgiveness employ a scenario method; respondents are presented with scenarios of various transgressions and are asked to indicate their likely response (e.g., DeShea, 2003). However, scenario–based measurements have been found to be significantly correlated with the extent to which a participant values forgive-
ness (and thus the extent to which a person thinks he or she “should” be forgiving) (Brown, 2004). Thus, both types of measures, offense–specific and dispositional measures, have strengths and limitations. Dispositional measures are particularly impacted by the participant’s definition of forgiveness. Evidence is needed as to the relationship of offense–specific measures and dispositional measures over time; Brown (in press) discusses findings from as yet unpublished data (Brown & Philips, 2004) noting that these two types of measures may correlate significantly when the offense is more severe.

Despite disagreement among definitions and methods of measurement, most researchers agree that forgiveness takes time. Two popular process models are those of Enright (e.g., 2001) and Worthington (e.g., Worthington, 2001). Enright (Enright, 2001; Enright & Fitzgibbons, 2000) has articulated a process model of interpersonal forgiveness that is comprised of four phases. In brief, the process of forgiveness involves the unjustly injured individual fully experiencing the negative emotions and pain associated with the injury. The negative emotions must be confronted and deeply understood before the process of healing can begin. In the second phase, the individual realizes that a continued focus on the injury and offender may only result in continued suffering. The possibility of forgiveness is explored as a strategy for healing, and the individual makes a commitment to forgive the offender. Following this commitment, the work of forgiveness is initiated and at this point, thoughts, feelings, or intentions of revenge toward the offender are relinquished. In the third phase, the active work of forgiveness is initiated. The process of forgiveness often involves altering the perception of the offender, perhaps by placing the event in the context of the offender’s life, in an effort not to excuse the offender of responsibility but to accept the offender as a member of the human community. This phase also includes an acceptance and bearing of the pain that has been unjustly inflicted on the harmed individual coupled with a choice not to pass the pain along to others, including the offender. The injured individual may choose to offer some form of goodwill (privately and/or publicly) toward the offender. In the final phase, the forgiving individual becomes aware of the positive emotional benefits that he or she is receiving from the process of forgiveness. Commonly, individuals find meaning in the suffering that has been experienced. Thus, in this final phase of forgiveness, the individual experiences the paradox of forgiveness: as one bears the unjust pain and grants mercy to others, one is healed.

Relatedly, Worthington (e.g., Worthington, 2001) describes his process model as a pyramid model (which spells out the acronym REACH) that is comprised of five parts. First, the individual must Recall the hurt as objectively as possible. Second, Empathize with the offender and try
to understand the pressures that the perpetrator may have been experiencing. Third, offer the Altruistic gift of forgiveness by focusing on humility (the times you have hurt others) and gratitude (how it has felt when others have forgiven you). Fourth, Commit publicly to forgive. Finally, Hold onto forgiveness, which involves six actions that can be taken to hold fast to forgiveness when it is challenged. Although the two models are not identical, they are certainly more similar than different in the processes and steps that must be taken on the journey toward forgiveness. Indeed, both process models clearly emphasize the importance of beginning the process by approaching and engaging with the painful emotions related to the transgression.

Thus, how might forgiveness serve as a mediator in the relation between trauma exposure and PTSD symptomatology? Trauma is frequently interpersonal in nature and involves one person harming another either intentionally (e.g., rape) or unintentionally (e.g., motor vehicle accident). In the present study, it is proposed that a general response style of forgiveness toward persons who have inflicted harm upon oneself may be a mechanism of healing and resilience following trauma exposure. Allowing oneself to experience, work through, and accept the distress and pain following a traumatic event without significant avoidance may actually serve as a buffer or protection against the occurrence of PTSD symptomatology. To date, this model has not been tested in the prospective manner that would be necessary to confirm or disconfirm this proposed mechanism.

Forgiveness has been postulated to be positively related to both mental and physical health. Existing research, although relatively limited, has generally supported this formulation. For example, forgiveness of others was found to be significantly negatively related to psychological distress in a national probability sample of individuals aged 18 years and older (Touissant, Williams, Musick, & Everson, 2001). Witvliet, Ludwig, and Vander Lann (2001) utilized a within–subjects design and psychophysiological assessment to study the impact of forgiving and unforgiving response styles on physiological measures related to health. The authors reported that forgiving responses were associated with lower physiological stress responses than unforgiving responses. Unforgiving responses were further associated with a slower return to baseline arousal. In another experimental study, Lawler et al. (2003) examined the cardiovascular correlates of trait and state forgiveness and found evidence for a positive effect of forgiveness.

With regard to trauma exposure specifically, using Enright’s process model of forgiveness, Freedman and Enright (1996) provided treatment to 12 incest survivors (6 were originally wait–listed) for an average of 14 months. Participants reported increased forgiveness and hope, and de-
creased anxiety and depression following the intervention. In addition, Witvliet, Phipps, Feldman, and Beckham (2004) examined the relation of forgiveness to mental and physical health outcomes in a sample of 213 combat veterans with PTSD. Difficulty forgiving others was significantly related to PTSD symptoms and depression, but was not related to anxiety or physical health conditions. Thus, given the extant literature on the relation of forgiveness to physical and mental health outcomes, it is reasonable to postulate a link between a forgiving response style (i.e., forgiveness) and PTSD symptomatology.

In the current conceptualization, the link between interpersonal trauma exposure and PTSD symptomatology is theorized to be mediated by one’s style of responding to emotionally distressing material. Specifically, the use of an approach–based response style, such as forgiveness, is expected to be related to lower PTSD symptomatology whereas the use of an avoidant–based response style, such as experiential avoidance, is expected to be related to higher PTSD symptomatology. The present study, while unable to provide a rigorous test of this model due to the cross–sectional design, is designed to provide an initial test of this model with a large undergraduate student sample.

METHOD

PARTICIPANTS

Participants were selected from a larger sample of 1,014 college undergraduates at a large Midwestern university who participated in an ongoing study of the consequences of trauma exposure. Two hundred and twenty-nine participants met inclusion criteria (i.e., reporting experiencing an interpersonal trauma that caused feelings of fear, helplessness, or horror) for the study. Participants were students enrolled in an introductory psychology course who received partial course credit for their participation in experimental research. The sample was 71% female (n = 163) and predominantly White (60% of participants identified as White, 22% Black, 5% Latino/Latina, 8% Asian American, 4% Other, and 1% did not indicate their ethnicity). The sample was relatively representative of a college population in that 96% of the sample was under the age of 24.

PROCEDURE

Participants completed a series of pencil–and–paper questionnaires in single–sex groups due to the sensitive nature of a number of the ques-
tionnaires included in the data collection packet (i.e., sexual behavior, history of abuse). The questionnaires were completed in approximately 90-minute sessions by groups comprised of 30 or fewer students. Informed consent was given by participants at the beginning of the session. Upon the completion of the packets, participants were debriefed on the nature and importance of the study and given resources for community counseling agencies.

MEASURES

**Traumatic Interpersonal Events.** Traumatic interpersonal events were measured using the Traumatic Life Events Questionnaire (TLEQ; Kubany, Haynes, et al., 2000) which assesses 22 potentially traumatic events. Eleven items were classified as interpersonal (i.e., involved a traumatic interaction between two people as opposed to a natural disaster) including assaults (sexual and nonsexual), robbery, childhood sexual and physical abuse, intimate partner violence, stalking, and threat of injury or death. Each event that was reported to have caused the participant to feel fear, helplessness, or horror was included in the total count of interpersonal traumatic life events. The count ranged from one to seven; 57% of participants reported one event, 25% reported two events, 10% reported three events, and 8% reported four or more events. Participants in the present sample reported experiencing a noteworthy level of interpersonally traumatic events causing fear, helplessness, or horror. For example, 25% reported being stalked, 13% reported a sexual assault after the age of 18, 22% reporting receiving a threat of serious harm or death, 18% reported intimate partner violence, and 24% reported child abuse causing bruises, burns, cuts, or broken bones.

**Experiential Avoidance.** Three measures were used as observed indicator variables of the latent construct of experiential avoidance. The three questionnaires used to measure experiential avoidance were the Acceptance and Action Questionnaire (AAQ; Hayes et al., 2004), the Toronto Alexithymia Scale (TAS–20; Bagby, Parker, & Taylor, 1994), and the White Bear Thought Suppression Inventory (WBSI; Wegner & Zanakos, 1994). For the purpose of presenting descriptive statistics, a mean score was calculated using these three scales (all scales are on seven-point Likert scales, where a higher score indicates a greater degree of the construct being measured). Reverse scoring of scale items was conducted where appropriate. The coefficient alpha for the 44 total items was .92.

The nine-item AAQ is commonly used as a measure of experiential avoidance, an unwillingness to remain in contact with negative private experiences (Hayes et al., 1996). The internal consistency in the present study fell below a desirable range (coefficient $\alpha = .56$). However, the
AAQ is a brief scale and was used as part of a composite measure rather than the sole measure of the construct of experiential avoidance. Alexithymia is an individual’s inability to identify and describe emotions or the physiological arousal associated with emotion. Mean scores on the TAS–20 (Bagby et al., 1994) formed the second indicator variable (coefficient $\alpha = .82$). Thought suppression, which is an individual’s attempts to conceal and control unwanted thoughts from entering consciousness by searching for alternative thoughts to occupy his or her thought processes, was assessed by the WBSI (Wegner & Zanakos, 1994), which served as the third indicator of the experiential avoidance construct (coefficient $\alpha = .92$). The measures of experiential avoidance were not specifically linked to avoidance of private events (e.g., thoughts, feelings) secondary to the interpersonal trauma exposure, but rather, inquire about general response styles.

Forgiveness. Forgiveness was modeled as a latent variable using the three subscales of the Enright Forgiveness Inventory (EFI; Enright & Fitzgibbons, 2000) as observed indicators. For this scale, participants identify an event in which they have been “hurt unfairly and deeply” and report their feelings, behaviors, and thoughts toward the individual who has wronged him or her. The EFI contains three subscales (feelings, behaviors, and thoughts) and utilizes a six–point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree). The three subscale scores are obtained by computing a mean score for each of the 20 items within each subscale. The internal consistency for the total forgiveness scale (the total score was computed for the purpose of providing descriptive information) has a coefficient alpha of .99, and for each of the three subscales the coefficient alpha was .98.

As noted above, the measurement of forgiveness encompasses a number of complex issues. Given the question of interest, we examined forgiveness as a response style that transcends multiple situations. However, the existing dispositional measures tend to incorporate the use of the term “forgiveness,” which necessarily involves lay conceptions of forgiveness. The focus of the EFI on positive and negative feelings, behaviors, and thoughts was deemed beneficial for our conceptualization of forgiveness as an approaching response style. Further, the EFI does not use the term “forgiveness” until a single item at the end of the measure (which is not included in the present analyses). Thus, we elected to use this situation–specific measure of forgiveness with the understanding that participant’s ratings will be influenced by the specific situation, but also, with the assumption, as is often made in the coping literature (see e.g., Schwarzer & Schwarzer, 1996) that situational responding also reflects to some degree a stable dispositional response style. Thus, it is important to acknowledge the assumption inherent in our selection of
theEFI,andmoreover,thatthedesigndothepresentstudydoesnotallowustotestthevalidityofthisassumption.

Consistentwiththisassumption,itisshouldbenumeratedthattheperpetratorofthetransgression,ofwhomtheparticipantswerethinkingastheyansweredtheEFI,mayormaynothavebeentheperpetratorofanyoftheinterpersonaltraumasreportedonthetLEQ.Theseassessmentswerenotspecificallylinked.

**PTSD Symptoms.** PTSD symptoms were measured and modeled using the three symptom subscales (re-experiencing symptoms, hyperarousal symptoms, and avoidance symptoms) of the Distressing Events Questionnaire (DEQ; Kubany, Leisen, Kaplan, & Kelly, 2000) as observed indicator variables of the PTSD symptoms latent construct. The DEQ is designed to be utilized in concert with the TLEQ. The participants are asked to identify which of the endorsed events was most distressing and then are asked to focus on that event while answering the questions about PTSD symptoms that they may have experienced in the past month. The DEQ assesses symptoms of PTSD as specified in the DSM–IV–TR (American Psychiatric Association, 2000). A total score of PTSD symptoms is obtained by summing the responses to the number of current symptoms endorsed by participants. Internal consistency estimates were .76 for the re-experiencing subscale, .82 for the avoidance and numbing subscale, .87 for the hyperarousal subscale, and .92 for the full scale.

**OVERVIEW OF ANALYSES**

Experiential avoidance and forgiveness were investigated as possible mediators of the relation between traumatic interpersonal events and PTSD symptoms in two separate models as well as simultaneously in one alternative mediational model. Mediation was tested according to procedures outlined in Baron and Kenny (1986).

Analyses were completed via structural equation modeling strategies using the AMOS program (Arbuckle & Wothke, 1999) and maximum likelihood estimation. Parameters were estimated using all available data (incomplete data were assumed to be missing at random and thus included in the parameter estimates). The AMOS program offers an advantage over traditional methods of multiple regression in that maximum likelihood methods are used to deal with missing data. In addition, this program allows experiential avoidance, forgiveness, and PTSD symptoms to be modeled as latent variables with three observed indictors each.
RESULTS

DESCRIPTIVE STATISTICS

Means, standard deviations, and intercorrelations for gender, traumatic interpersonal events, experiential avoidance, forgiveness, and PTSD symptoms are presented in Table 1. Gender and race were examined as possible covariates. Gender was found to be significantly correlated with traumatic interpersonal events and was thus included as a covariate in the mediation models. Race was not significantly correlated with the variables of interest in the present study and is not discussed further.

MEASUREMENT MODELS

Experiential Avoidance Modeled as a Latent Variable. Experiential avoidance was modeled as a latent variable with three observed manifest indicators (thought suppression [WBSI], experiential avoidance [AAQ], and alexithymia [TAS–20]). The factor loading for each indicator was good with standardized coefficients of .70, .79 and .76 for the WBSI, the AAQ, and the TAS–20, respectively.

Forgiveness Modeled as a Latent Variable. Forgiveness was modeled as a latent variable using the three subscales of the EFI as the observed manifest indicators. The factor loading for each indicator was excellent with standardized coefficients of .96, .92 and .96 for the feeling subscale, the thought subscale, and the behavior subscale, respectively.

PTSD Symptoms Modeled as a Latent Variable. The three observed manifest indicators modeled for the latent variable of PTSD symptoms loaded significantly. The three indicator variables were the scores for the DEQ re-experiencing, avoidance, and hyperarousal subscales. The standardized coefficient factor loadings were .68 for re-experiencing symptoms, .84 for hyperarousal symptoms, and .87 for avoidance symptoms.

MEDIATION ANALYSES

Mediational Analysis of Experiential Avoidance. Conducting the mediation analysis requires that four conditions be met. The first three initial conditions require the three separate paths between the three latent variables to be significant. In the current analysis, the three paths that required significance for mediation to be investigated, were, in fact, significant: (1) traumatic interpersonal events was positively and significantly associated with PTSD symptoms ($\beta = .36, p < .05$), after controlling for the covariate of gender; (2) traumatic interpersonal events was positively
TABLE 1. Means, Standard Deviations, and Intercorrelations for Study Variables

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<td>1. Gender (0 = Female, 1 = Male)</td>
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<td>6. Forgiveness Behavior</td>
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<td>7. PTSD Total</td>
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All correlations greater than or equal to .13 are significant at the $p < .05$ level. Coefficient alphas (where appropriate) are on the diagonal.
and significantly associated with experiential avoidance ($\beta = .17, p < .05$); and (3) experiential avoidance was positively and significantly associated with PTSD symptoms ($\beta = .52, p < .05$).

The fourth condition requires that, once all three latent variables are entered into the same structural equation model, the initial path between the predictor variable (traumatic interpersonal events) and criterion variable (PTSD symptoms) be zero for full mediation or significantly reduced for partial mediation. To test the fourth condition, all three variables were entered into a structural equation model. The path coefficients between each of the three variables were still significant once entered into the structural equation model: the direct effect of traumatic interpersonal events on experiential avoidance ($\beta = .17, p < .05$); the direct effect of experiential avoidance on PTSD symptoms ($\beta = .47, p < .05$); and the direct effect of traumatic interpersonal events on PTSD symptoms ($\beta = .28, p < .05$) (see Figure 1). Although the last path, traumatic interpersonal events to PTSD symptoms, was still significant, the
direct effect of traumatic interpersonal events on PTSD symptoms was reduced by 22% (.36 to .28) when controlling for the effect of experiential avoidance. Additionally, the mediated effect was statistically significant (see MacKinnon, Warsi, & Dwyer, 1995, for a complete description of this technique). The structural equation model had a positive degree of freedom and the associated fit was extremely good, $\chi^2(18) = 17.21$, root mean-squared error of approximation (RMSEA) = .000, comparative fit index (CFI) = 1.00, and normative fit index (NFI) = .995. These findings indicate that experiential avoidance significantly partially mediated the relationship between traumatic interpersonal events and PTSD symptoms in the present sample.

**Mediational Analysis of Forgiveness.** Similar analyses were conducted to test mediation of forgiveness in the relation of traumatic interpersonal events and PTSD symptoms. The initial conditions were met with each of the three independent direct paths between the three latent variables being significantly related to one another: (1) traumatic interpersonal events was positively and significantly associated with PTSD symptoms ($\beta = .36, p < .05$), after controlling for the covariate of gender; (2) traumatic interpersonal events was negatively and significantly associated with forgiveness ($\beta = –.20, p < .05$); and (3) forgiveness was negatively and significantly associated with PTSD symptoms ($\beta = –.29, p < .05$).

All three latent variables were entered into a structural equation model to test the fourth condition. The path coefficients between each of the three variables were still significant once entered into the structural equation model: the direct effect of traumatic interpersonal events on forgiveness ($\beta = –.20, p < .05$); the direct effect of forgiveness on PTSD symptoms ($\beta = –.22, p < .05$); and the direct effect of traumatic interpersonal events on PTSD symptoms ($\beta = .31, p < .05$) (see Figure 2). The last path, traumatic interpersonal events to PTSD symptoms, was still significant and the direct effect of traumatic interpersonal events on PTSD symptoms was reduced by 14% (.36 to .31) when controlling for the effect of forgiveness. Additionally, the mediated effect was statistically significant using the MacKinnon method (MacKinnon et al., 1995). The structural equation model also provided adequate fit; the analysis had a positive degree of freedom and the associated fit was moderately good, $\chi^2(18) = 22.04$, RMSEA = .031, CFI = .999 and NFI = .993. These findings indicate that forgiveness significantly partially mediated, although the mediated effect is moderate, the relationship between traumatic interpersonal events and PTSD symptoms in the current study.

**Mediational Analysis of the Combined Model: Experiential Avoidance and Forgiveness.** Additional analyses were conducted to test the mediation of both experiential avoidance and forgiveness in the relation of traumatic interpersonal events and PTSD symptoms. The initial conditions
were met with each of the five independent direct paths between the four latent variables being significantly related to one another as consistent with that presented in the previous sections.

The fourth and final condition was tested by entering all four variables into a structural equation model. The path coefficients between each of the four variables were still significant once entered into the structural equation model: the direct effect of traumatic interpersonal events on experiential avoidance ($\beta = .17, p < .05$), the direct effect of experiential avoidance on PTSD symptoms ($\beta = .45, p < .05$), the direct effect of traumatic interpersonal events on forgiveness ($\beta = -.20, p < .05$), the direct effect of forgiveness on PTSD symptoms ($\beta = -.15, p < .05$), and the direct effect of traumatic interpersonal events on PTSD symptoms ($\beta = .26, p < .05$) (see Figure 3). The last path, traumatic interpersonal events to PTSD symptoms, was still significant and the direct effect of traumatic interpersonal events on PTSD symptoms was reduced by 28% (.36 to .26) when controlling for the effects of experiential avoidance and forgive-
ness. Additionally, the mediated effect was statistically significant using the MacKinnon method (MacKinnon et al., 1995). The structural equation model also provided adequate fit; the analysis had a positive degree of freedom and the associated fit was moderately good, $\chi^2(40) = 52.03$, RMSEA = .036, CFI = .998 and NFI = .991. These findings indicate that the combined effect of having both experiential avoidance and forgiveness in the same model was an increase in the amount of mediation, although not in an additive fashion.

**DISCUSSION**

The present study examined the extent to which two general response styles to emotional distress mediated the link between trauma exposure and PTSD symptomatology. It was hypothesized that a forgiving general response style would be negatively related to PTSD symptomatology, while an experientially avoidant general response
style would be positively related to the development of PTSD symptomatology. This study demonstrated that both experientially avoidant and forgiving general response styles significantly partially mediated the relation between traumatic interpersonal events and PTSD symptomatology (in the predicted directions). The relation between traumatic interpersonal events and PTSD symptoms was .36, which was reduced by 22% when controlling for experientially avoidant response styles and by 14% when controlling for forgiving response styles. When both experientially avoidant and forgiving general response styles were controlled for, the reduction of the direct path between traumatic interpersonal events and PTSD symptoms was 28%.

The interpretation of the present findings is, of course, limited by the cross-sectional nature of this investigation. The present study would be strengthened by assessment of the mediators at a separate and earlier time point than the assessment of PTSD symptomatology. That said, however, the present findings are a potentially useful and exciting addition to the growing body of literature examining risk factors for PTSD development (see e.g., Brewin, Andrews, & Valentine, 2000; Ozer, Best, Lipsey, & Weiss, 2003 for recent meta-analytic reviews).

The majority of individuals who experience a traumatic event associated with an emotional response of intense fear, helplessness, and/or horror do not develop PTSD (Kessler, Sonnega, Bromet, & Nelson, 1995). Given that most people who experience an emotionally distressing event do not develop PTSD, the present study chose to focus attention on an individual’s general style of responding to distressing emotional events. That is, does the way in which an individual typically responds to emotional distress mediate the relationship between trauma exposure and PTSD symptoms? Specifically, it was predicted that having an avoiding (experientially avoidant), as opposed to forgiving, general response style would be related to more PTSD symptoms following trauma exposure.

With regard to experiential avoidance, the present study suggests that a general response style of unwillingness to remain in contact with negative private events may be a potential pathway to the development of PTSD following trauma exposure. Specifically, if one typically reacts with suppression and avoidance to experiences concomitant with emotional distress, one is more likely to report higher levels of PTSD symptomatology. Particularly given that the present study utilizes a cross-sectional study, it is important to note the potential overlap between experiential avoidance as a response style and the PTSD avoidance symptoms cluster. Future longitudinal studies are necessary to tease out unique and combine causal influences. Given the potential overlap however, how can we understand this relation in the context of
information processing and social cognitive models of PTSD (see e.g., Foa et al., 1989; Brewin et al., 1996)? Experiential avoidance as a mechanism for the development of PTSD is particularly consistent with the cognitive model of PTSD postulated by Ehlers and Clark (2000). PTSD is theorized to be a function of processing the trauma in such a manner that the person continues to experience a sense of current serious threat. This sense of current threat can occur via two processes: (1) negative appraisals of the traumatic event and/or the sequelae of trauma exposure and (2) particular disturbances in the autobiographical memory. Of particular interest to the present study is the first process, excessively negative appraisals of the traumatic event and the sequelae. According to this model, excessively negative evaluations of one’s emotional experience following trauma exposure (e.g., I must be losing my mind) is one mechanism through which a sense of current threat can be created and/or maintained. Experientially avoidant individuals are more likely to have excessively negative evaluations of posttrauma emotional experiences than non-experientially avoidant individuals, thus possibly increasing the risk of developing PTSD for experientially avoidant individuals.

Forgiveness and experiential avoidance can be conceptualized as dissimilar styles of responding to the emotional distress common following trauma exposure, especially if the trauma exposure is interpersonal in nature. An experientially avoidant individual is unwilling to remain in contact with the thoughts, feelings, and memories associated with a negative event, and therefore, may be unwilling to emotionally process and cope with an interpersonal wrongdoing that resulted in feelings of fear, helplessness, or horror. On the other hand, an individual with a higher level of forgiveness may be less likely to avoid the negative material associated with the interpersonal wrongdoing and the emotions and processes involved in finding closure to such an experience. The process of forgiveness (Enright, 2001; Worthington, 2001) requires a willingness to experience negative private events, such as the pain of betrayal or injury caused by the trauma exposure; indeed, this is a step in each of the process models. In these models, true forgiveness cannot occur until the individual has experienced and worked through the painful emotional experiences concomitant with the trauma exposure. Thus, an individual who is experientially avoidant is unlikely to be willing and able to engage in the process of forgiveness. Importantly, however, it does not follow that individuals who are not experientially avoidant are automatically higher in forgiveness.

In the present study, the relation between experiential avoidance and PTSD symptoms was stronger than the relation between forgiveness and PTSD symptoms. One potential explanation for the weaker relationship between forgiveness and PTSD symptoms involves our measure-
ment of the forgiveness construct. Individuals were asked to think of a recent interpersonal betrayal and then answer questions about this incident. Forgiveness may have been more strongly related to trauma exposure and PTSD symptoms if individuals had been specifically asked to answer the forgiveness inventory while thinking about their most distressing trauma exposure. Indeed, this would be an important extension for future research. Further, as noted above, an offense–specific measure was used with the assumption that it maps onto participants’ presumably stable response style. However, this represents an important limitation of the present study; future research might productively incorporate both offense–specific and dispositional measures to examine the relation between these methods as well as the relative stability and predictive ability across time. Thus, given the limitations inherent in our assessment of forgiveness, the present significant mediation (although small) represents a positive first step in the examination of forgiveness as a protective response style.

Although not specifically tested in the present study, in the present conceptualization, elements of process models of forgiveness (Enright, 2001; Worthington, 2001) are not dissimilar from the processes or steps that often occur in the treatment of trauma exposure, particularly the notion of processing (as opposed to avoiding) the pain and distressing emotions associated with the traumatic exposure, working through these painful emotions, and arriving at a place of integration and meaning. It would be very interesting to further examine, and possibly test via dismantling studies, the potential overlap between exposure therapies for trauma and forgiveness therapies based on Enright’s (2001) or Worthington’s (2001) models.

Interestingly, forgiveness was negatively related to trauma exposure. Thus, the more trauma reported by an individual, the lower the level of reported forgiveness. This may indicate a process of hardening or bitterness that may occur in some individuals who are repeatedly traumatized. Of course, the cross–sectional nature of the present data does not permit a direct test of this question, but considering that 43% of the sample reported more than two traumatic events causing fear, helplessness, or horror, this is a distinct possibility and an area worthy of further investigation. Similarly, individuals who reported more trauma exposures reported higher levels of experiential avoidance. It would be interesting to examine this relationship using longitudinal data to determine whether experiential avoidance is stable across time as a response style or whether it may increase as a result of trauma exposures. It may be that as individuals experience the distressing emotional reactions following trauma exposures, some individuals may develop an avoiding response or coping style. Considering the response styles in conjunction, individ-
uals reporting more trauma exposure reported both higher levels of experiential avoidance and lower levels of forgiveness, which would seem to suggest a more negative prognosis as trauma exposures increase. Longitudinal data would be necessary to test this hypothesis. However, existing data support the notion that repeated trauma exposure is related to more negative outcomes (see, e.g., Cloitre, Scarvalone, & Difede, 1997).

Additionally, when both constructs were entered into the structural equation model together, there was a 28% reduction in the direct relation between traumatic interpersonal events and PTSD symptoms. When experiential avoidance and forgiveness were entered alone there were 22% and 14% reductions, respectively. Therefore, the reduction in the combined model was not an incremental reduction from both constructs. Although it does appear that experiential avoidance and forgiveness do add unique variance to the relation between traumatic interpersonal events and PTSD symptoms, the effects are not completely and distinctly independent. This is not surprising given the conceptual overlap between forgiveness and experiential avoidance as mentioned above. Specifically, forgiveness requires nonexperiential avoidance (also known as experiential acceptance). Experiential acceptance is thought to encompass a range of responses including approaches such as mindfulness and forgiveness.

The finding that experiential avoidance and forgiveness may mediate the relation between trauma exposure and PTSD symptoms has various implications for treatment. With regard to experiential avoidance, acceptance-based approaches such as Acceptance and Commitment Therapy (Hayes, Strosahl, & Wilson, 1999) and Dialectical Behavior Therapy (Linehan, 1993) as well as mindfulness-based approaches (Teasdale et al., 2000) may be beneficial in alleviating and/or preventing the development of PTSD symptoms. Forgiveness-based approaches (e.g., Enright, 2001; Luskin, 2002; Worthington, 2001) can also be classified under the larger umbrella of acceptance-based approaches and may prove useful in the treatment of trauma exposure.1 Forgiveness, more so than many psychological constructs, occurs for people within the context of deeply embedded cultural, religious, and spiritual dynamics and

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1. Acceptance-based approaches are typically distinguished from control-based psychotherapeutic interventions, such as cognitive restructuring. Suggesting that forgiveness can be classified as an acceptance-based approach is distinct from suggesting that forgiving is equivalent to “accepting.” The authors view forgiveness as representing engagement as distinct from acceptance; however, in the larger framework of therapeutic interventions, forgiveness is viewed as consistent with other acceptance-based approaches such as mindfulness, DBT, and ACT.
this will undoubtedly impact how people relate to forgiveness. Forgiveness has a strong historical association with religion and spirituality (see e.g., Witvliet, 2001), which may make forgiveness–based approaches more attractive to individuals who value these areas. Potentially, individuals who would be unlikely to engage in traditional exposure–based treatment for trauma might be more likely to participate in a forgiveness–based therapy. Alternatively, however, some individuals might be “put off” by forgiveness–based approaches for the same reason (i.e., association with organized religion). However, the forgiveness–based approaches are completely compatible with a secular approach and can be presented as such. Mindfulness meditation has a similar historical association with religion and has been successfully “secularized” in psychological treatment (e.g., Kabat–Zinn et al., 1992). In sum, additional research is needed, both longitudinal and treatment outcome studies, to determine whether these particular response styles are predictive of PTSD development across time and whether or not targeted treatments are beneficial in relieving PTSD symptomatology.

Several additional limitations of the present study should be noted. As mentioned previously, the present study uses retrospective cross–sectional data, and thus, it is not possible to determine the direction of any casual relationships that may exist in the present data. Further, the present study examined PTSD symptoms rather than a PTSD diagnosis. There was, however, significant variability in PTSD symptoms in the present study. Using the cutoff scores suggested by Kubany, Leisen et al. (2000), 39% of the females would have been diagnosed with PTSD and 20% of the males (the cutoff score for males is based on a veteran sample and is higher than the cutoff score for females, based on abuse samples). Thus, although this was not a clinical sample, given the number of reported trauma exposures and the level of reported PTSD symptoms, it was not a distress–free sample. Importantly, however, the present study employed an undergraduate sample and questions of generalizability remain unanswered. With regard to convergence, it should be noted that the present findings are consistent with the only other published study (Witvliet et al., 2004), to the authors’ knowledge, examining the relation of forgiveness and PTSD symptoms. Given the question of interest for the present study, it will be important to extend these findings to more distressed and representative populations.

Importantly, experiential avoidance contains some conceptual overlap with the avoidance and numbing cluster of PTSD symptoms, and thus, an important alternative explanation of the present findings is whether the mediation effect found in the present study was “driven” by the relation between experiential avoidance and the avoidance and numbing symptoms of the PTSD latent factor. To examine this possibil-
ity, three supplemental analyses examining the relation between trauma exposure and each of the three symptom clusters (calculated as three separate scores for re-experiencing, avoidance/numbing, and hyperarousal) with experiential avoidance were conducted. The coefficients were quite comparable for each of the three symptom clusters suggesting that the mediation effect was not due solely to the relation between experiential avoidance and PTSD avoidance and numbing symptoms (that is, similar levels of mediation were found for the re-experiencing and the hyperarousal clusters). In addition, it should be noted that the internal consistency estimates for the AAQ, one of the components of our experiential avoidance construct, was less than desirable and may have reduced the strength of findings with the experiential avoidance construct.

With regard to our measurement of trauma exposure, the amount of time elapsed since the most distressing trauma exposure was not controlled in the present study and this may have impacted the levels of reported PTSD symptomatology. This may be particularly a concern for our understanding of forgiveness given that forgiveness is an explicitly temporally bound process. As mentioned above, recent longitudinal work (McCullough et al., 2003) found evidence for a decrease in avoidance and revenge motivations across time following an interpersonal transgression. Thus, future work explicitly linking forgiveness with the offense in question, and following the process across time would provide key insights into the role of forgiveness (or unforgiveness) in risk for PTSD.

Finally, the relative magnitude of the effect sizes is another important factor to consider in the present study. Although a number of the effects in the present study may be considered small effects (Cohen, 1988), the investigators believe that these effects are not trivial for several reasons. First, McClelland and Judd (1993) note a dramatic difference in efficiency between experiments and survey research resulting in lower power and effect sizes for nonexperimental research. Thus, given the complex phenomenon being examined as well as the potential costs of pathological reactions to trauma exposure, the effect sizes of the present study suggest a relation worthy of further investigation. Second, Ahadi and Diener (1989) argue that when an outcome is determined by multiple factors, a relatively low ceiling (e.g., an $r$ of .45) exists on the maximum effect size that can be observed between any single determinant and a given outcome.

The present study demonstrated that the relation between interpersonal trauma exposure and PTSD symptoms in an undergraduate sample of men and women is significantly partially mediated by two response styles, experiential avoidance and forgiveness. These findings
suggest that clinical interventions targeting acceptance–based approaches (seen as the “opposite of” or counter to experiential avoidance), including forgiveness–based approaches, may aid in reducing the risk of the development of a pathological response (e.g., PTSD) following trauma exposure, especially of an interpersonal nature. Future studies should examine in detail how these response styles may evolve and impact PTSD symptoms across time as well as how trauma exposure may negatively or positively impact the global levels of these response styles.

REFERENCES


