

# How Do Negative Emotions Relate to Dysfunctional Posttrauma Cognitions? An Examination of Interpersonal Trauma Survivors

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In order to broaden theoretical models of adaptation following trauma and inform current diagnostic practices, the goal of the current study was to examine associations between negative emotions and dysfunctional trauma-related cognitions. In a sample of 109 women who were seeking mental health assistance after intimate partner violence (IPV), anxiety, depression, shame, and guilt were explored in association with negative thoughts about the self, negative thoughts about the world, and self-blame. Higher levels of shame and depression were significantly associated with higher levels of negative thoughts about the self. An increased level of guilt was the only significant finding in the analysis involving negative thoughts about the world. Lower levels of depression and higher levels of shame and guilt were significantly associated with increased levels of self-blame. Anxiety did not emerge as a significant predictor in any of these analyses. Implications for current models of posttraumatic stress disorder (PTSD), revisions to diagnostic practices, and treatment of individuals who have experienced interpersonal trauma are discussed.

**Keywords:** intimate partner violence, trauma, emotions, dysfunctional cognitions, PTSD

Current accounts of posttrauma recovery emphasize the role of negative, dysfunctional cognitions in the etiology and maintenance of posttraumatic stress disorder (PTSD). For example, Ehlers and Clark (2000) have emphasized the importance of negative appraisals of the traumatic event, and of one's reactions during the event, as salient in creating and maintaining perceptions of threat and anxiety in PTSD populations. Moreover, Foa and colleagues (Foa & Riggs, 1993; Foa & Rothbaum, 1998) have theorized that in the aftermath of sexual assault, pervasive thoughts about the dangerousness of the world, one's own incompetence, and self-blame mediate the development of PTSD. Similar accounts have been presented by Resick and Schnicke (1993), as well as by McCann and Pearlman (1990), indicating convergence across theorists concerning the importance of dysfunctional thoughts in PTSD, specifically thoughts about one's perceived weaknesses, blame of the self, and the dangerousness of the world (J. G. Beck, Jacobs-Lentz, McNiff, Olsen, & Clapp, 2012). According to these theorists, these types of negative appraisals foster a persistent sense of threat, which perpetuates symptoms such as reexperiencing the trauma, avoidance of trauma-related reminders, and hypervigilance, as well as heightened anxiety.

To date, considerable evidence has accumulated to support the association of dysfunctional posttraumatic cognitions and anxiety. For example, the Posttraumatic Cognitions Inventory (PTCI; Foa, Ehlers, Clark, Tolin, & Orsillo, 1999) was developed to assess negative thoughts about the self, negative thoughts about the world, and self-blame, three types of cognitions that have been theorized to be related to trauma exposure and fundamental in the etiology of PTSD (Foa & Kozak, 1986). These three types of negative cognitions were not only associated with PTSD but also related to state anxiety, with correlations ranging from  $r = .44$  to  $r = .70$ . Subsequent psychometric examinations of the PTCI (in its original form, as well as modified and translated versions) similarly noted significant correlations between each subscale of the PTCI and additional anxiety measures (e.g., J. G. Beck et al., 2004; Müller et al., 2010; Su & Chen, 2008). These studies highlight considerable support for the association of anxiety and dysfunctional posttrauma cognitions about the self, the world, and self-blame.

Aside from anxiety, dysfunctional posttraumatic cognitions are likely associated with a range of other negative emotions that are relevant to the conceptualization of PTSD. Working revisions of the diagnostic criteria for PTSD have emphasized that the disorder often is associated with negative emotions that extend beyond fear and anxiety. Provisional diagnostic criteria for the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5; American Psychiatric Association, in press), offered by the American Psychiatric Association, include a new symptom, specifically "persistent negative emotional state (e.g., fear, horror, anger, guilt, or shame)" (American Psychiatric Association, 2012). Inclusion of a broader range of negative emotional states recognizes the complexity of posttrauma symptoms, particularly stemming from interpersonal traumas such as childhood abuse and

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intimate partner violence (IPV; e.g., Charuvastra & Cloitre, 2008; Keane, Marshall, & Taft, 2006). In keeping with the proposed revisions to diagnostic criteria for PTSD, the current report sought to examine how a broad range of negative emotions (anxiety, depression, shame, and guilt) were associated with dysfunctional posttrauma cognitions in women who had experienced intimate partner abuse and violence. As the field continues to expand its understanding of posttrauma reactions, exploration of emotional and cognitive processes become more important, particularly for refining treatments targeting complex forms of trauma exposure.

In considering reactions to more prolonged, interpersonal forms of trauma, a common emotional reaction posttrauma is depressed mood (Golding, 1999). Like PTSD, theories of depression have highlighted negative thoughts about the self and the world (e.g., A. T. Beck, 1967). In particular, negative thoughts concerning one's own inadequacies and perceived deficits have been well-documented within the depression literature. Moreover, negative thoughts about the world, such as the perception that the world is making notable demands on oneself or posing insurmountable obstacles, are common in depression (e.g., A. T. Beck, 1967). As well, depressed mood is somewhat common among individuals with PTSD symptoms (Breslau, 2012). Research has demonstrated correlations ranging from  $r = .57$  to  $r = .75$  between depression and each subscale of the PTCI, indicating that other forms of negative affect (in addition to anxiety) are associated with trauma-related thoughts (Foa et al., 1999). Interestingly, two studies have reported higher correlations between depression and the three PTCI subscale scores, relative to correlations observed between PTSD measures and the three subscales (J. G. Beck et al., 2004; Müller et al., 2010). These data suggest that forms of negative affect, in addition to anxiety, are relevant in conceptualizing dysfunctional posttrauma cognitions.

When considering negative emotions associated with posttrauma cognitions, shame and guilt have long been recognized as salient for individuals who have experienced trauma, particularly interpersonal trauma. Lewis (1971) has provided a clear definition of these two forms of affect, noting that shame is the negative evaluation of one's entire self. As such, individuals who feel shame might describe themselves as "a bad person." In contrast, guilt involves negative evaluation of an action (either taken or not taken) and thus has a more circumscribed focus. As an example, individuals who feel guilt often state that they "should have known better" than to make a specific decision. Shame and guilt have been discussed extensively in the literature on interpersonal trauma (e.g., Kubany, 1994; Lee, Scragg, & Turner, 2001), with particular focus on samples such as women who have experienced IPV, combat veterans, and individuals who experienced sexual and physical abuse in childhood. These experiences are often referred to as "complex" traumas, reflecting the fact that they involve interpersonal relationships and typically include numerous traumatic interactions occurring over a prolonged interval. Related work has shown that these types of events are more likely to contribute to a broad range of emotional difficulties, relative to single-incident, noninterpersonal traumas, such as a life-threatening car accident or a natural disaster (e.g., Ford, 2005; Herman, 1992; van der Kolk, Roth, Pelcovitz, Sunday, & Spinazzola, 2005). Interestingly, some of the proposed changes to the diagnostic criteria for PTSD are designed to better address negative emotions reported by individuals who have experienced com-

plex, interpersonal traumas. These changes perhaps will allow a deeper conceptualization of posttrauma responses that extend beyond anxiety-based models.

Although there is a growing literature concerning shame and guilt in the context of PTSD, at present, there are no studies examining the relationship between the broad range of negative emotions often experienced after trauma and negative posttrauma cognitions that are thought to be fundamentally altered after trauma exposure. Across studies, shame consistently has been shown to be associated with PTSD symptoms. For example, Street and Arias (2001) noted an association between shame and PTSD of  $r = .47$  among a sample of women who had experienced IPV. Likewise, J. G. Beck et al. (2011) noted an association between these variables of  $r = .25$  in a similar sample, albeit using different methodology. In contrast, guilt appears to have a less reliable association with PTSD. For example, Kubany et al. (1995) noted correlations ranging from  $r = .51$  to  $r = .80$  between guilt and PTSD among Vietnam-era combat veterans and women who had experienced IPV. In contrast, Street and Arias (2001) noted a nonsignificant association ( $r = .21$ ) between guilt and PTSD, as did J. G. Beck et al. (2011;  $r = .11$ ). Against this backdrop, it is important to consider the association between dysfunctional posttrauma cognitions about self-incompetence, dangerousness of the world, and self-blame as these relate to a broad range of negative emotions, including shame and guilt.

The current study was designed to examine the association of anxiety, depression, shame, and guilt with dysfunctional trauma-related cognitions, specifically negative thoughts about the self, negative thoughts about the world, and self-blame. In this report, we were interested in the relative associations of this collection of negative emotions with each domain of negative trauma cognitions. Increased knowledge concerning how negative affective states are related to dysfunctional cognitions can expand our available conceptualizations of posttrauma mental health problems, particularly in the wake of prolonged interpersonal trauma. Available theoretical models have emphasized that repeated interpersonal trauma creates a wide range of psychological disruption, focusing on the negative assessment of oneself and his or her relationship to others. Because previous literature has already documented the relationship between PTSD symptoms and dysfunctional posttraumatic cognitions, PTSD symptoms were controlled statistically in the first step of the analyses. We hypothesized that anxious and depressed moods would show significant positive associations with each form of negative cognition, based on previous studies. It seems intuitive to hypothesize that shame also would be significantly associated with self-blame (in the positive direction), although this hypothesis was speculative, given the lack of previous studies in this domain. Given mixed results concerning guilt, no hypotheses were formulated.

## Method

### Participants

The sample included 109 women who sought assessment from a university-based research clinic for mental health problems following IPV. Announcements for the clinic were distributed at advocacy centers, churches, and college campuses, as well as using public service announcements. Women qualified for assessment if

**Fn1** the IPV included actual or threatened death or serious injury and their emotional response involved intense fear, helplessness, or the perception that they would die (Criterion A; American Psychiatric Association, 2000). These features were evaluated using the IPV Interview (see Measures section). The sample ranged in age from 18 to 66 years (mean age = 36.7,  $SD = 11.7$ ). Twenty-one women (19.3%) were still romantically involved and residing with their abuser at the time of the assessment, although in each case, the participant denied immediate safety concerns.<sup>1</sup> Of the 88 women who were no longer romantically involved with their abuser, the approximate average interval between separation from the abusive partner and the assessment was 3.9 years ( $SD = 5.8$ ). Time since the end of the relationship with the abuser could not be calculated for two women due to vague reporting. Other sample characteristics including types of IPV experienced, race, educational background, and annual income are shown in Table 1. This sample reported considerable exposure to stressful life events other than IPV (such as serious motor vehicle accidents and childhood abuse, assessed with the Life Events Checklist [see Measures section]), with an average of 3.5 ( $SD = 2.2$ ) additional events experienced.

**T1** In addition to the 109 participants included in this report, data were excluded from 12 additional participants presenting with low cognitive functioning as evaluated by the assessing clinician ( $n = 5$ ), psychotic symptoms ( $n = 6$ ), or unreliable responding ( $n = 1$ ). An additional 14 women were assessed but not included in this sample, as these women's abuse experiences did not satisfy Criterion A of the PTSD diagnosis (American Psychiatric Association, 2000).

## Measures

**IPV measure.** The IPV Interview was devised by the first author and administered by a trained interviewer. The IPV interview was constructed to provide an omnibus assessment of the types of traumatic abuse that a woman experienced, using ques-

tions modeled from a similar trauma interview designed to provide descriptive information about the target trauma (Blanchard & Hickling, 2004). This measure assesses the nature of the IPV and the woman's emotional response to the interpersonal violence and abuse that she experienced, in order to determine whether the IPV qualified as a Criterion A traumatic event (American Psychiatric Association, 2000). Feelings of fear, helplessness, and perceptions that she would die were rated on a 0 to 100 Likert scale, where 0 = *not at all* and 100 = *extreme*. Similar to related work (e.g., J. G. Beck, et al., 2004), a score of 50 or higher on one or more of these ratings was used to define whether the IPV was experienced as traumatic. Information about the presence or absence of physical, sexual, and emotional abuse also was obtained using the IPV interview and is presented in Table 1.

**IPV-related PTSD.** Posttraumatic stress disorder following IPV was assessed using the Clinician-Administered PTSD Scale (CAPS; Blake et al., 1995). The CAPS is a 28-item structured interview that targets 17 symptoms of PTSD according to *DSM-IV* (American Psychiatric Association, 2000) criteria. Using standardized questions, participants were asked to indicate how frequently a symptom occurred in the past month from *not at all* (0) to *nearly every day* (4), as well as the intensity of the symptoms from *no distress* (0) to *extreme distress* (4). The CAPS total severity score (CAPS-Total) was calculated by summing the frequency and intensity scores, with scores ranging from 0 to 136. The CAPS interview was anchored to participant's IPV experiences. Participants also were asked to complete the Life Events Checklist (LEC; Gray, Litz, Hsu, & Lombardo, 2004) to screen for other potentially traumatic events. If participants endorsed other extreme events besides IPV, the clinician probed for symptoms relevant to non-IPV traumas in order to link temporal sequencing of symptoms with specific events. Symptoms linked with other traumatic events were not included in the final CAPS-Total score for IPV-related PTSD.

The CAPS was administered by trained graduate and PhD-level clinicians, and all interviews were recorded. A sample of these recordings (31.2%;  $n = 34$ ) was selected at random and reviewed by an independent clinician for interdiagnostician agreement. The intraclass correlation coefficient for the CAPS-Total score indicated excellent interjudge agreement ( $r = .97$ ). Previous research has demonstrated good reliability for the CAPS-Total score, with alphas generally ranging from .87 to .94 (see Weathers, Keane, & Davidson, 2001). The CAPS is regarded as a gold-standard clinician assessment of PTSD.

**Anxiety.** Anxiety symptoms were measured using the Beck Anxiety Inventory (BAI; A. T. Beck, Epstein, Brown, & Steer, 1988), a 21-item self-report measure. Items represent a range of anxiety symptoms, such as "numbness and tingling," "fear of the worst happening," and "sweating not due to heat" occurring in the past week. Items are rated on a scale ranging from 0 to 3, with ascending severity such as *not at all* (0) to *severely—I could barely stand it* (3). The BAI has strong support for its construct validity (e.g., de Beurs, Wilson, Chambless, Goldstein, & Feske, 1997) and excellent internal consistency ( $\alpha = .92$ ; Beck et al., 1988). Anal-

Table 1  
Sample Description

	<i>n</i>	%
Type of intimate partner abuse experienced		
Physical abuse only	2	1.8
Emotional abuse only	3	2.8
Sexual abuse only	1	0.9
Physical and sexual abuse	1	0.9
Emotional and physical abuse	43	39.4
Emotional and sexual abuse	2	1.8
Emotional, physical, and sexual abuse	57	52.3
Educational background		
Elementary school	3	2.8
High school	11	10.1
Attended or completed college	67	61.5
Attended or completed graduate training	28	25.6
Reported annual household income		
Below \$10,000	23	21.1
\$10,000 to \$20,000	25	22.9
\$20,000 to \$30,000	10	9.2
\$30,000 to \$50,000	17	15.6
Over \$50,000	21	19.3
Declined to respond	13	11.9

<sup>1</sup> In some circumstances, women were helped to formulate a safety plan if, in the interviewer's perspective, her personal safety potentially was at risk.

ysis with the current sample indicated excellent interitem reliability, Cronbach's alpha = .93.

**Depressive symptoms.** Depressive symptoms were measured using the Beck Depression Inventory-II (BDI-II; A. T. Beck, Steer, & Brown, 1996), a 21-item self-report measure. Items represent symptoms of depression such as sadness, crying, suicidal ideation, and loss of interest occurring in the past 2 weeks. Items are rated on a scale ranging from 0 to 3 with ascending severity, for example, *I do not feel sad* (0) to *I am so sad and unhappy I can't stand it* (3). The BDI-II has been shown to correlate highly with other measures of depression (Steer & Clark, 1997), supporting its construct validity. As well, the scale has excellent internal consistency ( $\alpha = .92$ ; Dozois, Dobson, & Ahnberg, 1998). Analysis with the current sample indicated excellent interitem reliability, Cronbach's alpha = .92.

**Shame.** Shame was measured using the Internalized Shame Scale (ISS; Cook, 1994/2001; del Rosario & White, 2006). This 30-item self-report measure was developed based on phenomenological descriptors of shame and has two subscales: Shame and Self-Esteem. The 24-item Shame subscale was used for this study. Sample items include "At times I feel so exposed that I wish the earth would open up and swallow me" and "I scold myself and put myself down." Items were rated on a scale from *never* (0) to *almost always* (4). The Shame subscale has been shown to be unidimensional and has good support for its validity (see Cook, 1994/2001). As well, the scale has high internal consistency ( $\alpha = .95$ ; del Rosario & White, 2006). Analysis with the current sample indicated excellent interitem reliability for the shame subscale, Cronbach's alpha = .97.

**Guilt.** Guilt was measured using the Trauma-Related Guilt Inventory (TRGI; Kubany et al., 1996). This 32-item self-report measure contains three subscales, including Global Guilt (e.g., "I experience intense guilt that relates to what happened"), Guilt Cognitions (e.g., "I should have known better"), and a Distress scale (e.g., "I am still distressed about what happened"). The 4-item Global Guilt subscale was used for this study, as it indexes guilt-related emotions. Responses were made on a scale from *not at all true* (1) to *extremely true* (5). Participants were asked to consider their IPV experiences when completing the measure. The TRGI has strong support for its factor structure and the Global Guilt subscale shows convergent validity with other measures of guilt (Kubany et al., 1996). As well, the Global Guilt subscale has good internal consistency ( $\alpha = .90$ ; Kubany et al., 1996). Analysis with the current sample indicated excellent interitem reliability for the Global Guilt subscale, Cronbach's alpha = .95.

**Negative trauma-related cognitions.** Negative trauma-related cognitions were measured using the Posttraumatic Cognitions Inventory (PTCI; Foa et al., 1999). This 36-item self-report measure contains three subscales: Negative Thoughts About the Self (e.g., "I am a weak person"), Negative Thoughts About the World (e.g., "People cannot be trusted"), and Self-Blame (e.g., "The event happened because of the way I acted"). Responses were made on a scale from *totally disagree* (1) to *totally agree* (7). Responses were anchored to participant's IPV experiences. High convergent validity with other scales that measure trauma-related cognitions has been noted (e.g., Foa et al., 1999; van Emmerik, Schoorl, Emmelkamp, & Kamphuis, 2006). The subscales of the PTCI have good internal consistency: Negative Thoughts About the Self ( $\alpha = .97$ ), Negative Thoughts About the World ( $\alpha = .88$ ),

and Self-Blame ( $\alpha = .86$ , Foa et al., 1999). Analysis with the current sample indicated good interitem reliability for Negative Thoughts About the Self ( $\alpha = .94$ ), Negative Thoughts About the World ( $\alpha = .87$ ), and Self-Blame ( $\alpha = .82$ ).

## Procedure

Procedures were reviewed by the university's institutional review board. After informed consent was obtained, the LEC and BDI-II were completed. Then each participant was interviewed individually, first with the IPV Interview, followed by the CAPS. She then completed the remaining questionnaires. Following the assessment, the participant was given feedback concerning her evaluation, debriefed, and provided with community referrals for additional services, where appropriate.

## Data Analytic Approach

Data were examined for skew, kurtosis, and univariate outliers, following recommendations provided by Tabachnick and Fidell (2013). All variables fell within acceptable guidelines for skew and kurtosis and no outliers were noted. Zero-order correlations were examined to document the bivariate associations among measures of depression, anxiety, shame, and guilt and each of the PTCI subscales. These values also were used to examine multicollinearity, and based on guidelines suggested by Tabachnick and Fidell (2013), no problems were observed. A multivariate multiple regression analysis was conducted using GLM, incorporating the three PTCI subscales as dependent variables. Because previous work has highlighted the association between PTSD symptoms and dysfunctional posttrauma cognitions, our analytic approach included the CAPS-Total score in the analysis. This approach controls for the contribution of specific PTSD when examining the role of various negative emotional states to dysfunctional cognitions. Measures of depression (BDI-II), anxiety (BAI), shame (ISS), and guilt (TRGI) were entered as independent variables. In the event of a significant overall model, parameter estimates were computed for each dependent variable. Effect sizes (partial eta squared) were computed and interpreted using Kirk's (1996) metric, wherein an effect of 0.01 is considered small, 0.06 is considered medium, and 0.14 is considered large.

## Results

Zero-order correlations, means, and standard deviations of all variables are presented in Table 2. As noted, each of the PTCI subscales showed significant correlations with the negative emotion measures. The sample as a whole reported moderate levels of depression on the BDI-II and moderate levels of PTSD symptoms on the CAPS-Total.

Using Pillai's criterion, the model was significant,  $F(9, 309) = 3.04$ ,  $p < .002$ . As noted in Table 3, the CAPS-Total, BDI-II, and ISS emerged as significant predictors of negative thoughts of the self, with a small (partial eta<sup>2</sup> = .04) effect noted for the CAPS-Total, a medium (partial eta<sup>2</sup> = .06) effect noted for depression, and a large (partial eta<sup>2</sup> = .29) effect noted for shame. Thus, higher levels of depression, shame, and PTSD symptoms are associated with higher levels of negative thoughts about the self.

When examining significant associations with negative thoughts about the world, only guilt emerged as significant, with a small

**Table 2**  
*Zero-Order Correlations, Means, and Standard Deviations of All Variables*

	1	2	3	4	5	6	7	Mean	SD
1. PTCI Negative Thoughts of Self	—							3.24	1.35
2. PTCI Negative Thoughts of World	.62***	—						4.73	1.41
3. PTCI Self-Blame	.62***	.45***	—					3.68	1.66
4. Beck Depression Inventory - II	.73***	.51***	.31**	—				25.44	12.75
5. Beck Anxiety Inventory	.63***	.46***	.30**	.69***	—			20.49	13.03
6. Internalized Shame Scale	.81***	.50***	.54***	.71***	.62***	—		46.78	22.82
7. Global Guilt-TRGI	.46***	.40***	.52***	.39***	.30**	.54***	—	2.16	1.32
8. CAPS-Total	.39***	.49***	.30**	.42***	.36***	.26**	.08	30.28	22.27

*Note.* *N* = 109. CAPS-Total = Clinician Administered PTSD Scale—Total score; PTCI = Posttraumatic Cognitions Inventory; TRGI = Trauma-Related Guilt Inventory.

\*\* *p* < .01. \*\*\* *p* < .001.

(partial eta<sup>2</sup> = .04) effect size. Thus, higher levels of guilt are associated with higher levels of negative thoughts about the world.

When examining significant associations with self-blame, the CAPS-Total, BDI-II, ISS, and TRGI-Global Guilt measures were each significant. PTSD symptoms showed a small to medium (partial eta<sup>2</sup> = .08) effect. Shame demonstrated a medium to large (partial eta<sup>2</sup> = .13) effect, as did guilt (partial eta<sup>2</sup> = .12). Surprisingly, depression showed a small (partial eta<sup>2</sup> = .04) effect in the opposite direction, as was hypothesized. It is quite possible that this finding reflects a suppression effect, which is not unusual when shame and guilt are entered within the same model (Paulhus, Robins, Trzesniewski, & Tracy, 2004). Thus, lower levels of depression and higher levels of shame, guilt, and PTSD are associated with higher levels of self-blame.<sup>2</sup>

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## Discussion

This study examined concurrent associations of anxiety, depression, shame, and guilt with dysfunctional trauma-related cognitions, specifically negative thoughts about the self, negative thoughts about the world, and self-blame, among women who had experienced IPV and abuse. Higher levels of shame and depression were significantly associated with higher levels of negative thoughts about the self. An increased level of guilt was the only significant finding in the analysis involving negative thoughts about the world. Lastly, lower levels of depression and higher levels of shame and guilt were significantly associated with increased levels of self-blame (although the former finding could be the result of a suppression effect; Paulhus et al., 2004). Each of these analyses controlled for the already well-established association between negative posttrauma cognitions and PTSD symptoms, indicating that the significant associations between negative emotions and dysfunctional trauma cognitions were distinct from symptoms of reexperiencing, avoidance, emotional numbing, and hyperarousal. PTSD symptoms emerged as an additional significant predictor in the analyses involving negative thoughts about the self and self-blame, but not in the analysis involving negative thoughts about the world. As reported by J. G. Beck et al. (2004), associations between PTSD symptoms and specific forms of dysfunctional trauma cognitions seem to vary depending on trauma experience. In this earlier report, a nonsignificant association between self-blame and PTSD was noted in survivors of serious motor vehicle accidents. As such, the findings of the current report

are likely specific to survivors of IPV. Contrary to prediction, anxiety did not emerge as a significant predictor in any of these analyses. These findings indicate that once the specific symptoms of PTSD are considered, anxiety as an emotional state, as measured in this study, does not play a major role when placed alongside other negative emotions in its association with dysfunctional trauma-related thoughts. The results support the role of a range of negative emotions in trauma-related cognitions, although the effect sizes ranged considerably, from small to large, across variables, suggesting differential associations depending on the nature of the dysfunctional, trauma-related thought under consideration.

These results enhance our understanding of non-fear-based emotional states, as they occur following interpersonal trauma. As noted, despite bivariate correlations ranging from *r* = .30 to 0.50 between self-reported anxiety and trauma-related thoughts, anxiety did not emerge as a significant factor when considered in concert with other negative emotions. Although the sample as a whole endorsed experiencing fear, helplessness, or the perception that they could die during the IPV, ongoing anxiety was not a notable contribution to dysfunctional posttrauma cognitions for these women when examined within the context of other negative emotional states. Depression, guilt, and shame, on the other hand, showed small to large effect sizes in association with these negative posttraumatic thoughts. Although the unexpected association that was noted between lower levels of depression and increased

<sup>2</sup> At the suggestion of a reviewer, we repeated these analyses using the Impact of Event Scale-Revised (IES-R; Weiss & Marmar, 1997), a self-report measure assessing subject distress related to traumatic events. The overall model was significant using Pillai's criterion, *F*(9, 309) = 2.66, *p* < .01. Similar findings were noted for the negative thoughts about the Self subscale, with the exception that PTSD was not significant when assessed using the IES-R, unlike the model involving the CAPS. For the Negative Thoughts About the World subscale, no predictors were significant, whereas guilt emerged as significant for the analysis using the CAPS-Total. As well, for the Self-Blame subscale, only the ISS and TRGI-Global Guilt scales emerged as significant predictors, a finding that differs somewhat from the results obtained when using the CAPS-Total, wherein both PTSD and depression were also significant. However, it should be noted that the IES-R and CAPS contain slightly different items, which may account somewhat for the discrepant results. Because the CAPS is regarded as the "gold standard" assessment instrument for evaluating PTSD and is less likely to measure general distress, it was selected for this article.

Table 3

Multivariate Regression Parameters (Beta, Effect Size, T value, and Significance) Predicting Dysfunctional Trauma-Related Cognitions (Posttraumatic Cognitions Inventory) From Anxiety, Depression, Shame, Guilt, and PTSD Symptoms

	Negative thoughts of self			Negative thoughts of world			Self-blame		
	Beta	Partial eta <sup>2</sup>	t	Beta	Partial eta <sup>2</sup>	t	Beta	Partial eta <sup>2</sup>	t
CAPS-Total	.01	.04	2.12*	.00	.01	0.78	.02	.08	3.04**
Anxiety (BAI)	.01	.01	1.08	.02	.02	1.24	.00	.00	-0.11
Depression (BDI-II)	.02	.06	2.58**	.02	.03	1.64	-.03	.04	-2.05*
Shame (ISS)	.03	.29	6.55***	.01	.01	0.94	.04	.13	3.96***
Guilt (TRGI-Global Guilt)	.04	.00	0.66	.22	.04	2.10*	.43	.12	3.78***

Note. BAI = Beck Anxiety Inventory; Beck Depression Inventory-II; CAPS-Total = Clinician Administered PTSD Scale—Total score; ISS = Internalized Shame Scale; PTCI = Posttraumatic Cognitions Inventory; PTSD = posttraumatic stress disorder; TRGI = Trauma-Related Guilt Inventory.

\* p < .05. \*\* p < .01. \*\*\* p < .001.

levels of self-blame warrants replication, greater exploration of the influence of a range of negative emotions in dysfunctional trauma-related cognitions can help to expand available models of post-trauma mental health problems.

As noted by Resick and colleagues, persistent negative emotions are typically associated with dysfunctional beliefs that have become extreme or exaggerated for the trauma survivor (e.g., Chard, Schuster, & Resick, 2012). It would be useful to explore why guilt appears to show a significant association with negative thoughts about the world in this sample, particularly in juxtaposition with the lack of association with anxiety. It is possible, for example, that elevated levels of guilt in this context reflect personal “ownership” about selecting an abusive romantic partner in a potentially dangerous world. Elaborating our understanding of the meaning of negative emotions can assist in delineating trauma-specific facets of dysfunctional posttrauma cognitions. Guilt following IPV may reflect perceptions of overresponsibility for the violence and abuse, whereas guilt among survivors of serious car accidents may reflect accurate perceptions concerning their careless driving. In keeping with available theoretical models of interpersonal trauma (e.g., Charuvastra & Cloitre, 2008; Herman, 1992), thoughts concerning the self (negative thoughts of self and self-blame) showed stronger associations with negative emotions relative to negative thoughts about the world. As the field expands to empirically explore interpersonal forms of trauma, greater understanding of how negative emotions and dysfunctional trauma-related thoughts interrelate can greatly enhance our conceptual models and, by consequence, our interventions.

Another aspect of these findings that deserves comment is the relatively pervasive role of negative emotion in self-blame. As noted, PTSD symptoms, shame, guilt, and depression showed significant associations in this analysis. The current findings contrast somewhat with those of DePrince, Chu, and Pineda (2011), who explored a range of posttrauma appraisals in association with PTSD, depressed mood, and dissociation. Unlike the current report, self-blame showed a significant positive association with depression across three samples (male and female undergraduates, women who had experienced childhood abuse, and women who had experienced nonsexual IPV). In light of theoretical discussions concerning the radiating psychological impact that interpersonal trauma creates (e.g., Herman, 1992), it is not surprising that self-blame emerged with significant associations across several negative emotional states, although the role of depression deserves

closer examination given mixed findings. Continued study of related dysfunctional posttrauma cognitions, such as alienation, can expand our evolving understanding of complex trauma (see DePrince et al., 2011) and may have important clinical implications.

Similar to other findings by DePrince et al. (2011), anxiety did not show significant associations with dysfunctional cognitions among women who have experienced IPV, when statistically controlling for PTSD symptoms. DePrince and colleagues (2011) raise an interesting speculation concerning this lack of association, hypothesizing that sample participants who are assessed closer in time to the occurrence of their trauma might report higher levels of anxiety and show greater associations between anxiety or fear and other trauma-related outcomes. Unfortunately, the subsample of women who were no longer involved with their abusive partner was too small to power additional analyses to examine this hypothesis. Future studies are needed to explore whether this speculation is supported. This hypothesis raises the issue of whether negative emotions change or evolve posttrauma, particularly among survivors of interpersonal trauma. It is possible that individuals who recently experienced a complex trauma will experience anxiety associated with dysfunctional trauma-related thoughts. Over time, these emotions may change, to reflect greater associations between depression, shame, and guilt and dysfunctional cognitions. Understanding potential trajectories can inform our emergent definition of PTSD, which has increasingly included greater emphasis on negative emotions and dysfunctional cognitions. It is possible, for example, that as dysfunctional cognitions become more frequent and more believable to the trauma survivor, the range of negative emotions expand beyond anxiety and fear. Ideally, longitudinal data are necessary to explore speculations such as this one and to assess whether dysfunctional cognitions show changing associations with various forms of distress, including PTSD and depression. This type of study can readily assist in expanding our diagnostic understanding of PTSD, particularly in light of proposed changes to the criteria that focus on negative emotional states.

In considering the present findings, it is important to note that the current report has a number of limitations. Perhaps most notably, the measure of anxiety that was used in this report could have affected the results. Because the BAI primarily assesses the physiological aspect of anxiety, it is possible that different findings would emerge with an anxiety instrument that includes both cog-

nitive and physiological aspects of this emotional state. Unfortunately, alternate anxiety measures were not available for this report. As well, the sample was recruited because of mental health needs, suggesting elevated levels of negative emotions and dysfunctional cognitions. It is possible that different associations than noted in the current report would be observed in less distressed samples such as unselected community samples or undergraduates who have experienced IPV. Third, given the cross-sectional nature of the data, it is impossible to determine cause-and-effect relationships between negative emotions and dysfunctional trauma-related cognitions. Current models suggest that negative emotions are the result of dysfunctional posttrauma cognitions (e.g., Foa & Riggs, 1993; Resick & Schnike, 1993), although these models have not been tested with individuals who have experienced complex trauma (e.g., J. G. Beck, et al., 2012). Longitudinal data could begin to clarify causal pathways in the association between negative emotions and dysfunctional cognitions. Fourth, the sample was restricted to women only. Although both men and women can experience IPV, much of the available literature has focused on women's adaptation, given their higher likelihood of psychological distress following IPV. It is possible that guilt and shame might show different associations with dysfunctional cognitions in males and females who have experienced IPV. As noted by Kimerling, Ouimette, and Weitlauf (2007) in a review of gender issues in PTSD, a number of conceptual issues surface when considering differences between men and women with respect to the constructs that we use to explain posttrauma reactions. Clearly, this is an area that could profit from greater empirical work. Lastly, future studies are needed to articulate the pathways linking negative emotions with dysfunctional trauma-related cognitions and to explore how these associations are related to specific mental health conditions such as PTSD and depression. In light of proposed diagnostic criteria that recognize a broad range of negative emotional states, it seems particularly intriguing to consider associations between emotional states, posttrauma cognitions, and mental health conditions. Although the current report begins the line of inquiry, it will be important for additional studies to consider whether differential associations are noted between specific mental health conditions as opposed to more general distress.

The clinical implications of the current data suggest several avenues for future research. In considering the associations between concurrent negative emotions and dysfunctional cognitions, one could begin to enhance available interventions that target self-blame, particularly given the pernicious nature of this cognition with respect to negative mood states. Although targeted interventions have evolved to address trauma-related guilt (e.g., Kubany & Ralston, 2006), there is little discussion about how to intervene effectively with self-blame among survivors of complex interpersonal trauma. As cognitive processing therapy addresses the range of dysfunctional cognitions (Resick & Schnike, 1993), it may be important to focus in particular on self-blame in this intervention. Continued understanding of self-blame as both a target of treatment and a facet of more complicated cases of PTSD will help our conceptual models expand in order to address emotional states other than anxiety. In sum, the current report begins to examine the concurrent associations between negative emotional states and dysfunctional trauma-related cognitions. Although preliminary, these data highlight several important directions for

future research—work that may enhance our ability to effectively and efficiently treat these individuals.

## References

- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed.; text rev.). Washington, DC: Author. doi:10.1176/appi.books.9780890423349
- American Psychiatric Association. (2012). *American Psychiatric Association DSM-5 development*. Retrieved from <http://www.dsm5.org>
- American Psychiatric Association. (in press). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.
- Beck, A. T. (1967). *Depression: Clinical, experimental, and theoretical aspects*. New York, NY: Hoeber Medical Division, Harper and Row.
- Beck, A. T., Epstein, N., Brown, G., & Steer, R. A. (1988). An inventory for measuring clinical anxiety: Psychometric properties. *Journal of Consulting and Clinical Psychology*, 56, 893–897. doi:10.1037/0022-006X.56.6.893
- Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Manual for the BDI-II*. San Antonio, TX: The Psychological Corporation.
- Beck, J. G., Coffey, S. F., Palyo, S. A., Gudmundsdottir, B., Miller, L. M., & Colder, C. R. (2004). Psychometric properties of the Posttraumatic Cognitions Inventory (PTCI): A replication with motor vehicle accident survivors. *Psychological Assessment*, 16, 289–298. doi:10.1037/1040-3590.16.3.289
- Beck, J. G., Jacobs-Lentz, J., McNiff, J., Olsen, S. A., & Clapp, J. D. (2012). Understanding post-trauma cognitions and beliefs. In L. Zoellner and N. Feeny (Eds.), *Facilitating resilience and recovery following traumatic events* (pp. 300–300). New York, NY: Guilford Press.
- Beck, J. G., McNiff, J., Clapp, J. D., Olsen, S. A., Avery, M., & Hagewood, J. H. (2011). Exploring negative emotion in women experiencing intimate partner violence: Shame, guilt, and PTSD. *Behavior Therapy*, 42, 740–750. doi:10.1016/j.beth.2011.04.001
- Blake, D. D., Weathers, F. W., Nagy, L. M., Kaloupek, D. G., Gusman, F. D., Charney, D. S., & Keane, T. M. (1995). The development of a clinician-administered PTSD scale. *Journal of Traumatic Stress*, 8, 75–90. doi:10.1002/jts.2490080106
- Blanchard, E. B., & Hickling, E. J. (2004). *After the crash* (2nd ed.). Washington, DC: American Psychological Association. doi:10.1037/1067-000
- Breslau, N. (2012). Epidemiology of posttraumatic stress disorder in adults. In J. G. Beck and D. M. Sloan (Eds.), *The Oxford handbook of traumatic stress disorders* (pp. 84–97). New York, NY: Oxford University Press. doi:10.1093/oxfordhb/9780195399066.013.0007
- Chard, K. M., Schuster, J. L., & Resick, P. A. (2012). Empirically supported psychological treatments: Cognitive processing therapy. In J. G. Beck and D. M. Sloan (Eds.), *The Oxford handbook of traumatic stress disorders* (pp. 439–448). New York, NY: Oxford University Press. doi:10.1093/oxfordhb/9780195399066.013.0030
- Charuvastra, A., & Cloitre, M. (2008). Social bonds and posttraumatic stress disorder. *Annual Review of Psychology*, 59, 301–328. doi:10.1146/annurev.psych.58.110405.085650
- Cook, D. R. (1994/2001). *Internalized shame scale: Technical manual*. North Tonawanda, NY: Multi-Health Systems.
- de Beurs, E., Wilson, K. A., Chambless, D. L., Goldstein, A. J., & Feske, U. (1997). Convergent and divergent validity of the Beck Anxiety Inventory for patients with panic disorder and agoraphobia. *Depression and Anxiety*, 6, 140–146. doi:10.1002/(SICI)1520-6394(1997)6:4<140::AID-DA2>3.0.CO;2-G
- del Rosario, P. M., & White, R. M. (2006). The Internalized Shame Scale: Temporal stability, internal consistency, and principal components analysis. *Personality and Individual Differences*, 41, 95–103. doi:10.1016/j.paid.2005.10.026
- DePrince, A. P., Chu, A. T., & Pineda, A. S. (2011). Links between specific posttrauma appraisals and three forms of trauma-related distress.

- Psychological Trauma: Theory, Research, Practice, and Policy*, 3, 430–441. doi:10.1037/a0021576
- Dozois, D. A., Dobson, K. S., & Ahnberg, J. L. (1998). A psychometric evaluation of the Beck Depression Inventory-II. *Psychological Assessment*, 10, 83–89. doi:10.1037/1040-3590.10.2.83
- Ehlers, A., & Clark, D. M. (2000). A cognitive model of posttraumatic stress disorder. *Behaviour Research and Therapy*, 38, 319–345. doi:10.1016/S0005-7967(99)00123-0
- Foa, E. B., Ehlers, A., Clark, D. M., Tolin, D. F., & Orsillo, S. M. (1999). The Posttraumatic Cognitions Inventory (PTCI): Development and validation. *Psychological Assessment*, 11, 303–314. doi:10.1037/1040-3590.11.3.303
- Foa, E. B., & Kozak, M. J. (1986). Emotional processing of fear: Exposure to corrective information. *Psychological Bulletin*, 99, 20–35. doi:10.1037/0033-2909.99.1.20
- Foa, E. B., & Riggs, D. S. (1993). Post-traumatic stress disorder in rape victims. In J. Oldham, M. B. Riba, & A. Tasman (Eds.), *American Psychiatric Press review of psychiatry* (Vol. 12, pp. 273–303). Washington, DC: American Psychiatric Press.
- Foa, E. B., & Rothbaum, B. O. (1998). *Treating the trauma of rape: Cognitive behavioral therapy for PTSD*. New York, NY: Guilford Press.
- Ford, J. D. (2005). Treatment implications of altered neurobiology, affect regulation, and information processing following child maltreatment. *Psychiatric Annals*, 35, 410–419.
- Golding, J. M. (1999). Intimate partner violence as a risk factor for mental disorders: A meta-analysis. *Journal of Family Violence*, 14, 99–132. doi:10.1023/A:1022079418229
- Gray, M. J., Litz, B. T., Hsu, J. L., & Lombardo, T. W. (2004). Psychometric properties of the Life Events Checklist. *Assessment*, 11, 330–341. doi:10.1177/1073191104269954
- Herman, J. L. (1992). *Trauma and recovery*. New York, NY: Basic Books.
- Keane, T. M., Marshall, A. D., & Taft, C. T. (2006). Posttraumatic stress disorder: Etiology, epidemiology, and treatment outcome. *Annual Review of Clinical Psychology*, 2, 161–197. doi:10.1146/annurev.clinpsy.2.022305.095305
- Kimerling, R., Ouimette, R., & Weitlauf, J. C. (2007). Gender issues in PTSD. In M. J. Friedman, T. M. Keane, and P. A. Resick (Eds.), *Handbook of PTSD: Science and Practice* (pp. 207–228). New York, NY: Guilford Press.
- Kirk, R. E. (1996). Practical significance: A concept whose time has come. *Educational and Psychological Measurement*, 56, 746–759. doi:10.1177/0013164496056005002
- Kubany, E. S. (1994). A cognitive model of guilt typology in combat-related PTSD. *Journal of Traumatic Stress*, 7, 3–19. doi:10.1002/jts.2490070103
- Kubany, E., Abueg, F., Owens, J., Brennan, J., Kaplan, A., & Watson, S. (1995). Initial examination of a multidimensional model of trauma-related guilt: Applications to combat veterans and battered women. *Journal of Psychopathology and Behavioral Assessment*, 17, 353–376. doi:10.1007/BF02229056
- Kubany, E. S., Haynes, S. N., Abueg, F. R., Brennan, J. M., Manke, F. P., & Stahura, C. (1996). Development and validation of the Trauma-Related Guilt Inventory (TRGI). *Psychological Assessment*, 8, 428–444. doi:10.1037/1040-3590.8.4.428
- Kubany, E. S., & Ralston, T. C. (2006). Cognitive therapy for trauma-related guilt and shame. In V. M. Follette and J. I. Rusek (Eds.), *Cognitive-behavioral therapies for trauma* (2nd ed., pp. 258–289). New York, NY: Guilford Press.
- Lee, D. A., Scragg, P., & Turner, S. (2001). The role of shame and guilt in traumatic events: A clinical model of shame-based and guilt-based PTSD. *British Journal of Medical Psychology*, 74, 451–466. doi:10.1348/000711201161109
- Lewis, H. B. (1971). *Shame and guilt in neurosis*. New York, NY: International Universities Press.
- McCann, I. L., & Pearlman, L. A. (1990). *Psychological trauma and the adult survivor: Theory, therapy, and transformation*. New York, NY: Brunner/Mazel.
- Müller, J., Wessa, M., Rabe, S., Dörfel, D., Knaevelsrud, C., Flor, H., . . . & Karl, A. (2010). Psychometric properties of the Posttraumatic Cognitions Inventory (PTCI) in a German sample of individuals with a history of trauma. *Psychological Trauma: Theory, Research, Practice, and Policy*, 2, 116–125. doi:10.1037/a0018603
- Paulhus, D., Robins, R. W., Trzesniewski, K. H., & Tracy, J. L. (2004). Two replicable suppressor situations in personality research. *Multivariate Behavioral Research*, 39, 303–328. doi:10.1207/s15327906mbr3902\_7
- Resick, P. A., & Schnicke, M. K. (1993). *Cognitive processing therapy for rape victims: A treatment manual*. Newbury Park, CA: Sage.
- Steer, R. A., & Clark, D. A. (1997). Psychometric characteristics of the Beck Depression Inventory-II with college students. *Measurement and Evaluation in Counseling and Development*, 30, 128–136.
- Street, A. E., & Arias, I. (2001). Psychological abuse and posttraumatic stress disorder in battered women: Examining the roles of shame and guilt. *Violence and Victims*, 16, 65–78.
- Su, Y.-J., & Chen, S.-H. (2008). The Posttraumatic Cognitions Inventory – Chinese revised: Validation and refinement with a traumatized college sample in Taiwan. *Journal of Anxiety Disorders*, 22, 1110–1119. doi:10.1016/j.janxdis.2007.11.008
- Tabachnick, B. G., & Fidell, L. S. (2013). *Using Multivariate Statistics* (6th ed.). Boston, MA: Allyn & Bacon.
- van der Kolk, B. A., Roth, S., Pelcovitz, D., Sunday, S., & Spinazzola, J. (2005). Disorders of extreme stress: The empirical foundation of a complex adaptation to trauma. *Journal of Traumatic Stress*, 18, 389–399. doi:10.1002/jts.20047
- van Emmerik, A. A. P., Schoorl, M., Emmelkamp, P. M. G., & Kamphuis, J. H. (2006). Psychometric evaluation of the Dutch version of the posttraumatic cognitions inventory (PTCI). *Behaviour Research and Therapy*, 44, 1053–1065. doi:10.1016/j.brat.2005.07.002
- Weathers, F. W., Keane, T. W., & Davidson, J. R. T. (2001). Clinician-administered PTSD scale: A review of the first ten years of research. *Depression and Anxiety*, 13, 132–156. doi:10.1002/da.1029
- Weiss, D. S., & Marmar, C. R. (1997). The impact of event scale – revised. In J. P. Wilson and T. M. Keane (Eds.), *Assessing psychological trauma and PTSD* (pp. 399–411). New York, NY: Guilford Press.

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