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A Preliminary Investigation of the Role of Strategic Withholding of Emotions in PTSD

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Individuals with posttraumatic stress disorder (PTSD) experience deficits in emotional responding, yet to date these deficits have been poorly understood. This study is an initial investigation of the role of strategic, intentional withholding of emotional responses among individuals with PTSD. In a sample of 61 combat veterans, veterans with PTSD reported significantly more frequent and intense withholding of their emotional responses than did combat veterans without PTSD. The tendency to withhold emotional responses was associated with PTSD, beyond measures of comorbid distress. The implications of these findings for future research and interventions aimed at deficits in emotional responding are discussed.

KEY WORDS: PTSD; emotions; veterans; suppression.

Individuals with posttraumatic stress disorder (PTSD) experience feelings of detachment from others, disinterest in once pleasurable activities, and restricted range of emotion, a class of problems referred to as emotional numbing (American Psychiatric Association, 1994).[6] Systematic examination of the parameters of

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[6]Although the DSM classifies these deficits in emotional responding together with active avoidance of external and internal traumatic reminders as the avoidant symptoms of PTSD, factor analytic studies have found that reports of reduced emotional responding are distinct from reports of avoidance of traumatic reminders (Foa, Riggs, & Gershuny, 1995; King, Leskin, King, & Weathers, 1998).

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emotional deficits associated with PTSD is important given recent findings that link these emotional deficits to the development and maintenance of posttraumatic psychopathology. For example, participants' reports of emotional numbing 1 month following traumatic exposure is the best predictor of PTSD 5 months later (Harvey & Bryant, 1998), and low levels of emotional engagement have been associated with poor treatment outcome (Jaycox, Foa, & Morral, 1998). Despite these preliminary studies, the emotional deficits associated with PTSD remain largely underresearched.

Extant theories have focused on the role of automatic, passive processes in emotional numbing. It has been suggested that emotional numbing is akin to the freezing behavior of animals exposed to uncontrollable aversive stimulation or contexts associated with conditioned fear and is due to biological mechanisms such as catecholamine depletion (e.g., van der Kolk, Greenberg, Boyd, & Krystal, 1985), or conditioned opioid-mediated analgesia (Foa, Zinbarg, & Rothbaum, 1992; Glover, 1992; Pitman, van der Kolk, Orr, & Greenberg, 1990). Alternatively, the emotional deficits in PTSD have been considered to be the result of depletion of emotional capacities secondary to states of hyperarousal and reactivity (Litz, 1992). These models underscore the automatic and passive nature of emotional deficits in contrast to deliberate avoidance behaviors (i.e., avoidance of thoughts, feelings, and contexts related to the trauma). However, the role of strategic, intentional avoidance of emotional expression in PTSD has been largely overlooked.

Although existing models capture important factors in the development and maintenance of diminished emotional responding among individuals with PTSD, the exclusion of strategic factors may be a critical oversight. We propose that, in addition to these automatic processes, individuals with PTSD may attempt to withhold or conceal expressions of emotion to regulate their arousal, dampen their feelings, and maintain interpersonal safety by lessening their experience of vulnerability. This pattern of behavior may be similar to what has been termed "experiential avoidance" (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996), and may contribute to the development and maintenance of detachment and reduced emotional responding in PTSD.

To preliminarily investigate the hypothesis that PTSD is associated with intentional, strategic withholding of emotional experience, we evaluated the frequency and intensity of strategic withholding in Vietnam combat veterans with PTSD. We explored whether individuals with PTSD were more likely to report strategic emotional withholding and whether this tendency was uniquely associated with PTSD symptomatology (beyond measures of comorbid symptoms). Finally, we explored whether individuals reported withholding only negative emotional responses or if this strategy extended to positive emotions as well.

Method

Participants

As part of an investigation of the parameters of emotional responding among combat veterans, 61 Vietnam combat veterans completed structured diagnostic interviews and paper-and-pencil measures (Litz, Orsillo, Kaloupek, & Weathers, 2000). Of the participants, 32 received a primary diagnosis of PTSD (PTSD group), whereas 29 did not meet criteria for any Axis I psychiatric disorder (well-adjusted veterans, WAV group). Participants were 82% Caucasian, 11.5% African-American, 4.9% Latino, and 1.6% Native American/Alaskan. The groups did not significantly differ by race or education. However, the PTSD group was significantly younger than the WAV group (45.39 vs. 48.79), $t(58) = 2.97$, $p < .01$, and significantly less likely to be married (31.3% vs. 58.6%; $\chi^2(1, N = 61) = 4.62$, $p < .05$).

Measures

The Clinician Administered PTSD Scale (CAPS; Blake et al., 1995). This semistructured interview assesses the frequency and intensity of each symptom of PTSD over the past month.

Strategic withholding questions. To assess the frequency and intensity of strategic withholding, we generated questions modeled after the item and response structure in the CAPS and embedded them within the interview. Frequency was evaluated with the following question: "Are there times when you deliberately choose not to show your feelings or let others know you are reacting?" Responses were coded on a 0–4-point Likert scale (*None of the time, very little of the time, some of the time, much of the time,* and *most or all of the time*). Intensity was assessed with the following question: "At times when you felt emotional, how much did you hold back or not show your emotional reactions?" and responses were coded on a 0–4-point scale (*No reported withholding of reactions, Mild withholding of some emotions, Moderate withholding of many emotions, Severe, steady and cross situational withholding of emotions,* and *Extreme—the person conceals all of their internally felt emotional reactions*). The internal consistency reliability for this two-item set was .84.

An additional item assessed the emotional valence of emotions withheld: "Do you find yourself holding back more positive emotions, like happiness, negative emotions like sadness, or do you hold back *all* emotions equally?"

Paper-and-pencil measures. The Beck Anxiety Inventory (BAI; Beck, Epstein, Brown, & Steer, 1988), a 21-item measure, assesses severity of anxious symptomatology. The Beck Depression Inventory (BDI; Beck, Rush, Shaw, &

Emery, 1979), a 21-item measure, assesses the severity of depressive symptomatology.

Procedure

Participants were recruited through hospital referrals, flyers, and newspaper advertisements for a study investigating emotional responding among veterans for which $75 reimbursement would be provided. The full study involved an initial evaluation visit followed by two visits that entailed psychophysiological assessment of emotional reactivity. Only data from the evaluation session are presented here.

After providing informed consent, all participants were administered a diagnostic battery including the CAPS (Blake et al., 1995) and the nonpatient edition of the Structured Clinical Interview for DSM-III-R (Spitzer, Williams, Gibbon, & First, 1990). Interviewers were doctoral level clinicians trained with videotapes and formal didactic presentations in the administration of both instruments. To ensure diagnostic reliability, the results of each interview were reviewed by one of two senior investigators on the project before group assignment was made. Participants were assigned to the PTSD group if they met criteria for current PTSD (using DSM-IV criteria) according to the CAPS 1-2 scoring rules (considering a symptom endorsed if it is endorsed with at least occasional frequency and moderate intensity, and assigning a diagnosis only if significant impairment is reported as well). Participants were assigned to the well-adjusted veterans (WAV) group if they did not meet criteria for any Axis I disorder. Seven participants were ruled out because they did not meet criteria for PTSD but met criteria for another Axis I disorder. None of the participants in either group reported psychotic symptomatology on the SCID psychotic screen.

Results

Correlations among the central study variables are reported in Table 1.

To determine whether PTSD group status was associated with more frequent and intense strategic withholding of emotions, a one-way MANOVA, with group status as the independent variable, was conducted on the frequency and intensity ratings from the CAPS strategic withholding questions. The overall effect of Group was significant, $F(2, 58) = 32.27$, $p < .001$, as were the univariate analyses for frequency, $F(1, 59) = 36.74$, $p < .001$, and intensity, $F(1, 59) = 65.56$, $p < .001$. The PTSD group reported significantly more frequent and intense intentional withholding of emotional responses (see Table 2).

To determine whether withholding of emotions was uniquely associated with the grouping variable (PTSD), we conducted the same analysis, this time covarying BAI and BDI scores. The group effect remained significant for the

Table 1. Correlations Among Severity of PTSD Symptoms, Frequency and Intensity of Strategic Withholding, and Depression and Anxiety Scores ($n = 61$)

	SW-Freq	SW-Int	BDI	BAI
CAPS	.58**	.70**	.78**	.75**
SW-Freq		.84**	.40*	.38*
SW-Int			.51**	.47**
BDI				.85**

Note. CAPS: clinician administered PTSD scale; SW-Freq: frequency of strategic withholding; SW-Int: intensity of strategic withholding; BDI: Beck Depression Inventory; BAI: Beck Anxiety Inventory.
*$p < .01$.
**$p < .001$.

overall MANCOVA, $F(2, 56) = 15.75$, $p < .001$, as well as for the univariate ANCOVAs (frequency: $F(1, 57) = 21.04$, $p < .001$; intensity: $F(1, 57) = 31.50$, $p < .001$).

To further explore the nature of strategic withholding in this sample, a χ^2 analysis was conducted on the emotional valence follow-up question among those participants who had reported strategic withholding (31 of the PTSD group and 16 of the WAV group). The majority of participants in the PTSD group reported intentionally withholding both positive and negative emotions (64.5%), whereas the majority of participants in the WAV group reported withholding only negative emotions (62.5%). Responses to this question differed significantly between groups, $\chi^2(1, N = 47) = 6.92$, $p < .05$.

Finally, we explored the association between strategic withholding and specific clusters of posttraumatic symptoms (the reexperiencing cluster [Criterion-B], the avoidance cluster [symptoms C-1 and C-2], the emotional numbing cluster [symptoms C-4, 5, and 6], and the arousal cluster [Criterion-D]). We calculated mean severity scores for each cluster by summing CAPS frequency and intensity ratings for each symptom within a cluster and then generated an average for the cluster. Severity of strategic withholding was significantly correlated with all four clusters (reexperiencing cluster $r = .53$; avoidance cluster $r = .57$; emotional numbing cluster $r = .62$; and arousal $r = .61$, all p's $< .001$).

Table 2. Means and Standard Deviations of Frequency and Intensity of Strategic Withholding for PTSD and Well-Adjusted Veterans in Study 1

	PTSD group ($n = 31$)	WAV group ($n = 29$)
Frequency	2.91 (1.06)	1.10 (1.26)
Intensity	2.38 (1.71)	0.79 (0.82)

Note. Values represent M (SD).

Discussion

The results of this study suggest that intentional withholding of emotional responses may be a relevant dimension of PTSD. Combat veterans with PTSD reported more frequent and intense withholding of their emotions in comparison to well-adjusted combat veterans. The severity of emotional withholding appears to be uniquely associated with PTSD symptomatology within this sample, in that the effect remained after controlling for reports of anxious and depressive symptomatology. Strategic withholding of positive emotions in addition to negative emotions was more characteristic of veterans with PTSD than of well-adjusted veterans. Our results suggest that individuals with PTSD may actively attempt to withhold the expression of emotions, which may contribute to restricted emotional experience.

There are noteworthy limitations to the method employed in this study that deserve mention before the implications of the findings are discussed. We asked participants to make judgments about global aspects of their emotional behavior. As is the case with all similar interview questions, the relationship between these judgments and emotional behavior in various contexts remains unknown. Ideally, multiple methods of evaluation of emotional expression and experience would be employed in circumstances associated with a range of emotional valence. Although our measure of withholding is face valid and has good internal consistency, we are unable to report data on its construct validity. Also, in the absence of a psychiatric control group, we cannot determine whether this strategy is unique to individuals with PTSD or common across a range of diagnostic categories. Finally, these data do not speak to causality—the development of PTSD may lead to a tendency to strategically withhold, premorbid strategic withholding may predispose one to develop PTSD following traumatic exposure, or the two may both result from a third variable.

Although our results cannot be considered conclusive, they do question the assumption that the emotional restriction of individuals with PTSD is solely due to a passive, involuntary process. Future research should measure the process of withholding of emotional expression and examine concealment as a means of coping with emotion in PTSD. It will be particularly important for future research to examine the intensity and specificity of expressive behaviors (e.g., facial expressive-motor displays) that vary depending on the demands of a situation and perceptions of the need to conceal felt experience. Assessment of others' ability to accurately decode facial expressions of individuals with PTSD will also be informative. Insufficient or ambiguous expressions of emotion in PTSD may contribute to interpersonal difficulties such as detachment among these individuals.

Future research should also examine the function of emotional concealment, particularly whether it is intended to regulate and dampen emotional experience. Individuals with PTSD may conceal or inhibit their emotional expressions in an

attempt to control the emotional reactivity characteristic of this disorder, but paradoxically increase their reactivity through this ineffective means of coping (cf. Gross & Levenson, 1997). Hayes, Strosahl, and Wilson (1999) have argued that attempts to alter emotional experience are invariably the cause of increased distress and dysregulation. If emotional suppression does play a maintaining role in posttraumatic symptoms, acceptance-based therapies (e.g., Hayes et al., 1999; Linehan, 1993a) may be useful interventions with this population. A focus on more effective emotion regulation skills (e.g., Linehan, 1993b) may be particularly helpful.

The findings regarding strategic withholding of positive emotional experiences among combat veterans similarly merits additional research. The role of avoidance of positive emotions has also been recently highlighted in the area of panic: fear of positive emotions (in addition to fear of fear and other negative emotions) was shown to be associated with fearful responses to laboratory-induced panic (Williams, Chambless, & Ahrens, 1997). Through stimulus generalization, individuals with PTSD (and other anxiety disorders) may develop a generalized fear of emotional arousal (e.g., increased heart rate), regardless of valence. Or positive emotional states may come to be associated with vulnerability and therefore viewed as dangerous and avoided. Further research will help determine the treatment implications of these findings.

Although our findings are far from definitive, they do indicate that the role of intentional withholding of emotional responses in PTSD bears further study. Studies that utilize multimodal assessment (physiological, coding of facial expressions, and self-report) of emotional responding across varied contexts will be particularly informative. Also, studies using a range of trauma-exposed populations (both men and women) will help establish the generalizability of these findings.

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References

American Psychiatric Association. (1994). *The diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: American Psychiatric Association.

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.

Beck, A. T., Rush, A. J., Shaw, B. F., & Emery, G. (1979). *Cognitive therapy of depression*. New York: Guilford Press.

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.

Foa, E. B., Riggs, D. S., & Gershuny, B. (1995). Arousal, numbing, and intrusion: Symptom structure of PTSD following assault. *American Journal of Psychiatry, 152,* 116–120.

Foa, E. B., Zinbarg, R., & Rothbaum, B. O. (1992). Uncontrollability and unpredictability in post-traumatic stress disorder: An animal model. *Psychological Bulletin, 112,* 218–238.

Glover, H. (1992). Emotional numbing: A possible endorphin-mediated phenomenon associated with posttraumatic stress disorders and other allied psychopathological states. *Journal of Traumatic Stress, 5,* 643–652.

Gross, J. J., & Levenson, R. W. (1997). Hiding feelings: The acute effects of inhibiting negative and positive emotion. *Journal of Abnormal Psychology, 106,* 95–103.

Harvey, A. G., & Bryant, R. A. (1998). The relationship between acute stress disorder and posttraumatic stress disorder: A prospective evaluation of motor vehicle accident survivors. *Journal of Consulting and Clinical Psychology, 66,* 507–512.

Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (1999). *Acceptance and commitment therapy: An experiential approach to behavior change*. New York: Guilford Press.

Hayes, S. C., Wilson, K. G., Gifford, E. V., Follette, V. M., & Strosahl, K. (1996). Experiential avoidance and behavioral disorders: A functional dimensional approach to diagnosis and treatment. *Journal of Consulting and Clinical Psychology, 64,* 1152–1168.

Jaycox, L. H., Foa, E. B., & Morral, A. R. (1998). Influence of emotional engagement and habituation on exposure therapy for PTSD. *Journal of Consulting and Clinical Psychology, 66,* 185–192.

King, D. W., Leskin, G. A., King, L. A., & Weathers, F. W. (1998). Confirmatory factor analysis of the clinician-administered PTSD Scale: Evidence for the dimensionality of posttraumatic stress disorder. *Psychological Assessment, 10,* 90–96.

Linehan, M. (1993a). *Cognitive behavioral treatment of borderline personality disorder*. New York: Guilford.

Linehan, M. (1993b). *Skills Training Manual for cognitive behavioral treatment of borderline personality disorder*. New York: Guilford.

Litz, B. T. (1992). Emotional numbing in combat-related posttraumatic stress disorder: A critical review and reformulation. *Clinical Psychology Review, 12,* 417–432.

Litz, B. T., Orsillo, S. M., Kaloupek, D., & Weathers, F. W. (2000). Emotional-processing in posttraumatic stress disorder. *Journal of Abnormal Psychology, 109,* 26–39.

Pitman, R. K., van der Kolk, B. A., Orr, S. P., & Greenberg, M. S. (1990). Naloxone-reversible analgesic response to combat-related stimuli in posttraumatic stress disorder: A pilot study. *Archives of General Psychiatry, 47,* 541–544.

Spitzer, R. L., Williams, J. B. W., Gibbon, M., & First, M. B. (1990). *Structured Clinical Interview for DSM-III-R—Patient Edition (SCID-P, Version 1.0)*. Washington, DC: American Psychiatric Press.

van der Kolk, B., Greenberg, M., Boyd, H., & Krystal, J. (1985). Inescapable shock, neurotransmitters, and addiction to trauma: Toward a psychobiology of posttraumatic stress. *Biological Psychiatry, 20,* 314–325.

Williams, K. E., Chambless, D. L., & Ahrens, A. (1997). Are emotions frightening? An extension of the fear of fear construct. *Behaviour Research and Therapy, 35,* 239–248.