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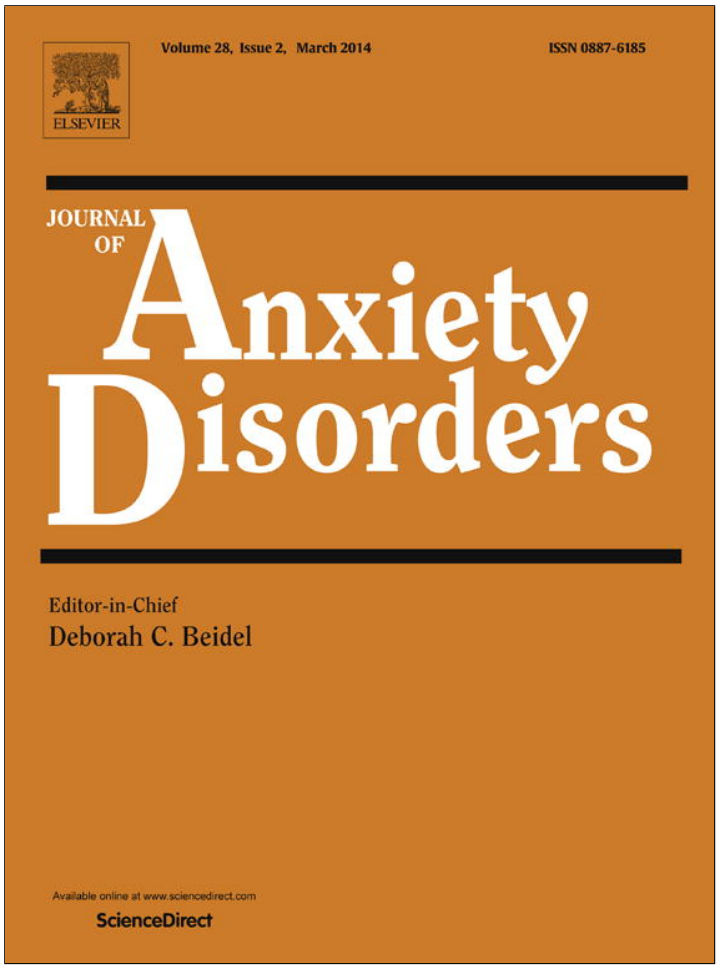


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# Expressive inhibition following interpersonal trauma: An analysis of reported function

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ABSTRACT

Existing research indicates veterans with posttraumatic stress disorder (PTSD) may deliberately inhibit the expression of emotion. However, the degree to which inhibition generalizes to other trauma populations and the specific reasons survivors with PTSD inhibit expression remains unclear. The present study looked to evaluate expressive inhibition among survivors of intimate partner violence ($N = 74$), to determine reasons for inhibition in this population, and to examine whether any justifications for inhibition are unique to individuals with PTSD. The frequency and intensity of inhibition scores were similar to those noted in previous research although no differences were observed across women with and without PTSD. Self-reported justifications for inhibition indicated five general themes: Concern for others, Mistrust/fear of exploitation, Perception of others as indifferent/uncaring, Control/Experiential avoidance, and Situation-specific inhibition. Only mistrust/exploitation motives were uniquely associated with PTSD. Whereas expressive inhibition may be elevated within help-seeking samples, individuals who develop PTSD appear to hold unique reasons for restricting emotional expression.

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## 1. Introduction

Existing research suggests that trauma survivors who experience psychological distress may deliberately inhibit the behavioral expression of emotion (Hassija, Luterek, Naragon-Gainey, Moore, & Simpson, 2012; Litz, Orsillo, Kaloupek, & Weathers, 2000; Marx & Sloan, 2002; Roemer, Litz, Orsillo, & Wagner, 2001). Expressive inhibition is associated with a range of undesirable outcomes in the general population including attenuation of positive emotion, greater experience of negative emotion, impaired self-esteem, poor interpersonal functioning, and lower overall well-being (Gross & John, 2003; Srivastava, Tamir, McGonigal, John, & Gross, 2009).[1] The willful inhibition of expression is further believed to contribute to affective deficits characteristic of posttraumatic stress disorder (PTSD; Roemer et al., 2001; Wagner, Roemer, Orsillo, & Litz, 2003). However, the evaluation of expressive inhibition in non-military populations remains limited, and no study to date has examined the intended function of this behavior as it relates to trauma. The objectives of the current study were to evaluate the extent of expressive inhibition among survivors of intimate partner violence (IPV), to explore the intended purpose of this behavior, and to isolate elements of expressive inhibition that may be unique to PTSD.

Difficulties in emotion regulation have long been conceptualized as a core feature of PTSD (Foa, Zinbarg, & Rothbaum, 1992; Van der Kolk, Greenberg, Boyd, & Krystal, 1985). Whereas specific mechanisms underlying these deficits remain unclear, some models propose that volitional, top-down regulatory processes could function to inhibit the expression and/or experience of subjective emotion following exposure to serious trauma (Litz, 1992; Litz & Gray, 2002). Roemer et al. (2001) offer perhaps the most direct evidence for the intentional down-regulation of emotional expression among individuals with PTSD. In this study, veterans with PTSD were compared with war zone-exposed veterans recruited for the absence of Axis-I psychopathology (Litz et al., 2000; Roemer et al., 2001). Participants completed a pair of items assessing the frequency ("*Are there times when you deliberately choose not to show your feelings or let others know you are reacting?*") and intensity ("*At times when you felt emotional, how much did you hold back or not*

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[1] Expressive inhibition, as used in this research, refers to the deliberate inhibition of expressed emotion and is synonymous with strategic withholding (Roemer et al., 2001) and expressive suppression (Gross, 1998). The term expressive inhibition was chosen given the explicit focus on the conscious and willful regulation of expressive behavior.

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*show your emotional reactions?*") of expressive inhibition. Participants also were asked to indicate whether they were more likely to inhibit the expression of positive emotions, negative emotions, or both positive and negative emotions equally. Results indicated more frequent and intense inhibition among veterans with PTSD relative to well-adjusted veterans reporting no psychiatric symptoms. Group differences persisted when controlling for scores on the Beck Anxiety and Depression inventories (Beck, Epstein, Brown, & Steer, 1988; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). Veterans with PTSD in this sample also were more likely to endorse inhibition of all emotional expression – both positive and negative – relative to veterans with no diagnosable disorder.

Evidence of deliberate expressive inhibition in the Roemer et al. (2001) study suggests a possible role of volitional regulatory processes in the presentation of post-trauma symptoms. Experimental research evaluating affective processes within trauma-exposed samples provides additional evidence for the potential impact of intentional expressive regulation (Litz et al., 2000; Moore & Zoellner, 2012; Orsillo, Batten, Plumb, Luterek, & Roessner, 2004; Wagner et al., 2003). Despite these developments, a number of important questions remain. First, to what extent does expressive inhibition generalize across trauma populations? Roemer et al. (2001) provide evidence for expressive inhibition among male combat veterans, but further research is needed to determine the extent to which this behavior occurs in non-military samples. Existing reviews provide some evidence for a normative attenuation of expression among males relative to females over the course of development (Brody, 1985; Chaplin & Aldao, 2013). The shared influence of military training among participants in the Roemer et al. (2001) study may further limit generalization of effects to civilian trauma populations. Previous studies have identified incongruences between subjective and expressed emotion among female survivors of sexual assault (Orsillo et al., 2004; Wagner et al., 2003), but no research to date has explicitly determined whether civilian PTSD is associated with the deliberate inhibition of expression.

Second, is the willful inhibition of expressive responding a unique feature of PTSD? Although the deliberate restriction of expressive behavior has been proposed to contribute to affective dysregulation in survivors of trauma (Litz & Gray, 2002; Roemer et al., 2001; Wagner et al., 2003), the unique relation of expressive inhibition with the attenuation of subjective experience – traditionally characterized as symptoms of emotional numbing (APA, 2000) – remains unclear. Furthermore, some evidence for the deliberate restriction of affective response has been noted within non-trauma samples. A study by Campbell-Sills, Barlow, Brown, and Hofmann (2006) found that participants with diagnosable mood and anxiety disorders reported greater emotional suppression in response to a distressing film stimulus than did nonclinical volunteers with no history of psychological difficulties. It is important to note, however, that "suppression", as defined in this study, did not differentiate between the down-regulation of emotional experience (i.e., subjective domain) and the inhibition of expressive behavior (i.e., behavioral domain). Although the inhibition of subjective and expressive domains is not mutually exclusive, failure to differentiate the regulation of experiential versus behavioral responding complicates interpretation regarding the impact of inhibition on overall affective functioning. At present, it remains unclear whether expressive inhibition is specific to PTSD or a correlate of psychological distress more generally.

Third, what is the intended purpose of expressive inhibition following trauma exposure? Research provides evidence for the occurrence of expressive inhibition among individuals with PTSD, but no study to date has examined the intended purpose of this behavior as it relates to trauma. Campbell-Sills et al. (2006) present data suggesting that appraisal of negative emotion as "bad" or "unacceptable" may motivate nonspecific suppression among individuals with heterogeneous mood and anxiety pathology. Campbell-Sills et al. is important in that it is one of the first studies to examine specific mechanisms underlying the intentional down-regulation of emotion; however, the omission of individuals presenting with a formal diagnosis of PTSD in this research questions the extent to which these data generalize to trauma. For example, it remains uncertain whether perceptions of negative emotions as "unacceptable" adequately account for the inhibition of positive expressive behavior noted by Roemer et al. (2001).

Finally, do justifications for inhibiting expression differ across trauma survivors with and without PTSD? Influential theories on the etiology and maintenance of PTSD propose shifts in fundamental beliefs about the self and the world occurring as a consequence of serious trauma (Ehlers & Clark, 2000; Foa, Steketee, & Rothbaum, 1989; Horowitz, 1986; Resick & Schnicke, 1992). Given these models, it is possible that trauma survivors who go on to develop PTSD evidence motives for inhibiting expression that are distinct from those who do not. Isolation of PTSD-specific justifications for inhibition – and assessment of how these differ from mood and anxiety symptoms more generally – could facilitate ongoing refinement of trauma-focused interventions.

The current study was developed to explore these issues among female survivors of IPV. This population is particularly well-suited for evaluating the generalization of effects in that it is distinct from veteran samples used in previous studies (e.g., Litz et al., 2000; Roemer et al., 2001). Additionally, existing research suggests that chronic interpersonal trauma, as is common in IPV, may elevate risk for maladaptive emotional regulation (Ehring & Quack, 2010). Specific aims of this study were (a) to evaluate the degree to which help-seeking survivors of IPV endorse the deliberate inhibition of expression, (b) to determine whether the frequency, intensity, and totality of expressive inhibition is elevated among IPV survivors meeting diagnostic criteria for PTSD versus those who do not, (c) to explore the intended function of expressive inhibition among women exposed to IPV, and (d) to determine whether specific reasons for inhibition are unique to individuals with PTSD. Based on preliminary data provided by Roemer et al. (2001), IPV survivors meeting diagnostic criteria for PTSD were expected to report more frequent and intense expressive inhibition relative to women without PTSD. Effects observed in this study would further suggest relations between PTSD status and continuous scores assessing the frequency of positive and negative inhibition. No strong hypotheses were developed with respect to the stated justifications for inhibition given the exploratory nature of these analyses.

## 2. Method

### 2.1. Participants

Data were collected through a university-based research clinic specializing in the assessment and treatment of mental health difficulties among women with a history of IPV. Participants were recruited through a variety of sources including advocacy centers, religious organizations, college campuses, local newspapers, and public service announcements. Women interested in services contacted the clinic via telephone and were scheduled for evaluation. Assessment included a series of semi-structured interviews detailing abuse history and other non-IPV trauma; current PTSD symptomatology; and comorbid mood, anxiety, and substance use pathology. Participants also completed a series of self-report measures which included scales assessing expressive inhibition. All procedures were approved by the local Institutional Review Board.

Eighty-three women completed items pertaining to the frequency of expressive inhibition. Of these, eight were excluded given IPV histories failing to meet *DSM-IV* Criterion A for PTSD (i.e., IPV not

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**Table 1**
Participant characteristics ($N = 74$)[a].

| | No PTSD ($n = 59$) | PTSD ($n = 15$) |
|---|---|---|
| Age | 37.6 (13.6) | 34.7 (10.1) |
| Race/ethnicity | | |
| Caucasian | 49.2% | 53.3% |
| African American | 39.0% | 33.3% |
| Other | 11.8% | 13.4% |
| Education | | |
| Elementary school | 3.4% | 0.0% |
| High school | 16.9% | 6.7% |
| Some college | 44.1% | 40.0% |
| 2-year degree | 3.4% | 20.0% |
| 4-year degree | 11.9% | 13.3% |
| Post-baccalaureate | 20.3% | 20.0% |
| Employment | | |
| Full-time | 30.5% | 26.7% |
| Part-time | 32.2% | 33.3% |
| Unemployed/disability | 32.2% | 40.0% |
| Homemaker | 3.4% | 0.0% |
| Retired | 1.7% | 0.0% |
| Income | | |
| Below $10,000 | 16.9% | 33.3% |
| $10,000–20,000 | 32.2% | 13.3% |
| $20,000–30,000 | 11.9% | 6.7% |
| $30,000–40,000 | 10.2% | 0.0% |
| Over $40,000 | 20.4% | 6.7% |
| Relationship status | | |
| Married | 16.9% | 13.3% |
| Single | 28.8% | 26.7% |
| Cohabitating | 8.5% | 0.0% |
| Separated/divorced | 44.1% | 60.0% |
| Widowed | 1.7% | 0.0% |
| Abuse history[b] | | |
| Physical | 91.5% | 86.7% |
| Sexual | 50.8% | 53.3% |
| Emotional | 100.0% | 93.3% |
| Mo separated most recent abuser | 30.2 (50.4) | 19.6 (27.6) |
| Non-IPV trauma (number of events) | 4.0 (2.5) | 4.2 (2.7) |
| Total Non-PTSD diagnoses | 1.8 (1.4) | 2.4 (1.1) |

*Note*: IPV, intimate partner violence.
[a] Some categories may not sum to 100% given incomplete responding.
[b] Total percentages sum to greater than 100% given multiple forms of intimate partner abuse.

involving threatened death or serious injury and/or without subjective response marked by intense fear, helplessness, or horror; APA, 2000). One additional individual was excluded given unreliable reporting. The final sample included 74 women reporting IPV meeting Criterion A for PTSD. The sample was racially and ethnically diverse with 50% of participants identifying as non-White. Trauma exposure in this sample was extensive. Nearly all women (89.5%) identified multiple forms of abuse within the context of their most violent relationship. The average length of separation from the most recent abusive partner was 28 months ($SD = 46.8$). The characteristics of women with ($n = 15$) and without PTSD ($n = 59$) were similar in this help-seeking sample, with no reliable differences observed on any background variable (all $p \geq .145$). Full demographic information for PTSD and non-PTSD samples is presented in Table 1.

### 2.2. Measures

#### 2.2.1. Clinician-Administered PTSD Scale (CAPS)

PTSD diagnoses were determined using the CAPS (Blake et al., 1990). The CAPS is a semi-structured clinical interview widely regarded as the "gold standard" assessment for PTSD (Forbes, Creamer, & Biddle, 2001; Zayfert, Dums, Ferguson, & Hegel, 2002). Administration provides a 0–4 rating for the frequency and intensity of the 17 cardinal symptoms of PTSD specified in *DSM-IV*. Scoring followed a 1–2 rule whereby symptoms with a frequency rating $\geq 1$ and an intensity rating $\geq 2$ were considered clinically significant (Blake et al., 1990). Interviews were conducted by advanced graduate students supervised by the last author. All assessments were audio or videotaped with 25 (33.8%) cases selected at random for independent review. Diagnostic agreement between raters in this sample was excellent ($\kappa = .90$).

#### 2.2.2. Beck Depression Inventory-II (BDI-II)

The BDI-II (Beck, Steer, & Brown, 1996) was administered to assess the severity of self-reported depressive symptoms in this sample. BDI-II items are rated on a 0–3 Likert scale and summed to form a continuous index of depressive severity. Total scores range from 0 to 63 with higher scores indicating more severe depressive symptoms. Interpretive guidelines specify scores of 0–13, 14–19, 20–28, and 29–63 to be indicative of minimal, mild, moderate, and severe depression (Beck et al., 1996). Psychometric research with the BDI-II provides strong evidence for the reliability and construct validity of scores (Beck et al., 1996; Steer & Clark, 1997). The internal consistency of responses in the current sample was excellent ($\alpha = .93$).

#### 2.2.3. Beck Anxiety Inventory (BAI)

The BAI (Beck et al., 1988) was administered to evaluate the severity of self-reported anxiety symptoms. BAI items initially were developed to index anxiety symptoms demonstrating minimal overlap with depression (e.g., difficulty breathing, feelings of choking). Items are rated on a 0–3 Likert scale and summed to form a continuous index of anxiety severity (range: 0–63). Interpretive guidelines specify scores of 0–7, 8–15, 16–25, and 26–63 to reflect minimal, mild, moderate, and severe symptoms of anxiety, respectively (Beck & Steer, 1993). Research with this measure provides strong evidence for reliability and construct validity of scores (Beck et al., 1988; deBeurs, Wilson, Chambless, Goldstein, & Feske, 1997). Internal consistency of the BAI in this sample was excellent ($\alpha = .94$).

#### 2.2.4. Emotional expression

Items pertaining to the willful inhibition of expressive emotion were taken from previous research by Roemer et al. (2001). Given the emphasis on the intentional down-regulation of expressed emotion, assessment was preceded by the following instruction set:

> "Sometimes people report trying to hold back the outward expression of emotion (e.g., smiling, frowning, laughing, etc.) after experiencing a traumatic event. Below are a number of items about how you may generally express or withhold your emotional reactions. Please indicate how representative these items are of you on the scale provided."

Items specifying the frequency and intensity of expressive inhibition were identical to those utilized by Roemer et al. (2001). Two additional items were used to evaluate the extent to which inhibition was unique to either positive ("*How often do you withhold POSITIVE emotions like happiness?*") or negative ("*How often do you withhold NEGATIVE emotions like sadness?*") expression. All items were scored on a 0–4 Likert scale with higher scores indicating greater willful inhibition. Finally, an open-ended item was provided, asking participants to indicate, in their own words, their specific reasons for inhibiting expressive emotion.

### 2.3. Analytic strategy

A series of analyses were used to evaluate specific study aims. Consistent with previous research (Roemer et al., 2001), differences in the frequency and intensity of expressive inhibition across

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PTSD and non-PTSD groups were examined using a 1-way MANCOVA with scores from the BAI and BDI-II serving as covariates. Differences in the inhibition of positive and negative expression were evaluated using a similar MANCOVA model. Effect sizes and corresponding 95% confidence intervals are given as partial eta squared ($\eta_p^2$: small = .01, medium = .06, large = .14; Cohen, 1988).

Open-ended responses regarding the intended function of inhibition were examined using thematic analyses, consistent with recommendations by Braun and Clarke (2006). Based on guidelines provided by these authors, the following procedures were used to structure the assessment of open-ended data:

1. Responses initially were reviewed in their entirety by the first author for the purpose of becoming familiar with general item content.
2. Data were again reviewed by the first author, with notes taken on the content of individual responses. The purpose of this second review was to record idiosyncratic justifications for inhibition contained within each response (e.g., "concern over loss of control", "fear of exploitation", "unwillingness to express in public settings", "concern over the perception of others"). The majority of participants in this study reported multiple reasons for inhibiting expression.
3. Content notes were then used to identify recurrent themes within the set of responses. Patterns both within and across individuals were used to form broad conceptualizations of higher-order reasons for inhibiting expression. The goals of this procedure were (a) to refine the larger corpus of responses into a subset of common themes and (b) to derive a conceptual definition for each. Conceptualization and refinement of higher-order themes was conducted as a collaborative effort by the first three authors.
4. Next, individual responses were coded formally by the first author. Conceptual definitions derived in the previous step served as the basis for coding the presence (1) or absence (0) of a given theme. Responses specifying multiple justifications received a positive code for each identified theme.
5. Finally, all responses were coded independently by an advanced graduate student to determine reliable detection of higher-order themes. Conceptual definitions derived for each theme served as the basis for the independent evaluation of responses. Discrepancies between coders were resolved by consensus prior to final evaluation.

The objective of thematic analyses was to identify common, recurring justifications for inhibiting expressive emotion. Coding procedures followed an inductive approach whereby identification of higher-order themes was driven by the semantic content of responses, without reference to a predefined conceptual framework (Braun & Clarke, 2006). This essentialist perspective was consistent with the primary aims of the study, namely to identify and evaluate motives for expressive inhibition characteristic of individuals exposed to IPV.

Upon identification of common reasons for inhibition, partial correlations (*pr*) were used to determine the extent to which specific themes were uniquely associated with PTSD status. This analytic strategy was adopted given the dichotomous nature of the data as well as the possibility of multiple motives for inhibition within a given individual. Although simplistic, partial correlations provided a parsimonious method for evaluating the specific research aims. Effect sizes and corresponding 95% confidence intervals are interpreted consistent with guidelines offered by Cohen (1988; *pr*: small = .10, medium = .30, large = .50).

## 3. Results

### 3.1. Is PTSD diagnosis associated with the frequency and intensity of expressive inhibition among survivors of IPV?

One-way MANCOVA failed to support an omnibus effect of PTSD diagnostic group on ratings for the frequency and intensity of expressive inhibition ($\Lambda = .997$; $F_{(2, 68)} = .115$; $p = .891$; $\eta_p^2 = .003$, 95% CI [.000, .041]). Despite only minor differences across PTSD (frequency: $M = 2.73$; $SD = 1.03$; intensity: $M = 2.93$; $SD = 0.88$) and non-PTSD (frequency: $M = 2.71$; $SD = 0.87$; intensity: $M = 2.83$; $SD = 1.00$) groups, inhibition in this help-seeking sample was comparable to that previously noted among male combat veterans with PTSD (Roemer et al., 2001; see Table 2).[2] Anxiety and depressive symptoms serving as covariates failed to demonstrate unique relations with the frequency and intensity of inhibition in the overall MANCOVA model ($p \geq .218$).

### 3.2. Is PTSD diagnosis associated with the inhibition of positive and/or negative expression among survivors of IPV?

MANCOVA also failed to evidence an omnibus effect of PTSD diagnostic group on differential ratings for inhibition of positive and negative expression ($\Lambda = .999$; $F_{(2, 68)} = .022$; $p = .978$; $\eta_p^2 = .001$, 95% CI [.000, .001]). Again, only minor differences were noted across PTSD (positive: $M = 1.40$; $SD = 1.30$; negative: $M = 2.80$; $SD = 1.15$) and non-PTSD (positive: $M = 1.14$; $SD = 1.20$; negative: $M = 2.71$; $SD = 1.18$) groups. Self-reported anxiety was unrelated to inhibition scores in this model ($p = .870$) although BDI-II scores did evidence a marginal association with the best linear combination of positive and negative inhibition ($\Lambda = .918$; $F_{(2, 68)} = 3.080$; $p = .052$; $\eta_p^2 = .082$, 95% CI [.000, .206]). Bivariate correlations in Table 2 suggest this effect is likely a function of a relation between self-reported symptoms of depression and the inhibition of positive expression.

### 3.3. What is the intended function of expressive inhibition among survivors of IPV?

Approximately 92% ($n = 68$) of the sample responded to the open-ended item specifying personal reasons for inhibiting expression. Based on results of thematic analyses, justifications for inhibition were coded along five broad conceptual themes.

*Concern for others (23.5%).* Responses specified inhibition given concerns over the impact of expression on other people. General reluctance to "burden others" or to cause negative emotion in friends/family (e.g., anxiety, worry, sadness) was characteristic of this domain (e.g., "*I don't want my emotions to impact other people*", "*I withhold emotions. . .from my daughter so she will not become sad and 'mirror' my emotions*").

*Mistrust/fear of exploitation (47.1%).* Responses specified inhibition due to fear of emotional, physical, and/or interpersonal harm. Concerns over negative evaluation (e.g., perception of the survivor as crazy, damaged, or abnormal), physical or emotional exploitation, and a general mistrust in the motivation of others characterized responses in this domain (e.g., "*I withhold my emotions because people will play games with your emotions and tend to use them as weapons against you*", "*I have been misunderstood, undermined, hurt, and discounted for having feelings of all kinds - positive or negative*").

*Perception of others as indifferent/uncaring (10.3%).* Responses specified inhibition due to perceived indifference in others. Beliefs

[2] As a group, IPV survivors in the current sample ($N = 74$) did not differ from Roemer et al.'s (2001) PTSD veterans with regard to the frequency ($p = .915$) or intensity ($p = .802$) of expressive inhibition.

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**Table 2**
Means, standard deviations, and intercorrelations for study variables.

| | Frequency | Intensity | Positive | Negative | PTSD | BDI-II | BAI |
|---|---|---|---|---|---|---|---|
| Frequency | – | | | | | | |
| Intensity | .51*** | – | | | | | |
| Positive | .36*** | .35** | – | | | | |
| Negative | .41*** | .34** | .14 | – | | | |
| PTSD | .10 | .06 | .03 | .02 | – | | |
| BDI-II | .17 | .12 | .35** | .20 | .27* | – | |
| BAI | .07 | −.06 | .26* | .11 | .21 | .61*** | – |
| *M* | 2.72 | 2.85 | 1.19 | 2.73 | 0.20 | 27.76 | 23.51 |
| *SD* | 0.90 | 0.98 | 1.21 | 1.16 | 0.40 | 13.41 | 14.95 |

*Note*: Frequency, frequency of inhibition; Intensity, intensity of inhibition; Positive, inhibition of positive expression; Negative, inhibition of negative expression; PTSD, PTSD diagnosis (0, negative; 1, positive); BDI-II, Beck Depression Inventory; BAI, Beck Anxiety Inventory.
* $p \leq .05$.
** $p \leq .01$.
*** $p \leq .001$.

identifying friends/family as unwilling to provide assistance and others as incapable of understanding the traumatic experience were central to this theme. Importantly, responses did not indicate fear of judgment, only the assumption of passive indifference in others (e.g., "*Because my emotion is not important to others*", "*Because no one really understands or wants to understand. The way I feel has no real effect on anyone*").

*Control/experiential avoidance (42.6%)*. Responses specified inhibition as a strategy for maintaining personal control over subjective experience. Emotions often were reported as dangerous or unpleasant. Inhibition in this domain explicitly targeted regulation of the respondent's internal state (e.g., "*I fear the vulnerability of positive emotion*", "*I feel like things are going to get out of control. . .Emotional reactions are uncomfortable for me*").

*Situation-specific inhibition (32.4%)*. Responses specified inhibition as a situation-specific strategy utilized across a range of interpersonal scenarios. Justifications in this domain explicitly identified inhibition as restricted to specific contexts (e.g., "*I don't withhold unless I'm in a professional setting*", "*Sometimes in new situations, new social groups or large groups, I hold back out of self-preservation*", "*I relax only around people I know and trust*").

Kappa coefficients for concern for others ($\kappa = .76$), mistrust/fear of exploitation ($\kappa = .88$), perception of others as indifferent/uncaring ($\kappa = .84$), control/experiential avoidance ($\kappa = .82$), and situation-specific inhibition ($\kappa = .74$) indicated reliable detection of all higher-order justifications for inhibition. Low intercorrelations across individual codes further support the relative independence of themes derived from thematic analyses (see Table 3).

### 3.4. Does the stated function of expressive inhibition differ across IPV survivors with and without PTSD?

Partial correlations were examined to determine any unique associations between PTSD diagnosis and justifications for inhibition (see Table 3). Partial correlations indicate a medium effect for the relation between PTSD and mistrust/fear of exploitation motives controlling for comorbid symptoms of anxiety and depression ($pr = .26$, 95% CI [.03, .50], $p = .031$). Analysis failed to support a unique association with any other code ($p \geq .229$).[3] The pattern of bivariate correlations was functionally identical to that observed in the partial coefficients.

[3] Evaluation of partial correlations specifying BAI and BDI-II scores as the target variable failed to demonstrate unique relations with any motive for expressive inhibition controlling for PTSD diagnostic status (all $p \geq .077$).

## 4. Discussion

The goals of the present research were (a) to determine the presence and extent of expressive inhibition among female survivors of IPV, (b) to evaluate differences in inhibition across PTSD and non-PTSD groups, (c) to identify specific reasons IPV survivors withhold expression, and (d) to determine whether specific reasons for inhibiting are unique to individuals with PTSD. Expressive inhibition among women in this help-seeking sample was comparable to levels previously observed among male combat veterans with PTSD (Roemer et al., 2001). Contrary to hypotheses, no differences in the frequency or intensity of inhibition were observed across IPV survivors with and without PTSD. Data also failed to support group differences in the selective inhibition of positive and negative expression. Thematic analysis was used to identify five broad justifications for inhibiting expression. Justifications involving concern for others, mistrust/fear of exploitation, control/experiential avoidance, perception of others as uncaring, and situation-specific inhibition were identified with adequate reliability in this sample. Of these, only inhibition due to mistrust/fear of exploitation was uniquely related to women with PTSD.

Although unexpected, the failure to replicate differences in expressive inhibition across PTSD and non-PTSD groups – with respect to both the frequency and intensity of inhibition and the differential inhibition of positive versus negative expression – could

**Table 3**
Partial and bivariate correlations for the relation of PTSD to justifications for inhibition controlling for self-reported anxiety and depression[a].

| | PTSD | Concern | Mistrust | Uncaring | Control |
|---|---|---|---|---|---|
| Concern | .02 (.01) | – | | | |
| Mistrust | .26* (.34)** | −.18 (−.20) | – | | |
| Uncaring | −.05 (−.04) | .15 (.13) | .01 (.01) | – | |
| Control | −.08 (−.13) | −.25* (−.22) | −.29* (−.33)** | −.14 (−.13) | – |
| Situational | −.13 (−.15) | −.03 (.06) | −.14 (−.17) | .07 (.06) | −.15 (−.12) |

*Note*: PTSD, PTSD diagnosis (0, negative; 1, positive); Concern, concern for others; Mistrust, mistrust/fear of exploitation; Uncaring, perception of others as indifferent/uncaring; Control, control/experiential avoidance; Situational, situation specific inhibition.
[a] Self-reported anxiety and depressive symptoms assessed using the Beck Anxiety Inventory and Beck Depression Inventory-II; bivariate correlations indicated in parentheses.
* $p \leq .05$.
** $p \leq .01$.

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offer important information about this behavior as it relates to psychopathology more generally. It is possible that relative to combat veterans, IPV survivors may be characterized by elevated levels of expressive inhibition, irrespective of PTSD diagnostic status. Inhibition scores commensurate with those previously observed in combat veterans with PTSD (Roemer et al., 2001) support this hypothesis. Alternatively, differences in the sampling and methodological approach in this research could account for the failure to replicate between-group effects. Specifically, Roemer et al. (2001) contrasted inhibition among combat veterans with PTSD to scores obtained from well-adjusted veterans selected for the absence of notable psychopathology. Campbell-Sills et al. (2006) similarly compared emotional suppression in mood and anxiety disorder patients to healthy volunteers specifically selected for having no history of psychological dysfunction. Contrasting this extreme-groups design, IPV survivors in the current research all were help-seeking individuals with marked levels of psychological distress as a group. Elevated symptoms of expressive inhibition, coupled with moderate to severe levels of anxiety and depression, is likely to have attenuated group differences noted in previous studies. At present, it remains unclear whether the frequency, intensity, and differential inhibition of expressed emotion is (a) characteristically elevated among female survivors of IPV, (b) associated with post-trauma symptoms in the population of survivors demonstrating a continuum of severity, or (c) a non-specific behavior generally elevated among individuals presenting with moderate to high levels of distress. Conclusions regarding the specific relation of expressive inhibition to post-trauma symptoms will be strengthened through studies evaluating inhibition in survivors demonstrating a full range of trauma-related symptoms. Research contrasting inhibition among help-seeking survivors with PTSD to help-seeking individuals with no history of Criterion-A trauma also would be helpful in determining the specific relation between trauma and expressive inhibition.

Although expression inhibition does not appear to be a unique feature of PTSD among help-seeking survivors of IPV, the specific reasons for inhibiting expression may be. Responses specifying inhibition due to fear of harm, exploitation, and interpersonal judgment were significantly and uniquely associated with PTSD diagnosis. Examples of specific justifications include:

> *I feel safer if I don't show the positive emotions, keeping myself closed off keeps me from getting hurt.*
> *I do not want others that I do not trust to use those negative emotions against me, "she's crazy" or "she's just an angry woman".*
> *Because you can't trust many people with your emotional state because they may truly not care or won't be around very long to be entrusted with those emotions.*
> *Because I don't want to expose myself to people and let them in.*

Responses in this domain suggest a collection of underlying negative beliefs regarding others and the external world. The presence of mistrust/fear of exploitation motives and their unique relation to PTSD are consistent with models identifying fundamental shifts in world-view as central to the development of PTSD (e.g., Ehlers & Clark, 2000; Foa et al., 1989; Horowitz, 1986; Resick & Schnicke, 1992). Results suggest that intervention targeting trauma-related beliefs – particularly those pertaining to interpersonal threat and the motives of others – could be beneficial for enhancing adaptive expression in IPV-related PTSD.

Data collected for this research also complement existing models of trauma-related emotional deficits. In specifying possible mechanisms of affective dysregulation in PTSD, Litz (1992) proposed that volitional, top-down processes could contribute to the attenuation of emotional responding. Specifically, alterations in assumptions regarding safety and predictability are thought to produce negative interpersonal expectations that are both stable and global in individuals with PTSD (Litz, 1992). This belief system, in turn, is proposed to result in the deliberate down-regulation emotional responding across a variety of affectively valenced situations. Data from this study support the underlying processes proposed in Litz' model in that IPV survivors with PTSD were more likely to endorse motives for inhibition consistent with mistrust/fear of exploitation than were women with no diagnosis. This effect is particularly notable given elevated levels of expressive inhibition in the sample as a whole well as the persistence of effects when controlling for self-reported symptoms of distress. These data do not, however, address whether mistrust/fear of exploitation motivates the down-regulation of *subjective emotional experience* nor do they speak to the consequences of expressive inhibition on affective responding more broadly. Continued research is needed to determine the functional impact of this behavior among IPV survivors with PTSD as well as the specific processes motivating expressive inhibition in survivors failing to meet diagnostic criteria.

It also is important to recognize that these data do not address whether justifications for inhibition noted among IPV survivors will generalize to other trauma populations. This may be particularly relevant for individuals exposed to non-interpersonal traumas (e.g., natural disasters, motor vehicle accidents). Indeed, data provided by Ehring and Quack (2010) provide evidence of greater emotional dysregulation among survivors of chronic, early-onset interpersonal trauma relative to survivors of non-interpersonal or single-event trauma. Clarification regarding whether mistrust/fear of exploitation motives remain relevant in other trauma populations clearly awaits further research. However, it is informative that psychological models of PTSD almost universally posit alterations in assumptions about the self, others, and the external world as central to the development of disorder (e.g., Ehlers & Clark, 2000; Foa et al., 1989; Horowitz, 1986; Resick & Schnicke, 1992). Although trauma populations may vary in the extent to which they endorse various justifications for expressive inhibition, the potential for generalization of mistrust/fear of exploitation motives across individuals with diagnosable PTSD remains plausible.

A number of methodological and conceptual limitations should be considered in the interpretation of these results. First, the sample available for this study was modest with a minority of women presenting with a formal diagnosis of PTSD. It should be noted that the prevalence of PTSD in the current sample is generally consistent with epidemiological estimates for victims of sexual and assaultive violence (e.g., Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995; Norris, 1992; Resnick, Kilpatrick, Dansky, Saunders, & Best, 1993; Rosenman, 2002), and effect sizes for these data reflect only minor differences in inhibition across women with and without PTSD. However, analysis of justifications for inhibition within more extensive and diverse trauma samples will facilitate a more comprehensive understanding of this behavior. Second, assessment of expressive inhibition was restricted to single-item scales. This approach was intended to permit direct comparisons with Roemer et al. (2001), but the psychometric characteristics of these single-item scales remain unknown. Continued research would be strengthened through the use of psychometrically-grounded measures developed specifically to assess the willful inhibition of expression (e.g., Gross & John, 2003; Kring, Smith, & Neale, 1994). Third, qualitative procedures used to evaluate reasons for expressive inhibition involve some degree of inherent subjectivity. Despite evidence for reliable detection across independent raters, confidence in the validity of conceptual themes will be strengthened by replication in independent samples. Finally, data are interpreted under the assumption that individuals are able to accurately introspect and verbalize their reasons for inhibiting. Although this is a fundamental assumption of any self-report research, it remains plausible that other factors, aside from those

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identified in this study, contribute to both the deliberate and involuntary restriction of expressed affect.

## 5. Conclusion

A converging literature provides evidence for expressive inhibition as a maladaptive regulatory behavior common in individuals presenting with psychological distress. Data from the present study, however, suggest that inhibition among women with IPV-related PTSD is uniquely associated with negative expectations regarding the motives of others and the world more generally. These effects are consistent with existing theoretical models and with revised DSM-V criteria specifying negative alterations in cognitions and mood (APA, 2013). Understanding the intended function of expressive inhibition is essential for developing interventions seeking to modify problematic emotion regulation. Continued research is encouraged to explore reasons for inhibiting in alternative trauma samples with an emphasis on differentiating between the regulation of expressive versus subjective emotion.

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