

Fragile self-esteem and affective instability in posttraumatic stress disorder

Todd B. Kashdan^{a,*}, Gitendra Uswatte^b, Michael F. Steger^c, Terri Julian^d

^a*Department of Psychology, George Mason University, MS 3F5 Fairfax, VA 22030, USA*

^b*University of Alabama at Birmingham, USA*

^c*University of Minnesota, USA*

^d*Western New York Veterans Administration Hospital, USA*

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Abstract

Temporal fluctuations in self-esteem and affect are prominent features of several clinical conditions (e.g., depression), but there is an absence of empirical work examining their role in posttraumatic stress disorder (PTSD). Individuals who experience large fluctuations in self-evaluations and affect are considered more vulnerable to psychopathology than individuals able to adequately modulate their self-image and emotional responses. We examined the relevance of self-esteem and affective instability to PTSD. Veterans with and without PTSD completed 14 daily ratings of self-esteem, positive affect, negative affect, and gratitude. Compared to veterans without PTSD, veterans with PTSD exhibited more temporal fluctuations in self-esteem, negative affect, and gratitude, with a smaller effect for positive affect. For all veterans, self-esteem and negative affective instability was associated with diminished well-being. Except for self-esteem instability, most findings were substantially reduced after accounting for variance attributable to PTSD diagnoses and mean intensity levels over the 14-day monitoring period. These data suggest self-esteem instability is important in understanding the lives of veterans with and without PTSD.

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Introduction

Theorists have argued that the inability to adequately regulate, monitor, and adjust to psychological pain and pleasure is the essence of psychopathology (Widiger & Sankis, 2000). Most empirical research on emotional and self-esteem dysregulation has been conducted in the context of borderline personality disorder and depression. This work suggests that the intensity and stability of affect and self-esteem, respectively, are distinct constructs with differential outcomes (e.g., Larsen, 1989; Roberts & Monroe, 1994). Affective and self-esteem instability are core symptoms of borderline personality disorder (American Psychiatric Association, 1994; Koenigsberg et al., 2002) and self-esteem instability has been examined as a factor in the etiology and

*Corresponding author. Tel.: 703 993 9486; fax: 703 993 1359.

E-mail address: tkashdan@gmu.edu (T.B. Kashdan).

maintenance of depression (Butler, Hokanson, & Flynn, 1994; Roberts & Monroe, 1994). Self-esteem instability has been consistently shown to be a stronger predictor than dispositional self-esteem of increases in depressive symptoms over time in response to stress (Roberts & Gotlib, 1997; Roberts & Monroe, 1992). If these variables are relevant to depression then the shared features between depression and posttraumatic stress disorder (PTSD) (e.g., Franklin & Zimmerman, 2001; Kashdan, Elhai, & Frueh, *in press*), and high levels of comorbidity between these conditions (e.g., Brown, Campbell, Lehman, Grisham, & Mancil, 2001; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995) suggest potential relevance to PTSD. Additionally, the inability to regulate affective responses to internal or external stimuli perceived as threats are prominent features of PTSD (e.g., Ehlers & Clark, 2000; Litz, Orsillo, Kaloupek, & Weathers, 2000) and suggest the examination of self-esteem and affective instability might be valuable. To date, the temporal instability of self-esteem and affect has not been studied in individuals with PTSD.

Some degree of fluctuation in self-esteem and affect is adaptive. For example, such fluctuations can provide signals as to whether goal-related efforts are failing and thus, motivate behavior change to increase the likelihood of obtaining desired outcomes (Carver & Scheier, 1998). In contrast, self-esteem and affective instability render individuals vulnerable to the often uncontrollable vicissitudes and human suffering of everyday life. Individuals with self-esteem and affective instability are prone to developing excessive personal attachments to external, environmental events and internally generated experiences (thoughts, feelings, images, memories; e.g., Greenier et al., 1999; Kernis, Cornell, Sun, Berry, & Harlow, 1993). An over-reliance on specific events and experiences as a basis for self-worth naturally leads to elevated concerns with self-evaluations, heightened sensitivity to perceived threats, and an increased risk of psychopathological outcomes (see Crocker & Wolfe, 2001 for review). Alternately, self-esteem and affective instability might be conceptualized as markers of these underlying vulnerabilities (i.e., excessive personal attachment to external events and internally generated experiences). Regardless, instead of making self-corrections and continuing with goal-related tasks in response to errors and goal obstructions, individuals with unstable self-esteem and affect easily plunge into self-loathing and extreme psychological pain, leading them to escape or abort their efforts. In the short-term, self-esteem and affective instability may lead to regrettable actions such as self-destructive, impulsive, or avoidant behaviors (e.g., suicide attempt in response to an argument with a romantic partner; Kernis, Grannemann, & Barclay, 1989). Additionally, frequent fluctuations in self-evaluations and emotions interfere with the ability to learn from negative events or sustain pleasurable events (e.g., Kernis, Paradise, Whitaker, Wheatman, & Goldman, 2000). In the long-term, self-esteem and affective instability can disrupt the development of coping, problem-solving, and self-regulatory skills, as well as the production of a coherent and stable identity with a core set of values and goals to live by on a day-to-day basis (see Roberts & Monroe, 1994 for model). Thus, it is thought that rapidly fluctuating self-evaluations and emotions make it difficult to persist in short- and long-term goals and derive healthy, sustainable levels of psychological well-being, and may thereby set up a vicious cycle by further undermining an individual's dispositional self-esteem.

Other aspects of fluctuations in self-evaluations and emotions that are of interest are whether they are random or connected to events and how long they last. Existing data suggest that temporal fluctuations in self-esteem (e.g., Greenier et al., 1999) and affect (Woysville, Lackamp, Eisengart, & Gilliland, 1999) tend to occur in response to life events, rather than being random or driven by physiological processes independent of environmental factors. We hypothesized that individuals with PTSD would exhibit larger fluctuations in self-esteem and emotions than those without PTSD because individuals with PTSD experience frequent activation of trauma memories and associated thoughts and emotions. Trauma and its sequelae are stored as a highly organized network involving information about the feared stimuli (e.g., environmental cues), information about fear responses, and personally meaningful interpretations of stimuli and response elements (Foa & Kozak, 1986; Lang, 1994; Lang & Cuthbert, 1984). These networks also typically include negative appraisals of the traumatic event (e.g., blame oneself), negative emotions (e.g., anxiety, guilt, shame), and exaggerated autonomic responses (i.e., “fight or flight response”) (Ehlers & Clark, 2000). This extended trauma network is proposed to be hyper-accessible such that many elements can be activated simultaneously by a variety of external or internal cues. Thus, individuals with PTSD might be expected to experience fluctuations in self-esteem and affect due to the frequent

activation of the negative appraisal and affective components of the trauma network. In addition, the concurrent activation of the autonomic nervous system, which adversely affects behavior, attention, and arousal, is hypothesized to make it difficult for individuals with PTSD to subsequently counter maladaptive thoughts and regulate negative affect. Thus, data on the storage and activation of trauma networks and negative trauma-related appraisals suggest veterans with PTSD may exhibit more frequent, intense, and persistent fluctuations in self-esteem and affect.

To date, there has been no empirical attention to instability in discrete positive affective states. A positive emotion that a recent study suggests is less intense in veterans with than without PTSD, and is associated with emotional and psychological well-being in this population, is gratitude (Kashdan, Uswatte, & Julian, 2006; see below). Gratitude refers to pleasant feelings incurred upon recognizing personal benefits, and acknowledging that they were from someone else (McCullough, Kilpatrick, Emmons, & Larson, 2001). The experience of gratitude requires a mindful, present-moment awareness of positive things received and the causal chain to specific benefactors. Gratitude promotes a desire to engage in altruistic behaviors toward others, and feeling grateful on a given day has been shown to build positive social interactions and relationships, counter negative emotions, and lead to greater emotional well-being, less social comparisons with others, and a greater frequency of healthy behaviors (e.g., Emmons & McCullough, 2003; Seligman, Steen, Park, & Peterson, 2005). Although there is a degree of overlap between general positive emotions, gratitude is an other-focused emotion and when you feel it, there is an inevitable expansion of the self (a) with connections to the benefits and gifts received and (b) the strengthening of social bonds with the benefactor (another person, spiritual power, etc.).

Upon examining the benefits of gratitude, it becomes apparent that they counter the emotional and social dysfunctions reported by veteran trauma survivors. Specifically, veterans with PTSD report amplified negative emotions, diminished positive emotions, impairments in the quantity and quality of their social network, and tendencies to ruminate about their trauma experiences such that instead of being engaged in the present moment they tend to be “frozen in the trauma time frame” (e.g., Ehlers & Clark, 2000; Jordan et al., 1992; Litz, 1992; Zatick et al., 1997). Based on this formulation, our prior work found that veterans with PTSD reported less general tendencies to experience gratitude as a personality trait, and to a lesser extent, less daily gratitude than those without PTSD (Kashdan et al., 2006). The psychological benefits associated with gratitude were not attributable to distress levels and for veterans with PTSD, the majority of effects were not attributable to general positive affect (fitting with other evidence that gratitude effects on psychological and physical well-being are not mediated by positive affect; Emmons & McCullough, 2003). In light of the emotional, social, and attentional difficulties of veterans exposed to trauma, and the benefits of gratitude that map onto these difficulties, there is reason to explore whether veterans with PTSD not only demonstrate less frequent and intense grateful feelings but more instability in these parameters compared to veterans without PTSD. Furthermore, it is important to test whether instability in positive emotions, such as gratitude, have similar consequences for well-being as fluctuations in negative affective states.

Our primary goal was to conduct an initial empirical examination of the nature and correlates of self-esteem and positive and negative affective instability in veterans with PTSD. Measures of self-esteem and affective instability were derived by quantifying the variability in daily ratings collected over a 2-week period. It was hypothesized that veterans with PTSD would exhibit more self-esteem and affective instability compared to veterans without PTSD. Greater self-esteem and affect instability over the 2-week period was expected to predict lower well-being. Given that most of the work on affective instability has focused on negative emotions, and research suggests that gratitude has salutary effects on well-being independent of other emotional states (McCullough, Emmons, & Tsang, 2002; McCullough, Tsang, & Emmons, 2004), we were particularly interested in exploring whether unstable positive emotions and gratitude were relevant to the phenomenology of PTSD. In other exploratory analyses, we evaluated whether the adverse influences of self-esteem and affective instability on well-being were more pronounced in veterans with than without PTSD (i.e., does PTSD moderate relationships between indices of temporal instability and global well-being). Finally, although there is research on instability or lability constructs in persons with depression or borderline personality, there is a paucity of empirical work on their incremental validity. We examined whether constructs capturing affective and self-esteem instability add information above and beyond mean daily intensity levels of self-esteem, positive and negative affect, and gratitude in understanding PTSD.

Method

Participants

Forty-two consecutive patients with a primary diagnosis of PTSD were recruited from outpatient and four-week residential specialized mental health treatment programs at a veterans affairs (VA) Medical Center in Buffalo, NY. Serving as a comparison group, 35 veterans without PTSD were recruited from a master list of living VA patients in Buffalo, NY. Veterans were randomly selected and contacted by telephone. The outpatient and residential treatment programs were specific to Vietnam War veterans suffering from combat-related PTSD. Both programs involved regular individual and group treatment formats with a cognitive-behavioral orientation. The major difference was that the 26-day residential program included daily psychoeducation and process groups. Admission criteria for the residential program included psychiatric stability and compliance with available outpatient treatment. Reasons for referral to residential treatment included barriers to outpatient programs (e.g., excessive geographical distance) and desire for more intensive treatment. Seventy percent of our outpatient sample previously served in the residential program.

The final sample was 13 outpatients, 14 residential inpatients, and 26 comparison veterans. Of those patients invited to participate, only one outpatient and two residential veterans declined. Outpatient and residential veterans' PTSD diagnoses were based on (a) unstructured clinical interviews with treatment program staff psychologists, psychiatrists, or clinical social workers, (b) scores greater than the suggested cutoff of 107 on the Mississippi Scale for combat-related PTSD (Keane, Caddell, & Taylor, 1988), and (c) combat exposure verified with DD-214's (i.e., military transcript of combat exposure, military awards, and service dates). Based on Mississippi Scale scores that did not meet our selection criteria, data were excluded from two PTSD outpatients, four PTSD residential patients, and one comparison veteran (whose score exceeded the suggested cutoff). To obtain a reliable cross-section of participants' self-esteem and affective instability, all veterans had to complete at least half of the 14 possible daily report entries (mean = 13.5, range = 9–14). Veterans removed for failing to meet study criteria or complete sufficient daily entries did not differ significantly on any study measures from the final sample. Comparisons between included and excluded participants revealed no significant differences on the Mississippi Scale for Combat-Related PTSD, the Well-Being Scale, the PANAS-PA, and PANAS-NA, all probability values $\geq .10$.

Self-report measures

PTSD. Using a 5-point Likert Scale, veterans completed the 35-item Mississippi Scale to assess combat-related PTSD symptoms (Keane et al., 1988) ($\alpha = .84$). Epidemiologic studies have used the Mississippi Scale as the primary self-report index of PTSD symptoms (e.g., Kulka et al., 1990). The Mississippi Scale has demonstrated excellent sensitivity and specificity in predicting PTSD diagnoses derived from structured clinical interviews (Keane et al., 1988).

Well-Being questionnaires. Using a 5-point Likert Scale, dimensions of general affectivity were assessed with the 20-item *Positive and Negative Affect Schedule* (PANAS; Watson, Clark, & Tellegen, 1988): activated positive affect (PA; $\alpha = .92$) and activated negative affect (NA; $\alpha = .95$). Using a 4-point Likert Scale, the 18-item *Well-Being Scale* (WBS; Tellegen, 1982) measured tendencies to feel good about oneself and the future, and general joyfulness (i.e., affective and cognitive components of subjective well-being) ($\alpha = .95$). The WBS has demonstrated excellent psychometric properties in studies with diverse methodologies (Lykken & Tellegen, 1996; Waller, Kojetin, Lykken, Tellegen, & Bouchard, 1990).

Experience-sampling measures

Participants provided daily reports for up to 14 days on two positively and two negatively worded items from the Rosenberg Self-Esteem Scale (items 3, 6, 7, and 10; Rosenberg, 1965) that were modified to assess daily self-esteem. This four-item daily self-esteem scale has demonstrated excellent psychometric properties in prior experience sampling studies (Nezlek & Plesko, 2001; Nezlek, Feist, Wilson, & Plesko, 2001) (e.g., "On the whole, I am satisfied with myself TODAY") ($\alpha = .93$).

In addition, participants provided daily reports on six PA adjectives (happy, proud, interested, determined, strong, and energetic, $\alpha = .90$) and six NA adjectives (anxious, frustrated, angry, irritable, afraid, and depressed; $\alpha = .94$). Items were derived from prior experience sampling studies (e.g., Emmons & Colby, 1995; Watson, 1988). Participants also provided daily reports on the intensity of gratitude emotions experienced (Gratitude Adjectives Checklist; Emmons & McCullough, 2003; McCullough et al., 2002), rating how “grateful” and “appreciative” they felt during that day. Ratings on the two adjectives were aggregated ($\alpha = .84$).

Procedures

After receiving a thorough description of the study, written informed consent was obtained from all participants. Consenting participants completed a packet of questionnaires during scheduled group sessions. At the end of each session, participants were given instructions for completing daily report entries at the end of each day over a 2-week period. The experimenter went over each item to ensure participants clearly understood the instructions and the definition of all words. Participants were provided with materials to mail the daily reports after every seven days of assessment. Participants were compensated \$20 for completing the self-report packet, \$40 for completing the daily reports, and for outpatients and the comparison group, \$10 for travel expenses.

Self-esteem and affective instability were operationalized by computing within-subject variance scores for the 4-item self-esteem, 6-item PA, 6-item NA, and 2-item gratitude experience-sampling measures collected daily over the two-week assessment period. High standard deviation scores reflect more lability or temporal instability than low standard deviation scores. We calculated mean intensity scores for self-esteem, PA, NA, and gratitude by averaging daily scores over the two-week assessment period.

Results

Preliminary analyses

Outpatient and residential veterans with PTSD were compared on each study variable to determine whether these samples could be merged. No significant group differences were found on demographic variables, PTSD severity, well-being, or experience-sampling scales. These data supported the use of a single sample of veterans with PTSD for subsequent analyses.

Self-esteem and affective instability

PTSD group differences. As presented in Table 1, veterans with PTSD reported substantially greater self-esteem, negative affect, and gratitude instability (p 's < .05; d 's ranged from .70 to .76), with a trend towards a significant difference for positive affect ($p = .09$; $d = .48$), compared to non-PTSD veterans.

Table 1
Temporal instability scores of Veterans with and without PTSD

Variable	Group		<i>t</i> -test (df = 51)	Cohen's <i>d</i>
	PTSD (<i>n</i> = 27) Means and SDs	Non-PTSD (<i>n</i> = 26) Means and SDs		
Self-esteem instability	2.11 ± 1.14	1.33 ± 1.07	2.55*	.71
Negative affective instability	3.62 ± 1.51	2.33 ± 1.93	2.72**	.76
Positive affective instability	3.54 ± 1.65	2.82 ± 1.41	1.71 +	.48
Gratitude instability	1.56 ± .66	1.15 ± .52	2.50*	.70

Notes: + p < .10. * p < .05. ** p < .01.

Table 2
Correlations between temporal instability and global well-being indices

	1.	2.	3.	4.	5.	6.	7.
1. Self-esteem instability	1.0						
2. Negative affective instability	.45**	1.0					
3. Positive affective instability	.62***	.68***	1.0				
4. Gratitude instability	.58***	.43**	.75***	1.0			
5. Trait PA	-.48***	-.35**	-.25+	-.32*	1.0		
6. Trait NA	.32*	.34*	.10	.24+	-.66***	1.0	
7. Well-being scale	-.37**	-.41**	-.15	-.23	.78***	-.78***	1.0

Notes: $n = 53$. $+p < .10$. $*p < .05$. $**p < .01$. $***p < .001$.

Relationships with indices of well-being. Correlations across all participants between indices of temporal instability and dispositional well-being, as indexed by trait PA, NA, and subjective overall well-being, are reported in Table 2. Of note, there was a strong degree of convergence among different indices of temporal instability (r 's ranging from .43 to .75). Self-esteem and negative affective instability were both associated with greater negative affect, and less positive affect and overall well-being. Gratitude instability was associated with less positive affect and positive affect instability was not significantly related to any well-being outcome. After partialling out variance attributable to PTSD diagnoses (PTSD group defined as 1 = PTSD and 2 = non-PTSD), significant findings included a negative relationship between self-esteem instability and trait PA, $pr = -.34$, $p < .05$, and trends for self-esteem and negative affective instability with overall well-being, pr 's = $-.24$ and $-.25$, p 's $< .10$, respectively.

We used the entire veteran sample to examine bivariate relationships between indices of temporal instability and dispositional well-being because PTSD diagnosis did not moderate these relationships. To evaluate whether PTSD moderated relationships between instability and well-being, a series of hierarchical regression analyses were conducted separately for fragile self-esteem and each dimension of affective instability. At Step 1, PTSD group and a temporal instability index were entered, and at Step 2, the Temporal Instability Index \times PTSD interaction was entered. We failed to find any significant interactions for self-esteem (ps ranged from .79 to .89), negative affect (p 's ranged from .50 to .79), positive affect (p 's ranged from .15 to .70), or gratitude (p 's ranged from .21 to .75) instability.

Unique influences accounting for daily intensity levels. Our final set of analyses used partial correlations to examine whether temporal instability indices were related to global indices of well-being over and above mean intensity ratings collected over the 14-day monitoring period. Mean intensity levels had large correlations with global well-being indices (for mean self-esteem, r 's ranged from |.75| to |.78|, for mean NA, r 's ranged from |.61| to |.71|, for mean PA, r 's ranged from |.45| to |.71|, and for mean gratitude, r 's ranged from |.37| to |.61|). Thus, our partial correlations can be considered very conservative analyses. Only one significant finding remained, with self-esteem instability inversely associated with trait PA, $pr = -.32$, $p < .05$, and one near-significant finding, with gratitude instability inversely associated with trait PA, $pr = -.24$, $p < .10$. Although other associations were not significant, in terms of the magnitude of relationships, small, unique relationships remained for all of the temporal instability indices and the Well-Being Scale (pr 's ranged from $-.16$ to $-.22$). Self-esteem instability accounted for greater unique variance in trait PA, trait NA, and the Well-Being Scale (pr 's = $-.32$, $.14$, and $-.22$, respectively) compared to indices of negative affective instability (pr 's = $-.08$, $.07$, and $-.20$, respectively) and positive affective instability (pr 's = $-.17$, $.08$, and $-.16$, respectively). Gratitude instability accounted for greater unique variance in these outcomes (pr 's = $-.24$, $.23$, and $-.21$, respectively) than positive affective or negative affective instability, and roughly similar unique variance as self-esteem instability.

Discussion

To our knowledge, these findings are the first to examine the relevance of self-esteem and affective instability to understanding veterans with and without PTSD. With the availability of up to 14 days of data, an index was

calculated for each individual on the stability of day-to-day self-evaluations and affective experiences. Our study demonstrated that veterans with PTSD can be differentiated from veterans without PTSD based on the presence of more unstable self-esteem, negative affect, and positive affect. For veterans with and without PTSD, self-esteem and negative affective instability emerged as significant predictors of lower global well-being. In contrast, relationships between positive affective instability and global well-being were lower in magnitude and less consistent. Except for self-esteem instability, most findings were substantially reduced after accounting for variance attributable to PTSD diagnoses and mean intensity levels over the 14-day assessment period.

Existing theory on the nature of PTSD can incorporate the dynamic patterns of veteran symptoms examined in the current study. Dominant cognitive and behavioral models suggest PTSD is maintained by strong associative learning, with internal and external trauma cues, fear related responses, and cognitive appraisals of trauma events and symptoms all activating psychological distress (Ehlers & Clark, 2000; Foa, Steketee, & Rothbaum, 1989). Thus, trauma survivors are vulnerable to uncontrollable and unpredictable re-experiencing, avoidance, and hyperarousal symptoms activated by conscious and non-conscious trauma cues. Furthermore, when trauma survivors attempt to interpret their trauma and symptoms these interpretations tend to be negatively biased, adversely affecting subsequent reactions. Such factors might explain the substantial fluctuation in affect observed in our PTSD sample. With regard to self-esteem instability, it has been shown that attempts to cognitively process traumatic experiences on the part of individuals with PTSD can lead to disrupted self-views, with an increase in the intensity of unfavorable self-views (Cason, Resick, & Weaver, 2002).

Most theoretical models implicitly suggest trauma survivors experience strong temporal fluctuations in day-to-day self-evaluations and affect as a function of trauma triggers and priming. Our data support these models by demonstrating that veterans with PTSD exhibit greater self-esteem, negative affect, and positive affect instability. With our dataset, we cannot determine *why* veterans with PTSD exhibited larger fluctuations or whether the fluctuations observed were connected to salient events. However, we conjecture that veterans' temporal fluctuations are explicitly driven by the hyper-accessible activation of trauma networks and negative trauma appraisals. This would suggest that dramatic fluctuations in self-views and affect will diminish following interventions leading to trauma memory modifications and psychological escape from being frozen in the trauma time frame. Further research is needed to fully understand the external and internal events that influence the stability and predictability of day-to-day self-evaluations and affective experiences.

Subjective well-being, conceptualized by general cognitive judgments of a person's satisfaction with life and the overall quality of emotional experiences, is an important criterion of positive psychological health (e.g., Diener, 2000; Ryan & Deci, 2001). After accounting for PTSD diagnoses, only self-esteem and negative affective instability were reliably related to indices of subjective well-being. Dovetailing with prior work, subjective ratings of positive affect were less important to understanding well-being in veterans with PTSD (Litz et al., 2000). As presented in the Introduction, self-esteem and affective instability may undermine well-being by interfering with the pursuit of meaningful goals in the face of failure, challenges, and even daily hassles. The exploration of these and other potential causal mechanisms can eventually lead to more refined theoretical models and possibly targets of intervention.

The majority of research on temporal instability has failed to examine the issue of incremental validity. In the current work, relationships between indices of temporal instability and well-being were substantially reduced after accounting for mean intensity levels during the self-monitoring period. These findings are difficult to interpret. Initially, these data suggest the incorporation of more dynamic representations of self-esteem and affect may fail to add anything unique to our understanding of the well-being of veterans with and without PTSD. Yet, it may be premature to suggest that self-esteem and affective instability are of questionable utility. If individuals with more unstable patterns of self-esteem and affect are more strongly affected by events, over time, the psychological costs may include deficits in self-regulatory, coping, and social skill capacities, and the social costs may include reductions in the size and quality of social networks (e.g., from the recurrence of rejection and ostracism). Perhaps individuals with more unstable patterns of self-esteem and affect eventually develop relatively stable unfavorable self-evaluations (low daily self-esteem levels), elevated negative affect (high daily negative affect levels), and diminished positive affect (low daily positive affect levels). If this model is accurate, statistically controlling for daily mean intensity levels may be conflating

psychological consequences and confounds. Another possibility is that the actual, unique relationships present between self-esteem and affective *reactivity* and well-being were attenuated due to error introduced by the way we measured fluctuations in these constructs. Since participants did not record daily events, we assessed *instability*, e.g., the variation in daily negative affect scores around the mean level for the recording period, as opposed to *lability* (Butler et al., 1994), e.g., changes in negative affect in response to events of the day. More complex experimental and longitudinal designs, that include assessments of life events and circumstances, can evaluate the clinical utility of self-esteem and affective instability in PTSD.

Some mention of gratitude is warranted, as this is the first study to our knowledge to examine temporal fluctuations in a positive emotion. As noted, gratitude involves the mindful awareness of the circumstances of one's life with nothing being taken for granted. Grateful people recognize the benefits in their lives and are mindful of where these benefits originate. A critical element in gratitude is the recipient's acknowledgment that the gift was given out of compassion, generosity, kindness and/or love (and often, but not always, selflessness). Gratitude appears to promote well-being in that it weakens beliefs that may accompany psychopathology such as PTSD: that the world is devoid of goodness, love and kindness and is nothing but danger and cruelty (to the self and others). By feeling grateful, people acknowledge that someone, somewhere, is being kind to them. Thus, gratitude differs from other positive emotions in that serves as a moral motive, impelling people to engage in positive social behavior (e.g., McCullough et al., 2001).

The phenomenology of experiencing gratitude diverges substantially from PTSD symptoms that are maintained by overt and covert experiential avoidance behavior (Ehlers & Clark, 2000; Litz, 1992). Experiential avoidance behaviors such as ruminating about and reliving the trauma experience (Ehlers & Clark, 2000) interfere with the ability to remain in the present moment and the pleasures of being engaged. As a limited resource, excessive attentional energy allocated to the trauma network (e.g., stimulus, response, and meaning elements in memory; Foa & Kozak, 1986) causes one to forfeit the ability to recognize, pursue, and savor positive events. Moments of gratitude might disrupt toxic reactions to trauma by activating a positive present time orientation and building the self-regulatory resources to withstand the avoidance and disengagement that tends to occur following trauma triggers. Although treatments for PTSD are effective at reducing distress (particularly exposure-based modalities), 40–60% of clients are still not able to function at a normative level at post-treatment (Craske, 1999). Thus, there is merit in examining whether the facilitation of gratitude can serve as a backdoor to approaching, processing, and making meaning of difficult emotional material.

Our finding that veterans with PTSD exhibit greater instability in their gratitude experiences than those without PTSD suggests that veterans with PTSD might have difficulty finding benefits and benefactors in the face of day-to-day changes in their external environment and internal experiences. Dovetailing with our prior work (Kashdan et al., 2006), we believe the current gratitude findings support exploration of novel supplements to traditional interventions (e.g., focusing on emotion expression, mindfulness awareness of benefits and benefactors, savoring positive experiences). Our own research program is exploring the potential upward spirals of enhancing gratitude on the emotional and social well-being of veterans. In addition, we are exploring whether the positive present-moment time orientation of gratitude experiences can interfere with intrusive thoughts, rumination, avoidance behaviors, and other trauma-related disruptions in engaged and meaningful living.

Despite several significant findings, some interpretative caveats require consideration. The size of our sample led to inflated Type II error rates. This is of particular relevance to our conservative tests of incremental validity (in which the covariates, mean intensity levels, had robust correlations with the outcome variables). For this reason, we supplemented statistical significance tests with attention to the magnitude of effects. Our sample size also led to concerns about generalizability. However, the current study was intended to be a preliminary investigation designed to address constructs and relationships that have to date eluded empirical scrutiny in the context of PTSD. It would be valuable to replicate our results in a larger sample. Our use of paper-and-pencil techniques did not allow us to confirm whether participants followed instructions and completed one form at the end of each day. By having participants mail-in their forms, we were unable to validate whether or not participants completed the forms for multiple days during a single setting (faking compliance), and subsequently, cannot determine whether and how the pattern of results would differ if compliance was confirmed with date and time stamping for each entry. Nonetheless, participants did return

their forms at the end of seven days and examinations of time dependency suggest the vast majority of veterans did not engage in restrictive response sets such as entering the same score on multiple days (i.e., only moderate correlations, ranging from .27 to .35, between self-esteem and affect ratings on consecutive days of assessment for the entire sample). The lack of data on events that might trigger fluctuations in self-evaluations and emotion prevented us from exploring theoretically relevant causal mechanisms. There is merit in exploring relationships between self-esteem and affective instability and everyday exposure to trauma-related primes.

Despite the inability to address causation in this study, it is worth speculating about possible temporal relationships between PTSD and self-esteem and affective instability. For trauma survivors, memories of traumatic experiences are unusually organized and stable, where reminders trigger fearful reactions and even everyday emotional responses similar to initial trauma reactions can activate intrusive thoughts and negative self-appraisals (Ehlers & Clark, 2000; Foa & Kozak, 1986). Being vulnerable to the hyper-accessibility of any component of trauma memories, and the functional impairment caused by its activation, leads trauma survivors into a fearful, uncontrollable struggle with their own thoughts, feelings, images, and behaviors. This easy triggering of aversive reactions to a myriad of internal and external cues is proposed to set the stage for a similar level of instability in self-evaluations and affective experiences. Specifically, the sequale following the development of PTSD is proposed to decrease the likelihood of self-esteem and affect stability. Of course, like many relationships between psychological constructs, a bi-directional relationship is also plausible. The majority of trauma survivors fail to develop PTSD or any mental health disorder (Kessler et al., 1995). Individuals with more fragile self-esteem and affect instability may be more vulnerable to experiencing major life disruptions in response to the natural flux in distress following life-threatening situations. Thus, levels of instability may be an interesting candidate for future research examining predictors of differential trajectories in the aftermath of traumatic events.

In conclusion, our data provide support for the role of self-esteem and affective instability in differentiating veterans with and without PTSD, and to a lesser extent, the pernicious influence of these constructs on global well-being. Although preliminary, these findings suggest that dynamic patterns of cognitions and emotions can provide insight into the understanding of trauma survivors that is not obtained by an exclusive focus on levels of self-esteem and affect.

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