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Mindfulness, Self-Compassion, Posttraumatic Stress Disorder Symptoms, and Functional Disability in U.S. Iraq and Afghanistan War Veterans

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Abstract

Mindfulness and self-compassion are overlapping but distinct constructs that characterize how people relate to emotional distress. Both are associated with PTSD and may be related to functional disability. While self-compassion includes mindful awareness of emotional distress, it is a broader construct that also includes being kind and supportive to oneself and viewing suffering as part of the shared human experience – a powerful way of dealing with distressing situations. We examined the associations of mindfulness and self-compassion with PTSD symptom severity and functional disability in 115 trauma-exposed Iraq/Afghanistan war veterans. Mindfulness and self-compassion were each uniquely, negatively associated with PTSD symptom severity. After accounting for mindfulness, self-compassion accounted for unique variance in PTSD symptom severity ($f^2 = .25$; medium ES). After accounting for PTSD symptom severity, mindfulness and self-compassion were each uniquely negatively associated with functional disability. The combined association of mindfulness and self-compassion with disability over and above PTSD was large ($f^2 = .41$). After accounting for mindfulness, self-compassion accounted for unique variance in disability ($f^2 = .13$; small ES). These findings suggest that interventions aimed at increasing mindfulness and self-compassion could potentially decrease functional disability in returning veterans with PTSD symptoms.

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Keywords

mindfulness; self-compassion; PTSD; functioning; disability; veteran

Approximately 23% of Iraq/Afghanistan veterans develop clinically significant levels of posttraumatic stress disorder (PTSD) (e.g., Fulton et al., 2015). Extensive literature documents a strong association between PTSD and functional impairment across multiple domains (see Rodriguez, Holowka, & Marx, 2012 for a review). While there are several efficacious treatments for PTSD, these treatments are often less effective in veteran samples (Steenkamp & Litz, 2013). Therefore, greater understanding of modifiable factors that influence PTSD and functional impairment is needed to enhance treatment efforts and aid the readjustment of war veterans. Two such modifiable traits are mindfulness and self-compassion.

Broadly defined, mindfulness is self-regulation of attention in the present moment with acceptance and curiosity (Bishop et al., 2004). Mindfulness helps people gain insight into their thoughts and emotions and approach them with greater objectivity (Teasdale et al., 2002). Mindfulness is associated with greater quality of life and less emotional and physical distress (Grossman, Niemann, Schmidt, & Walach, 2004), including PTSD symptom severity among veterans (Berstein, Tanay, & Vujanovic, 2011). Self-compassion refers to how one relates to oneself when the present moment is painful. Neff (2003b) defines self-compassion as having three interacting components: mindful awareness of suffering (versus over-identification), self-kindness (versus self-judgment), and a sense of common humanity (versus isolation). Self-compassion involves acknowledging the difficulty of the experience, responding inward with kindness and support, and remembering that suffering is part of the shared human experience. Self-compassion is associated with well-being in multiple life domains (Neff, 2012) and negatively associated with a range of psychopathology (MacBeth & Grumley, 2012), including PTSD symptom severity in war veterans after accounting for level of combat exposure (Hiraoka et al., 2015).

Mindfulness and self-compassion overlap in that mindful awareness is a facet of self-compassion; however, there are important distinctions between the two constructs (Neff & Dahm, in press). The mindfulness component of self-compassion emphasizes balanced awareness of emotional distress in particular; whereas, mindfulness generally refers to present-moment awareness of any experience. Moreover, self-compassion represents a way of relating to *oneself* – not just the experience – when suffering. Mindfulness and self-compassion are also conceptualized as arising from distinct physiological systems. Mindfulness is a form of metacognition and attention regulation associated with increased activity in the middle prefrontal cortex (Siegel, 2007). Compassion is linked to older caregiving systems, which involve oxytocin and other hormones related to attachment (Goetz, Keltner, & Simon-Thomas, 2010).

Relatively few studies have directly compared the associations of mindfulness and self-compassion with psychopathology and functioning. Van Dam and colleagues (2011) reported that self-compassion was a stronger cross-sectional predictor of anxiety, depression, and quality of life than mindfulness (Van Dam, Sheppard, Forsyth, & Earleywine, 2011).

Other studies have shown that self-compassion was a stronger negative predictor than mindfulness of depression, anxiety, negative affect, unhappiness, and shame-proneness (Woodruff et al., 2013; Woods and Proeve, 2014). These studies suggest that mindfulness and self-compassion make unique and possibly differential contributions to mental health outcomes and quality of life. To date, no study has examined associations between both mindfulness and self-compassion with PTSD symptom severity and disability in veterans.

Hypotheses

The objectives of the current study were to determine if mindfulness and self-compassion are uniquely associated with PTSD and functional disability, and whether self-compassion accounted for incremental variance over and above mindfulness. Based on prior research, we expected that mindfulness and self-compassion would each be negatively associated with PTSD symptom severity. We hypothesized that: (1) mindfulness and self-compassion would each be uniquely associated with PTSD symptom severity; (2) self-compassion would account for unique variance in PTSD symptoms after accounting for mindfulness; (3) mindfulness and self-compassion would each be uniquely negatively associated with disability after accounting for PTSD symptoms; and (4) self-compassion would account for unique variance in disability over and above PTSD symptoms and mindfulness.

Method

Participants and Procedures

The sample included 115 Iraq/Afghanistan war veterans recruited through direct mailings, advertising at enrollment sites, and presentations to clinical staff. Recruitment was targeted toward over-sampling for veterans with PTSD due to the aims of the parent study. To be included in the current analyses, participants must have been exposed to one or more potentially traumatic events during their military service and could not meet criteria for a bipolar or psychotic disorder. The majority of participants were Caucasian (57%) and male (84%), with good representation from African-American (25%) and Hispanic/Latino (25%) populations. The mean participant age was 37.4 years ($SD = 10.6$).

Following informed consent, participants completed a structured clinical interview and self-report measures. Structured interviews were conducted by clinical psychologists or master's level technicians who completed comprehensive assessment training. Diagnostic consensus was reached for each interview via detailed discussion of individual PTSD symptoms. Nearly half of the sample (42%) met criteria for current military-related PTSD. This study was approved by the local Institutional Review Board. Participants received financial compensation for their participation.

Measures

The Clinician-Administered PTSD Scale for DSM-IV (CAPS; Blake, Weathers, Nagy, & Kaloupek, 1995) was used to assess PTSD symptom severity. Total symptom severity during the past 30 days was used in the analyses. Internal consistency was excellent ($\alpha = .92$).

The Mindfulness Attention Awareness Scale (MAAS; Brown & Ryan, 2003), a 15-item self-report scale, was used to assess trait mindfulness. The MAAS total score was used in the analyses. Internal consistency was excellent ($\alpha = .94$).

The Self-Compassion Scale (SCS; Neff, 2003b), a 26-item self-report questionnaire, was used to assess self-compassion. We used the mean item score across all SCS items. Internal consistency of the SCS was excellent ($\alpha = .95$). Although self-compassion includes mindfulness as one facet, self-compassion is a broader construct. In the current study, the bivariate associations between the mindfulness subscale of the SCS and the MAAS ($r = .44$) was equivalent with other SCS subscales ($r = .53$) and with the outcome variables (CAPS $r = -.50$, WHODAS 2.0 $r = -.49$).

The World Health Organization Disability Assessment Schedule 2.0 (WHODAS 2.0; Üstün, 2010) is a 36-item self-report measure of functional disability in the past 30 days. The total WHODAS 2.0 score was used in the analyses. Internal consistency was excellent ($\alpha = .91$).

Data Analytic Plan

Hierarchical regression analyses were conducted in SPSS. There were no missing data.

Results

All variables were normally distributed, and no evidence for multicollinearity was found in the regression diagnostics. Preliminary analyses did not reveal differences on any study variable as a function of demographic characteristics. The results of the regression analyses are summarized in Tables 1 and 2. As hypothesized (H_1), mindfulness and self-compassion were each uniquely and negatively associated with PTSD symptom severity ($f^2 = 1.0$; large ES for the combined association of mindfulness and self-compassion); (H_2), self-compassion was associated with PTSD symptom severity after accounting for mindfulness ($f^2 = .28$; medium ES); (H_3) mindfulness and self-compassion were each uniquely associated with disability after accounting for PTSD symptoms ($f^2 = .41$; large ES for the combined association of mindfulness and self-compassion after accounting for PTSD symptoms); and (H_4) self-compassion accounted for disability over and above PTSD symptoms and mindfulness ($f^2 = .13$; small ES).

Discussion

Consistent with hypotheses, the present research found that both mindfulness and self-compassion uniquely contributed to disability among veterans, even after accounting for PTSD symptom severity. This finding suggests that mindfulness and self-compassion may impact how veterans relate to trauma-related distress. Specifically, greater levels of mindfulness and self-compassion may help to minimize the effects of traumatic experiences on veterans' overall functioning.

Since self-compassion includes mindful awareness of emotional pain, which overlaps with mindfulness more generally, we examined whether the broader construct of self-compassion accounted for unique variance in PTSD symptoms and disability after accounting for

mindfulness. Our results are consistent with previous research that found self-compassion to be a stronger predictor than mindfulness of quality of life and negative affective states (Van Dam et al., 2011; Woodruff et al., 2013; Woods & Proeve, 2014). Thus, it may be particularly important to target the unique aspects of self-compassion along with mindfulness to minimize the impact of trauma-related distress on functioning.

These findings are consistent with studies of veterans who participated in mindfulness and compassion-focused interventions and reported significant improvements in PTSD symptoms (e.g., Boden et al., 2012; Kearney, Malte, et al., 2013) and mental health-related quality of life (Kearney, McDermott, et al., 2013). Increases in mindfulness and self-compassion were associated with PTSD symptom reductions in two of these studies (Boden et al., 2012; Kearney, Malte, et al., 2013). Mindful Self-Compassion (Neff & Germer, 2013) is an intervention that focuses solely on increasing mindfulness and self-compassion. More research is warranted to determine whether compassion-focused treatments are efficacious, whether they may be used as stand-alone or as adjunctive interventions for PTSD, and whether they improve functioning. Future research should also examine if existing evidenced-based treatments for PTSD that address awareness of thoughts and feelings and excessive self-blame (e.g., Cognitive Processing Therapy; Resick & Schnicke, 1993) enhance self-compassion and whether changes in self-compassion represent a mechanism of change in such treatments.

Several limitations should be considered, including use of self-report measures, generalizability of the findings, and the cross-sectional study design. Future research should expand on these findings and examine whether mindfulness and self-compassion, including pretrauma measures of these traits, predict mental health and functional outcomes over time.

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Table 1

Hierarchical Regression Analysis Predicting PTSD Symptom Severity

Variable	β	<i>t</i>	SE	F	R	R ²	R ²
Step 1				52.44**	.60**	.36**	
MAAS	-.60**	-7.24**	2.25**				
Step 2				46.14**	.70**	.50**	.14**
MAAS	-.30*	-3.19*	2.56*				
SCS	-.48**	-5.10**	3.47**				

Note. SCS = Self-Compassion Scale; MAAS = Mindful Attention and Awareness Scale. Dependent variable = Clinician-Administered PTSD Scale.

* $p < .01$,

** $p < .001$

Table 2**Hierarchical Regression Analysis Predicting Functional Disability**

Variable	β	t	SE	F	R	R ²	R ²
Step 1				114.86 ^{**}	.74 ^{**}	.55 ^{**}	
CAPS	.74 ^{**}	10.72 ^{**}	.00 ^{**}				
Step 2				83.10 ^{**}	.80 ^{**}	.64 ^{**}	.10 ^{**}
CAPS	.52 ^{**}	6.65 ^{**}	.00 ^{**}				
MAAS	-.38 ^{**}	-4.86 ^{**}	.05 ^{**}				
Step 3				63.70 ^{**}	.82 [*]	.68 [*]	.03 [*]
CAPS	.40 ^{**}	4.71 ^{**}	.00 ^{**}				
MAAS	-.28 [*]	-3.55 [*]	.05 [*]				
SCS	-.27 [*]	-3.10 [*]	.08 [*]				

Note. SCS = Self-Compassion Scale; MAAS = Mindful Attention and Awareness Scale; CAPS = Clinician-Administered PTSD Scale. Dependent Variable = WHODAS 2.0

* $p < .01$,

** $p < .001$