

## **Traumatically Mindful: Investigating the Link Between Exposure to Potentially Traumatizing Events and Greater Dispositional Mindfulness<sup>1</sup>**

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### **Abstract**

**Summary.** Evidence suggests that mindfulness influences posttraumatic reactions; however, it may also be that experiencing a potentially traumatic event impacts mindfulness. Trauma exposure is believed to disrupt an individual's assumptive world and alter attentional, cognitive, and affective qualities that have also been linked to mindfulness. Thus, the posttraumatic reconstruction of an assumptive world may influence mindfulness. This study investigated this possibility, exploring whether self-reported dispositional mindfulness differs between individuals with and without exposure to a potentially traumatizing event. **Findings.** A sample of 724 university students completed surveys assessing their trauma history and dispositional mindfulness. Participants endorsing exposure to a potentially traumatizing event reported significantly higher levels of dispositional mindfulness in comparison with those participants without exposure, controlling for posttraumatic stress symptomology and the number of traumas reported. Differences in dispositional mindfulness by trauma type (i.e., general disaster vs. interpersonal trauma) were also observed. Results suggest that individuals reporting exposure to a general disaster (e.g., natural disaster, serious illness, or death of a loved one) also reported greater dispositional mindfulness compared both to individuals reporting interpersonal trauma and those reporting no exposure to traumatic events. **Applications.** Thus, individuals reporting exposure to a wide range of potentially traumatizing events experienced themselves as mindful. This orientation towards mindful cognitive and attentional qualities may have treatment implications, with mindfulness-based interventions being particularly well-suited for individuals exposed to general disaster traumas.

*Keywords:* trauma, post-traumatic stress, mindfulness, dispositional mindfulness

### **Introduction**

Dispositional mindfulness can be defined as the tendency to “[pay] attention in a particular way, on purpose, in the present moment, nonjudgmentally” (Kabat-Zinn, 1994, p. 4). Dispositional mindfulness is robustly associated with psychological well-being (Brown & Ryan, 2003; Hanley, Warner, & Garland, 2015), a concept that Ryff (1995) links to positive mental health and personal functioning. The positive influence of mindfulness, as both a disposition and a practice, on posttraumatic outcomes is of growing interest to researchers and mental health professionals. Evidence suggests that dispositional mindfulness is associated with less posttraumatic stress

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(Bernstein, Tanay, & Vujanovic, 2011; Kalill, Treanor, & Roemer, 2014; Smith et al., 2011) and greater posttraumatic growth (Chopko & Schwartz, 2009; Hanley, Garland, & Tedeschi, 2016; Hanley, Peterson, Canto, & Garland, 2015). Interpreted conjointly, self-reported dispositional mindfulness appears linked with more positive posttraumatic outcomes. While dispositional mindfulness is naturally occurring, it can also be intentionally developed through mindfulness practices, such as meditation on the breath (e.g., Carmody & Baer, 2008; Davidson, 2010). Many modern mindfulness practices are derived from the Buddhist contemplative tradition and encourage awareness of thoughts, emotions, and sensations. Practitioners are instructed to observe the nature of subjective experience, attending to the impermanent, transitory nature of experience with a nonjudgmental attitude of acceptance. Developing such an attentional stance appears to have therapeutic merit. Preliminary evidence suggests that mindfulness-based interventions, such as Mindfulness-Based Stress Reduction (Kabat-Zinn, 1990) and Mindfulness-Based Cognitive Therapy (Teasdale et al., 2000) may be efficacious treatment options for individuals struggling to cope with trauma (Gallegos, Lytle, Moynihan, & Talbot, 2015; Kelly & Garland, 2016; King et al., 2013; Owens, Walter, Chard, & Davis, 2012). Thus, one's mindful disposition and the practice of mindfulness training both appear to impact posttraumatic reactions.

However, it may also be that experiencing a traumatic event impacts dispositional mindfulness. If intentional exposure to a specific type of experience, such as mindfulness training, can alter dispositional mindfulness (Carmody & Baer, 2008; Davidson, 2010), it seems logically consistent that unintentional exposure to an experience or event, such as a traumatic experience, could as well. Traumatic exposure is believed to disrupt the "unchallenged, unquestioned assumptions" individuals hold about themselves and the world (Janoff-Bulman, 1989, p. 113). Thus, if trauma exposure "shatters" core beliefs, an individual is tasked with reconstructing their assumptive world in the wake of trauma, and the difficulty of this reconstruction appears relative to the type of trauma exposure as well as the number of exposures. For example, interpersonal traumas, such as physical (Breslau et al., 1998) and sexual assault (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995) seem particularly damaging to assumptive worlds. Ben-Ezra et al. (2010) found that nearly half of Jewish women surveyed about their sexual trauma experiences turned to secularism, experienced increased psychiatric symptoms, and reported lower well-being following a traumatic sexual experience. Similarly, experiencing multiple traumas is linked with greater posttraumatic stress (Briere, Kaltman, & Green, 2008; Karam et al., 2014). Regardless of the trauma type or number, if the posttraumatic reconstruction yields substantive, assumptive alterations, these alterations are likely to change attentional, cognitive, and behavioral tendencies. In short, trauma has the potential to change a person. And, if trauma can change a person, it can also change a person's dispositional mindfulness; but, the extent to which trauma affects mindfulness remains unknown.

Given the constellation of symptoms characterizing posttraumatic stress (i.e., cognitive intrusions, avoidance behaviors, negative alterations in cognitions and mood, and alterations in arousal and reactivity; American Psychiatric Association, 2013), it would appear that trauma exposure could potentially decrease mindfulness—particularly disrupting the tendency to attend to the present moment with equanimity. This possibility does not appear to have been directly empirically explored. Yet, evidence suggests that chronic stress reactions are typified by behavioral tendencies inconsistent with mindfulness, such as attentional bias to threat, perseveration, avoidance, helplessness behavior, and punishment sensitivity (Garland, Hanley, Baker & Howard, 2017). Comparatively, some Western existential psychologists (May, Angel,

& Ellenberger, 1958; Yalom, 1980) and some Eastern Buddhist philosophers (Chödrön, 2007; Hahn, 1998) have claimed that trauma exposure could also stimulate more mindful living. Indeed, quotations from Noyes Jr.'s (1980) exploration of individuals exposed to life threatening danger read like a mindfulness training advertisement. Survivors reported "a heightening of perception and emotional responsivity to immediate surroundings ... [and] an ability to live in the moment and to savor each moment as it passes" (pp. 237-238). In these qualitative reports, life-threatening danger appears to be linked to more mindful qualities. The possibility that traumatic exposure could encourage mindfulness is also consistent with recent empirical interest in exploring positive posttraumatic outcomes in conjunction with the more traditional posttraumatic stress symptoms (Calhoun, Cann, & Tedeschi, 2010; Joseph, Murphy, & Regel, 2012). Efforts to systematically characterize the transformative potential of trauma exposure have resulted in the identification of a number of possible, positive, posttraumatic changes. For instance, a deeper appreciation of life, the realization of new possibilities, and the development of more positive relationships are all associated with successfully navigating a traumatic experience (e.g., Tedeschi & Calhoun, 1996). In this line, it may be that trauma orients individuals toward mindfulness.

Thus, a relationship may exist between traumatic exposure and dispositional mindfulness. However, the nature of that relationship remains unclear given evidence suggesting the possibility of both posttraumatic increases and decreases in dispositional mindfulness. To explore this relationship, this study examined whether self-reported dispositional mindfulness differs between individuals with and without traumatic exposure. These mindful outcomes were further explored in the context of type of trauma exposure (general disaster versus interpersonal). Better understanding these relationships has important implications for treating trauma-exposed individuals. Identifying patient populations that may or may not be inclined to respond to mindfulness-based interventions will allow practitioners to more skillfully apply behavioral treatments.

## **Method**

### **Participants and Procedures**

A sample of 724 college students from a large Southeastern university's College of Education subject pool completed measures assessing trauma history, dispositional mindfulness, and posttraumatic stress symptomology as part of a larger study exploring dispositional mindfulness, cognitive coping strategies, and posttraumatic outcomes. This study was approved by Florida State University's Internal Review Board. Participants completed all surveys online, with completion of the total survey battery taking approximately 23 minutes. The majority of participants were female (73%) and the mean age was 21. Participants identified most frequently as Caucasian (72%), followed by Latino(a) (14%), African American (10%), Asian (2%), and multiracial (2%).

### **Measures**

**Dispositional Mindfulness.** Dispositional mindfulness was measured by the well-validated and widely-used Five Facet Mindfulness Questionnaire (FFMQ; Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006). The FFMQ consists of 39 items scored on a five point scale (1 = Never or very rarely true, 5 = Very often or always true) and is comprised of five domains of mindfulness-

observing (e.g., “I pay attention to sensations, such as the wind in my hair or sun on my face.”), describing (e.g., “I’m good at finding words to describe my feelings.”), acting with awareness (e.g., “When I do things, my mind wanders off and I’m easily distracted.” – *reverse scored*), non-reacting (e.g., “I perceive my feelings and emotions without having to react to them.”), and non-judging (e.g., “I criticize myself for having irrational or inappropriate emotions.” – *reverse scored*), developed through the factor analysis of five validated mindfulness questionnaires. Higher summed scores reflect greater self-reported dispositional mindfulness. Concerns have been raised about meditating and non-meditating individuals interpreting the FFMQ’s observing facet differently (Van Dam, Earleywne, & Danoff-Burg, 2009) as well as about the FFMQ’s construct validity (Grossman, 2008, 2011). However, alternative data suggests that the FFMQ does not suffer from differential item functioning (Baer, Samuel, & Lykins, 2011; Christopher, Neuser, Michael, & Baitmangalkar, 2012), and the absence of a universally accepted conceptual definition of mindfulness (Dreyfus, 2011; Grossman & Van Dam, 2011) makes the construction of a universally accepted mindfulness measure extremely challenging. Nevertheless, reviews of mindfulness measures support the use of the FFMQ as the most common multidimensional operationalization of dispositional mindfulness available (Sauer et al., 2013; Seigling & Petrides, 2014) and FFMQ scores have demonstrated good convergent validity (e.g., Baer et al., 2006) and change sensitivity (e.g., Carmody & Baer, 2008) following mindfulness training. The FFMQ total score evidenced good internal consistency in this study ( $\alpha=.86$ ).

**Trauma History.** Traumatic exposure was measured by the Trauma History Questionnaire (THQ; Green, 1996), a 24 item checklist (No = 0, Yes = 1) of potentially traumatic events developed for psychological research in both general and clinical populations. Respondents are provided 23 potentially traumatic scenarios grouped into three domains: crime (e.g., “Has anyone ever attempted to rob you or actually robbed you (i.e., stolen your personal belongings)?”), general Disaster (e.g., “Have you ever had a serious or life-threatening illness?”), and physical/sexual assault (e.g., “Has anyone ever made you have intercourse, oral or anal sex against your will?”). A free response space is also provided for participants to list a traumatic experience not included among the provided 23 options. Higher summed scores reflect more trauma exposure. If participants reported multiple traumas, they were instructed to select the traumatic event that was most impactful for them at the end of the THQ. This selection was used as a grouping variable in a later analysis.

**Posttraumatic Stress.** Posttraumatic stress was measured by the well-validated and widely-used Impact of Events Scale-Revised (IES-R; Creamer, Bell, & Failla, 2003; Weiss & Marmar, 1996). The IES-R consists of 22 items scored on a five-point scale (0 = Not at all, 4 = Extremely) and is comprised of three domains of posttraumatic stress: avoidance (e.g., “I tried not to think about it”), hyperarousal (e.g., “I was jumpy and easily startled”), and intrusion (e.g., “I had dreams about it”). Higher summed scores reflect greater posttraumatic stress. The IES-R total score evidenced excellent internal consistency in this study ( $\alpha=.97$ ).

### Statistical Analysis

Two distinct analyses were conducted in SPSS Version 25 to examine between group differences in self-reported dispositional mindfulness by (1) trauma exposure and (2) type of trauma exposure. First, a univariate analysis of covariance (ANCOVA) was used to investigate between group differences in self-reported dispositional mindfulness, comparing respondents reporting

traumatic exposure with those without exposure, controlling for current posttraumatic stress symptomology and the number of trauma exposures reported. Second, an additional univariate ANCOVA was used to examine between group differences in self-reported dispositional mindfulness by type of trauma exposure, controlling for current posttraumatic stress symptomology and the number of trauma exposures reported. The trauma type variable divided respondents into three categories: (1) those without trauma exposure, (2) those reporting exposure to a general disaster, and (3) those reporting exposure to interpersonal trauma.

## Results

### Descriptive Statistics

Of the 724 respondents, 604 (83%) reported a traumatic exposure and 120 (17%) did not. Multiple studies in college student populations report equivalent (84%-85%) trauma exposure rates (Frazier et al., 2009; Smyth et al., 2008; Vrana & Lauterbach, 1994). Of those reporting trauma, 480 (66%) reported exposure to a general disaster (e.g., natural disaster, serious illness, death of a loved one), 75 (10%) reported a physical/sexual assault, and 49 (7%) reported exposure to a crime. Given the disproportionate number of respondents reporting general disaster traumas and the interpersonal nature of the remaining two categories, the physical/sexual assault and crime trauma categories were collapsed into an overarching interpersonal trauma group for later analysis ( $n=124$ , 17%). With respect to the number of trauma exposures, 177 (24%) of respondents reported a single trauma and 427 (59%) reported multiple traumas.

### Trauma Exposure and Dispositional Mindfulness

A univariate ANCOVA indicated a significant between-group difference in self-reported dispositional mindfulness for respondents with and without trauma exposure after controlling for posttraumatic stress symptomology and number of trauma exposures reported:  $F(1,720)=4.99$ ,  $p=.026$ , Cohen's  $d=.17$ . Significantly higher levels of dispositional mindfulness were observed in participants reporting trauma exposure ( $\bar{x}=126.20$ ,  $SD=14.59$ ) than in participants without exposure ( $\bar{x}=122.63$ ,  $SD=13.14$ ).

### Trauma Exposures Characteristics and Dispositional Mindfulness

A univariate ANCOVA indicated significant between-group differences in self-reported dispositional mindfulness by trauma type, controlling for posttraumatic stress symptomology and number of trauma exposures reported:  $F(2,719)=6.23$ ,  $p=.002$ , Cohen's  $d=.26$ . Bonferroni post hoc comparisons revealed that dispositional mindfulness was significantly higher for respondents reporting general disaster traumas ( $\bar{x}=127.09$ ,  $SD=14.41$ ) than respondents reporting interpersonal trauma ( $\bar{x}=122.73$ ,  $SD=14.11$ ,  $p=.02$ ) and respondents with no trauma history ( $\bar{x}=122.63$ ,  $SD=13.14$ ,  $p=.03$ ). Dispositional mindfulness did not statistically differ between respondents reporting interpersonal trauma and those reporting no trauma ( $p=1.00$ ).

## Discussion

This study examined the relationship between exposure to potentially traumatizing events and dispositional mindfulness. Results from the first analysis suggest that individuals reporting exposure to a potentially traumatizing event also report greater dispositional mindfulness in

comparison with individuals reporting no exposure history, after controlling for current posttraumatic stress symptoms and the number of reported trauma exposures. Thus, trauma exposure is positively associated with dispositional mindfulness, or the tendency to attend intentionally to the present moment, nonjudgmentally (Kabat-Zinn, 1994), in this sample. However, results from the second analysis suggest that exposure to certain types of potentially traumatizing events are more closely linked with dispositional mindfulness than others. Specifically, general disaster traumas, such as natural disasters, loss of loved ones, or serious accidents, evidence a stronger relationship with dispositional mindfulness than interpersonal traumas, such as criminal, physical, or sexual assaults. Past research on life changes following sexual trauma may provide insight into why lower levels of dispositional mindfulness were reported in the interpersonal violence group. Harris and Valentiner (2002) found that victims of completed sexual assaults reported less self-control and self-worth than their peers who did not experience sexual assault. Comparatively, sexual trauma survivors who experienced positive life changes following the traumatic event were more likely to report having positive support networks and feeling like they had control over their recovery process (Frazier, Tashiro, Berman, Steger, & Long, 2004). Social responses to various types of trauma should also be considered, as natural disasters are out of a person's control, which may elicit more sympathy and support, whereas victim-blaming is more common in individually-focused events like assaults or criminal victimization.

In interpreting these results, the small between-group differences observed in this study should be taken into account. As such, trauma exposure is likely to have a minimal effect on dispositional mindfulness in a *general* sample of American young adults. Nevertheless, this relationship may have substantive treatment implications for specific sub-groups of trauma-exposed individuals given the differential relationships between trauma type and dispositional mindfulness emerging in this study. Indeed, effect size estimates indicate that while the magnitudes of these between-group differences are small, they are meaningful; and, as the current study is the first to directly examine the relationship between exposure to a potentially traumatizing event and dispositional mindfulness, replication is now needed. Continued investigation of this novel relationship may allow trauma treatments to be better tailored to meet individualized therapeutic goals. Indeed, results from this study suggest that a mindfulness-based therapeutic approach may be more likely to yield therapeutic gains for individuals exposed to general disasters than individuals exposed to interpersonal violence. Further empirical refinement may support more precise therapeutic applications of mindfulness.

While potentially unexpected, these findings resonate with proposals from both Western existential psychologists and Eastern Buddhist scholars. Yalom (1980) claims that the "process of reflection is often catalyzed by certain urgent experiences" (p. 8) and "an apprehension of one's finiteness can often catalyze a major inner shift in perspective" (p. 5). May, Angel, and Ellenberger (1958) extend this line of thinking a bit more bluntly:

A crisis is exactly what is required to shock people out of unaware dependence upon external dogma and to force them to unravel layers of pretense to reveal naked truth about themselves which, however unpleasant, will at least be solid. (p. 17)

Both existential theorists appear to be drawing links between trauma and shifts in self-awareness. Self-awareness is a fundamental element of mindfulness (Vago, 2012) and the link between trauma and self-awareness informs the very foundation of Buddhist thought. The Buddha's first teachings identified suffering as basic to the human condition, defining suffering in terms familiar to modern conceptualizations of trauma (e.g., sickness, illness, death, and loss)

(Hanh, 1998). More recent Buddhist scholars have maintained this position, with Thich Nhat Hanh (1998) contending that “suffering is the means the Buddha used to liberate himself, and it is also the means by which we can become free” (p. 3). Pema Chödrön (2001) echoes these thoughts, stating “we can let the circumstances of our lives harden us so that we become increasingly resentful and afraid, or we can let them soften us and make us kinder and more open to what scares us” (p. 1).

### **Limitations and Future Directions**

With respect to this study, findings suggest that some respondents exposed to a potentially traumatizing event may have indeed experienced a substantive shift in inner perspective following exposure, reporting more dispositional mindfulness. However, given the cross-sectional nature of these results, no causal conclusions can be made. Future longitudinal research, like that conducted by Owenz and Fowers (2018), is needed to more fully test this hypothesis. Moreover, examining the time sequence of the potential relationship between trauma exposure and mindfulness would also be beneficial. If certain types of trauma exposure do occasion greater mindfulness, it would be valuable to determine whether this post-traumatic mindfulness develops over days, weeks, months, or years, post-trauma. Additionally, future studies of the relationship between trauma exposure and dispositional mindfulness should be explored in more diverse populations. The sampling procedure used in this study resulted in a disproportionate amount of young Caucasian female participants. As such, findings may have limited generalizability beyond similar samples. Cultural background and its influence on trauma and mindfulness were not examined in this study. Future research examining trauma’s impact on dispositional mindfulness with participants from varied cultural backgrounds should be undertaken. Finally, it would be prudent to examine future participants’ perceived control during the traumatic event and its potential influence on the relationship between trauma and dispositional mindfulness.

### **Conclusion**

Despite limitations, results from this study reveal an interesting link between exposure to a potentially traumatizing event and dispositional mindfulness. Such a relationship is theoretically consistent with propositions from diverse traditions, but may appear counterintuitive to many therapists and clinical researchers. Thus, continued examination of the relationship between trauma exposure and mindfulness is needed to resolve this dissonance. Longitudinal study designs incorporating randomized treatment options (e.g., mindfulness vs. control) following naturalistic trauma exposures may be one method of dissecting this novel association.

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