Journal of Contextual Behavioral Science xxx (xxxx) xxx–xxx

Contents lists available at ScienceDirect

Journal of Contextual Behavioral Science

journal homepage: www.elsevier.com/locate/jcbs

Empirical research

Cognitive fusion and post-trauma functioning in veterans: Examining the mediating roles of emotion dysregulation☆

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ARTICLE INFO

Keywords:
Cognitive fusion
Posttraumatic stress disorder
Military veteran
Emotion regulation
Life satisfaction
Acceptance and commitment therapy

ABSTRACT

When cognitively fused, people have difficulty accepting and clearly perceiving their internal experiences. Following trauma, emotional non-acceptance and emotional non-clarity have been associated with post-trauma functioning. The aim of the present study was to integrate theory and research on cognitive fusion and post-trauma functioning to evaluate a theory-based model in which emotion dysregulation—specifically, emotional non-acceptance and emotional non-clarity—mediated the association between cognitive fusion and post-trauma functioning in a veteran sample. Participants were 149 veterans with a history of military-related trauma. Veterans completed measures of cognitive fusion, emotion dysregulation, posttraumatic stress disorder (PTSD) symptoms, and life satisfaction. Overall, emotion dysregulation and PTSD symptoms mediated the fusion-post-trauma functioning association in theoretically consistent ways. More specifically, fusion was related to PTSD through emotional non-clarity and fusion was related to goal dysregulation through emotional non-acceptance and PTSD. Our findings indicate that fusion impacts different aspects of post-trauma functioning through different mediators. How these different pathways could impact clinical decision making are discussed.

Trauma is an occupational hazard of military service. Veterans who experienced military-related traumas tend to have more psychological dysfunction—including psychopathology and reduced life satisfaction—compared to those who did not (e.g., Surís, Lind, Kashner, & Borman, 2007; Vogt, King, King, Saverese, & Suvak, 2004). With improved understanding of what inhibits post-trauma functioning in this population, practices and services that aim to help veterans can be enhanced.

Cognitive fusion and emotion dysregulation have been linked with post-trauma functioning (e.g., Ehring & Quack, 2010; Twohig, 2009; Walser & Hayes, 2006). When people are cognitively fused, they are entangled in (i.e., fused with) their beliefs and hold those beliefs as literally true (Gillanders et al., 2014). This entanglement with thoughts reduces the ability to acknowledge and label thoughts and related emotions. Further, when thoughts are interpreted as truth, internal experiences are avoided rather than experienced. While theory has indicated that emotion dysregulation mediates the association between fusion and post-trauma functioning (Bardeen & Fergus, 2016; Walser & Hayes, 2006), no study has tested this association. Presently, we investigated a theoretically based model in which emotion dysregulation—specifically, emotional non-acceptance and emotional non-clarity—mediated the association between cognitive fusion and post-trauma functioning (e.g., posttraumatic stress disorder [PTSD] symptoms, goal dysregulation, life satisfaction) among veterans with military-related trauma.

1. Cognitive fusion and PTSD

Following traumatic events, beliefs about the self, the world, and the traumatic events are key predictors of the development and maintenance of PTSD (e.g., Foa, Ehlers, Clark, Tolin, & Orsillo, 1999). Examples include believing that the self is totally incompetent, the world is utterly dangerous, and the trauma was the victim's fault. While the traditional cognitive-behavioral perspective is that these cognitions are maladaptive and interventions should target modifying them (Cahill, Rothbaum, Resick, & Follette, 2009), the Acceptance and Commitment Therapy (ACT) perspective is that interventions should target defusing people from these beliefs rather than altering the beliefs themselves (Twohig, 2009; Walser & Hayes, 2006). In the case of PTSD, defusing with beliefs about the world being dangerous and the self being incompetent facilitates the willingness to experience internal and external trauma reminders, which can result in increased behavioral flexibility

☆ This work was supported in part by the Veterans Transition Network.
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https://doi.org/10.1016/j.jcbs.2018.02.002
Received 10 July 2017; Received in revised form 8 January 2018; Accepted 17 February 2018

and life satisfaction (Walser & Hayes, 2006).

While emotion dysregulation has been linked with cognitive fusion and PTSD (e.g., Gillanders et al., 2014; O'Bryan, McLeish, Kraemer, & Fleming, 2015), no studies have investigated which facets of emotion dysregulation mediate the fusion-PTSD link. One facet of emotion dysregulation that may explain the link between fusion and PTSD is emotional non-acceptance. Defusing from thoughts facilitates experiencing thoughts and feelings as external to the self (Greco, Lambert, & Baer, 2008). This impersonalized perception of internal experiences may increase the willingness to accept and experience unpleasant internal states (Kishita, Muto, Ohtsuki, & Barnes-Holmes, 2014). Contrarily, when cognitively fused, thoughts and feelings are personalized and interpreted as truth – increasing the likelihood of not accepting and avoiding unpleasant internal experiences and the external stimuli that trigger them. When trauma survivors are unwilling to experience trauma-related distress and avoid trauma-related stimuli that trigger distress, they inhibit cognitive-emotional processing (e.g., habituation) of traumas, perpetuating PTSD symptoms (Ehring & Quack, 2010; Tull, Barrett, McMillan, & Roemer, 2007; Weiss, Tull, Lavender, & Gratz, 2013). However, if people are willing to accept their distressing emotional experiences following traumatic events, cognitive-emotional processing of the event will occur, which inhibits PTSD's development and maintenance. Thus, it may be that fusion's deleterious affect on acceptance explains its link with PTSD.

A second facet of emotion dysregulation that may explain the link between cognitive fusion and PTSD is emotional non-clarity. Researchers (e.g., Naragon-Gainey & Demarree, 2017) have suggested that practices that provide cognitive distance from internal events—like defusion or decentering—are directly or indirectly associated with activation of the observer perspective, in which people gain a detached awareness of internal experiences. The distance that accompanies defused states facilitates clarity about both the emotions that are experienced and the situations that precipitated them (Boden & Berenbaum, 2011).

Lack of emotional clarity has been consistently associated with PTSD (e.g., Ehring & Quack, 2010; Tull et al., 2007). Within social-cognitive theory, people who understand how they feel and why they feel that way can form linear narratives explaining their distress. Simply having coherent explanations for the causes of difficult feelings has been associated with reduced mental health and physiological concerns (Pennebaker, Mayne, & Francis, 1997). Coherent narratives reduce maladaptive self-reflective appraisals of distress (Pennebaker & Seagal, 1999)—in other words—distress about distress (e.g., "I shouldn't feel this way"). Neuroscientific evidence suggests that simply applying labels to emotions can disrupt cascading amygdala responses, such as anxiety and fear (Lieberman et al., 2007) and has been inserted into exposure therapies to more effectively treat PTSD (e.g., Foa, Hembree, & Rothbaum, 2007). Emotional clarity also enables the accurate targeting of coping strategies by allowing people to select appropriate coping strategies based on accurate emotional information (Linehan, 2015). For example, in a study of veterans with PTSD, the use of cognitive reappraisal was only helpful in reducing PTSD for those who were high in emotional clarity (Boden, Bonn-Miller, Kashdan, Alvarez, & Gross, 2012).

1.1. Cognitive fusion and goal dysregulation

When people are cognitively fused, behaviors are restricted due to over-identification with inhibiting thoughts (e.g., "I can't do that"; Gillanders et al., 2014) and less able to accomplish their goals when they are distressed (i.e., goal dysregulated) (Paulus, Vanwoerden, Norton, & Sharp, 2016). Laboratory studies have demonstrated that cognitive defusion interventions have led to more flexible behavioral responses and the ability to accomplish goals in the face of distress (Hooper & McHugh, 2013; Levin, Hildebrandt, Lillis, & Hayes, 2012; Ritzert, Forsyth, Berghoff, Barnes-holmes, & Nicholson, 2015). As with the association between fusion and PTSD, there are empirical and theoretical reasons to hypothesize that emotional non-acceptance and emotional non-clarity mediate the association between fusion and goal dysregulation. Drawing from the evidence linking emotional non-acceptance and distress avoidance with the inability to accomplish desired tasks (e.g., Gerhart, Heath, Fitzgerald, & Hoerger, 2013; Gratz, Rosenthal, Tull, Lejuez, & Gunderson, 2006), it may be that non-acceptance impedes the ability to accomplish goals by encouraging escape behaviors. Additionally, being emotionally unclear may be overwhelming and make it difficult to understand and navigate the challenges that occur when pursuing goals (Hayes, 2002; Walser & Hayes, 2006). Further, the emotional clarity that accompanies defusion may enhance the ability to identify and focus on long-term goals instead of becoming distracted by transient thoughts and feelings (Hayes, 2003). While there is substantial evidence for the link between fusion and goal dysregulation, there are few empirical investigations of the mediators of this association.

Goal dysregulation has been consistently linked with PTSD symptoms (Ehring & Quack, 2010; Tull et al., 2007; Weiss, Tull, Dixon-Gordon, & Gratz, 2009). However, how emotional non-acceptance relates to the link between PTSD and goal dysregulation remains unclear. Some have argued that distress (e.g., PTSD symptoms) mediates the link between non-acceptance and behavioral responding; an unwillingness to experience distress results in greater distress, and distress reduces behavioral flexibility (Gerhart et al., 2013). This is consistent with behavioral explanations of the association between non-acceptance and PTSD (e.g., Ehring & Quack, 2010; Tull et al., 2007; Weiss et al., 2013): Non-acceptance predicts PTSD, and PTSD-related distress impairs the ability to pursue goals. Others have suggested that acceptance buffers (i.e., moderates) the impact of distress on behavioral flexibility. In a study of statistics anxiety, willingness to experience anxiety buffered the effect anxiety had on statistics exam performance (Sandoz, Butcher, & Protti, 2017). Further, in two studies of PTSD, avoidance exacerbated PTSD's link with impulsive behaviors (Bordieri, Tull, McDermott, & Gratz, 2014; Gratz & Tull, 2012). Findings from these studies support the moderating role of non-acceptance: Accepting distress facilitates goal attainment and non-acceptance inhibits it.

1.2. Current study

The purpose of our study was to develop and evaluate a model in which emotion dysregulation—specifically, emotional non-acceptance and emotional non-clarity—mediated the association between cognitive fusion and post-trauma functioning (e.g., PTSD symptoms, goal dysregulation, life satisfaction) among veterans with military-related trauma. The proposed model is shown in Fig. 1.

While our model has several embedded hypotheses, based on the reviewed empirical evidence and theory, our primary hypotheses were that (1) emotional non-acceptance and emotional non-clarity would mediate the association between cognitive fusion and PTSD symptoms; (2) emotional non-acceptance, emotional non-clarity, and PTSD symptoms would mediate the association between cognitive fusion and goal dysregulation; (3) PTSD and goal dysregulation would mediate the association between cognitive fusion and life satisfaction; and (4) emotional non-acceptance would moderate the association between PTSD symptoms and goal dysregulation.

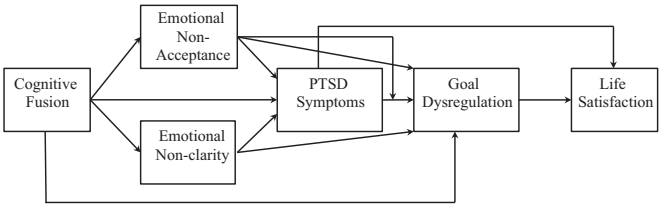

Fig. 1. Proposed path model (Model 1) delineating the indirect influence of cognitive fusion on PTSD symptoms and life satisfaction.