Research Paper

Heterogeneity in emotion regulation difficulties among women victims of domestic violence: A latent profile analysis

Nicole H. Weiss[a], Angela G. Darosh[a], Ateka A. Contractor[b], Shannon R. Forkus[a],
Katherine L. Dixon-Gordon[c], Tami P. Sullivan[d],*

[a] *University of Rhode Island, Kingston, RI, USA*
[b] *University of North Texas, Denton, TX, USA*
[c] *University of Massachusetts Amherst, Amherst, MA, USA*
[d] *Yale University, New Haven, CT, USA*

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ABSTRACT

Background: Research over the past two decades supports emotion regulation as a transdiagnostic factor related to the etiology, maintenance, and treatment of a wide range of psychiatric difficulties and risky behaviors. However, prior investigations are limited by their focus on difficulties regulating negative (but not positive) emotions. Further, research has not accounted for the heterogeneity in difficulties regulating emotions.

Methods: Participants were 210 female victims of domestic violence (DV; *M* age = 36.14, 48.6% African American) who completed measures assessing emotion regulation (Difficulties in Emotion Regulation Scale; Difficulties in Emotion Regulation Scale – Positive), posttraumatic stress disorder (PTSD; Posttraumatic Stress Diagnostic Scale), depression (Center for Epidemiologic Studies-Depression Scale), alcohol misuse (Alcohol Use Disorder Identification Test) and drug misuse (Drug Abuse Screening Test). Latent profile analysis was utilized to identify subgroups of DV-victimized women who were similar in endorsed difficulties in regulating negative and positive emotions. Differences in psychiatric difficulties (i.e., PTSD and depressive symptom severity) and risky behaviors (i.e., alcohol and drug misuse) were examined across these classes.

Results: Three classes of DV-victimized women differentiated by levels of difficulties regulating negative and positive emotions were identified. Greater psychiatric difficulties were found among classes defined by higher levels of difficulties regulating emotions, regardless of emotion valence. Risky behaviors were more prevalent among the class defined by higher levels of difficulties regulating both negative and positive emotions.

Limitations: Although results add to the literature on difficulties regulating emotions and their correlates, findings must be interpreted in light of limitations present including use of a cross-sectional and correlation design, reliance on self-report measures, and assessment of a select sample of women victims of DV.

Conclusions: Results highlight the potential importance of tailoring interventions accounting for the heterogeneity in negative and positive emotion regulation dimensions among DV-victimized women.

1. Introduction

Research over the past two decades supports emotion regulation as a transdiagnostic factor related to the etiology, maintenance, and treatment of psychopathology (Tull and Aldao, 2015b). Difficulties in emotion regulation have been theoretically and empirically linked to a wide range of psychiatric difficulties (Gratz and Tull, 2010), such as posttraumatic stress disorder (PTSD; Tull et al., 2007; Weiss et al., 2013) and depressive (Dixon-Gordon et al., 2015b; Tull and Gratz, 2008) symptom severity, and risky behaviors (Weiss et al., 2015b,2012b), such as alcohol (Dvorak et al., 2014; Messman-Moore and Ward, 2014) and drug (Bonn-Miller et al., 2008; Tull et al., 2015) misuse. However, existing research is limited by its focus on difficulties regulating negative emotions, despite evidence that individuals also experience difficulties regulating positive emotions (Cyders et al., 2007; Gruber and Moskowitz, 2014; Weiss et al., 2015a). Further, past studies have relied on variable-centered approaches that do not account for the heterogeneity in patterns of emotion regulation difficulties within individuals (Thompson, 1994). Addressing these critical limitations, we aimed to (1) identify subgroups of individuals based on their constellation of endorsed difficulties regulating negative and positive emotions, and (2) examine differences in psychiatric difficulties and

* Corresponding author.
  E-mail addresses: nhweiss7@gmail.com (N.H. Weiss), tami.sullivan@yale.edu (T.P. Sullivan).

risky behaviors across these subgroups.

Although a growing body of research provides support for the clinical utility of examining difficulties regulating positive emotions and their relation to psychopathology, there is limited research in this area (with certain exceptions; e.g., mania; Gruber, 2011; Gruber et al., 2011,2008). Individuals experience difficulties regulating positive emotions that parallel the difficulties observed in negative emotions (Cyders et al., 2007; Weiss et al., 2015a). For example, they may be non-accepting of positive emotional states (Weiss et al., 2015a), judging some positive emotions to be undesirable, unpredictable, or frightening (Beblo et al., 2013; Kissen, 1986; Weiss et al., 2015a), possibly because they induce physiological arousal (Litz et al., 2000) that is experienced as distressing (Roemer et al., 2001). Individuals may also experience difficulties inhibiting impulsive behaviors in the context of positive emotions (Cyders et al., 2007; Weiss et al., 2015a). For instance, intense positive emotions may result in approach-related action urges (Gable and Harmon-Jones, 2008), which, in turn, may increase risk for alcohol and drug use (Berg et al., 2015; Coskunpinar et al., 2013). Finally, positive emotions may interfere with one's ability to engage in goal-directed behaviors (Weiss et al., 2015a). Indeed, positive emotions increase distractibility (Dreisbach and Goschke, 2004), which may increase the risk for disadvantageous decision-making focused on short- versus long-term goals (Slovic et al., 2004). Recently, measures assessing these difficulties regulating positive emotions (i.e., the Difficulties in Emotion Regulation Scale - Positive Weiss et al., 2015a and the UPPS-P Positive Urgency Cyders et al., 2007) have been developed. Early evidence provides support for the role of these difficulties regulating positive emotions in psychiatric difficulties (e.g., PTSD; Weiss et al., in press-a, 2015c) and risky behaviors (e.g., alcohol and drug misuse; Weiss et al., 2018a, in press-b, 2015c). Moreover, difficulties regulating positive emotions were found to account for a significant amount of variance in psychiatric difficulties (i.e., PTSD and depressive symptoms) above and beyond difficulties regulating negative emotions (Weiss et al., 2018b).

Additionally, little attention has been devoted to examining the heterogeneity in patterns of emotion regulation. Recently, person-centered approaches, such as latent profile/class analysis, have been used to model associations among multiple, discrete emotion regulation strategies. Such approaches classify individuals into distinct and homogeneous subgroups based on patterns of endorsed responses (Nylund et al., 2007). In contrast to variable-centered approaches (e.g., correlations), person-centered approaches function on the premise that samples and their respective populations are not homogeneous, but instead are comprised of meaningful subgroups. Therefore, results that emerge from person-centered analyses may describe subgroups that diverge from the overall sample in important ways (Bergman, 2001; von Eye and Bogat, 2006). Such research is particularly relevant to the examination of emotion regulation, since a given individual typically employs multiple strategies for managing emotions (Aldao and Nolen-Hoeksema, 2013). For instance, Lougheed and Hollenstein (2012) identified six classes characterized by varying levels of five emotion regulation strategies: reappraisal, suppression, concealing, emotional engagement, and adjusting. Classes characterized by the use of fewer emotion regulation strategies were associated with higher psychopathology (e.g., depression, anxiety) relative to those characterized by the use of more emotion regulation strategies (particularly adjusting). Likewise, a study by Dixon-Gordon et al. (2015)a provided support for five classes characterized by varying levels of seven emotion regulation strategies: acceptance, cognitive reappraisal, problem solving, experiential avoidance, expressive suppression, self-criticism, and worry/rumination. Individuals in classes characterized by more emotion regulation strategies and worry/rumination in particular reported greater levels of psychopathology (e.g., depression, borderline personality disorder [BPD]). Finally, Chesney and Gordon (2017) identified four classes characterized by varying levels of six emotion regulation strategies: acceptance, reappraisal, problem solving, avoidance,

suppression, and rumination. The highest levels of PTSD symptoms were observed among individuals in classes characterized by (a) low levels of adaptive and high levels of maladaptive emotion regulation strategies, and (b) moderate levels of most adaptive and maladaptive emotion regulation strategies, with the exceptions of low problem solving and high expressive suppression. Taken together, these studies paint an inconclusive picture. Although low "adaptive" strategies and high "maladaptive" strategies were linked to psychiatric difficulties and risky behaviors, so too were consistently low levels of emotion regulation strategies, and consistently high levels of emotion regulation strategies.

The aforementioned investigations suggest the presence of classes of individuals characterized by discrete emotion regulation *strategies*. However, we are not aware of any studies that have utilized a person-level approach to examine emotion regulation *abilities*. This is an important limitation given key distinctions between conceptualizations of emotion regulation characterized by the use of emotion regulation *strategies* versus emotion regulation *abilities* (Tull and Aldao, 2015a). The former aligns with Gross's (2015) model of emotion regulation, and suggests that the type and timing of emotion regulation strategies impact emotions and their expression. Conversely, models of ability (Gratz and Roemer, 2004) conceptualize emotion regulation as the dispositional ways in which individuals understand, regard, and respond to their emotions. Tull and Aldao (2015a) proposed that emotion regulation abilities are a higher order process that determines the nature and success of emotion regulation strategies. Therefore, perhaps a focus on emotion regulation abilities will provide a clearer picture of how patterns of emotion regulation link to psychiatric difficulties and risky behaviors.

While not yet empirically studied, there is theoretical reason to believe that heterogeneity in emotion regulation *abilities* exist (Thompson, 1994). For instance, subgroups of individuals may be particularly prone to elevations on certain domains of emotion regulation difficulties. Linehan (1993) described individuals with BPD as "emotion-phobic" because they commonly fear intense negative affective states. Subsequent work suggests that individuals with BPD attempt to suppress both negative and positive emotions (Beblo et al., 2013), indicating that they may be non-accepting of any intense emotion. Similarly, individuals who fear physiological arousal, such as those with panic disorder (Barlow, 2004) and PTSD (Taylor et al., 1992), have been found to avoid negative and positive emotions (Roemer et al., 2001; Tull, 2006), suggesting that they may be non-accepting of any experience that elicits physiological arousal. Conversely, individuals with an alcohol or drug use disorder may be more likely to report difficulties controlling impulsive behaviors when experiencing intense emotions (Fox et al., 2007; Fox et al., 2008). Indeed, evidence suggests that intense emotions heighten risk for substance use and relapse (Baker et al., 2004; Khantzian, 1997; Marlatt and Donovan, 2005). Lastly, some groups may be particularly prone to distractibility, such as individuals with depression (Lemelin et al., 1997), which may result in difficulties engaging in goal-directed behaviors when experiencing intense emotions.

The above literature highlights the (a) documented associations of psychopathology with difficulties regulating both negative *and* positive emotions; (b) utility of person-centered approaches, underscoring the importance of examining heterogeneity among samples and their respective populations; (c) observed heterogeneity in emotion regulation strategies use; and (d) theoretical premise for heterogeneity in dispositional difficulties regulating negative and positive emotions. These extant lines of work underscore the need for research that utilizes a person-centered approach to identify patterns that may exist across difficulties regulating negative and positive emotions, and examines whether these patterns relate to differences in psychiatric difficulties and risky behaviors. Understanding the heterogeneity of emotion regulation difficulties and their relation to psychiatric difficulties and risky behaviors may inform the development or refinement of tailored