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Tannah E. Chase

May, 2017

EXPLORING EMOTION REGULATION DIFFICULTIES IN SAMPLES OF CIVILIANS  
AND VETERANS

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A Doctoral Dissertation

Presented to

The Faculty of the Department

of Psychology

University of Houston

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In Partial Fulfillment

Of the Requirements for the Degree of

Doctor of Philosophy

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By

Tannah Elise Chase, M.A.

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## ABSTRACT

Research has indicated that emotion regulation (ER) difficulties are associated with psychological health problems, including greater depression, anxiety, and negative affect, and reduced overall well-being (Atherton et al., 2015; Lowry, 2008; Saxena, P., Dubey, A., & Pandey, 2011; Sloan & Kring, 2010). However, there is limited research in clinical samples, few studies adjust for negative affectivity, and there is a lack of focus or explication of the specific facets of ER difficulties. Furthermore, despite emerging research demonstrating that Veterans with military-related trauma often exhibit disturbances in experiencing, expressing, and identifying emotions (Boden et al., 2013; Frewen et al., 2008; Reber et al., 2013), there is a dearth of research investigating ER difficulties in Veterans. The purpose of the dissertation study is to fill these gaps in the literature and increase understanding of ER difficulties in relation to the maintenance, severity, and treatment of common psychological health constructs. Thus, the current study seeks to explore ER difficulties in samples of civilians and Veterans and how they are related to depression severity, anxiety severity, and functional impairment/life satisfaction). Data from two existing databases were used for the present study and included participants who underwent structured diagnostic interviews and completed questionnaires assessing clinical phenomena and ER difficulties ( $N = 568$  in the civilian sample and  $N = 178$  in the Veteran sample). A series of two-step, hierarchical regression analyses were used to examine relationships between general and specific ER difficulties and psychological health variables, including depression severity, anxiety severity, and functional impairment/life satisfaction. Results

indicated that overall and specific ER difficulties (most consistently limited access to ER strategies) significantly predicted psychological health variables in both samples. These findings highlight the importance of considering ER difficulties in the development, severity, and treatment of common psychological health constructs. Further implications for treatment are discussed.

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## Exploring Emotion Regulation Difficulties in Samples of Civilians and Veterans

Psychiatric disorders are common in the United States. In fact, recent results from the National Comorbidity Survey Replication study suggest that 25% of Americans experience a psychiatric disorder within a given year, while 50% experience a psychiatric disorder in their lifetime, with anxiety-based disorders<sup>1</sup> being the most prevalent (Kessler et al., 2005; Kessler, Chiu, Demler, Merikangas, & Walters, 2005; Sansone & Sansone, 2010).

Psychological health problems not only impose substantial financial costs on the healthcare system, but also can lead to impaired functioning and quality of life in social, occupational, and other life domains of functioning for affected individuals (American Psychiatric Association [APA], 2013; Barrera & Norton, 2009; Kessler et al., 2003; Sansone & Sansone, 2010).

In recent years, disturbances in emotion regulation (ER) have been identified as relevant to all forms of psychopathology and treatment (Berking & Wupperman, 2012; Sloan & Kring, 2010). As Sloan and Kring (2010) point out, "... the majority of the disorders found in the current DSM-IV-TR, (American Psychiatric Association, 2000) [now DSM-5], include at least one symptom reflecting a disturbance in emotion" (p. 1). As these factors could potentially impact the development, maintenance, and severity of mental disorders, further research examining the impact of ER difficulties as potential barriers to emotional and psychological health is warranted. Therefore, the current study utilizes a transdiagnostic approach in examining ER difficulties in relation to various psychological constructs.

Within this introduction, various definitions/models of ER will be discussed, and a comprehensive definition will be presented. In addition, a description of ER difficulties as

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<sup>1</sup> The terms, "anxiety-based disorders" or "anxiety and related disorders" will be used throughout the proposal to refer to all fear and anxiety based disorders, including, but not limited to, social phobia, generalized anxiety disorder, panic disorder, agoraphobia, specific phobia, and PTSD.

outlined by the Gratz and Roemer (2004) model will be provided, along with a review of the literature featuring studies that have investigated ER in relation to clinical phenomena in civilians and Veterans. Finally, the proposed study and aims will be introduced and described.

### *Emotion Regulation*

While the concept of ER has remained an area of study in psychology for decades, it was not until the early 1990's that the study of ER in the context of clinical disorders began to grow with the work of Marsha Linehan, who proposed emotion dysregulation as a core phenomenon of borderline personality disorder and self-harm behavior (Linehan, 1993). Her work in identifying self-harm as an ER strategy has consistently received empirical support in the literature (Briere & Gil, 1998; Gratz, 2003). Since then, ER has become a flourishing topic of interest in the field of psychopathology and psychotherapy.

However, the study of ER has not been without challenges, including challenges in defining and assessing ER. Varying conceptualizations of ER have been presented in the literature, including definitions of ER as the ability to initiate, control, alleviate, or change emotions, alter emotional intensity, or identify/understand emotions (Boden, Kulkarni, Shurick, Bonn-Miller, & Gross, 2014; Gratz & Roemer, 2004; Gross & John, 2003). In fact, researchers have recognized the pervasive definitional ambiguity of ER in the literature and have called for greater consensus in defining ER (Berking & Wupperman, 2012; Bloch, Moran, & Kring, 2010). In a review of the literature on ER models, Bloch and colleagues (2010) provided a comprehensive discussion and review table featuring all ER models to date. An adapted version of this review table is provided in Table 1. Overall, current accepted conceptualizations of ER define ER in terms of function, as opposed to simply controlling or

eliminating negative affectivity (Berking & Wupperman, 2012; Gratz & Roemer, 2004). Phrased differently, a consensus across definitions would suggest that ER is broadly conceptualized as the processes by which individuals monitor, evaluate, modify, and experience emotions in order to accomplish their goals (Berking & Wupperman, 2012; Bloch et al., 2010; Gratz & Roemer, 2004; Thompson, 1994). Moreover, it is noteworthy that many psychological constructs, such as rumination, suppression, and emotional expression, are often confused with ER themselves (Berking & Wupperman, 2012). However, while these constructs are considered strategies of ER, they do not, by themselves, encompass the entire process of ER.

One model of ER, which fits under the aforementioned broad conceptualization of ER and has garnered empirical support in recent years, was developed by Gratz and Roemer (2004). In this model, ER is conceptualized as being multidimensional and involves acceptance of emotions, awareness and understanding of emotions, as well as the ability to control impulsive behaviors and behave in accordance with desired goals, despite the experience of emotional distress. In addition, ER involves the ability to utilize appropriate ER strategies flexibly and in ways that help individuals meet the demands and subjective goals that vary across contexts. Unlike other definitions of ER, this definition is multidimensional, inclusive of most other definitions of ER, and provides specific criteria for effective ER.

Additionally, the Gratz and Roemer model (2004) proposes six facets that serve as difficulties or barriers to effective ER and include maladaptive ways of orienting or reacting to emotions. These include non-acceptance of emotions, lack of emotional awareness, lack of emotional clarity, impulse control difficulties, difficulties engaging in goal-directed

behaviors, and perceived limited access to ER strategies. The Difficulties in Emotion Regulation Scale (DERS) was developed to assess and identify these specific ER difficulties, consisting of six subscales that correspond to each of the six facets, as well as a total score representing overall ER difficulties (see the method section for a detailed description of this measure, including psychometric information). The DERS has become widely used in recent years (Atherton, Nevels, & Moore, 2015; Klemanski, Mennin, Borelli, Morrissey, & Aikins, 2012; Salters-Pedneault, Roemer, Tull, Rucker, & Mennin, 2006).

### *Emotions and Emotion Regulation as Adaptive Functions*

Emotional experiences are universal and are believed to serve an adaptive, informational function (De Berardis et al., 2008; Scherer et al., 2001). Emotions not only assist in the detection of threats to survival, but they also aid communication and understanding between people in order to ensure optimum social functioning and survival of the species. In addition, emotions translate information into internal experiences for the purposes of identifying and achieving goals (Clore, 1994). Therefore, the ability to effectively recognize, interpret, and respond to emotions is important for adaptive and interpersonal functioning. Difficulties regulating emotions and maladaptive reactions to emotions could potentially thwart the adaptive function that emotions are intended to serve. In addition, emotional strife is a shared nature of our humanity, meaning that emotional struggles are common for all human beings to varying degrees (Harris, 2008; Neff, 2003). Thus, skills for regulating emotions adaptively and flexibly are important, and research should further investigate ER difficulties and their impact on mental health and well-being.

### *A Review of Emotion Regulation Difficulties in Psychopathology*

A comprehensive review of studies that have examined ER difficulties, as assessed by the DERS, in relation to clinical/psychological phenomena was conducted. See Tables 2 - 5 for a complete summary of the methods and results of these studies ( $n = 77$ ). Overall, research has indicated that ER difficulties are associated with poor psychological outcomes across various populations, including greater depression, anxiety, negative affectivity, substance misuse, eating disorder pathology, suicidal ideation/self-harm, and reduced overall psychological well-being. Although a vast amount of literature has identified these links, there remain significant gaps in the literature. For example, the majority of these studies ( $n = 50$ ) used non-clinical samples, suggesting that research on clinical samples is relatively limited (Amstadter, 2008). In addition, few studies adjust for negative affectivity, which could potentially covary with ER difficulties, limiting the power of the findings. Furthermore, the extant research demonstrates a lack of focus or explication of the specific facets of ER difficulties, as assessed by the DERS subscales, which may be associated with indices of psychological functioning and well-being, including those examined in the current study (i.e., anxiety, depression, and functional impairment/well-being). In sum, more research is needed to identify specific facets of ER difficulties, which may maintain psychological struggle and functional impairment, particularly in clinical samples, while also using statistical methods that control for negative affectivity.

### *Emotion Regulation Difficulties in Veterans*

Compared to the general population, military Veterans often struggle with poorer mental health outcomes (Eisen et al., 2012; Kramarow & Pastor, 2012). This includes increased risk of experiencing post-traumatic stress, anxiety, depression, and suicidality -- all

of which can profoundly impact functioning and quality of life for Veterans and their families (Eisen et al., 2012; Kramarow & Pastor, 2012; Passemato, Wade, Anderson, & Ouimette, 2010; Zatzick et al., 1997). Given the prevalence of psychological disorders in Veterans, it is likely that many Veterans also experience ER struggles. Emerging research supports this notion, suggesting disturbances in expressing, identifying, and coping with emotions in Veterans, which may be indicative of ER difficulties (Boden et al., 2013; Frewen et al., 2008; Reber et al., 2013).

It is argued that military culture and training may uniquely impact difficulties with ER. For example, military training is designed to be physically and psychologically intensive and is focused on building skills for physical/psychological endurance, survival, defense, and mission-directed achievement (Brooks, 2005; Eisenhart, 1975; Lorber & Gracia, 2010). Because there is often some chance that military service members will be faced with potentially life-threatening circumstances of combat, emotional health and expression are not targeted as priorities in training. Rather, emotional suppression is more often encouraged in order to maximize the likelihood of survival and achievement of military aims in combat zones.

In addition to this training, the composition of the military is predominantly male. According to the 2014 demographics report published by the Office of the Deputy Assistant Secretary of Defense, approximately 85% of active duty members were male. As a result, service members are immersed in a military culture that inevitably reinforces traditional masculinity norms, which value strength, aggression, and emotional control/suppression (Lorber & Garcia, 2010). Research on civilians and Veterans has indicated that adherence to traditional masculinity norms is associated with worse mental and physical health outcomes,

lower quality of life, and less help-seeking behavior (Juanto Lever, 2014; Lorber & Garcia, 2010). Thus, traditional masculinity norms in the military may promote values and coping strategies (e.g., non-acceptance of emotions, emotional suppression) that can deleteriously impact ER upon reintegration to civilian life. Given Veterans' unique learning histories and experiences in the military, it is important to gain a better understanding of ER difficulties in Veterans and their impact on post-deployment mental health, considering the high rates of psychopathology compared to civilians.

Among Veterans, the most prevalent psychiatric disorder is post-traumatic stress disorder (PTSD; Barrera et al., 2013; Frueh et al., 2007; Seal et al., 2007). Findings have generally indicated that Veterans with PTSD tend to invest a great deal of time and energy attempting to suppress, avoid, and control emotions (Boden et al., 2012; Boden et al., 2013; Kashdan, Breen, & Julian, 2010; Reber et al., 2013; Roemer, Litz, Orsillo, & Wagner, 2001). This suggests that Veterans with PTSD likely exhibit maladaptive ER difficulties that may maintain PTSD and other mental health issues. As can be observed in Tables 2-5, which provide a review of the literature, only two studies have examined ER difficulties, as assessed by the DERS, in Veteran samples (i.e., Galang, Babson, Boden, & Bonn-Miller, 2015; Klemanski et al., 2012). In one of these studies, ER difficulties were found to partially mediate the relationships between PTSD and various psychological health constructs, including depression symptoms, poor social adjustment, and trauma-related depersonalization (Klemanski et al., 2012). In the other study, Galang and colleagues (2015) found that ER difficulties were significantly associated with panic symptoms in a sample of cannabis dependent Veterans. Results of the same study showed that Veterans with an

anxiety disorder diagnosis reported significantly greater ER difficulties in general than Veterans without an anxiety disorder diagnosis.

Despite emerging evidence suggesting that ER difficulties are relevant to mental health constructs in Veterans, there is currently a paucity of research systematically investigating ER difficulties in Veterans, and research has yet to examine specific facets of ER difficulties (as assessed by the six DERS subscales) in Veterans.

### *Summary and Purpose*

Collectively, the research literature suggests that disturbances in ER are associated with poorer psychological outcomes. However, relatively little research has examined ER difficulties in clinical samples and in samples of Veterans. In addition, there is a lack of adjustment for negative affectivity across studies. The existing research also lacks focus or explication of the specific facets of ER difficulties and their relationships with broad domains of clinical/psychological functioning and well-being, including those examined in the present study (i.e., depression, anxiety, and overall functional impairment/well-being). Furthermore, there is a dearth of research examining overall and specific ER difficulties in Veterans. Thus, the overarching aim of the present study is to fill these gaps in the literature through developing a better understanding of ER difficulties in clinical samples of civilians and Veterans. The specific aims of the present study are detailed below.

Findings from the present study could potentially provide important insights into the maintenance and severity of psychological and affective struggles, as well as barriers to recovery that need further attention in treatment. Furthermore, findings of the present study could also aid in identifying broader underlying mechanisms that can be assessed prior to treatment and used to flexibly tailor standard cognitive-behavioral treatments to each

individual, potentially bolstering the effectiveness of standard psychotherapy interventions for all. The value of examining ER difficulties within and across the two samples is also noteworthy, as this broadens the scope and applications of the findings and their implications to two diverse groups with unique characteristics and allows for the comparison of patterns among them.

### *Aims*

*Aim 1.* The primary aim of the present study is to examine whether overall ER difficulties (i.e., as assessed by the DERS total score) predict depression and anxiety severity and functional impairment/well-being, while controlling for negative affectivity, within two samples: a sample of civilian, community adults seeking treatment for smoking cessation and a sample of Veterans.

*Aim 2.* The secondary aim of the present study is to examine whether the specific facets of ER difficulties (i.e., as assessed by the six DERS subscale scores) differentially predict depression and anxiety severity and functional impairment/well-being, while controlling for negative affectivity, within the two samples.

### *Hypotheses*

*Aim 1 Hypotheses.* It was hypothesized that overall ER difficulties (i.e., as assessed by the DERS total score) would positively predict anxiety severity, depression severity, and functional impairment/well-being in both civilian and Veteran samples.

*Aim 2 Hypotheses.* It was hypothesized that the six specific facets of ER difficulties (i.e., as assessed by the DERS subscale scores) would differentially predict anxiety severity, depression severity, and functional impairment/well-being in both civilian and Veteran samples. While this aim of the current proposal was primarily exploratory in nature, some

specific hypotheses were surmised from previous research. For instance, previous research most consistently implicates lack of emotional clarity and limited access to ER strategies as being related to depression-related constructs. Therefore, it was expected that lack of emotional clarity and limited access to ER strategies would predict depression severity. Additionally, previous research has most consistently implicated all specific ER difficulties except lack of emotional awareness in anxiety-related constructs. From this, it was hypothesized that all specific ER difficulties except for lack of emotional awareness would predict anxiety severity. Finally, research has yet to fully explore specific ER difficulties in relation to overall functional impairment and well-being. However, one study indicated that non-acceptance of emotions predicted social dysfunction (Saxena, Dubey, & Pandey, 2011). Thus, it was hypothesized that non-acceptance of emotions may predict greater functional impairment/poorer well-being, particularly in the social/interpersonal domain.

## Method

### *Civilian Sample*

An existing database, which includes a civilian sample of 568 community adults who sought treatment for smoking cessation at the University of Vermont and Florida State University was used (clinicaltrials.gov #NCT01753141). Inclusion criteria included being 18 years of age or older, daily cigarette use (e.g., average  $\geq 8$  cigarettes per day for at least 1 year), and reported motivation to quit smoking (e.g., at least 5 on a 10-point scale). Exclusion criteria included uncontrolled psychosis or bipolar disorder, serious suicidal intent that warranted hospitalization or immediate treatment, or those using another smoking cessation program or tobacco product.

Participants ranged in age from 18-68 years ( $M = 37$ ,  $SD = 13.46$ ), and gender was

equally distributed (51.9% male). The sample was primarily Caucasian (83.3%) with 9.5% African American, 3.5% Hispanic, 1.1% Asian, and 2.6% Other (e.g., biracial). Regarding level of education, 6% completed some high school, 21.8% had a high school diploma or equivalent, 35.4% completed some college, 9.5% graduated from a 2-year college, 14.3% graduated from a 4-year college, 5.5% completed professional school, and 7.6% had a graduate degree. DSM-IV diagnoses<sup>2</sup> were broken down as follows: 38.4% anxiety disorders, 13.2% depressive disorders, 8.1% alcohol use disorder, 7.7% substance use disorders, 5.5% PTSD, 2.6% obsessive-compulsive or related disorders, 0.4% bipolar disorders, 0.4% eating disorders, and 0.2% body dysmorphic disorder.

#### *Veteran Sample*

The current study also used an existing database, including 178 Veterans recruited from the Michael E. DeBakey Veterans Affairs Medical Center (MEDVAMC) as part of a larger study investigating religious and spiritual struggles in Veterans (#36094). Inclusion criteria included Veterans, aged 18 years or older, who reported experiencing some religious/spiritual struggle. Exclusion criteria included active psychosis or mania, imminent suicidal ideation with intent and plan, and poor cognitive functioning, as indicated by a score of 20 or lower on the St. Louis University Mental Status cognitive screener (SLUMS; Tariqu, Tumosa, Chibnall, Perry, & Morley, 2006). A total of 200 Veterans were originally recruited for the study. Of these, 20 were ineligible or withdrew from the study and 2 did not complete the baseline assessment, resulting in the total sample of 178 Veterans.

Veterans were 83.7% male with a mean age of 51 years. Most of the sample (58.6%) identified as African American/Black, 27.6% as Caucasian/White, 10.9% as Hispanic/Latino,

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<sup>2</sup> Diagnoses in both samples were not broken down by primary diagnosis. Rather diagnoses were included in percentages regardless of hierarchical status.

2.9% as other or unspecified. Most of the sample (71.6%) was unemployed, with a remaining 15.3% working full time and 13.1% working part time. In terms of education status, 3.0% completed some high school, 24.4% obtained a high school diploma, 45.8% completed some college, 14.9% graduated college, 7.1% had a post-graduate degree, and 4.8% attended technical school. Almost half of the sample (44.3%) was composed of Veterans who had been deployed in support of a military conflict (i.e., Operation Iraqi Freedom/Operation Enduring Freedom/Operation New Dawn, Gulf War, Vietnam, or multiple conflicts). In terms of DSM-5 diagnoses, 46.6% met criteria for PTSD, 31.5% other anxiety-related disorders, 40.4% depressive disorders, 2.8% bipolar disorders, 37.6% tobacco use disorders, 13.5% alcohol use disorders, 15.7% other substance use disorders, 7.9% obsessive-compulsive or related disorders, 3.4% other, and 10.7% no diagnoses.

### *Design and Procedure*

Participants in the civilian sample were recruited within the context of an ongoing randomized controlled trial evaluating the efficacy of two smoking cessation interventions. Participants were recruited by means of self-referrals from advertisements (e.g., flyers, brochures). All participants completed a baseline assessment to determine study eligibility based on the inclusion/exclusion criteria. All assessments were conducted by doctoral-level therapists, who completed extensive training in assessment procedures, and were under the supervision of a licensed psychologist. All procedures were approved by the institutional review boards at both universities.

Veteran participants were recruited within the context of a larger study at the MEDVAMC investigating religious and spiritual struggles in Veterans. Veterans were recruited by self-referrals from advertisements (e.g., flyers, brochures) posted throughout the

hospital, affiliated community based clinics, and non-profit organizations serving Veterans in the local area. All participants completed a baseline assessment to determine study eligibility based on the inclusion/exclusion criteria. Assessments were conducted by a doctoral-level clinician, who completed extensive training in assessment procedures, under the supervision of a licensed psychologist. Assessments included a structured diagnostic interview, the Structured Clinical Interview for DSM-IV adapted for DSM-5 (First, Spitzer, Gibbon, & Williams, 1997), to determine clinical diagnoses, the SLUMS, and a packet of self-report questionnaires assessing various clinical phenomena and ER difficulties. All study procedures were reviewed and approved by the local Institutional Review Board and hospital's Research and Development Committee.

*Measures:*

See Table 6 for measures administered within each of the two samples.

*Demographic Variables*

Demographic variables were collected in both samples via self-report during baseline assessment. This includes general demographic information (e.g., age, sex, race) and, in the Veteran sample, military demographic information (e.g., military branch, deployment information, service connection status).

*Measures of Diagnosis, Impairment, and Symptomology*

The proposed study will use the following measures to determine clinical diagnoses, clinical severity and functioning, as well as inclusion/exclusion criteria.

*The Structured Clinical Interview for DSM-IV* (SCID-IV; First et al., 1997) is a well-validated and widely used structured interview designed to guide interviewers in assessing and diagnosing the presence of DSM-IV psychiatric disorders. The SCID-IV was

administered to the civilian sample, and all interviews were conducted by doctoral-level therapists under the supervision of a licensed psychologist. Therapists completed extensive training in SCID-IV procedures. 12.5% of audio-taped interviews were randomly selected to check for accuracy and reliability, and no cases of diagnostic coding disagreement were noted.

*The SCID-IV- Adapted for DSM-5* (First et al., 1997) The SCID-IV was adapted to assess DSM-5 psychiatric diagnoses and was administered to the Veteran sample. The adapted SCID was administered by a trained doctoral-level clinician to the Veteran sample under the supervision of a licensed psychologist.

*The Inventory of Depression and Anxiety Scale* (IDAS; Watson et al., 2007) is a 64-item self-report measure of symptom dimensions of depression and anxiety. The 8-item anxious arousal/panic subscale of the IDAS will be used as a general measure of anxiety arousal and severity for the current study, as it has shown to correlate strongly with the Beck Anxiety Inventory (Watson et al., 2007). Items are rated on a 5-point Likert scale ranging from *not at all* to *extremely*. The panic subscale of the IDAS has demonstrated good internal consistency ( $\alpha = .80 - \alpha = .86$ ) and test-retest reliability ( $r = .83$ ), as well as convergent validity with other measures of anxiety and discriminant validity with measures of unrelated constructs, such as depression (Watson et al., 2007). Internal consistency for the current, civilian sample was good ( $\alpha = .88$ ).

*The Generalized Anxiety Disorder-7* (GAD-7; Spitzer, Kroenke, Williams, & Lowe, 2006) is a 7-item measure of generalized anxiety and worry. Items are rated on a 4-point Likert scale ranging from *not at all* to *nearly every day*. Items are summed to calculate a total score. Higher scores indicate greater generalized anxiety and worry, with a cut-off score of

10 or greater. The GAD-7 has shown optimal convergent validity with other measures of anxiety, demonstrated by its strong correlations with the Beck Anxiety Inventory and the anxiety subscale of the Symptom Checklist. Additionally, the GAD-7 has shown excellent internal consistency ( $\alpha = .92$ ), good test-retest reliability ( $r = .83$ ), and good criterion and construct validity (Spitzer et al., 2006). Internal consistency for the current, Veteran sample was excellent ( $\alpha = .93$ ).

*The Beck Depression Inventory-Second Edition* (BDI-II; Beck, Steer, & Brown, 1996) is a 21-item self-report measure of depression symptoms and severity. Respondents rate the level of severity of each item on a 4-point Likert scale, ranging from 0 to 3, with greater values indicating greater severity. Item ratings are summed to calculate a total score, which ranges from 0 to 63. A score of 17 or higher is a clinically significant severity score, indicating a likely need for treatment. Psychometrically, the BDI-II displays good internal consistency in civilian and Veteran samples ( $\alpha$  values ranging from .72 to .94) and convergent/discriminant validity with other measures of depression and anxiety (Arnau, Meagher, Norris, & Bramson, 2001; Beck & Steer, 1993; Beck et al., 1996; Palmer et al., 2014). Internal consistency for the current, civilian sample was excellent ( $\alpha = .94$ ).

*The Center for Epidemiologic Studies Depression Scale-10* (CESD-10; Andresen, Malmgren, Carter, & Patrick, 1994) is a 10-item self-report measure of depression severity. All items are rated on a 4-point Likert scale, ranging from 0 (*rarely or none of the time/ less than one day*) to 3 (*most or all of the time/ 5-7 days*). All items are summed to yield a total score, including two reverse scored items (i.e., *You felt hopeful about the future* and *You were happy*). The validated cut-off score for the CESD-10 is  $\geq 10$ , with a range of 0 to 30. The CESD-10 has acceptable test-retest reliability ( $r = .71$ ), as well as good

convergent/discriminant validity with measures of negative and positive affect, respectively, and good predictive validity (Andresen et al., 1994). Internal consistency for the present, Veteran sample was adequate ( $\alpha = .73$ ).

*The Sheehan Disability Scale* (SDS; Sheehan, 1983) is a 3-item self-report measure of functional impairment. Each item assesses functional impairment in one of three specific domains: work/school, social, and family life. Items are rated on a Likert scale ranging from 0 (*Not at all*) to 10 (*Extremely*). A total score representing overall functional impairment can be calculated by summing all items. The total score ranges from 0 (*Unimpaired*) to 30 (*Highly Impaired*). At this time, there is no recommended cut-off score, although a score of 5 or greater on any of the three subscales have shown to be associated with significant functional impairment (Leon et al., 1997). The SDS has demonstrated adequate to excellent internal reliability ( $\alpha = .56 - \alpha = .89$ ) and has shown good sensitivity and specificity in identifying mental disordered patients (Leon et al., 1997; Leon, Shear, Portera, & Klerman, 1992). Internal consistency for the current, civilian sample was good ( $\alpha = .86$ ).

*The Satisfaction with Life Scale* (SWLS; Diener, Emmons, Larsen, & Griffin, 1985) is a 5-item self-report measure of global life satisfaction and well-being. Items are rated on a 7-point Likert scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Items are summed to yield a total score, ranging from 5 to 35. The SWLS has demonstrated optimal temporal reliability ( $r = .82$ ), as well as convergent validity with other measures of subjective well-being. Internal consistency for the present, Veteran sample was good ( $\alpha = .84$ ).

*The Positive and Negative Affect Scale* (PANAS; Watson, Clark, & Tellegen, 1988) is a 20-item self-report measure consisting of two, 10-item scales that assess current positive and negative affectivity, respectively. Each item presents a one-word description of affect

(e.g., “excited,” “strong,” “irritable”), and respondents rate the extent to which they feel this way in the past week on a Likert-type scale, ranging from 1 (*very slightly or not at all*) to 5 (*extremely*). Total scores for each subscale are calculated by summing all items for each subscale. Both subscales have demonstrated good internal consistency ( $\alpha$  ranging from .85 to .87) and moderate test-retest reliability ( $r = .47$ ), with the two scales being highly uncorrelated (Watson et al., 1988). Internal consistency for the current, civilian sample was excellent ( $\alpha = 9.1$ ).

*The Ten-Item Personality Inventory- Neuroticism Subscale* (TIPI-N; Gosling, Rentfrow, & Swann, 2003) is a 10-item self-report measure of Big-Five personality dimensions. Each item is rated on a 7-point Likert scale, ranging from 1 (*disagree strongly*) to 7 (*agree strongly*). For the present study, only the neuroticism subscale was used to control for neuroticism/emotional instability. The TIPI neuroticism subscale has good test-retest reliability ( $r = .70$ ) and convergence with other measures of the Big-Five, and predictive validity (Gosling et al., 2003). Internal consistency for the current, Veteran sample was adequate ( $\alpha = .74$ ).

*Measures of Emotion Regulation (ER) Difficulties:*

*The Difficulties in Emotion Regulation Scale* (DERS; Gratz & Roemer, 2004) is a self-report measure that assesses difficulties in ER. It consists of 36 items that are scored on a 5-point Likert scale, ranging from 1 (*almost never (0-10%)*) to 5 (*almost always (91-100%)*). The measure assesses six subscales representing: 1) non-acceptance of emotional responses (i.e., NONACCEPT; “*When I’m upset, I feel ashamed of myself for feeling that way*”), 2) difficulties engaging in goal-directed behavior (i.e., GOALS; “*When I’m upset, I have difficulty concentrating*”), 3) impulse control difficulties (i.e., IMPULSE; “*When I’m upset, I*

*feel out of control*”), 4) lack of emotional awareness (i.e., AWARE; “*I pay attention to how I feel*”), 5) perceived limited access to emotion regulation strategies (i.e., STRATEGIES; “*When I’m upset, it takes me a long time to feel better*”), and 6) lack of emotional clarity (i.e., CLARITY; “*I know exactly how I am feeling*”). All item responses are summed to yield both a total score and subscale scores, for which higher scores indicate greater difficulties with ER. The DERS has demonstrated good internal consistency for the total score ( $\alpha = .93$ ), as well as for each of the subscale scores ( $\alpha$  values ranging from .80 to .91), good test-retest reliability ( $p_1 = .88$ ), and good construct validity (Fowler et al., 2014; Gratz & Roemer, 2004). Internal consistency was good ( $\alpha = .85$ ) in the current civilian sample and excellent ( $\alpha = .91$ ) in the current Veteran sample.

#### *Data Analyses*

*Aim 1 Analyses.* Three, two-step, hierarchical regression analyses were conducted to examine the relationship between overall ER difficulties and measures of depression severity, anxiety severity, and functional impairment/well-being, controlling for negative affectivity.

To examine whether overall ER difficulties (i.e., as measured by DERS total score) predict depression severity (i.e., as measured by BDI-II total score in the civilian sample and the CESD-10 in the Veteran sample), the first regression included the following. Step 1 included negative affectivity (i.e., as measured by PANAS-Negative Affect subscale score in the civilian sample and TIPI- Neuroticism subscale score in the Veteran sample) as a covariate, and Step 2 included overall ER difficulties (i.e., as measured by DERS total score) as the predictor variable.

Similarly, to examine whether overall ER difficulties predict anxiety severity (i.e., as measured by IDAS total score in the civilian sample and GAD-7 total score in the Veteran

sample), the second regression included the following. Step 1 included negative affectivity (i.e., PANAS-Negative Affect in the civilian sample and TIPI- Neuroticism in the Veteran sample) as a covariate, and Step 2 included overall ER difficulties (i.e., DERS total score) as the predictor variable.

Finally, to examine whether overall ER difficulties predict functional impairment/well-being (i.e., as measured by SDS total score in the civilian sample and SWLS total score in the Veteran sample), the third regression included the following. Step 1 included negative affectivity (i.e., PANAS-NA in the civilian sample and TIPI- N in the Veteran sample) as a covariate, and Step 2 included overall ER difficulties (i.e., DERS total score) as the predictor variable.

*Aim 2 Analyses.* Three, two-step, hierarchical regression analyses were used to examine the relationships between ER difficulties and measures of clinical severity and functional impairment/well-being, controlling for negative affectivity.

To examine whether specific ER difficulties (i.e., as measured by DERS subscale scores) differentially predict depression severity (i.e., as measured by BDI-II total score in the civilian sample and CESD-10 in the Veteran sample), the first multiple regression included the following. Step 1 included negative affectivity (i.e., as measured by PANAS-NA in the civilian sample and TIPI- N in the Veteran sample) as a covariate, and Step 2 included specific ER difficulties (i.e., DERS subscale scores) as predictor variables.

Similarly, to examine whether specific ER difficulties differentially predict anxiety severity (i.e., as measured by IDAS total score in the civilian sample and GAD-7 total score in the Veteran sample), the second multiple regression included the following. Step 1 included negative affectivity (i.e., PANAS-NA in the civilian sample and TIPI- N in the

Veteran sample) as a covariate, and Step 2 included specific ER difficulties (i.e., DERS subscale scores) as predictor variables.

Finally, to examine whether specific ER difficulties differentially predict functional impairment/well-being (i.e., as measured by SDS total score in the civilian sample and SWLS total score in the Veteran sample), the third multiple regression included the following. Step 1 included negative affectivity (i.e., PANAS-NA in the civilian sample and TIPI- N in the Veteran sample) as a covariate, and Step 2 included specific ER difficulties (i.e., DERS subscale scores) as predictor variables.

### Results

First, the data were inspected for the presence of multivariate outliers. No outliers were detected in the Veteran sample. However, five outliers were detected in the civilian sample and were removed to prevent compromising the data in a manner that produces findings not representative of the target population. Descriptive statistics for all independent and dependent variables of the study for both samples are provided in Table 7. Next, a series of zero-order correlations were conducted to examine correlations among study variables (see Tables 8 and 9 for civilian and Veteran samples, respectively). Then, a series of, two-step, hierarchical regressions were conducted, testing criterion variables: 1) depression, 2) anxiety/worry, and 3) functioning/satisfaction with life. In the first step of each model, negative affectivity was entered as a covariate. In the second step, DERS total score was entered for aim 1 analyses, and DERS subscale scores were entered simultaneously for aim 2 analyses.

*Results in the Civilian Sample*

*Depression- Aim 1.* Results of a hierarchical regression analysis indicated that DERS total score significantly predicted BDI-II total score, while controlling for PANAS-NA score,  $R^2 = .54$ ,  $F(2, 557) = 332.68$ ,  $p < .001$ , 95% CI [.12, .20].

*Depression- Aim 2.* The same analysis was repeated, only this time, all DERS subscales, instead of the DERS total score, were simultaneously entered into the second step of the model as predictors. Findings of the hierarchical regression analysis showed that specific ER difficulties, CLARITY and STRATEGIES, significantly predicted BDI-II total score,  $R^2 = .57$ ,  $F(7, 553) = 104.23$ ,  $p < .001$  (see Model 1 statistics in Table 10). Therefore, a second hierarchical regression model (i.e., Model 2) was run, excluding the remaining DERS subscales that did not significantly predict BDI-II total score (i.e., NONACCEPT, IMPULSE, AWARE, and GOALS). The model significantly predicted BDI-II total score,  $R^2 = .57$ ,  $F(3, 557) = 241.89$ ,  $p < .001$ . See Model 2 statistics provided in Table 13.

*Anxiety/Worry- Aim 1.* Similarly, a hierarchical regression analysis showed that overall ER difficulties significantly predicted IDAS anxiety/panic subscale score, while controlling for PANAS-NA score,  $R^2 = .32$ ,  $F(2, 555) = 133.28$ ,  $p < .001$ , 95% CI [.02, .05].

*Anxiety/Worry- Aim 2.* The same analysis was repeated, only this time, all DERS subscales, instead of the DERS total score, were simultaneously entered into the second step as predictors. Findings indicated that the overall model statistically significantly predicted IDAS anxiety/panic score,  $R^2 = .33$ ,  $F(7, 550) = 38.40$ ,  $p < .001$ . However, none of the specific subscales significantly predicted IDAS anxiety/panic (see statistics in Table 11).

*Functioning/Satisfaction with Life- Aim 1.* Findings indicated that overall ER difficulties predicted SDS total score, while controlling for PANAS-NA score,  $R^2 = .29$ ,  $F(2, 477) = 95.90$ ,  $p < .001$ , 95% CI [.05, .12].

*Functioning/Satisfaction with Life- Aim 2.* The same analysis was repeated, only this time, all DERS subscales, instead of the DERS total score, were simultaneously entered into the second step as predictors. The overall model statistically significantly predicted SDS total score,  $R^2 = .31$ ,  $F(7, 472) = 30.32$ ,  $p < .001$ . However, only two DERS subscales, GOALS and STRATEGIES, significantly predicted SDS total score (see Model 1 statistics in Table 12). Therefore, a second hierarchical regression model (i.e., Model 2) was conducted, excluding the remaining DERS subscales that did not significantly predict SDS total score (i.e., NONACCEPT, IMPULSE, AWARE, and CLARITY). The model statistically significantly predicted SDS total score,  $R^2 = .31$ ,  $F(3, 476) = 70.73$ ,  $p < .001$ . See Model 2 statistics provided in Table 12.

### *Results in the Veteran Sample*

*Depression- Aim 1.* Results of a hierarchical regression analysis showed that DERS total score was significantly predictive of CESD-10 total score, while negative TIPI-N score was statistically controlled,  $R^2 = .28$ ,  $F(2, 173) = 33.99$ ,  $p < .001$ , 95% CI [.11, .18].

*Depression- Aim 2.* The same analysis was repeated, only this time, all DERS subscales, instead of the DERS total score, were simultaneously entered into the second step of the model as predictors. The overall model statistically significantly predicted CESD-10 total score,  $R^2 = .33$ ,  $F(7, 167) = 11.84$ ,  $p < .001$ . However, only two DERS subscales, GOALS and STRATEGIES, significantly predicted CESD-10 total score (see Model 1 statistics in Table 13). Therefore, a second hierarchical regression model (i.e., Model 2) was

run, excluding the remaining DERS subscales that did not significantly predict CESD-10 total score (i.e., NONACCEPT, IMPULSE, AWARE, and CLARITY). The model statistically significantly predicted CESD-10 total score,  $R^2 = .32$ ,  $F(3, 172) = 26.66$ ,  $p < .001$ . See Model 2 statistics provided in Table 13.

*Anxiety/Worry- Aim 1.* Similarly, a regression analysis revealed that DERS total score significantly predicted GAD-7 total score, after TIPI-N score was statistically controlled,  $R^2 = .29$ ,  $F(2, 173) = 34.63$ ,  $p < .001$ , 95% CI [.10, .16].

*Anxiety/Worry- Aim 2.* The same analysis was repeated, only this time, all DERS subscales, instead of the DERS total score, were simultaneously entered into the second step as predictors. The overall model statistically significantly predicted GAD-7 total score,  $R^2 = .35$ ,  $F(7, 167) = 12.74$ ,  $p < .001$ . However, only two DERS subscales, GOALS and STRATEGIES, significantly predicted GAD-7 total score (see Model 1 statistics in Table 14). Therefore, a second hierarchical regression model (i.e., Model 2) was conducted, excluding the remaining DERS subscales that did not significantly predict GAD-7 total score (i.e., NONACCEPT, IMPULSE, AWARE, and CLARITY). The model statistically significantly predicted GAD-7 total score,  $R^2 = .34$ ,  $F(3, 172) = 29.37$ ,  $p < .001$ . See Model 2 statistics provided in Table 14.

*Functioning/Satisfaction with Life- Aim 1.* A regression analysis showed that DERS total score significantly predicted SWLS total score, after TIPI-N was statistically controlled,  $R^2 = .06$ ,  $F(2, 173) = 5.80$ ,  $p < .05$ , 95% CI [-.08, .01]. However, only 6% of the variance in SWLS total score was accounted for by DERS total score.

*Functioning/Satisfaction with Life- Aim 2.* The same analysis was repeated with all DERS subscales, instead of the DERS total score, simultaneously entered into the second

step as predictors. Findings indicated that the overall model statistically significantly predicted SWLS total score,  $R^2 = .13$ ,  $F(7, 167) = 3.46$ ,  $p < .05$ . However, only one DERS subscale, STRATEGIES, significantly predicted SWLS total score (see Model 1 statistics in Table 15). A second hierarchical regression model (i.e., Model 2) was conducted, excluding the remaining DERS subscales that did not significantly predict SWLS total score (i.e., NONACCEPT, IMPULSE, AWARE, CLARITY, and GOALS). The model statistically significantly predicted SWLS total score,  $R^2 = .09$ ,  $F(2, 173) = 8.01$ ,  $p < .001$ . However, only 9% of the variance was accounted for. See Model 2 statistics provided in Table 15.

### Discussion

The overarching purpose of the present study was to generate a better understanding of ER difficulties and their relationships to psychological health constructs. Using samples of civilians and Veterans allowed for expansion of the scope and applications of the findings as well as comparisons of patterns across the two groups. The first aim of the study was to determine whether overall ER difficulties predict depression severity, anxiety/worry severity, and functioning/life satisfaction, while controlling for negative affectivity. Consistent with hypotheses, overall ER difficulties significantly predicted depression severity (accounting for 54% of the variance), anxiety severity (accounting for 32% of the variance), and functional impairment (accounting for 29% of the variance) in the civilian sample. Similarly, in the Veteran sample, overall ER difficulties significantly predicted depression severity (accounting for 28% of the variance), generalized anxiety severity (accounting for 29% of the variance), and life satisfaction (accounting for 6% of the variance). Notably, only a small percentage of the variance in life satisfaction was accounted for by overall ER difficulties,

suggesting that the relative weight of overall ER difficulties on life satisfaction is small, and other unexamined factors may play a more significant role.

These findings suggest that overall ER difficulties are significantly associated with major psychological health processes and account for a relatively large proportion of the variance in them (except for life satisfaction in the Veteran sample). This may be indicative of the role of ER difficulties in the maintenance and severity of psychological health problems. While it should be noted that a substantial proportion of the variance in these relationships is also accounted for by other unexamined factors as well, these findings highlight the importance of addressing ER difficulties in treatment to reduce significant proportions of distress until other factors are identified.

The second aim of the present study was to determine whether specific ER difficulties differentially predict depression severity, anxiety/worry severity, and functioning/life satisfaction, while controlling for negative affectivity. Generally, findings supported the hypothesis that specific ER difficulties would differentially predict psychological health constructs.

Specifically, in the civilian sample, lack of emotional clarity and perceived limited access to ER strategies, significantly positively predicted depression severity (accounting for 57% of the variance with and without inclusion of other facets in the model), which was consistent with previous research and hypotheses. In contrast to previous research and hypotheses, none of the facets significantly predicted anxiety severity individually, but collectively, all facets did so in the positive direction (accounting for 33% of the variance). Furthermore, in contrast with the hypothesis that non-acceptance of emotions would predict functioning/life satisfaction, results demonstrated that difficulty engaging in goal-directed

behaviors while emotionally distressed and limited access to ER strategies positively predicted functional impairment (accounting for 31% of the variance with and without inclusion of other facets in the model).

Regarding findings of Aim 2 in the Veteran sample, difficulty engaging in goal-directed behaviors while distressed and limited access to ER strategies significantly positively predicted depression and generalized anxiety severity, accounting for approximately 32% of the variance in depression severity and 34% of the variance in generalized anxiety severity. This was partially consistent with hypotheses and previous research, which suggested that lack of emotional clarity and limited access to ER strategies would predict depression and all but lack of emotional awareness would predict generalized anxiety. Moreover, in contrast with hypotheses and previous research, limited access to ER strategies was found to predict life satisfaction, but this only accounted for a minimal proportion (i.e., 9%) of the variance in life satisfaction.

In sum, Aim 2 findings suggest that specific facets of ER difficulties may differentially play a role in the maintenance and severity of the psychological health constructs. For example, for civilians, difficulties accurately identifying and describing emotional experiences and perceived limited access to ER strategies may put one at greater risk for developing/worsening depression. For Veterans, difficulty engaging in goal-directed behaviors while distressed and limited access to ER strategies may increase risk for developing/worsening depression and generalized anxiety. Further, these findings may inform assessment and treatment regarding which ER difficulties may be more relevant to specific problem areas. For example, for civilians struggling predominantly with depression, it may be beneficial to focus on helping them expand skills for identifying/describing

emotions and for developing flexible strategies for managing emotional distress. This may be done by providing psychoeducation and therapeutic exercises focused on strengthening emotional clarity and increasing clients' behavioral repertoires for effectively regulating emotions (e.g., breathing exercises, mindfulness exercises, grounding techniques). For Veterans with depression and/or generalized anxiety, focusing on identifying goals and behaviors consistent with those goals while distressed, as well as expanding ER strategies, may be most beneficial. Among both samples, limited access to ER strategies most consistently appeared to predict psychological health variables, which potentially highlights the importance of considering limited access to ER strategies in assessment, case conceptualization, and treatment, regardless of civilian/Veteran status. Of note, the DERS may be a useful measure for identifying specific ER difficulties on an individual case basis as well.

Though research has yet to investigate and identify underlying mechanisms of ER difficulties, potential underlying mechanisms can be hypothesized. For instance, experiential avoidance has been posited to be an underlying hallmark of emotional disorders and involves attempts to avoid or control aversive private experiences, such as emotions, cognitions, memories, and physical sensations (Amstadter, 2008; Boden et al., 2013; Chawla & Ostafin, 2007; Hayes et al., 2012). When used chronically and/or inflexibly, experiential avoidance is believed to be a pathological *function* that underlies ER difficulties (Boulanger, Hayes, & Pistorello, 2010). Furthermore, it is important to note that the Gratz and Roemer model (2004) emphasizes flexibility and contextual factors in approaching ER. That is, judiciously determining when to use or not use strategies and selecting strategies based on their appropriateness for varying contextual demands and subjective goals, which may also vary

across contexts. Thus, inflexible approaches to ER may be another underlying mechanism of ER difficulties. An interaction of underlying mechanisms such as these and sample characteristics may have accounted for the different patterns of specific ER difficulties across the two samples. For example, the Veteran sample exhibited substantially higher rates of PTSD than the civilian sample (46.6% and 5.5%, respectively), and one of the cornerstone features of PTSD involves avoidance (including the avoidance of anxiety and other emotions associated with one's traumatic experience). In addition, the civilian sample was characterized by individuals with tobacco use problems, which may have been indicative of an inflexible tendency to smoke tobacco as an ER strategy in the service of experiential avoidance. These processes may have contributed to differences in specific patterns of ER difficulties between the two samples. Further research aimed at identifying and understanding underlying mechanisms of ER difficulties would be important for clarifying the relationships between ER difficulties and psychological health constructs and for refining treatment approaches.

In terms of descriptive sample findings of the current study, overall ER difficulties were elevated in both samples, albeit higher in the Veteran sample ( $M = 87.7$  versus  $M = 75.6$  in civilian sample). However, research has yet to systematically establish norms for the DERS, and no empirically-based cut-off scores have been identified, making it difficult to interpret the degree of severity reflected by the DERS scores. However, compared to means estimated from previous studies using the DERS, the means of the present two samples fall within the range of those reported in clinical samples (75.2 – 115.1) and are higher than those estimated from non-clinical and healthy control samples ( $M = 66.8$  and  $M = 66.6$ , respectively). Notably, the mean of the current Veteran sample is like those reported by

Veterans in Galang et al. (2015;  $M = 85.7$ ,  $SD = 25.41$ ). Regarding specific facets of ER, lack of emotional awareness and limited access to ER strategies was the most elevated in both samples ( $M = 14.9$  and  $M = 14.9$  in the civilian sample, respectively, and  $M = 16.5$  and  $M = 18.6$  in the Veteran sample, respectively), suggesting greater ER difficulties related to lack of emotional awareness and limited access to ER strategies.

In sum, these descriptive findings suggest that the civilian and Veteran samples in the current study show elevations in emotion dysregulation, even more so predominantly in the Veteran sample. Higher elevations of emotion dysregulation in the Veteran sample, even though the Veteran sample was a non-clinical sample, may be reflective of characteristics specific to Veterans (e.g., military training, culture, and deployment experiences) combined with unique characteristics of the sample itself. For example, most of the Veteran sample was unemployed (71.6%), and almost half had been deployed in support of a military conflict (44.3%), yielding a high likelihood of exposure to trauma, possibly reflected by the high rates of PTSD in the sample compared to the civilian sample (46.6% and 5.5%, respectively). Additionally, Veterans in the sample were screened positive for religious/spiritual struggles, suggesting that there were likely high rates of emotional struggles related to religious/spiritual and moral conflicts as well. A combination of these factors may have contributed to the elevations in emotion dysregulation in the Veteran sample.

Overall, findings of the current study underscore the relevance of ER difficulties in common psychological health constructs. Therefore, greater attention to ER difficulties in treatment is warranted. Cognitive-Behavioral Therapy (CBT) is an evidenced-based, standard, front-line treatment used for a wide range of psychological health issues. While emotion dysregulation is addressed in CBT to some extent through cognitive restructuring

and behavioral approaches (e.g., exposure therapy, behavioral activation), ER is typically not addressed as a specific focus in treatment. Although research has indicated that CBT interventions are widely effective (Hofmann, Asnaani, Vonk, Sawyer, & Fang, 2012; Mitte, 2005; Stewart & Chambless, 2009), there remains a significant minority who drop out or do not respond optimally (Bryant et al., 2013; Casacalenda, Perry, & Looper, 2002; Mitte, 2005). One potential reason for this may be the lack of explicit focus on ER. Perhaps adjunct approaches that target ER difficulties early on and flexibly throughout treatment may enhance the effectiveness of standard CBT interventions (Bryant et al., 2013; Frye & Spates, 2012; Kley Heinrichs, Bender, & Tuschen-Caffier, 2012). Moreover, reducing ER difficulties and increasing effective ER strategies early on in treatment may decrease barriers to treatment acceptability and adherence (e.g., avoidance, beliefs that psychotherapy is not helpful).

In recognition of the need to target ER difficulties more directly, interventions that address ER have been developed in recent years, particularly among third-wave interventions. For example, mindfulness-based interventions have shown effectiveness in promoting effective ER skills by encouraging non-judgmental acceptance and present-moment awareness of experience, including thoughts, feelings, and physical sensations (Teper, Segal, & Inzlicht, 2013; Van Dam, Hobkirk, Sheppard, Aviles-Andrews, & Earleywine, 2014; Wang et al., 2016). In addition, dialectical behavior therapy (DBT; Linehan, 1993) is an empirically-supported treatment specifically designed to treat emotion dysregulation through four focus areas: 1) Mindfulness, 2) Emotion regulation skills (i.e., promoting effective ways of responding to emotions), 3) Interpersonal effectiveness skills (e.g., assertiveness), and 4) Distress tolerance skills (e.g., strategies to control impulses and

accept stressful life events). Where originally focused on suicidal behavior and borderline personality disorder, DBT has become widely used as a transdiagnostic intervention and has demonstrated effectiveness in improving ER skills and treating a wide range of psychiatric disorders (Azizi, Borjali, & Golzari, 2010; Neacsiu, Eberle, Kramer, Weismann, & Linehan, 2014; Ritschell, Lim, & Stewart, 2015).

Affect Regulation Training (ART; Berking, 2010; Berking & Schwarz, 2013; Berking & Whitley, 2014) and Emotion Regulation Therapy (ERT; Mennin & Fresco, 2009) are two other interventions recently developed to treat emotion dysregulation. ART and ERT synthesize principles and techniques from CBT and third-wave interventions (e.g., DBT, Mindfulness, self-compassion training). They have demonstrated effectiveness in increasing ER skills, functioning, and well-being, as well as reducing depression and generalized anxiety (Berking, Ebert, Cuijpers, & Hofmann, 2013; Berking Meier, & Wupperman, 2010; Mennin, Fresco, Heimberg, & Ciesla, 2012; Mennin, Fresco, Ritter, & Heimberg, 2015). Overall, ER-focused interventions appear promising, though research remains limited at this time. Additionally, the literature supports the use of adjunct ER interventions, including DBT and ART, for enhancing the effects of standard CBT (Azizi et al., 2010; Berking et al., 2013; Bryant et al., 2013; Cloitre, Koenen, Cohen, & Han, 2002). Research should continue investigating the effectiveness of these interventions in isolation and in augmentation with standard CBT interventions to improve mental health treatment packages.

The Limitations of the study are noteworthy. First, as the design was cross-sectional, no observed effect of time on the relationships between study variables can be drawn, rendering it difficult to fully explicate the direction of the effects between study variables. In addition, the cross-sectional design impeded the ability to identify or rule out other variables

not included in the model. Second, it is possible that relationships among study variables may have at least partially been accounted for by mono-method variance, the measurement error variance attributable to the measurement method (i.e., self-report) versus the constructs that the measures are hypothesized to represent. Third, there are no empirically established cut-off scores for the DERS at this time, rendering it difficult to determine the level at which DERS scores indicate clinically relevant severity. Finally, the Veteran sample exhibited unique characteristics that may not be generalizable to the Veteran population. Namely, a large majority of the Veteran sample were male (83.7%) and unemployed (71.6%). Therefore, results in the Veteran sample may not generalize to female and/or employed Veterans. Also, in contrast to the civilian sample, Veterans were screened positive for religious/spiritual struggles, and almost half (46.6%) met criteria for PTSD, which could have contributed to elevated ER difficulties in the Veteran sample. Within the civilian sample, a large majority (83.3%) were Caucasian, limiting the generalizability of the civilian sample to members of other racial groups.

Overall, findings of the present study indicate that overall ER difficulties (i.e., DERS Total) and specific ER difficulties (limited access to ER strategies most consistently) predict severity of psychological health constructs in samples of civilians and Veterans. These findings suggest that ER difficulties may be implicated in the maintenance and severity of common psychological health constructs and that greater attention to ER difficulties in treatment is warranted. In recognition of the need for greater explicit focus on ER in treatment, several ER-focused interventions have been developed. Although the outcome literature is still in the early stages, preliminary research suggests that these interventions show promise. Notably, this research bolsters support for utility of the transdiagnostic

approach to treatment by targeting underlying processes (e.g., ER difficulties) versus categorical diagnoses (Fairholme, Boisseau, Ellard, Ehrenreich, & Barlow, 2010). Future research should continue building upon empirically-supported treatments by incorporating adjunct ER-focused approaches, potentially improving treatment outcomes for all.

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Table 1

*Definitions of Emotion Regulation (ER) as Provided by Bloch, Moran, and Kring (2010)*

Author	Definition
Dodge (1989, p. 340)	The process by which activation in one response domain serves to alter, titrate, or modulate activation in another response domain.
Cicchetti, Ganiban, & Barnett (1991, p. 15)	The intra- and extraorganismic factors by which emotional arousal is redirected, controlled, modulated, and modified to enable an individual to function adaptively in emotionally arousing situations.
Thompson (1994)	ER consists of the extrinsic and intrinsic processes responsible for monitoring, evaluating, and modifying emotion reactions, especially their intensive and temporal features, to accomplish one's goals.
Gross (1998)	The processes by which individuals influence which emotions they have, when they have them, and how they experience and express them.
Eisenberg & Morris (2002)	The process of initiating, maintaining, modulating, or changing the occurrence, intensity, or duration of internal feeling states and emotion-related motivations and physiological processes, often in the service of accomplishing one's goals.
Cole, Martin, & Dennis (2004)	The changes associated with activated emotions. These include changes in the emotion itself or in other psychological processes (e.g., memory, social interaction). The term <i>emotion regulation</i> can denote two types of regulatory phenomena: emotion as regulating (changes that appear to result from the activated emotion) and emotion as regulated (changes in the activated emotion).
Gratz & Roemer (2004)	ER involves (a) awareness and understanding of emotions (b) acceptance of emotions (c) ability to control impulsive behaviors and behave in accordance with desired goals when experiencing negative emotions, and (d) ability to use situationally appropriate ER strategies flexibly to modulate emotional responses as desired in order to meet individual goals and situational demands.
Campos, Frankel, & Camras (2004)	The modification of any process in the system that generates emotion or its manifestation in behavior. The processes that modify emotion come from the same set of processes as the ones that are involved in emotion in the first place. Regulation takes place at all levels of the emotion process, at all times that the emotion is activated, and is evident even before an emotion is manifested.

*Note.* From *On the Need for Conceptual and Definitional Clarity in Emotion Regulation Research on Psychopathology* (p. 90), by L. Bloch, E. K. Moran, and A. M. Kring, In A. M. Kring, & D. M. Sloan (Eds.), *Emotion Regulation and Psychopathology: A Transdiagnostic Approach to Etiology and Treatment*, 2010, New York, NY: The Guilford Press. Copyright 2010 by The Guilford Press. Adapted with permission.

Table 2

*Emotion Regulation as Measured by the DERS in Relation to Depression Symptoms/Severity*

<b>Authors</b>	<b>Sample Characteristics</b>	<b>Clinical Assessment</b>	<b>DERS Mean (SD), Range</b>	<b>Main Outcome(s)</b>
Abraham et al., 2015	<i>n</i> = 745 community adults (638 never-depressed and 107 “at risk” remitted mood disordered individuals); 57.9% female; <i>M</i> <sub>age</sub> = NR; 72.6% Caucasian, 20.3% African American; 7.1% Other	Center for Epidemiologic Studies Depression Scale (CES-D); Cumulative Adversity Index (CAI)	<u>Never Depressed Sample:</u> Total = 68.7 (19.85) <u>At Risk Sample:</u> Total = 78.9 (21.42)	ER difficulties were significantly higher in the at risk sample than the never depressed sample. ER difficulties partially mediated the relationship between cumulative adversity (i.e., repeated exposure to stressful events across the lifespan) and depressive symptomatology independent of depression risk status.
Atherton et al., 2015	<i>n</i> = inpatients at university med. Center; 72.9% female; <i>M</i> <sub>age</sub> = 36.3; 59% Caucasian, 27% African American, 10% multiracial, 4% Native American	Depression, Anxiety, & Stress Scale-21 (DASS-21); Revised Social Anhedonia Scale (RSAS)	NR	ER difficulties (specifically STRATEGIES and CLARITY) significantly predicted depression symptoms above and beyond social anhedonia.
Goldsmith et al., 2013	<i>n</i> = 593 US college students; 58.3% female; <i>M</i> <sub>age</sub> = 21.9; 84.2% Caucasian; 4.5% biracial/multiracial; 2.5% Asian; 1.7% Black/African American; 1.2% Native Hawaiian/Pacific Islander; 6% Other	Brief Betrayal Trauma Survey (BBTS); Impact of Event Scale (IES); Trauma Symptom Checklist-40-Depression Subscale (TSC-40-D)	Total = 78.6 (21.43)	ER difficulties mediated the relationship between betrayal trauma and depressive symptomatology.
Kashdan et al., 2008	<i>n</i> = 248 community adults; 54.8% female; <i>M</i> <sub>age</sub> = 22.4; 93.1% Caucasian, 2.4% African American, 1.2% Hispanic, 1.6% Asian American, 1.6% Other	Mood and Anxiety Symptom Questionnaire (MASQ)	NONACCEPT = 11.5 (5.49) STRATEGIES = 15.2 (6.57)	NONACCEPT was significantly related to greater anhedonia.
Klemanski et al., 2012	<i>n</i> = 44 active duty service members; 100% male; <i>M</i> <sub>age</sub> = NR; Racial Breakdown = NR	SCID-IV; Clinician Administered PTSD Scale (CAPS); BDI-II	NR	ER difficulties partially mediated the relationship between PTSD and depression.
Markarian et al., 2013	<i>n</i> = 459 US college students; 79.1% female; <i>M</i> <sub>age</sub> = NR; 79.5% Caucasian; 11% African American; 6.4% Asian, 2.4% Native	Behavioral Inhibition System/Behavioral Activation System Scale (BAS/BIS Scale); The	Total = 80.1 (22.3)	ER difficulties were inversely associated with BAS-reward sensitivity. ER difficulties were positively associated with depression symptoms. These relationships were stronger among those with poor

Authors	Sample Characteristics	Clinical Assessment	DERS Mean (SD), Range	Main Outcome(s)
	American/Pacific Islander; 0.6% Other/Unspecified	Pittsburgh Sleep Quality Index (PSQI); Depression Anxiety Stress Scale (DASS-21)		sleep quality, compared with those with good sleep quality.
Nickerson et al., 2015	<i>n</i> = 134 outpatient international refugees; 78.4% male; <i>M</i> age = 42.4; Racial Breakdown NR	Hopkins Symptom Checklist (HSCL)	NR	STRATEGIES was significantly related to depression symptoms.
Orgeta, 2009	<i>n</i> = 40 US college students; 57.5% female; Mean Age = 20.1. <i>n</i> = 40 older community adults; 62.5% female; <i>M</i> age = 69.8. Racial Breakdown NR	Hospital Anxiety and Depression Scale (HADS)	<u>Young Adult Sample:</u> Total = 13.7 (3.01) NONACCEPT = 12.5 (4.73) CLARITY = 11 (3.37) AWARENESS = 15.4 (4.57) IMPULSE = 10.5 (3.45) GOALS = 16.1 (4.66) STRATEGIES = 16.7 (5.85) <u>Older Adult Sample:</u> Total = 11.8 (1.89) NONACCEPT = 12.1 (3.21) CLARITY = 9.6 (2.52) AWARENESS = 15.3 (3.47) IMPULSE = 8.6 (2.36) GOALS = 11.3 (2.79) STRATEGIES = 14.1 (3.74)	Depression was significantly correlated with ER difficulties, including the following specific dimensions: IMPULSE, CLARITY, and STRATEGIES.
Phillips et al., 2014	<i>n</i> = 31 British adults with Multiple Sclerosis (MS); <i>M</i> age = 44. <i>n</i> = 31 British community adults without MS; <i>M</i> age = 44.5. Racial Breakdown & Gender NR	Hospital Anxiety and Depression scales (HADS)	<u>MS Sample:</u> Total = 14.8 (1.81) NONACCEPT = 2.3 (0.83) CLARITY = 2.8 (0.46) AWARENESS = 3.3 (0.52) IMPULSE = 1.9 (0.37) GOALS = 2.6 (0.68) STRATEGIES = 2 (0.47) <u>Non-MS Sample:</u> Total = 13.8 (1.29) NONACCEPT = 1.9 (0.68) CLARITY = 2.4 (0.30) AWARENESS = 3.4 (0.80) IMPULSE = 1.8 (0.26) GOALS = 2.5 (0.43) STRATEGIES = 1.8 (0.33)	Depression significantly mediated the relationship between MS and ER difficulties.

Saxena et al., 2011	<i>n</i> = 288 participants with no current or prior history of medical/mental illness; 75.7% male; <i>Mage</i> = 20.8; Racial Breakdown NR	General Health Questionnaire-28 (GHQ-28)	NR	NONACCEPT, GOALS, and STRATEGIES predicted depression.
Authors	Sample Characteristics	Clinical Assessment	DERS Mean (SD), Range	Main Outcome(s)
Strimas, 2013	<i>n</i> = 321 bariatric surgery candidates; 80.1% female; <i>Mage</i> = 44.4; 81.3% Caucasian; 6.5% African American; 4% Arab/West Asian; 3.4% Hispanic; 2.7% Aboriginal; 1.8% Other	Mini International Neuropsychiatric Interview (MINI)	Total = 76.4 (20.77) NONACCEPT = 11.8 (5.58) CLARITY = 9.8 (3.57) AWARENESS = 15.5 (5.16) IMPULSE = 10.7 (4.48) GOALS = 11.8 (4.36) STRATEGIES = 15.5 (6.51)	Those with a current mood disorder exhibited significantly higher ER difficulties than those without a current mood disorder. This included the following dimensions: CLARITY, GOALS, and STRATEGIES. DERS-Total and GOALS significantly predicted mood disorder status.
Svaldi et al., 2012	<i>n</i> = 136 European participants split into 6 groups: <i>n</i> = 20 with Anorexia Nervosa <i>n</i> = 18 with Bulimia Nervosa <i>n</i> = 25 with Binge Eating Disorder <i>n</i> = 16 with MDD <i>n</i> = 15 inpatients with BPD <i>n</i> = 42 Healthy Controls All groups, except BPD, recruited from university center; 100% female; <i>Mage</i> ranged from 22.9–46.4; Racial Breakdown NR	SCID-IV; BDI	<u>MDD Group:</u> NONACCEPT = 18.5 (6.19) CLARITY = 14.9 (5.88) AWARENESS = 21.7 (12.66) IMPULSE = 13.1 (5.54) GOALS = 18.8 (5.17) STRATEGIES = 26.9 (6.25) <u>Healthy Control Group:</u> NONACCEPT = 11.0 (4.08) CLARITY = 8.9 (2.79) AWARENESS = 14.8 (5.86) IMPULSE = 8.3 (2.75) GOALS = 11.1 (4.35) STRATEGIES = 13.1 (4.67)	All 6 DERS subscales were significantly greater in those with MDD, compared with healthy controls.
Tull et al., 2008	<i>n</i> = 91 US college students endorsing at least one experience of an uncued panic attack; 79.1% female; <i>Mage</i> = 23.6; 54.9% Caucasian, 6.6% African American, 9.9% Asian/Pacific Islander, 7.7% Hispanic, 12.1% Multi-racial, 8.8% Other	Depression Anxiety Stress Scale (DASS)	NONACCEPT = 13.2 (5.70) CLARITY = 11.1 (3.93)	Depression severity was significantly related to the following DERS subscales: NONACCEPT and CLARITY.
Vine & Aldao, 2014	<i>n</i> = 211 US college students; 70.6% female; <i>Mage</i> = 18.7; 80.6% Caucasian; 4.7% African American; 8.1% Asian American; 3.3% Hispanic; 0.5% Native American;	Attentional Control Scale (ACS); Mood and Anxiety Symptoms Questionnaire Short Form (MASQ-SF)	NONACCEPT = 12.8 (5.28) CLARITY = 11.8 (4.04) IMPULSE = 11.5 (4.55) STRATEGIES = 16.8 (6.77)	CLARITY significantly predicted symptoms of depression. Attention shifting problems mediated the relationship between CLARITY and depression severity.

3.3% Other			
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*Note.* NR = Not Reported; MDD = Major Depressive Disorder; SAD = Social Anxiety Disorder; GAD = Generalized Anxiety Disorder; BPD = Borderline Personality Disorder; NONACCEPT = Non-acceptance of emotions dimension/subscale of DERS; CLARITY = Lack of emotional clarity dimension/subscale of DERS; AWARENESS = Lack of emotional awareness dimension/subscale of DERS; IMPULSE = Impulse control difficulties dimension/subscale of DERS; GOALS = Difficulty engaging in goal-directed behavior dimension/subscale of DERS; STRATEGIES = Limited access to ER strategies dimension/subscale of DERS; SCID-IV = Structured Clinical Interview for the Diagnostic and Statistical of Mental Disorders-Fourth Edition; BDI-II = Beck Depression Inventory-Second Edition; BAI = Beck Anxiety Inventory; PANAS = Positive and Negative Affect Scale

Table 3

*Emotion Regulation as Measured by the DERS in Relation to Anxiety-Based Symptoms/Severity*

<b>Authors</b>	<b>Sample Characteristics</b>	<b>Clinical Assessment</b>	<b>DERS Mean (SD), Range</b>	<b>Main Outcome(s)</b>
Bardeen & Stevens, 2014	<i>n</i> = 213 US college students; 55.3% female; <i>Mage</i> = 19.4; 50.2% Caucasian; 24.4% African American; 13.1% Hispanic; 7.5% Asian; 4.2% Biracial; 0.5% Other	BAI; Delis-Kaplan Executive Functioning System	NONACCEPT = 2 (0.93)	In females, higher inhibition & abstract reasoning was related to CLARITY, which was related to greater anxiety; In males, higher inhibition was negatively related to STRATEGIES, which was related to lower anxiety.
Bender, 2008	<i>n</i> = 62 community adults 60 years & older, split into 2 groups: <i>n</i> = 34 with principal diagnosis of GAD; 68% female; <i>Mage</i> = 66.7; <i>n</i> = 28 no current/past psychiatric diagnoses; 64% female; <i>Mage</i> = 68.7; Racial Breakdown NR	SCID-IV; Penn State Worry Questionnaire (PSWQ); BDI; BAI	<u>GAD Sample:</u> Total = 78.0 (18.54) NONACCEPT = 12.7 (4.80) AWARENESS = 16.2 (5.02) GOALS = 14.7 (3.83) STRATEGIES = 17.2 (5.54) <u>Control Sample:</u> Total = 53.9 (8.54) NONACCEPT = 9 (3.06) AWARENESS = 12.4 (3.82) GOALS = 9.8 (2.46) STRATEGIES = 9.7 (1.96)	The GAD sample showed significantly greater ER difficulties than the non-anxious control group, including the following domains: NONACCEPT, AWARENESS, GOALS, and STRATEGIES. DERS-Total, AWARENESS, GOALS, and STRATEGIES predicted worry, after controlling for anxiety and depression.
Bonn-Miller et al., 2011	<i>n</i> = 79 community adults who experienced at least one criterion A trauma and had used marijuana in the past 30 days; 50.6% male; <i>Mage</i> = 22.3; 97.4% Caucasian; 1.3% Other; 1.3% unspecified	SCID-IV; Posttraumatic Diagnostic Scale (PDS); Marijuana Smoking History Questionnaire (MSHQ); Marijuana Motives Measure (MMM)	Total = 84.8 (22.8), 40 – 127	ER difficulties mediated the relationship between PTSD severity and marijuana use as a coping strategy.
de la Cruz et al., 2013	<i>n</i> = 80 split into 4 groups: <i>n</i> = 24 with Hoarding Disorder & without OCD; <i>n</i> = 19 with Hoarding Disorder & OCD; <i>n</i> = 17 with OCD & without Hoarding Disorder; <i>n</i> = 20 non-clinical controls; Demographics NR	Mini International Neuropsychiatric Interview (MINI); Dimensional Yale-Brown Obsessive Compulsive Scale (DY-BOCS); Saving Inventory-Revised (SI-R); Obsessive-Compulsive Inventory-Revised (OCI-R)	<u>Hoarding Disorder Sample:</u> Total = 90.3 (22.48) <u>Hoarding + OCD Sample:</u> Total = 108.1 (25.13) <u>OCD Sample:</u> Total = 98.2 (26.56) <u>Control Sample:</u> Total = 59.6 (11.27)	The Hoarding group showed significantly higher ER difficulties than the control group. The Hoarding+OCD group showed significantly higher ER difficulties than the Hoarding without OCD group.

Ehring & Quack, 2010	<i>n</i> = 616 online participants with criterion A trauma; 82.9% female; <i>Mage</i> = 32; Racial Breakdown NR	Trauma History Questionnaire (THQ); Impact of Events Scale-Revised (IES-R)	NR	ER difficulties were significantly associated with PTSD severity. When PTSD symptom severity was controlled for, survivors of early-onset chronic interpersonal trauma showed greater CLARITY and GOALS than survivors of single-event and/or late onset traumas.
Authors	Sample Characteristics	Clinical Assessment	DERS Mean (SD), Range	Main Outcome(s)
Frewen et al., 2012	<i>n</i> = 90 community adults; 100% female; <i>Mage</i> = 30.4; 68% Caucasian; Remaining Racial Breakdown NR. Sample split into 2 groups: <i>n</i> = 35 with no current/past psychiatric diagnosis or childhood maltreatment & <i>n</i> = 55 with current primary PTSD diagnosis due to childhood maltreatment	SCID-IV; Clinician Administered PTSD Scale (CAPS); Childhood Trauma Questionnaire (CTQ); Trait-Meta Mood Scale (TMMS)	<u>PTSD Sample:</u> Total = 107.1 (27.50) NONACCEPT = 18 (6.34) CLARITY = 14.3 (5.38) AWARENESS = 17.9 (6.44) IMPULSE = 15.2 (6.42) GOALS = 19.1 (3.94) STRATEGIES = 24.2 (7.11) <u>Control Sample:</u> Total = 61.3 (15.44) NONACCEPT = 10 (4.10) CLARITY = 7.5 (1.69) AWARENESS = 12.3 (3.77) IMPULSE = 8.2 (3.58) GOALS = 11.9 (4.71) STRATEGIES = 11.7 (3.59)	Those with PTSD showed significantly elevated overall and specific ER difficulties, compared with the control group.
Galang et al., 2015	<i>n</i> = 104 cannabis dependent Veterans; Gender NR; <i>Mage</i> = NR; 38.2% African American; 37.1% Caucasian; 12.4% Hispanic; 2.2% Asian; 1.1% Black/Hispanic; 9% Other/Mixed	Contemplation Ladder (CL); SCID-IV; Clinician Administered PTSD Scale (CAPS); Inventory of Depression and Anxiety Symptoms (IDAS); Time Line Follow-Back Questionnaire (TLFB)	Total = 85.7 (25.41)	ER difficulties were significantly and positively associated with panic symptoms at baseline and all follow-up assessments. Participants with an anxiety disorder showed greater ER difficulties than those without an anxiety disorder. Lower ER difficulties were associated with greater decreases in panic symptoms over a 4-week self-guided quit period, even after controlling for substance use during the course of the study.
Goldsmith et al., 2013 (Same as above)	<i>n</i> = 593 US college students; 58.3% female; <i>Mage</i> = 21.9; 84.2% Caucasian; 4.5% biracial/multiracial; 2.5% Asian; 1.7% African American; 1.2% Native Hawaiian/Pacific Islander;	Brief Betrayal Trauma Survey (BBTS); Impact of Event Scale (IES); Trauma Symptom Checklist-40-Anxiety Subscale (TSC-40-A)	Total = 78.6 (21.43)	ER difficulties mediated the relationship between betrayal trauma and symptoms of intrusion, avoidance, and anxiety.

	6% Other			
Authors	Sample Characteristics	Clinical Assessment	DERS Mean (SD), Range	Main Outcome(s)
Helbig-Lang et al., 2014	<i>n</i> = 67 community adults with social phobia; <i>n</i> = 59 non-clinical controls Demographics NR	SCID-IV; BDI-II	<u>Social Phobia Sample:</u> Total = 110.1 (17.8) NONACCEPT = 19.8 (6.9) CLARITY = 14 (4.2) AWARENESS = 17.6 (3.3) IMPULSE = 16.3 (5.1) GOALS = 17 (3.8) STRATEGIES = 25.4 (5.3) <u>Control Sample:</u> Total = 73.1 (16.5) NONACCEPT = 11.4 (4.5) CLARITY = 9.1 (3.8) AWARENESS = 15.4 (4.3) IMPULSE = 9.6 (2.9) GOALS = 10.7 (3.8) STRATEGIES = 16.8 (4.1)	Those with social phobia exhibited significantly greater ER difficulties than non-clinical controls. Those with social phobia scored significantly higher on all DERS subscales, except for AWARENESS, while controlling for depression.
Kashdan et al., 2008 (Same as above)	<i>n</i> = 248 community adults; 54.8% female; <i>Mage</i> = 22.4; 93.1% Caucasian, 2.4% African American, 1.2% Hispanic, 1.6% Asian American, 1.6% Other	Anxiety Sensitivity Index (ASI); Penn State Worry Questionnaire (PSWQ); Agoraphobic Cognitions Questionnaire (ACQ)	NONACCEPT = 11.5 (5.49) STRATEGIES = 15.2 (6.57)	Anxiety sensitivity was associated with greater anxious arousal and worry in the presence of NONACCEPT. Anxiety sensitivity was associated with greater anxious arousal, worry, and agoraphobic cognitions when participants believed they had STRATEGIES.
Klemanski et al., 2012 (Same as above)	<i>n</i> = 44 active duty service members; 100% male; <i>Mage</i> NR; Racial Breakdown NR	SCID-IV; Clinician Administered PTSD Scale (CAPS); Trauma-Related Depersonalization Scale (TRDS)	NR	ER difficulties partially mediated the relationship between PTSD and trauma-related depersonalization.
Lilly & London, 2015	<i>n</i> = 205 US community adults; 100% female; <i>Mage</i> = 31.53; 44.4% Caucasian; 41.5% African American; 4.2% Native American; 1.5% Asian; 4.4% Hispanic; 4.9% Biracial, 1.5% Other	Traumatic Life Events Questionnaire (TLEQ); Posttraumatic Stress Diagnostic Scale (PDS)	<u>Those who scored <math>\geq</math> the PDS cut-off:</u> NONACCEPT = 2.7 (1.05) CLARITY = 2.5 (0.88) AWARENESS = 2.5 (0.87) IMPULSE = 2.5 (0.95) GOALS = 3.2 (1.13) STRATEGIES = 2.6 (0.93)	NONACCEPT and IMPULSE predicted clinically significant PTSD classification status.
Lilly et al., 2014	<i>n</i> = 99 community adults reporting at least one incident of interpersonal violence in the past 6 months; 100%	Childhood Trauma Questionnaire (CTQ); Conflict Tactics Scale-	Total = 2.6 (.36)	ER difficulties were significantly associated with PTSD severity. Childhood maltreatment indirectly affected PTSD severity in adulthood through ER

	female; <i>Mage</i> = 29.72; 55.6% African American; 29.3% Caucasian; 9.1% Biracial; 3% Hispanic; 2% Other	Revised (CTS-R); Posttraumatic Stress Diagnostic Scale (PDS)		difficulties, as well as through interpersonal violence victimization in adulthood.
<b>Authors</b>	<b>Sample Characteristics</b>	<b>Clinical Assessment</b>	<b>DERS Mean (SD), Range</b>	<b>Main Outcome(s)</b>
Lilly & Valdez, 2012	<i>n</i> = 248 US college students who reported experiencing an event that was the “worst” or identified a traumatic event assessed by the TLEQ; 65.7% female; <i>Mage</i> = 19.7; 67.3% Caucasian; 12.1% African American; 5.2% Hispanic; 4% Asian; 11.3% Biracial/Other	Traumatic Life Events Questionnaire (TLEQ); Posttraumatic Stress Diagnostic Scale (PDS); Toronto Alexithymia Scale-20 (TAS-20)	Total = 80.4 (14.03), 54 – 146	Both ER difficulties and alexithymia uniquely predicted PTSD severity.
Lowry, 2008	<i>n</i> = 138 US college students; 78.3% female; <i>Mage</i> NR; 79% Caucasian; 6.5% Other; 5.8% Asian; 4.3% Hispanic; 4.3% African American	Panic Disorder Self-Report (PDSR); Social Phobia Diagnostic Questionnaire (SPDQ); Generalized Anxiety Disorder Questionnaire-IV (GADQ-IV)	<u>High Panic Disorder Severity Group:</u> Total = 98.4 (14.7) <u>High Social Phobia Severity Group:</u> Total = 97.7 (18.6) <u>High GAD Severity Group:</u> Total = 98.9 (21.1) <u>High Comorbid Severity Group:</u> Total = 113.5 (16.8) <u>Non-Anxious Control Group:</u> Total = 75.5 (13.7)	ER difficulties were significantly greater in those with high scores on measures of GAD, panic disorder, and social phobia severity, compared with those endorsing low scores on these measures.
Markarian et al., 2013 (Same as above)	<i>n</i> = 459 US college students; 79.1% female; <i>Mage</i> NR; 79.5% Caucasian; 11% African American; 6.4% Asian, 2.4% Native American/Pacific Islander; 0.6% Other/Unspecified	The Pittsburgh Sleep Quality Index (PSQI); Depression Anxiety Stress Scale (DASS-21)	Total = 80.1 (22.3)	ER difficulties were positively associated with anxiety and stress symptoms. These relationships were stronger among those with poor sleep quality, compared with those with good sleep quality.
Nickerson et al., 2015 (Same as above)	<i>n</i> = 134 outpatient international refugees; 78.4% male; <i>Mage</i> = 42.4; Racial Breakdown NR	Harvard Trauma Questionnaire (HTQ); Posttraumatic Stress Diagnostic Scale (PDS); Hopkins Symptom Checklist (HSCL)	NR	GOALS and STRATEGIES were significantly related to trauma exposure. CLARITY and GOALS were significantly related to PTSD severity. ER difficulties mediated the relationship between trauma exposure and PTSD, as well as trauma exposure and depression.
O’Bryan et al., 2015	<i>n</i> = 297 college students who endorsed at least one criterion A traumatic event; 77.1% female;	Posttraumatic Stress Diagnostic Scale (PDS); PANAS	NONACCEPT = 12.4 (5.79), 6-30 CLARITY = 11.4 (3.96), 5-23 AWARENESS = 15.6 (4.93), 6-30	All dimensions of ER difficulties, except for AWARENESS, were significantly associated with the following PTSD symptom clusters: re-

	<i>Mage</i> = 20.5; 84.5% Caucasian, 8.4% African American, 7.1% Other		IMPULSE = 11.3 (4.75), 6-28 GOALS = 14.6 (4.74), 5-25 STRATEGIES = 16.7 (6.76), 8-38	experiencing, avoidance, and hyper-arousal. NONACCEPT predicted greater avoidance and hyper-arousal severity, controlling for the number of trauma types and negative affectivity. NONACCEPT and STRATEGIES predicted greater negative alterations in cognitions and mood.
<b>Authors</b>	<b>Sample Characteristics</b>	<b>Clinical Assessment</b>	<b>DERS Mean (SD), Range</b>	<b>Main Outcome(s)</b>
Orgeta, 2009 (Same as above)	<i>n</i> = 40 US college students; 57.5% female; <i>Mage</i> = 20.1. <i>n</i> = 40 older community adults; 62.5% female; <i>Mage</i> = 69.8. Racial Breakdown NR	Hospital Anxiety and Depression Scale (HADS)	<u>Young Adult Sample:</u> Total = 13.7 (3.01) NONACCEPT = 12.5 (4.73) CLARITY = 11 (3.37) AWARENESS = 15.4 (4.57) IMPULSE = 10.5 (3.45) GOALS = 16.1 (4.66) STRATEGIES = 16.7 (5.85) <u>Older Adult Sample:</u> Total = 11.8 (1.89) NONACCEPT = 12.1 (3.21) CLARITY = 9.6 (2.52) AWARENESS = 15.3 (3.47) IMPULSE = 8.6 (2.36) GOALS = 11.3 (2.79) STRATEGIES = 14.1 (3.74)	Anxiety was significantly correlated with ER difficulties, including the following specific dimensions: NONACCEPT, IMPULSE, CLARITY, GOALS and STRATEGIES.
Powers et al., 2015	<i>n</i> = 154 adults at a US hospital with at least one criterion A traumatic event; 80% female; <i>Mage</i> = 42; 96.8% African American; 1.9% Caucasian; 0.6% Hispanic; 0.6% Mixed/Other	Clinician Administered PTSD Scale (CAPS); Childhood Trauma Questionnaire (CTQ); Traumatic Events Inventory (TEI); Multiscale Dissociation Inventory (MDI)	Total = 70.6 (21.35), 36-165 NONACCEPT = 11.3 (5.01) CLARITY = 9.6 (3.79) AWARENESS = 13.3 (4.51) IMPULSE = 10.9 (4.40) GOALS = 11.1 (4.17) STRATEGIES = 14.4 (5.94)	Both PTSD and ER difficulties significantly predicted dissociation, controlling for trauma exposure. CLARITY and STRATEGIES significantly predicted dissociation, controlling for age, sex, child/adult trauma exposure, and PTSD symptoms. Overall ER difficulties partially mediated the relationship between PTSD symptoms and dissociative symptoms.
Price et al., 2014	<i>n</i> = 254 community adults; 100% female; <i>Mage</i> = 32; 47.1% Caucasian; 40.2% African American; 4.1% Biracial; 3.7% Hispanic; 1.6% Native American; 1.6% Asian; 1.6% Other; Sample split into 2 groups: <i>n</i> =	Posttraumatic Diagnostic Scale (PDS)	Total = 77.3 (23.10), 36-146.96	ER difficulties were significantly and positively related to PTSD severity. For women with low ER difficulties, those with greater PTSD severity perpetrated interpersonal violence more than those with lower PTSD severity. For women with high ER difficulties, PTSD severity was unrelated to perpetration.

Authors	Sample Characteristics	Clinical Assessment	DERS Mean (SD) Scores	Main Outcome(s)
Ritschel et al., 2015	111.8 women with interpersonal violence in the past 6 months & $n = 142.2$ women with no interpersonal violence in the past 6 months  $n = 1050$ US college students; 75.6% female; $Mage = 20.7$ ; 42.5% Caucasian; 40.4% African American; 17.1% Asian American	Fear of Negative Evaluation Scale (FNE); Depression, Anxiety, and Stress Scale (DASS)	Total = 77.2 (22.37) NONACCEPT = 9.7 (4.46) CLARITY = 10.5 (3.92) AWARENESS = 14.3 (5.12) IMPULSE = 11.3 (4.72) GOALS = 13.5 (4.80) STRATEGIES = 16 (6.67)	Overall and specific ER difficulties were significantly, positively correlated with overall anxiety, stress, and depression, as well as fear of negative evaluation.
Roemer et al., 2009- Study 1	$n = 395$ college students; 64.1% female; $Mage = 23.2$ ; 46.1% Caucasian; 19% Asian/Pacific Islander; 13.2% African American; 7.8% Hispanic; 0.5% Native American; 6.3% Multiracial, 6.4% Other; 0.7% unspecified	Penn State Worry Questionnaire (PSWQ); Generalized Anxiety Disorders Questionnaire-IV (GADQ-IV); Depression Anxiety Stress Scale-21 (DASS-21); Mindful Attention Awareness Scale (MAAS)	Total = 82.1 (22.21)	Both ER difficulties and dimensions of mindfulness accounted for unique and shared variance in GAD severity, beyond variance accounted for by depressive and anxiety symptoms.
Roemer et al., 2009- Study 2	$n = 16$ patients with principal diagnoses of GAD; 68.8% female; $Mage = 32.8$ ; 81.3% Caucasian; 6.3 African American; 6.3 Hispanic/Latino; 6.3 Asian. $n = 16$ community adults with no diagnosis; 68.8 female; $Mage = 31.4$ ; 81.3% Caucasian; 6.3 African American; 6.3 Asian; 6.3% Multiracial	Anxiety Disorders Interview Schedule for DSM-IV (ADIS-IV)	<u>GAD Sample:</u> Total = 96.9 (21.49) <u>Control Sample:</u> Total = 55.4 (13.82)	Those with GAD endorsed significantly greater ER difficulties than non-anxious controls.
Rusch et al., 2012	$n = 149$ online adults; 84.6% female; $Mage = 30.6$ ; Racial breakdown NR	Symptom Checklist 27-plus (SCL-27-plus); Social Phobia Scale (SPS); Social Interaction Anxiety Scale (SIAS)	Total = 66.7 (23.1), 30–138 NONACCEPT = 15.2 (5.6), 6–30 CLARITY = 11.1 (3.8), 5–23 AWARENESS = 12.7 (3.6), 5–24 IMPULSE = 10.8 (4.0), 5–24 GOALS = 11.9 (4.1), 4–20 STRATEGIES = 12.6 (4.9), 5–25	Social interaction anxiety was significantly associated with the following DERS subscales, beyond variance accounted for by age and general psychopathology: NONACCEPT, IMPULSE, STRATEGIES.

Authors	Sample Characteristics	Clinical Assessment	DERS Mean (SD), Range	Main Outcome(s)
Salters-Pedneault et al., 2006	<i>n</i> = 325 US college students; 58.5% female; <i>Mage</i> = 23.8; 50.8% Caucasian, 21.5% African-American, 8.6% Asian/Pacific Islander, 6.5% Hispanic, 5.2% Multiracial, 3.1% Other	Penn State Worry Questionnaire (PSWQ); Generalized Anxiety Disorders Questionnaire-IV (GADQ-IV); PANAS	Total = 82.7 (23.41) NONACCEPT = 2.1 (0.96) CLARITY = 2.3 (0.77) AWARENESS = 2.6 (0.82) IMPULSE = 2.1 (0.87) GOALS = 2.8 (0.94) STRATEGIES = 2.2 (0.93)	ER difficulties were associated with self-reported chronic worry and GAD status. The following specific DERS subscales were associated with self-reported chronic worry and GAD status, beyond the variance accounted for by negative affect: CLARITY, NONACCEPT, GOALS, IMPULSE, and STRATEGIES.
Saxena et al., 2011 (Same as above)	<i>n</i> = 288 participants with no current or prior history of medical/mental illness; 75.7% male; <i>Mage</i> = 20.8; Racial Breakdown NR	General Health Questionnaire-28 (GHQ-28)	NR	NONACCEPT, CLARITY, and STRATEGIES significantly predicted general anxiety.
Sippel et al., 2014	<i>n</i> = 120 patients from a residential substance use disorder treatment facility with current diagnoses of alcohol dependence & PTSD; 53.3% male; <i>Mage</i> = 33.7; 80% Caucasian; 18.3% African American; 1.3% Other	Computerized Diagnostic Interview Schedule for DSM-IV (C-DIS-IV); PTSD Checklist-Civilian Version (PCL-C); Alcohol Use Disorders Identification Test (AUDIT); Clinician Administered PTSD Scale (CAPS);	Total = 91.7 (20.39)	ER difficulties and anxiety sensitivity independently predicted PTSD severity.
Snorrason et al., 2010	<i>n</i> = 55 college students with pathological skin-picking diagnosis; 92.7% female; <i>Mage</i> = 26.3. <i>n</i> = 55 college students without pathological skin-picking; 94.5% female; <i>Mage</i> = 24.5	SCID-IV; Skin picking scale (SPS); Hospital anxiety and depression scale (HADS); Penn State worry questionnaire – eight-item version (PSWQ-8)	<u>Pathological Skin-Picking Sample:</u> Total = 88.4 (19.04) NONACCEPT = 14.8 (6.37) CLARITY = 10.1 (2.85) AWARENESS = 15.5 (3.90) IMPULSE = 13.2 (4.32) GOALS = 16.4 (4.27) <u>Non-Skin-Picking Sample:</u> Total = 68.1 (18.63) NONACCEPT = 10.6 (5.15) CLARITY = 8.4 (3.17) AWARENESS = 13.8 (4.36) IMPULSE = 9.4 (3.88) GOALS = 12.8 (5.34)	ER difficulties, including all specific dimensions, were significantly greater in the pathological skin-picking group. ER difficulties predicted pathological skin-picking diagnosis, even after controlling for depression, anxiety, and worry.
Staples et al., 2012	<i>n</i> = 74 community adults; 66.2% female; <i>Mage</i> = 67.9; 86.5% Caucasian; 4.1% African American;	SCID-IV; Generalized Anxiety Disorders Questionnaire-IV (GADQ-	<u>GAD Sample:</u> Total = 79.5 (19.76) <u>Control Sample:</u>	The GAD group showed significantly greater ER difficulties. Determined a DERS cut-off score of 62.5 in this sample, indicating sensitivity and

	5.4% Asian American; 2.7% Hispanic. Sample split into 2 groups: <i>n</i> = 37 with principal diagnosis of GAD & <i>n</i> = 37 non-anxious controls	IV); Penn State Worry Questionnaire (PSWQ); Anxiety Sensitivity Index (ASI); BAI	Total = 53.8 (9.08)	specificity for correctly identifying individuals with GAD.
<b>Authors</b>	<b>Sample Characteristics</b>	<b>Clinical Assessment</b>	<b>DERS Mean (SD), Range</b>	<b>Main Outcome(s)</b>
Strimas, 2013 (Same as above)	<i>n</i> = 321 bariatric surgery candidates; 80.1% female; <i>Mage</i> = 44.4; 81.3% Caucasian; 6.5% African American; 4% Arab/West Asian; 3.4% Hispanic; 2.7% Aboriginal; 1.8% Other	Mini International Neuropsychiatric Interview (MINI)	Total = 76.4 (20.77) NONACCEPT = 11.8 (5.58) CLARITY = 9.8 (3.57) AWARENESS = 15.5 (5.16) IMPULSE = 10.7 (4.48) GOALS = 11.8 (4.36) STRATEGIES = 15.5 (6.51)	Those with a current anxiety disorder exhibited significantly higher ER difficulties, and specifically GOALS, than those without a current anxiety disorder.
Tsypes et al., 2013	<i>n</i> = 125 community adults; 68% female; <i>Mage</i> = 28.6; Racial Breakdown NR. Sample split into 2 groups: <i>n</i> = 59 with GAD diagnosis & <i>n</i> = 66 with no diagnoses	SCID-IV; Anxiety Disorders Interview Schedule for DSM-IV (ADIS-IV); Pittsburg Sleep Quality Index (PSQI)	<u>GAD Sample:</u> Total = 2.5 (.65), 1.36–3.64 <u>Control Sample:</u> Total = 1.8 (.47), 1.11–2.89	ER difficulties were significantly greater in the GAD group. ER difficulties mediated the relationship between GAD and sleep dysfunction, independent of depression and comorbid anxiety diagnoses.
Tull et al., 2007	<i>n</i> = 108 US college students endorsing experiencing at least one potentially traumatic event; 63.9% female; <i>Mage</i> = 24.9; 57% Caucasian, 21.5% African American, 11.2% Asian, 2.9% Hispanic; 3.7% Multiracial, 3.7% Unspecified	Traumatic Events Questionnaire (TEQ); PTSD Checklist (PCL); PANAS	Total = 87.5 (26.54) NONACCEPT = 12.8 (5.78) CLARITY = 11.6 (4.34) AWARENESS = 15 (5.10) IMPULSE = 13.5 (6.29) GOALS = 15.3 (5.20) STRATEGIES = 19.3 (8.53)	ER difficulties were positively related to PTSD severity, controlling for negative affectivity. Participants at or above the PCL cut-off score (i.e., 44) endorsed significantly higher ER difficulties than those below the cut-off score. PTSD severity was significantly associated with the following DERS subscales: NONACCEPT, CLARITY, IMPULSE, GOALS, and STRATEGIES.
Tull & Roemer, 2007	<i>n</i> = 182 US college students split into 2 groups: <i>n</i> = 91 endorsing at least one experience of an uncued panic attack; 79.1% female; <i>Mage</i> = 23.6; 54.9% Caucasian, 6.6% African American, 9.9% Asian/Pacific Islander, 7.7% Hispanic, 12.1% Multi-racial, 8.8% Other.	Panic Attack Questionnaire (PAQ)	<u>Panic Sample:</u> NONACCEPT = 13.2 (5.70) CLARITY = 11.1 (3.93) AWARENESS = 14.6 (4.97) <u>Non-Panic Sample:</u> NONACCEPT = 11.6 (5.31) CLARITY = 9.6 (2.96) AWARENESS = 14.1 (4.48)	Compared to those in the no panic group, those in the panic group endorsed significantly greater NONACCEPT and CLARITY.

	<i>n</i> = 91 endorsing no history of panic attacks; 78% female; <i>Mage</i> = 22.8; 54.9% Caucasian, 11% African American, 12.1% Asian/Pacific Islander, 6.6% Hispanic, 5.5% Multi-racial, 9.9% Other			
<b>Authors</b>	<b>Sample Characteristics</b>	<b>Clinical Assessment</b>	<b>DERS Mean (SD), Range</b>	<b>Main Outcome(s)</b>
Tull et al., 2008 (Same as above)	<i>n</i> = 91 US college students endorsing at least one experience of an uncued panic attack; 79.1% female; <i>Mage</i> = 23.6; 54.9% Caucasian, 6.6% African American, 9.9% Asian/Pacific Islander, 7.7% Hispanic, 12.1% Multi-racial, 8.8% Other	Panic Attack Questionnaire (PAQ); Body Vigilance Scale (BVS); Body Sensations Questionnaire (BSQ); Panic and Agoraphobia Scale (PAS)	NONACCEPT = 13.2 (5.70) CLARITY = 11.1 (3.93)	Fear of bodily sensations predicted elevations on the following DERS subscales beyond other panic-related variables: NONACCEPT and CLARITY. There was no significant relationship between overall ER difficulties and body hypervigilance.
Tull et al., 2009	<i>n</i> = 320 US college students; 70.6% female; <i>Mage</i> = 20.28; 60.9% Caucasian, 11.9% African-American, 10% Asian/Asian-American, 5.6% Multi-racial, 4.7% Hispanic, 4.1% Asian Indian, 2.8% Other	Generalized Anxiety Disorders Questionnaire-IV (GADQ-IV); Panic Disorder-Self Report (PDSR); Anxiety Sensitivity Index (ASI)	<u>Self-Reported GAD:</u> Total = 91 (19.76) <u>No Self-Reported GAD:</u> Total = 71.9 (16.89) <u>Self-Reported Panic Disorder:</u> Total = 87.1 (19.09) <u>No Self-Reported Panic Disorder:</u> Total = 75.9 (18.68)	ER difficulties predicted self-reported GAD beyond the experience of self-reported panic attacks and panic disorder.
Vine & Aldao, 2014 (Same as above)	<i>n</i> = 211 US college students; 70.6% female; <i>Mage</i> = 18.7; 80.6% Caucasian; 4.7% African American; 8.1% Asian American; 3.3% Hispanic; 0.5% Native American; 3.3% Other	Mood and Anxiety Symptoms Questionnaire Short Form (MASQ-SF); Brief Fear of Negative Evaluation (BFNE)	NONACCEPT = 12.8 (5.28) CLARITY = 11.8 (4.04) IMPULSE = 11.5 (4.55) STRATEGIES = 16.8 (6.77)	CLARITY significantly predicted symptoms of social anxiety (i.e., fear of negative evaluation). NONACCEPT and STRATEGIES mediated the relationship between CLARITY and social anxiety severity.
<sup>a</sup> Weiss et al., 2013	<i>n</i> = 205 patients at a residential substance use disorder treatment facility; 49.5% male; <i>Mage</i> = 35-36; 56% Caucasian; 36% African American; 4% Native American; 2% Hispanic, 2% Other Sample split into 2 groups: <i>n</i> = 58 with PTSD & <i>n</i> = 147 without	Clinician Administered PTSD Scale (CAPS); SCID-IV; UPPS Impulsive Behavior Scale (UPPS)	<u>PTSD Sample:</u> Total = 101.3 (25.61) NONACCEPT = 16.4 (7.18) CLARITY = 12.5 (4.07) AWARENESS = 17.1 (6.09) IMPULSE = 16.8 (6.62) GOALS = 16.1 (4.99) STRATEGIES = 22.5 (8.02) <u>Non-PTSD Sample:</u>	The PTSD group showed significantly elevated ER difficulties than the non-PTSD group. Specific dimensions of ER difficulties included: NONACCEPT, GOALS, IMPULSE, STRATEGIES, and CLARITY. ER difficulties significantly predicted PTSD severity, beyond variance accounted for by impulsivity.

Authors	Sample Characteristics	Clinical Assessment	DERS Mean (SD), Range	Main Outcome(s)
	PTSD		Total = 80.4 (23.78) NONACCEPT = 11.6 (5.40) CLARITY = 10.7 (4.41) AWARENESS = 16.7 (5.49) IMPULSE = 12.9 (5.87) GOALS = 13 (4.82) STRATEGIES = 15.6 (6.44)	
<sup>a</sup> Weiss et al., 2012	<i>n</i> = 180 US college students; 67.8% female; <i>Age</i> = 24.1; 100% African American	Life Events Checklist (LEC); PTSD Checklist-Civilian Version (PCL-C); PANAS	Total = 68.1 (23.88) NONACCEPT = 9.6 (5.18) CLARITY = 9.2 (3.81) AWARENESS = 13.7 (4.87) IMPULSE = 11.1 (5.59) GOALS = 11.6 (5.18) STRATEGIES = 13.7 (6.90)	ER difficulties were significantly higher in those with self-reported probable PTSD, compared with those with no trauma or unlikely PTSD, controlling for age and negative affectivity. The following specific ER difficulties were significantly elevated in those with probable PTSD: NONACCEPT, GOALS, IMPULSE, and STRATEGIES.
<sup>b</sup> Weiss et al., 2013	<i>n</i> = 93 patients in a residential substance use disorder treatment facility; 76.3% male; <i>Age</i> = 40.6; 60.2% African American, 37.6% Caucasian, 2.2% Hispanic	Childhood Trauma Questionnaire-Short Form (CTQ); Life Events Checklist (LEC); PTSD Checklist-Civilian Version (PCL-C); Depression Anxiety Stress Scale-21 (DASS-21)	Total = 87.8 (23.12) NONACCEPT = 13 (5.94) CLARITY = 11.5 (3.88) AWARENESS = 16.9 (5.91) IMPULSE = 14.4 (5.41) GOALS = 13.9 (4.63) STRATEGIES = 18 (6.47)	Compared to those without PTSD, patients with probable PTSD endorsed greater ER difficulties, including the following specific domains: GOALS, IMPULSE, STRATEGIES, and CLARITY. IMPULSE mediated the relationship between childhood physical and emotional abuse and probable PTSD status.
<sup>b</sup> Weiss et al., 2012	<i>n</i> = 206 patients from a residential substance use disorder treatment facility; 63% male; <i>Age</i> = 35.5; 56% Caucasian; 36% African American; 4% Native American; 2% Hispanic; 2% Other	Clinician Administered PTSD Scale (CAPS); Diagnostic Interview for DSM-IV Personality Disorders (DIPD-IV; SCID-IV	Total = 86.3 (26.25)	ER difficulties mediated the relationship between PTSD and impulsive behaviors.

*Note.* NR = Not Reported; MDD = Major Depressive Disorder; SAD = Social Anxiety Disorder; GAD = Generalized Anxiety Disorder; NONACCEPT = Non-acceptance of emotions dimension/subscale of DERS; CLARITY = Lack of emotional clarity dimension/subscale of DERS; AWARENESS = Lack of emotional awareness dimension/subscale of DERS; IMPULSE = Impulse control difficulties dimension/subscale of DERS; GOALS = Difficulty engaging in goal-directed behavior dimension/subscale of DERS; STRATEGIES = Limited access to ER strategies dimension/subscale of DERS; SCID-IV = Structured Clinical Interview for the Diagnostic and Statistical of Mental Disorders-Fourth Edition; BDI-II = Beck Depression Inventory-Second Edition; BAI = Beck Anxiety Inventory; PANAS = Positive and Negative Affect Scale

Table 4

*Emotion Regulation as Measured by the DERS in Relation to Functional Impairment/Well-Being*

<b>Authors</b>	<b>Sample Characteristics</b>	<b>Clinical Assessment</b>	<b>DERS Mean (SD), Range</b>	<b>Main Outcome(s)</b>
Clarke, 2012	<i>n</i> = 22 patients receiving outpatient, intensive outpatient, or partial hospitalization treatment at a US substance use treatment facility; 59.1% female; <i>M</i> age = 43.6; 72.7% Caucasian; 22.7% African American; 4.5% Native American	Five Factor Wellness Inventory (5F-Wel)	Total = 92.5 (28.51) NONACCEPT = 15.3 (6.45) CLARITY = 11.9 (4.62) AWARENESS = 16 (4.57) IMPULSE = 14.9 (5.72) GOALS = 14.9 (3.69) STRATEGIES = 19.6 (7.4)	ER difficulties were inversely correlated with overall psychological and physical wellness.
Phillips et al., 2014 (Same as above)	<i>n</i> = 31 British adults with Multiple Sclerosis (MS); <i>M</i> age = 44. <i>n</i> = 31 British community adults without MS; <i>M</i> age = 44.5. Racial Breakdown & Gender NR	World Health Organization Quality of Life questionnaire (WHOQoL-BREF); Hospital Anxiety and Depression scales (HADS)	<u>MS Sample:</u> Total = 14.8 (1.81) NONACCEPT = 2.3 (0.83) CLARITY = 2.8 (0.46) AWARENESS = 3.3 (0.52) IMPULSE = 1.9 (0.37) GOALS = 2.6 (0.68) STRATEGIES = 2 (0.47) <u>Non-MS Sample:</u> Total = 13.8 (1.29) NONACCEPT = 1.9 (0.68) CLARITY = 2.4 (0.30) AWARENESS = 3.4 (0.80) IMPULSE = 1.8 (0.26) GOALS = 2.5 (0.43) STRATEGIES = 1.8 (0.33)	ER difficulties were significantly greater in the MS group. ER difficulties predicted poorer psychological health and social quality of life.
Saxena et al., 2011 (Same as above)	<i>n</i> = 288 participants with no current or prior history of medical/mental illness; 75.7% male; <i>M</i> age = 20.8; Racial Breakdown NR	General Health Questionnaire-28 (GHQ-28); Hindi Version of PANAS; Satisfaction with Life Scale (SWLS)	NR	All dimensions of ER difficulties significantly predicted various domains of overall mental health and well-being. Specifically, NONACCEPT, CLARITY, and STRATEGIES significantly predicted negative affect. NONACCEPT significantly predicted social dysfunction. GOALS and STRATEGIES significantly predicted satisfaction with life, but only accounted for a small proportion of the variance (i.e., 6% - 8%).

*Note.* NR = Not Reported; NONACCEPT = Non-acceptance of emotions dimension/subscale of DERS; CLARITY = Lack of emotional clarity dimension/subscale of DERS; AWARENESS = Lack of emotional awareness dimension/subscale of DERS; IMPULSE = Impulse control difficulties dimension/subscale of DERS; GOALS = Difficulty engaging in goal-directed behavior dimension/subscale of DERS; STRATEGIES = Limited access to ER strategies dimension/subscale of DERS; PANAS = Positive and Negative Affect Scale

Table 5

*Emotion Regulation as Measured by the DERS in Relation to Other Clinical Outcomes*

<b>Authors</b>	<b>Sample Characteristics</b>	<b>Clinical Assessment</b>	<b>DERS Mean (SD), Range</b>	<b>Main Outcome(s)</b>
Banducci et al., 2014	<i>n</i> = 280 patients at a US residential SUD treatment center; 69.7% male; <i>M</i> age = 43.3; 88.4% African American; Other Racial Breakdown NR	Childhood Trauma Questionnaire-Short Form (CTQ-SF)	NR	Childhood emotional abuse uniquely predicted ER difficulties.
Bardeen et al., 2015	<i>n</i> = 99 US community adults; 93.9% female; <i>M</i> age = 23.7; 53.8% Caucasian; 21.5 % African American; 9.7 % Asian; 14.0 % Other	Attention Network Test (ANT); Paced Auditory Serial Addition Task – Computerized (PASAT-C); PANAS	STRATEGIES = 21.2 (7.15), 9-40	STRATEGIES was significantly, positively correlated with negative affectivity. Among those with low attentional control, STRATEGIES was significantly, negatively associated with distress tolerance.
Bottoms, 2013	<i>n</i> = 41 patients with serious mental illness recruited from a day rehabilitation center; 78% male; <i>M</i> age = 43.6; 90.2% Caucasian; 4.9% African American; 4.9% Other	Social Functioning Scale (SFS)	Total = 85.5 (23.95), 36-180 NONACCEPT = 14.9 (6.47), 6-30 CLARITY = 11.6 (4.04), 5-25 AWARENESS = 15.5 (4.75), 6-30 IMPULSE = 12.2 (4.88), 6-30 GOALS = 13.2 (4.44), 5-25 STRATEGIES = 18.1 (7.69), 8-40	ER difficulties were associated with greater positive symptoms of psychosis and poorer social functioning.
Buckholdt et al., 2015- Study 1	<i>n</i> = 118 US college students; 76% female; <i>M</i> age = 20.9; 54% Caucasian; 41% African American	Deliberate Self-Harm Inventory (DSHI); Bulimia Test-Revised (BULIT-R)	Total = 78.9 (22.6), 45-159 NONACCEPT = 12.4 (5.6), 6-30 CLARITY = 10.4 (4), 5-25 AWARENESS = 13 (4.3), 6-26 IMPULSE = 11.9 (4), 6-25 GOALS = 14.6 (5), 5-25 STRATEGIES = 16.6 (7.3), 8-40	Those with clinically-relevant deliberate self-harm and disordered eating showed significantly greater ER difficulties than those without these behaviors, including the following specific domains: NONACCEPT, IMPULSE, STRATEGIES.
Buckholdt et al., 2015- Study 2	<i>n</i> = 82 patients at US residential substance use treatment facility; 48% female; <i>M</i> age = 36.6; 82.5% Caucasian; 12.5% African American	Deliberate Self-Harm Inventory (DSHI); Bulimia Test-Revised (BULIT-R); Drug Use Questionnaire (DUQ)	Total = 92.6 (24.9), 44-150 NONACCEPT = 13.6 (5.8), 6-30 CLARITY = 12.1 (4.3), 5-22 AWARENESS = 17 (4.9), 6-28 IMPULSE = 15.1 (5.1), 6-30 GOALS = 15.2 (5.4), 5-25 STRATEGIES = 19.6 (7.9), 8-36	Those with clinically-relevant deliberate self-harm and substance misuse behaviors showed significantly greater ER difficulties than those with substance misuse only, including all six DERS subscales.
Clarke, 2012 (Same as	<i>n</i> = 22 patients receiving outpatient, intensive outpatient, or partial	Five Factor Wellness Inventory (5F-Wel)	Total = 92.5 (28.51) NONACCEPT = 15.3 (6.45)	ER difficulties were positively correlated with relapse. ER difficulties partially predicated total

above)	hospitalization treatment at a US substance use treatment facility; 59.1% female; <i>Mage</i> = 43.6; 72.7% Caucasian; 22.7% African American; 4.5% Native American		CLARITY = 11.9 (4.62) AWARENESS = 16 (4.57) IMPULSE = 14.9 (5.72) GOALS = 14.9 (3.69) STRATEGIES = 19.6 (7.4)	length of relapse.
<b>Authors</b>	<b>Sample Characteristics</b>	<b>Clinical Assessment</b>	<b>DERS Mean (SD), Range</b>	<b>Main Outcome(s)</b>
Cooper et al., 2015	<i>n</i> = 181 college students with mean BMI = 23; 100% female; <i>Mage</i> = 19.2; Racial Breakdown NR	Eating Disorder Examination Questionnaire (EDE-Q); Depression Anxiety Stress Survey-21 (DASS-21); Ambiguous Scenarios Test for Depression (AST-D)	Total = 2.5 (.69), 1-4	ER difficulties was unrelated to negative memory bias. Negative interpretation biases mediated the relationship between disordered eating/binge eating and ER difficulties.
Crockett, 2014	<i>n</i> = 203 adult online participants who endorsed experiencing at least one romantic relationship; 89.7% female; <i>Mage</i> = 27.6; 82.8% Caucasian; 5.9% Hispanic; 3.4% African American; 1.5% Asian; 1% Native American; 5.4% Other	Experiences in Close Relationship Revised (ECR-R); Nijmegen Questionnaire (NQ); Self-evaluation of Breathing Questionnaire Version 2 (SEBQ-2)	Total = 80.2 (24.94) NONACCEPT = 13.7 (6.34) CLARITY = 10.7 (3.77) AWARENESS = 12.8 (4.19) IMPULSE = 11.9 (6.66) GOALS = 14.2 (5.1) STRATEGIES = 17 (7.23)	ER difficulties were significantly, positively correlated with attachment anxiety, attachment avoidance, hyperventilation, and dysfunctional breathing. These four variables accounted for 45% of the variance in ER difficulties.
Farris et al., 2015	<i>n</i> = 250 US adult daily smokers, seeking treatment for smoking cessation; 53.2% female; <i>Mage</i> = 39.5; 86.4% Caucasian	SCID-IV; Fagerstro ¨m Test for Nicotine Dependence (FTND); Smoking History Questionnaire (SHQ); Timeline Follow-Back Interview (TLFB);	Participants with a psychological disorder in the past year: Total = 82.6 (22.9)  Participants with no psychological disorder: Total = 67.7 (17.4)	For those with past year psychopathology, ER difficulties were unrelated to lapse rate likelihood. Among those without a past year disorder, those with lower ER difficulties were significantly less likely to lapse, compared to those with high ER difficulties.
Fox et al., 2007	<i>n</i> = 60 US cocaine-dependent inpatients; <i>Mage</i> = 37.2. <i>n</i> = 50 healthy controls; <i>Mage</i> = 33.6 Gender & Racial Breakdown NR	NR	<u>Cocaine Sample:</u> Total = 85.8 (22.5) CLARITY = 11.7 (3.8) AWARENESS = 16 (5) IMPULSE = 13.5 (4.8) STRATEGIES = 18.1 (6.4) <u>Control Sample:</u> Total = 60.9 (15) CLARITY = 8.3 (3.6) AWARENESS = 12 (4.5) IMPULSE = 8.3 (2.4)	ER difficulties (including the specific domains: CLARITY, AWARENESS, IMPULSE, and STRATEGIES) were significantly greater in the cocaine-dependent sample than the control sample.

<b>Authors</b>	<b>Sample Characteristics</b>	<b>Clinical Assessment</b>	<b>DERS Mean (SD), Range</b>	<b>Main Outcome(s)</b>
Garofalo et al., 2015	<i>n</i> = 307 Non-clinical controls/community adults; 54.3% male; <i> Mage</i> = 36. <i>n</i> = 130 psychiatric inpatients; 64.4% male; <i> Mage</i> = 43.3. Racial Breakdown NR	Barratt Impulsiveness Scale (BIS-11); Millon Clinical Multiaxial Inventory-III (MCMI-III)	STRATEGIES = 11.9 (3.1)  <u>Clinical Sample:</u> Total = 92 (26.25)  <u>Non-Clinical Sample:</u> Total = 75.9 (19.16)	ER difficulties were significantly greater in the clinical group, compared to the non-clinical group. ER difficulties were significantly associated with alcohol misuse. Trait impulsivity partially accounted for the relationship between ER difficulties and alcohol misuse.
Gonzales et al., 2009	<i>n</i> = 174 US community, adult, daily cigarette smokers; 46% female; <i> Mage</i> = 25.3; 95% Caucasian; 3% African American; 1% Hispanic and 1% Other	SCID-IV; Smoking History Questionnaire (SHQ); Fagerstrom Tolerance Questionnaire (FTQ); Alcohol Use Disorders Identification Test (AUDIT); Marijuana Smoking History Questionnaire (MSHQ); Smoking Consequences Questionnaire (SCQ); Mindful Attention Awareness Scale (MAAS); Mood and Anxiety Symptom Questionnaire (MASQ)	Total = 80.8 (22.76), 40–153	Those with greater negative affect reduction outcome expectancies and lower levels of mindfulness reported greater ER difficulties. Smoking frequency was unrelated to ER difficulties.
Gratz & Roemer, 2004	<i>n</i> = 357 US college students; 73% female; <i> Mage</i> = 23; 55% Caucasian; 17% Asian; 8% African American; 4% Hispanic; 6% Other/Unspecified	Deliberate Self-Harm Inventory (DSHI); Abuse-Perpetration Inventory (API)	NR	ER difficulties were significantly associated with self-harm among both men and women. NONACCEPT and IMPULSE were associated with self-harm among men, but not women. ER difficulties were associated with intimate partner abuse (IPA) among men only. IMPULSE was associated with IPA among women, while IMPULSE, GOALS, and STRATEGIES were associated with IPA among men.
Gratz & Tull, 2010	<i>n</i> = 61 inpatients at a US substance use treatment facility; 54% male; <i> Mage</i> = 44.5; 97% African American	SCID; Clinician Administered PTSD Scale, Version IV (CAPS); Diagnostic Interview for	<u>Self-Harm History:</u> Total = 101.3 (22.17) NONACCEPT = 17.1 (6.53) CLARITY = 13 (3.41)	ER difficulties were significantly greater among those with deliberate self-harm, compared with those without deliberate self-harm. ER difficulties were significantly associated with deliberate self-harm,

		DSM-IV Personality Disorders (DIPD-IV; Deliberate Self-harm Inventory (DSHI); Life Events Checklist (LEC); Alcohol Use Disorders Identification Test (AUDIT)	AWARENESS = 14.4 (4.71) IMPULSE = 17.6 (5.62) GOALS = 16.7 (4) STRATEGIES = 22.5 (7.36) <u>No Self-Harm History:</u> Total = 84.1 (24.93) NONACCEPT = 13.2 (5.99) CLARITY = 11.1 (4.54) AWARENESS = 14.5 (4.72) IMPULSE = 14.3 (6.4) GOALS = 13.9 (4.75) STRATEGIES = 17.1 (6.32)	after controlling for BPD, PTSD, substance use severity, and childhood abuse.
<b>Authors</b>	<b>Sample Characteristics</b>	<b>Clinical Assessment</b>	<b>DERS Mean (SD), Range</b>	<b>Main Outcome(s)</b>
Han, 2009	<i>n</i> = 381 US college students; 58% female; <i>M</i> <sub>age</sub> = 25.3; 67.2% Caucasian; 16.5% Internationals; 4.5% Asian; 3.4% Hispanic; 3.1% African American; 5.3% Other/Unspecified	Experiences in Close Relationships-Short Form (ECR-S); Binge Eating Scale (BES)	NONACCEPT = 2.2 (.87) CLARITY = 2.2 (.74) AWARENESS = 2.4 (.8) IMPULSE = 1.81 (.76) GOALS = 2.8 (.84) STRATEGIES = 2 (.82)	ER difficulties were positively associated with insecure attachment. ER difficulties mediated the relationship between attachment insecurity and binge eating.
Haynos et al., 2014	<i>n</i> = 65 inpatients with Anorexia Nervosa; Demographics NR	Eating Disorder Examination (EDE); BDI, BAI; Clinical Impairment Assessment (CIA)	Total = 111.2 (28.66) NONACCEPT = 19.7 (6.1) CLARITY = 15.8 (5.21) AWARENESS = 19.9 (5.12) IMPULSE = 14.7 (5.63) GOALS = 17 (5.56) STRATEGIES = 24.1 (8.1)	IMPULSE scores were significantly greater in those with the bingeing and purging subtype of anorexia nervosa, relative to those with other subtypes.
Herr et al., 2013	<i>n</i> = 35 US community adults with BPD; 66.9% female; <i>M</i> <sub>age</sub> = 36.5; 52.4% African American; 38.1% Caucasian; 8.6% Native American; 2.4% Asian; 1.6% Hispanic; 8.6% Other	SCID-IV for Axis I Diagnoses; SCID-IV for Axis II Diagnoses; Inventory of Interpersonal Problems (IIP)	Total = 86.4 (31.5)	ER difficulties were significantly associated with lifetime history of depressive disorder, anxiety disorder, and non-BPD personality disorder. ER difficulties mediated the relationship between BPD severity and interpersonal dysfunction. Interpersonal problems partially mediated the relationship between ER difficulties and BPD severity.
Iverson, 2008	<i>n</i> = 40 US suicidal college students with BPD features; 80% female; <i>M</i> <sub>age</sub> = 20.8; 77.5% Caucasian; 10% Hispanic; 7.5% Asian/Pacific Islander; 2.5% African American;	Life Problems Inventory (LPI); Suicide Attempt Self-Injury Interview (SASI-II); BDI; Distress Tolerance Scale	Total = 115.1 (17.54), 48 - 146	ER difficulties were significantly related to BPD symptoms.

	2.5% East Indian			
Authors	Sample Characteristics	Clinical Assessment	DERS Mean (SD), Range	Main Outcome(s)
Johnson et al., 2012	<i>n</i> = 198 daily smokers seeking smoking cessation treatment; 57.5% male; <i> Mage</i> = 38; 85.9% Caucasian; 8.6% African American; 2% Hispanic; 1% Asian; 2% Other	SCID-IV; Smoking History Questionnaire (SHQ); Fagerstrom Test for Nicotine Dependence (FTND); Alcohol Use Disorders Identification Test (AUDIT); Marijuana Smoking History Questionnaire (MSHQ); Anxiety Sensitivity Index-3 (ASI-3); Smoking Consequences Questionnaire (SCQ); Reasons for Smoking (RFS); Barriers to Cessation Scale (BCS)	Total = 75.2 (22.13)	ER difficulties were significantly, positively correlated with marijuana use, alcohol use, and anxiety sensitivity. ER difficulties mediated the relationships between anxiety sensitivity and cognitive smoking processes, including use of smoking to reduce negative affect and barriers to smoking cessation.
Johnson & McLeish, 2016	<i>n</i> = 126 community adult, daily cigarette smokers; 70.4% male; <i> Mage</i> = 36.5; 69.8% Caucasian; 26.2% African American; 4% Other	Fagerstrom Test for Nicotine Dependence (FTND); Anxiety Sensitivity Index-3 (ASI-3); PANAS; Barriers to Cessation Scale (BCS); Reasons for Smoking (RFS); Smoking Consequences Questionnaire (SCQ)	Total = 79.4 (25.50)	ER difficulties were significantly, positively correlated with use of smoking to reduce negative affect and internal barriers to quitting (e.g., emotions, craving). ER difficulties mediated the relationship between negative affect and internal barriers to quitting and use of smoking to reduce negative affect, after controlling for the effects of gender, daily smoking rate, and anxiety sensitivity.
Klemanski et al., 2012 (Same as above)	<i>n</i> = 44 active duty service members; 100% male; <i> Mage</i> = NR; Racial Breakdown NR	SCID-IV; Clinician Administered PTSD Scale (CAPS); Social Adjustment Scale-Self Report (SAS-SR); Michigan Alcohol Screening Test (MAST)	NR	ER difficulties partially mediated the relationship between PTSD and social adjustment, but not alcohol abuse.
Lacy, 2011	<i>n</i> = 117 US outpatients seeking eating disorder treatment; 96.5% female; <i> Mage</i> = 25.1;	Eating Disorder Diagnostic Scale (EDDS); Eating Disorder Examination	NR	NONACCEPT, AWARENESS, and STRATEGIES were significantly greater in the clinical sample, compared with the control sample.

	<i>n</i> = 119 US college students without eating disorder pathology (control sample); 50.8% female; <i> Mage</i> = 19;	Questionnaire (EDE-Q)		
<b>Authors</b>	<b>Sample Characteristics</b>	<b>Clinical Assessment</b>	<b>DERS Mean (SD), Range</b>	<b>Main Outcome(s)</b>
Lilly & Valdez, 2012 (Same as above)	<i>n</i> = 248 US college students who reported experiencing an event that was the “worst” or identified a traumatic event assessed by the TLEQ; 65.7% female; <i> Mage</i> = 19.7; 67.3% Caucasian; 12.1% African American; 5.2% Hispanic; 4% Asian; 11.3% Biracial/Other	Traumatic Life Events Questionnaire (TLEQ); Somatization subscale of Symptom Checklist-90-Revised (SCL-90-R); Toronto Alexithymia Scale-20 (TAS-20)	Total = 80.4 (14.03), 54 – 146	ER difficulties were positively associated with alexithymia. For those who endorsed greater alexithymia, ER difficulties were more strongly associated with somatization, compared with those who endorsed low alexithymia.
Long et al., 2014	<i>n</i> = 81 patients at a residential substance use treatment facility; 84% male; <i> Mage</i> = 42; 85.2% African American; 7.4% Caucasian; 4.9% Other	Psychopathic Personality Inventory (PPI); Impulsive and Premeditated Aggression Scale (IPAS)	Total = 85.4 (24.79)	ER difficulties were inversely associated with fearlessness/dominance traits of psychopathy and cold-heartedness traits of psychopathy, and positively associated with self-centered impulsivity. Fearlessness/dominance and self-centered impulsivity showed a significant indirect effect on impulsive aggression via ER difficulties.
Martin et al., 2011	<i>n</i> = 455 inpatients at three US substance use treatment facilities; 57% male; <i> Mage</i> = 40.1; Racial Breakdown NR	SCID-IV; Deliberate Self-Harm Inventory (DSHI); Childhood Trauma Questionnaire (CTQ)	<u>Deliberate Self-Harm Group:</u> Total = 105.2 (19.29) NONACCEPT = 16 (5.91) CLARITY = 11.8 (3.21) AWARENESS = 14.1 (4.01) IMPULSE = 17.5 (5.01) GOALS = 16.9 (4.91) STRATEGIES = 19.2 (4.23) <u>No Deliberate Self-Harm Group:</u> Total = 80 (22.01) NONACCEPT = 4.2 (2.01) CLARITY = 11.7 (3.99) AWARENESS = 13.1 (4.29) IMPULSE = 4.9 (1.44) GOALS = 5 (2.19) STRATEGIES = 4 (2.55)	ER difficulties were significantly greater among those exhibiting deliberate self-harm behaviors, even after controlling for Axis II severity, BPD status, PTSD, substance use severity, and childhood factors. The following specific dimensions were significantly greater in those with deliberate self-harm: NONACCEPT, GOALS, and STRATEGIES.
Miranda et al., 2013	<i>n</i> = 143 US college students; 80% female; <i> Mage</i> = 18.5; Racial Breakdown NR. Split into 2 groups:	Suicidal Behavior Screening (SBS); PRIME-MD Patient Health Questionnaire (PHQ-	NR	Multiple suicide attempters showed significantly greater IMPULSE and STRATEGIES than single suicide attempters and non-attempters. Baseline

	<i>n</i> = 32 with at least one suicide attempt & <i>n</i> = 111 without	9); Ruminative Responses Scale (RRS); Beck Hopelessness Scale (BHS); the Beck Scale for Suicidal Ideation (BSS)		STRATEGIES was significantly related to rumination, hopelessness, and suicidal ideation at 2-3-year follow-up. Rumination and hopelessness mediated the relationship between STRATEGIES and suicidal ideation, controlling for depression.
<b>Authors</b>	<b>Sample Characteristics</b>	<b>Clinical Assessment</b>	<b>DERS Mean (SD), Range</b>	<b>Main Outcome(s)</b>
Monteiro et al., 2014	<i>n</i> = 128 college students in Botswana; 50% female; <i>Mage</i> = 21.2; Racial Breakdown NR	Coping Strategies Inventory (CSI)	NR	ER difficulties predicted problem- and emotion-focused engagement, problem- and emotion-focused disengagement coping strategies. NONACCEPT was significantly related to greater problem solving, cognitive restructuring, expressing emotion, social support, problem avoidance, and wishful thinking coping strategies.
Muehlenkamp et al., 2010	<i>n</i> = 2238 US college students; 66% female; <i>Mage</i> = 19.7; 78.5% Caucasian; 2.1% Native American; 0.6% Hispanic; 0.5% Asian; 0.5% African-American; 17.8% Other/Biracial	Deliberate Self-Harm Inventory (DSHI); About Me Questionnaire	NR	Those with a history of abuse and/or non-suicidal self-injury (NSSI) showed significantly greater ER difficulties. Those with physical abuse and physical/sexual abuse endorsed greater STRATEGIES and IMPULSE, compared to those with no abuse and sexual abuse only.
Nickerson et al., 2015 (Same as above)	<i>n</i> = 134 outpatient international refugees; 78.4% male; <i>Mage</i> = 42.4; Racial Breakdown NR	Post-Migration Living Difficulties Checklist (PMLDC); Hopkins Symptom Check-list (HSCL)	NR	All dimensions of ER difficulties were related to post-migration living difficulties. IMPULSE were significantly related to problematic/explosive anger.
Price et al., 2014 (Same as above)	<i>n</i> = 254 community adults; 100% female; <i>Mage</i> = 32; 47.1% Caucasian; 40.2% African American; 4.1% Biracial; 3.7% Hispanic; 1.6% Native American; 1.6% Asian; 1.6% Other. Sample split into 2 groups: <i>n</i> = 111.8 women with interpersonal violence in the past 6 months & <i>n</i> = 142.2 women with no interpersonal violence in the past 6 months	Conflict Tactics Scale (CTS-2); Anger Management Scale (AMS)	Total = 77.3 (23.10), 36-146.96	ER difficulties were significantly associated with greater frequency of physical assault perpetration. ER difficulties were significantly and positively related to cognitions and behaviors that increase anger during partner conflict, including negative partner attributions and escalating strategies (e.g., impulsive behaviors).
<b>Authors</b>	<b>Sample Characteristics</b>	<b>Clinical Assessment</b>	<b>DERS Mean (SD), Range</b>	<b>Main Outcome(s)</b>

Ritschel et al., 2015 (Same as above)	<i>n</i> = 1050 US college students; 75.6% female; <i>Mage</i> = 20.7; 42.5% Caucasian; 40.4% African American; 17.1% Asian American	Borderline Symptom List-23 (BSL-23); Childhood Trauma Questionnaire-Short Form (CTQ-SF); Dissociative Experiences Scale (DES)	Total = 77.2 (22.37) NONACCEPT = 9.7 (4.46) CLARITY = 10.5 (3.92) AWARENESS = 14.3 (5.12) IMPULSE = 11.3 (4.72) GOALS = 13.5 (4.80) STRATEGIES = 16 (6.67)	Overall and specific ER difficulties were significantly, positively correlated with borderline personality symptoms, childhood abuse and neglect, and dissociative symptoms.
Saxena et al., 2011 (Same as above)	<i>n</i> = 288 participants with no current or prior history of medical/mental illness; 75.7% male; <i>Mage</i> = 20.8; Racial Breakdown NR	General Health Questionnaire-28 (GHQ-28); Hindi Version of PANAS	NR	NONACCEPT, CLARITY, and STRATEGIES significantly predicted negative affect and insomnia. GOALS and STRATEGIES significantly predicted somatic complaints.
Stasiewicz et al., 2012	<i>n</i> = 77 outpatients with alcohol dependence; 51% female; <i>Mage</i> = 45.5; 87% Caucasian; 13% African American	Inventory of Drug Taking Situations-Alcohol Version; Short Alcohol Dependence Data Questionnaire (SADD) Timeline Follow-Back (TLFB); Drinker Inventory of Consequences (DrInC); Toronto Alexithymia Scale (TAS-20)	NR	ER difficulties were significantly and positively associated with alexithymia. Alexithymia significantly predicted all dimensions of ER difficulties, controlling for anxiety and depression.
Strimas, 2013 (Same as above)	<i>n</i> = 321 bariatric surgery candidates; 80.1% female; <i>Mage</i> = 44.4; 81.3% Caucasian; 6.5% African American; 4% Arab/West Asian; 3.4% Hispanic; 2.7% Aboriginal; 1.8% Other	Mini International Neuropsychiatric Interview (MINI)	Total = 76.4 (20.77) NONACCEPT = 11.8 (5.58) CLARITY = 9.8 (3.57) AWARENESS = 15.5 (5.16) IMPULSE = 10.7 (4.48) GOALS = 11.8 (4.36) STRATEGIES = 15.5 (6.51)	Those with a current DSM-IV Axis I disorder exhibited significantly higher ER difficulties than those without. This included the following dimensions: CLARITY, IMPULSE, GOALS, and STRATEGIES. DERS-Total and GOALS predicted Axis I disorder status.
Svaldi et al., 2012 (Same as above)	<i>n</i> = 136 European participants split into 6 groups: <i>n</i> = 20 with Anorexia Nervosa <i>n</i> = 18 with Bulimia Nervosa <i>n</i> = 25 with Binge Eating Disorder <i>n</i> = 16 with MDD <i>n</i> = 15 inpatients with BPD <i>n</i> = 42 Healthy Controls  All groups, except BPD, recruited from university center; 100%	SCID-IV; Eating Disorder Examination Questionnaire (EDEQ); BDI	<u>Eating Disordered Groups:</u> NONACCEPT = 17 (6.60) - 20.3 (7.61) CLARITY = 13.1 (4.97) - 17.9 (7.35) AWARENESS = 19.3 (4.37) - 20.2 (4.88) IMPULSE = 16.6 (5.49) - 19.4 (5.68) GOALS = 16.6 (4.60) - 19.7 (8.16) STRATEGIES = 22.3 (7.89) - 27.5 (8.96) <u>BPD Group:</u> NONACCEPT = 21.3 (7.02) CLARITY = 18.5 (4.41) AWARENESS = 21 (4.47) IMPULSE = 21.3 (4.36) GOALS = 19.9 (3.36)	The eating disordered groups reported significantly greater NONACCEPT, CLARITY, AWARENESS, and STRATEGIES than healthy controls. Few differences in specific ER difficulties emerged across eating disordered groups. All 6 DERS subscales were significantly greater in the BPD group, compared with healthy controls.

	female; <i>M</i> age ranged from 22.9–46.4; Racial Breakdown NR		STRATEGIES = 30.7 (3.71) <u>Healthy Control Group:</u> NONACCEPT = 11 (4.08) CLARITY = 8.9 (2.79) AWARENESS = 14.8 (5.86) IMPULSE = 8.3 (2.75) GOALS = 11.1 (4.35) STRATEGIES = 13.1 (4.67)	
<b>Authors</b>	<b>Sample Characteristics</b>	<b>Clinical Assessment</b>	<b>DERS Mean (SD), Range</b>	<b>Main Outcome(s)</b>
Tull et al., 2012	<i>n</i> = 177 patients in a US residential substance use treatment facility; 60.5% male; <i>M</i> age = 35.8; 61.6% Caucasian; 29.9% African American; 4% Native American; 2.3% multi-racial; 1.7% Hispanic; 0.6% Asian/Pacific-Islander	HIV Risk-taking Behavior Scale (HRBS); Urgency-Premeditation-Perseverance-Sensation Seeking (UPPS); Alcohol Use Disorders Identification Test (AUDIT); Depression Anxiety Stress Scales (DASS); Life Events Checklist (LEC)	NR	ER difficulties were positively associated with frequency of sexual interactions involving exchange of sex for drugs/money. ER difficulties were negatively associated with condom use. ER difficulties predicted risky sexual behavior beyond other risk factors, including demographics, depression, sensation seeking, trauma exposure, and substance use severity. CLARITY was a unique predictor of risky sexual behavior.
Velotti et al., 2015	<i>n</i> = 191 inpatients; 59.7% male; <i>M</i> age = 42.8 <i>n</i> = 277 community adults; 56.3% male; <i>M</i> age = 39.5 Racial Breakdown NR	Rejection Sensitivity Questionnaire – Adult Version (RSQ-A); Five Facet Mindfulness Questionnaire (FFMQ)	<u>Clinical Sample:</u> NONACCEPT = 18 (6.80) CLARITY = 11.6 (4.84) AWARENESS = 14 (4.76) IMPULSE = 15.3 (6.37) GOALS = 16.1 (5.32) STRATEGIES = 21.7 (8.64) <u>Community Sample:</u> NONACCEPT = 12 (4.33) CLARITY = 9.2 (3.73) AWARENESS = 13.9 (3.86) IMPULSE = 10.7 (4.01) GOALS = 12.6 (4.50) STRATEGIES = 14.7 (5.35)	Those in the clinical sample reported significantly greater NONACCEPT, CLARITY, IMPULSE, GOALS, and STRATEGIES. ER mediated the relationship between mindfulness deficits and rejection sensitivity. STRATEGIES mediated the relationship between mindfulness deficits and rejection sensitivity.
Vettese et al., 2011	<i>n</i> = 81 patients at a hospital-based substance use disorder treatment facility; 65.4% male; <i>M</i> age = 19.5; 72.8% Caucasian; Other Racial Breakdown NR	Childhood Trauma Questionnaire-Short Form (CTQ-SF); Self-Compassion Scale (SCS); Brief Symptom Inventory (BSI); Symptom Checklist-	NR	ER difficulties were negatively related to self-compassion. Self-compassion predicted ER difficulties beyond variance accounted for by maltreatment history, current psychological distress, and problem substance use. The relationship between childhood maltreatment severity and later ER

		90-Revised (SCL-90-R); Substance Misuse Scale (SMS); Timeline Follow-back (TLFB)		difficulties was mediated by self-compassion.
<b>Authors</b>	<b>Sample Characteristics</b>	<b>Clinical Assessment</b>	<b>DERS Mean (SD), Range</b>	<b>Main Outcome(s)</b>
Vine & Aldao, 2014 (Same as above)	<i>n</i> = 211 US college students; 70.6% female; <i>Mage</i> = 18.7; 80.6% Caucasian; 4.7% African American; 8.1% Asian American; 3.3% Hispanic; 0.5% Native American; 3.3% Other	Attentional Control Scale (ACS); McLean Screening Instrument for Borderline Personality Disorder (MSI-BPD); Binge Eating Scale (BES); Short Michigan Alcohol Screening Test (SMAST)	NONACCEPT = 12.8 (5.28) CLARITY = 11.8 (4.04) IMPULSE = 11.5 (4.55) STRATEGIES = 16.8 (6.77)	CLARITY significantly predicted symptoms of borderline personality, binge eating, and alcohol use. Attention shifting problems and STRATEGIES mediated the relationship between CLARITY and borderline severity. Attention shifting problems, IMPULSE, and STRATEGIES mediated the relationship between CLARITY and binge eating severity.
Weismore, 2011	<i>n</i> = 159 college students; 73.6% female; <i>Mage</i> = 20; 49.1% Caucasian; 13.8% African American; 20.8% Asian; 10.1% Hispanic; 0.6% Native Hawaiian/Pacific Islander; 1.9% American Indian/Alaskan Native; 13.8% Other	Self-Injurious Thoughts and Behaviors Interview 2.0 (SITBI 2.0); Functional Assessment of Self-Mutilation (FASM)	Total = 75.2 (18.91)	ER difficulties predicted likelihood of engaging in severe NSSI.
Westermann & Lincoln, 2011	<i>n</i> = 151 online participants; 84.8% female; <i>Mage</i> = 31.6	Paranoia Checklist; Community Assessment of Psychic Experiences (CAPE); Symptom Checklist – 27-plus (SCL-27-plus)	NONACCEPT = 15.4 (5.70), 6-30 CLARITY = 11.9 (4.11), 5-23 AWARENESS = 15.3 (4.57), 5-27 IMPULSE = 12.7 (4.92), 5-29 GOALS = 14.6 (5.30), 5-25 STRATEGIES = 19.3 (8.25), 6-40	IMPULSE were significantly associated with persecutory ideation, controlling for general psychopathology. NONACCEPT was significantly associated with paranoid ideation and positive symptoms of psychosis.
Williams et al., 2012	<i>n</i> = 56 patients at a gambling treatment clinic in Australia; 75% male; <i>Mage</i> = 37.7 <i>n</i> = 51 community adults with a mood or anxiety disorder; 68% female; <i>Mage</i> = 31 <i>n</i> = 49 healthy community adults; 78% female; <i>Mage</i> = 29 Racial Breakdown NR	Structured Clinical Interview for Pathological Gambling (SCIP); Anxiety Disorders Interview Schedule (ADIS); Structured Clinical Interview for DSM Disorders (SCID-I/NP); South Oaks Gambling Screen (SOGS)	<u>Pathological Gambling Group:</u> NONACCEPT = 14.6 (6.50) CLARITY = 12.4 (4.49) AWARENESS = 17.9 (5.24) IMPULSE = 13.9 (5.39) GOALS = 14.6 (5.73) STRATEGIES = 20 (7.82) <u>Clinical Comparison Group:</u> NONACCEPT = 16.3 (5.52) CLARITY = 13.3 (4.23) AWARENESS = 15.1 (4.73)	Compared with healthy controls, those in the pathological gambling and clinical comparison groups reported significantly greater CLARITY and IMPULSE. Pathological gamblers reported greater AWARENESS than healthy controls and greater STRATEGIES than both comparison groups.

			<p>IMPULSE = 15.4 (4.36)  GOALS = 18.4 (4.10)  STRATEGIES = 23.7 (7.36)  <u>Healthy Control Group:</u>  NONACCEPT = 13.4 (5.44)  CLARITY = 10.7 (3.22)  AWARENESS = 14.4 (4.99)  IMPULSE = 12.4 (5.02)  GOALS = 14.3 (4.33)  STRATEGIES = 16.8 (6.81)</p>	
Wolz et al., 2015	<p><i>n</i> = 134 Spanish patients with at least one Eating Disorder; 90.3% female; <i>M</i>age = 28.8  <i>n</i> = 74 Spanish college students (healthy control); 68.9% female; <i>M</i>age = 21.1  Racial Breakdown NR</p>	<p>SCID-IV; Symptom Check-List 90 Revised (SCL-90-R); Temperament and Character Inventory Revised (TCI-R)</p>	<p><u>Eating Disorder Sample:</u>  Total = 107.3 (27.69)  NONACCEPT = 18.3 (6.84)  CLARITY = 14.9 (5.02)  AWARENESS = 18.3 (5.06)  IMPULSE = 15.9 (6.14)  GOALS = 16.3 (4.95)  STRATEGIES = 23.6 (8.27)  <u>Healthy Control Sample:</u>  Total = 78 (18.39)  NONACCEPT = 12.3 (5.01)  CLARITY = 10.3 (3.91)  AWARENESS = 14.9 (4.44)  IMPULSE = 10.7 (3.63)  GOALS = 13.8 (4.42)  STRATEGIES = 15.9 (5.88)</p>	<p>DERS-Total and all subscales were significantly greater in the eating disorder sample than the healthy control sample. ER difficulties mediated the relationship between high harm avoidance and low self-directedness and eating disorder severity.</p>

*Note.* NR = Not Reported; MDD = Major Depressive Disorder; SAD = Social Anxiety Disorder; GAD = Generalized Anxiety Disorder; BPD = Borderline Personality Disorder; NONACCEPT = Non-acceptance of emotions dimension/subscale of DERS; CLARITY = Lack of emotional clarity dimension/subscale of DERS; AWARENESS = Lack of emotional awareness dimension/subscale of DERS; IMPULSE = Impulse control difficulties dimension/subscale of DERS; GOALS = Difficulty engaging in goal-directed behavior dimension/subscale of DERS; STRATEGIES = Limited access to ER strategies dimension/subscale of DERS; SCID-IV = Structured Clinical Interview for the Diagnostic and Statistical of Mental Disorders-Fourth Edition; BDI-II = Beck Depression Inventory-Second Edition; BAI = Beck Anxiety Inventory; PANAS = Positive and Negative Affect Scale

Table 6

*Measures Administered to the Civilian and Veteran Samples*

Name of Measure	Civilian Sample	Veteran Sample
Demographics	X	X
SCID	X	X
GAD-7		X
IDAS	X	
BDI-II	X	
CESD-10		X
SWLS		X
SDS	X	
PANAS	X	
TIPI-N		X
DERS	X	X

*Note.* X = Measure was administered; SCID = Structured Clinical Interview for DSM-IV/V; GAD-7 = Generalized Anxiety Disorder-7; IDAS = Inventory of Depression and Anxiety Scale; BDI-II = Beck Depression Inventory-Second Edition; CESD-10 = Center for Epidemiologic Studies Depression Scale-10; SWLS = Satisfaction with Life Scale; Sheehan Disability Scale = SDS; PANAS = Positive and Negative Affect Scale; TIPI-N = Ten-Item Personality Inventory- Neuroticism Subscale; DERS = Difficulties in Emotion Regulation Scale

Table 7

*Descriptive Statistics of Study Variables*

Civilian Sample Measure	<i>M</i> ( <i>SD</i> ), Range
DERS Total	75.6 (22.11), 37 – 162
DERS-NONACCEPT	12 (5.38), 6 – 30
DERS-GOALS	13 (4.66), 5 – 25
DERS-IMPULSE	10.4 (4.27), 6 – 29
DERS-AWARE	14.9 (4.98), 6 – 30
DERS-STRATEGIES	14.9 (6.16), 8 – 38
DERS-CLARITY	10.3 (3.76), 5 – 24
BDI-II Total	10.7 (10.21), 0 – 57
IDAS- Anxiety/Panic	11.2 (4.37), 8 – 39
SDS Total	5.5 (6.50), 0 – 30
PANAS-NA	19.2 (7.46), 10 – 48
<hr/>	
Veteran Sample Measure	<i>M</i> ( <i>SD</i> ), Range
DERS Total	87.7 (23.78), 40 - 159
DERS-NONACCEPT	13.2 (6.78), 5 – 30
DERS-GOALS	14.4 (5.16), 5 - 25
DERS-IMPULSE	13.1 (5.70), 6 - 30
DERS-AWARE	16.5 (6.17), 6 - 30
DERS-STRATEGIES	18.6 (6.72), 8 - 36
DERS-CLARITY	11.9 (4.13), 4 - 25
CESD-10 Total	13.3 (6.59), 0 – 30
GAD-7 Total	8.5 (5.86), 0 - 21
SWLS Total	15.9 (7.25), 4 – 33
TIPI-N	10.6 (1.90), 2 - 15

*Note.* DERS = Difficulties with Emotion Regulation Scale; NONACCEPT = Non-acceptance of emotions subscale; GOALS = Difficulties engaging in goal-directed behaviors; IMPULSE = Impulse control difficulties; AWARE = Lack of emotional awareness; STRATEGIES = Limited access to emotion regulation strategies; CLARITY = Lack of emotional clarity; BDI-II = Beck Depression Inventory-II; IDAS- Anxiety/Panic = Inventory of Depression and Anxiety Scale- Anxious Arousal/Panic Subscale; SDS = Sheehan Disability Scale; PANAS-NA = Positive and Negative Affect Scale- Negative Affect Subscale; CESD-10 = Center for Epidemiologic Studies Depression Scale-10; GAD-7 = Generalized Anxiety Disorder-7; SWLS = Satisfaction with Life Scale; TIPI-N = Ten-Item Personality Inventory- Neuroticism Subscale.

Table 8

*Zero-Order Correlations of All Study Variables in the Civilian Sample*

Measure	1	2	3	4	5	6	7	8	9	10	11
1. DERS Total	—	.77**	.77**	.79**	.52**	.89**	.79**	.67**	.49**	.49**	.71**
2. DERS-NONACCEPT	.77**	—	.52**	.53**	.20**	.66**	.48**	.53**	.40**	.37**	.58**
3. DERS-GOALS	.77**	.52**	—	.61**	.18**	.68**	.50**	.49**	.37**	.42**	.57**
4. DERS-IMPULSE	.79**	.53**	.61**	—	.22**	.72**	.54**	.51**	.44**	.38**	.58**
5. DERS-AWARE	.52**	.20**	.18**	.22**	—	.26**	.54**	.24**	.14**	.14**	.18**
6. DERS-STRATEGIES	.89**	.66**	.68**	.72**	.26**	—	.63**	.70**	.50**	.52**	.72**
7. DERS-CLARITY	.79**	.48**	.50**	.54**	.54**	.63**	—	.53**	.36**	.34**	.53**
8. BDI-II Total	.67**	.53**	.49**	.51**	.24**	.70**	.53**	—	.55**	.58**	.69**
9. IDAS- Anxiety/Panic	.49**	.40**	.37**	.44**	.14**	.50**	.36**	.55**	—	.34**	.58**
10. SDS Total	.49**	.37**	.42**	.38**	.14**	.52**	.34**	.58**	.34**	—	.49**
11. PANAS-NA	.71**	.58**	.57**	.58**	.18**	.72**	.53**	.69**	.58**	.49**	—

*Note.* DERS = Difficulties with Emotion Regulation Scale; NONACCEPT = Non-acceptance of emotions subscale; GOALS = Difficulties engaging in goal-directed behaviors; IMPULSE = Impulse control difficulties; AWARE = Lack of emotional awareness; STRATEGIES = Limited access to emotion regulation strategies; CLARITY = Lack of emotional clarity; BDI-II = Beck Depression Inventory-II; IDAS- Anxiety/Panic = Inventory of Depression and Anxiety Scale- Anxious Arousal/Panic Subscale; SDS = Sheehan Disability Scale; PANAS-NA = Positive and Negative Affect Scale- Negative Affect Subscale.  
\*  $p < .05$ , \*\*  $p < .001$ .

Table 9

*Zero-Order Correlations of All Study Variables in the Veteran Sample*

Measure	1	2	3	4	5	6	7	8	9	10	11
1. DERS Total	—	.71**	.74**	.75**	.45**	.81**	.62**	.53**	.53**	-.16*	-.19*
2. DERS-NONACCEPT	.71**	—	.50**	.47**	.04	.52**	.62**	.29**	.35**	.80	-.08
3. DERS-GOALS	.74**	.50**	—	.52**	.08	.62**	.36**	.50**	.51**	-.12	-.11
4. DERS-IMPULSE	.75**	.47**	.52**	—	.20**	.55**	.29**	.33**	.43**	-.01	-.11
5. DERS-AWARE	.45**	.04	.08	.20**	—	.14	.41**	.19*	.06	-.16*	-.23**
6. DERS-STRATEGIES	.81**	.52**	.62**	.55**	.14	—	.43**	.51**	.53**	-.23**	-.15*
7. DERS-CLARITY	.62**	.62**	.36**	.29**	.41**	.43**	—	.35**	.27**	-.11	-.08
8. CESD-10 Total	.53**	.29**	.50**	.33**	.19*	.51**	.35**	—	.76**	-.21**	-.13
9. GAD-7 Total	.53**	.35**	.51**	.43**	.06	.53**	.27**	.76**	—	-.13	-.17*
10. SWLS Total	-.16*	.80	-.12	-.01	-.16*	-.23**	-.11	-.21**	-.13	—	.22**
11. TIPI-N	-.19*	-.08	-.11	-.11	-.23**	-.15*	-.08	-.13	-.17*	.22**	—

*Note.* DERS = Difficulties with Emotion Regulation Scale; NONACCEPT = Non-acceptance of emotions subscale; GOALS = Difficulties engaging in goal-directed behaviors; IMPULSE = Impulse control difficulties; AWARE = Lack of emotional awareness; STRATEGIES = Limited access to emotion regulation strategies; CLARITY = Lack of emotional clarity; CESD-10 = Center for Epidemiologic Studies Depression Scale-10; GAD-7 = Generalized Anxiety Disorder-7; SWLS = Satisfaction with Life Scale; TIPI-N = Ten-Item Personality Inventory- Neuroticism Subscale.

\*  $p < .05$ , \*\*  $p < .001$ .

Table 10

*Multiple Regression Predicting Depression Severity from Specific ER Difficulties in Civilian Sample*

Depression Severity (i.e., BDI-II Total Score)										
Variable	Model 1					Model 2				
	B	$\beta$	$SE_{\beta}$	$t$	95% CI	B	$\beta$	$SE_{\beta}$	$t$	95% CI
Constant (i.e., PANAS- NA)	-11.23**		1.16	-9.66	-13.52, -8.95	-10.90**		.91	-11.95	-12.69, -9.11
DERS-GOALS	-.07	-.03	.09	-.75	-.24, .11					
DERS-STRATEGIES	.61**	.37	.09	6.81	.43, .79	.59**	.36	.07	7.98	.44, .73
DERS-CLARITY	.23*	.08	.12	1.95	-.00, .45	.27*	.10	.10	2.78	.08, .47
DERS-NONACCEPT	.09	.05	.07	1.27	-.05, .24					
DERS-AWARE	.07	.03	.07	1.00	-.07, .20					
DERS-IMPULSE	-.08	-.03	.10	-.80	-.28, .12					
$R^2$			.569					.566		
$F$			104.23**					241.89**		
$R^2$ Change			.087					.084		
$F$ Change			18.68**					54.05**		

*Note.* BDI-II = Beck Depression Inventory-II; PANAS-NA = Positive and Negative Affect Scale- Negative Affect Subscale; DERS = Difficulties in Emotion Regulation Scale; GOALS = Difficulties engaging in goal-directed behaviors; STRATEGIES = Limited access to emotion regulation strategies; CLARITY = Lack of emotional clarity; NONACCEPT = Non-acceptance of emotions subscale; AWARE = Lack of emotional awareness; IMPULSE = Impulse control difficulties.

\*  $p < .05$ , \*\*  $p < .001$ .

Table 11

*Multiple Regression Predicting Anxiety Severity from Specific ER Difficulties in Civilian Sample*

Anxiety Severity (i.e., IDAS-Anxiety/Panic Score)					
Variable	B	$\beta$	$SE_{\beta}$	$t$	95% CI
Constant (i.e., PANAS- NA)	4.49**		.57	7.83	3.36, 5.61
DERS-GOALS	.01	.01	.04	.11	-.08, .09
DERS-STRATEGIES	.06	.09	.04	1.37	-.03, .15
DERS-CLARITY	.01	.01	.06	.25	-.10, .13
DERS-NONACCEPT	.04	.05	.04	1.05	-.03, .11
DERS-AWARE	.00	-.00	.03	-.01	-.07, .07
DERS-IMPULSE	.07	.08	.05	1.49	-.02, .17
$R^2$				.328	
$F$				38.90**	
$R^2$ Change				.020	
$F$ Change				2.69*	

*Note.* IDAS- Anxiety/Panic = Inventory of Depression and Anxiety Scale- Anxious Arousal/Panic Subscale; PANAS-NA = Positive and Negative Affect Scale- Negative Affect Subscale; DERS = Difficulties in Emotion Regulation Scale; GOALS = Difficulties engaging in goal-directed behaviors; STRATEGIES = Limited access to emotion regulation strategies; CLARITY = Lack of emotional clarity; NONACCEPT = Non-acceptance of emotions subscale; AWARE = Lack of emotional awareness; IMPULSE = Impulse control difficulties.

\*  $p < .05$ , \*\*  $p < .001$ .

Table 12

*Multiple Regression Predicting Functioning from Specific ER Difficulties in Civilian Sample*

Functioning (i.e., SDS Total Score)										
Variable	Model 1					Model 2				
	B	$\beta$	$SE_{\beta}$	$t$	95% CI	B	$\beta$	$SE_{\beta}$	$t$	95% CI
Constant (i.e., PANAS- NA)	-4.95**		.99	-5.00	-6.90, -3.00	-4.64**		.78	-5.95	-6.18, -3.11
DERS-GOALS	.17*	.13	.08	2.26	.02, .32	.15*	.11	.07	2.12	.01, .29
DERS-STRATEGIES	.32**	.31	.08	4.23	.17, .47	.30**	.29	.07	4.48	.17, .43
DERS-CLARITY	-.05	-.03	.10	-.51	-.25, .15					
DERS-NONACCEPT	-.02	-.02	.06	-.34	-.15, .10					
DERS-AWARE	.05	.04	.06	.87	-.07, .17					
DERS-IMPULSE	-.05	-.03	.09	-.59	-.22, .12					
$R^2$			.310					.308		
$F$			30.32**					70.73**		
$R^2$ Change			.063					.061		
$F$ Change			7.22**					21.15**		

*Note.* SDS = Sheehan Disability Scale; PANAS-NA = Positive and Negative Affect Scale- Negative Affect Subscale; DERS = Difficulties in Emotion Regulation Scale; GOALS = Difficulties engaging in goal-directed behaviors; STRATEGIES = Limited access to emotion regulation strategies; CLARITY = Lack of emotional clarity; NONACCEPT = Non-acceptance of emotions subscale; AWARE = Lack of emotional awareness; IMPULSE = Impulse control difficulties.

\*  $p < .05$ , \*\*  $p < .001$ .

Table 13

*Multiple Regression Predicting Depression Severity from Specific ER Difficulties in Veteran Sample*

Depression Severity (i.e., CESD-10 Total Score)										
Variable	Model 1					Model 2				
	B	$\beta$	$SE_{\beta}$	$t$	95% CI	B	$\beta$	$SE_{\beta}$	$t$	95% CI
Constant (i.e., TIPI-N)	1.25		3.24	.38	-.15, 7.6	3.96		2.87	1.38	-1.70, 9.63
DERS-GOALS	.37*	.29	.11	3.4	.16, .59	.37**	.29	.10	3.67	.17, .58
DERS-STRATEGIES	.30*	.31	.09	3.34	.12, .47	.32**	.32	.08	4.01	.16, .47
DERS-CLARITY	.14	.31	.12	1.14	-.10, .38					
DERS-NONACCEPT	-.03	-.03	.08	-.41	-.18, .12					
DERS-AWARE	.09	.09	.08	1.23	-.06, .25					
DERS-IMPULSE	-.03	-.03	.09	-.34	-.22, .15					
$R^2$			.332					.317		
$F$			11.84**					26.66**		
$R^2$ Change			.315					.300		
$F$ Change			13.12**					37.76**		

*Note.* CESD-10 = Center for Epidemiologic Studies Depression Scale-10; TIPI-N = Ten-Item Personality Inventory- Neuroticism Subscale; DERS = Difficulties in Emotion Regulation Scale; GOALS = Difficulties engaging in goal-directed behaviors; STRATEGIES = Limited access to emotion regulation strategies; CLARITY = Lack of emotional clarity; NONACCEPT = Non-acceptance of emotions subscale; AWARE = Lack of emotional awareness; IMPULSE = Impulse control difficulties.

\*  $p < .05$ , \*\*  $p < .001$ .

Table 14

*Multiple Regression Predicting Anxiety/Worry Severity from Specific ER Difficulties in Veteran Sample*

Anxiety/Worry Severity (i.e., GAD-7 Total Score)										
Variable	Model 1					Model 2				
	B	$\beta$	$SE_{\beta}$	$t$	95% CI	B	$\beta$	$SE_{\beta}$	$t$	95% CI
Constant (i.e., TIPI-N)	1.51		2.86	.53	-4.14, 7.16	.97		2.52	.38	-4.00, 5.94
DERS-GOALS	.26*	.23	.10	2.72	.07, .45	.33**	.29	.09	3.65	.15, .50
DERS-STRATEGIES	.24*	.28	.08	3.10	.09, .40	.30**	.29	.09	4.31	.16, .43
DERS-CLARITY	.06	.04	.11	.56	-.15, .27					
DERS-NONACCEPT	.01	.01	.07	.18	-.12, .14					
DERS-AWARE	-.06	-.07	.07	-.92	-.20, .07					
DERS-IMPULSE	.14	.14	.08	1.68	-.02, .30					
$R^2$			.348					.339		
$F$			12.74**					29.37**		
$R^2$ Change			.322					.311		
$F$ Change			13.74**					40.48**		

*Note.* GAD-7 = Generalized Anxiety Disorder-7; TIPI-N = Ten-Item Personality Inventory- Neuroticism Subscale; DERS = Difficulties in Emotion Regulation Scale; GOALS = Difficulties engaging in goal-directed behaviors; STRATEGIES = Limited access to emotion regulation strategies; CLARITY = Lack of emotional clarity; NONACCEPT = Non-acceptance of emotions subscale; AWARE = Lack of emotional awareness; IMPULSE = Impulse control difficulties.

\*  $p < .05$ , \*\*  $p < .001$ .

Table 15

*Multiple Regression Predicting Life Satisfaction from Specific ER Difficulties in Veteran Sample*

Life Satisfaction (i.e., SWLS Total Score)										
Variable	Model 1					Model 2				
	B	$\beta$	$SE_{\beta}$	$t$	95% CI	B	$\beta$	$SE_{\beta}$	$t$	95% CI
Constant (i.e., TIPI-N)	14.02*		4.10	3.42	5.93, 22.11	12.11*		3.55	3.42	5.12, 19.11
DERS-GOALS	-.08	-.06	.14	-.56	-.35, .20					
DERS-STRATEGIES	-.33*	-.31	.11	-2.96	-.56, -.11	-.21*	-.19	.08	-2.63	-.37, -.05
DERS-CLARITY	.06	.04	.15	.42	-.24, .37					
DERS-NONACCEPT	.11	.10	.10	1.11	-.08, .30					
DERS-AWARE	-.16	-.14	.10	-1.66	-.35, .03					
DERS-IMPULSE	.23	.18	.12	1.92	-.01, .46					
$R^2$			.127					.085		
$F$			3.46*					8.01**		
$R^2$ Change			.079					.037		
$F$ Change			2.52*					6.93*		

*Note.* SWLS = Satisfaction With Life Scale; TIPI-N = Ten-Item Personality Inventory- Neuroticism Subscale; DERS = Difficulties in Emotion Regulation Scale; GOALS = Difficulties engaging in goal-directed behaviors; STRATEGIES = Limited access to emotion regulation strategies; CLARITY = Lack of emotional clarity; NONACCEPT = Non-acceptance of emotions subscale; AWARE = Lack of emotional awareness; IMPULSE = Impulse control difficulties.

\*  $p < .05$ , \*\*  $p < .001$ .