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## The Self-Invalidation Due to Emotion Scale (SIDES): Development and Psychometric Properties

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The Self-Invalidation Due to Emotion Scale (SIDES):  
Development and Psychometric Properties

A thesis submitted in partial fulfillment  
of the requirements for the degree of  
Master of Arts in Psychology

by

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University of South Carolina  
Bachelor of Science in Experimental Psychology, and Criminal Justice, 2018

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This thesis is approved for recommendation to the Graduate Council.

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## Abstract

Self-stigma involves internalized negative evaluation in people with a societally prescribed label (i.e., mental health diagnosis). Thus, measures of self-stigma due to mental illness exclude people without a diagnosis who may negatively evaluate themselves because of their emotions—a process we define as *self-invalidation* due to emotion. In the current research, I introduced a definition of self-invalidation due to emotion as distinct from self-stigma due to mental illness and emotion invalidation *from* others. After expert review of the item pool (Study 1), and exploratory (Study 2) and confirmatory factor analysis (Study 3), a 10-item scale for Self-Invalidation Due to Emotion (SIDES) was developed, with subscales of self-invalidation due to high and low emotional experience. A longitudinal study (Study 4) of a college student and community sample replicated and expanded on Study 2 findings, with greater self-invalidation due to high emotional experience predicting greater emotion dysregulation, emotional reactivity and expressivity, and beliefs about emotion uncontrollability. In contrast, greater self-invalidation due to low emotional experience predicted less emotional reactivity and expressivity, and greater beliefs about emotion controllability (Study 4). Finally, in a community sample of people with a history of mental illness (Study 5), greater self-invalidation due to high but not low emotional experience predicted symptoms of borderline personality pathology and distress regardless of self-stigma due to mental illness or perceived emotion invalidation (Study 5). The current research supports the SIDES as a psychometrically sound, more inclusive measure of self-stigma, relevant for predicting distress and maladaptive emotional tendencies in people with and without a mental illness.

*Keywords:* emotion invalidation, self-stigma, borderline personality disorder, mental illness

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## I. Introduction

It is not uncommon for people to stigmatize others who are in some way different from themselves. Stigma occurs when people distinguish and label human differences, stereotype others as being undesirable, and create a separation of “us” and “them” (Link & Phelan, 2001). Such behaviors occur under a circumstance of social, economic, or political power and ultimately cause labeled persons to lose status and experience discrimination thus resulting in unequal outcomes (Link & Phelan, 2001). It is no secret that stigma is an issue people with mental illness face, due to generally endorsed attitudes that seeking mental health services is an undesirable and socially unacceptable course of action (Vogel et al., 2006). Notably, stigmatized people, such as those with a mental illness, may also internalize publicly held prejudices and self-stigmatize (Molina et al., 2013), leading to reduced self-esteem (Vogel et al., 2007), the belief of being less valued due to a psychiatric disorder (Corrigan & Watson, 2002), and the loss of a previously held identity (Yanos et al., 2015).

Mental health stigma presents challenges in a number of life domains, as stigmatizing social interactions have been associated with lower overall quality of life (Yanos et al., 2001). Specifically, stigma poses a greater risk of unemployment for people with a mental illness, along with fewer opportunities for personal and financial growth (Krupa et al., 2009). Mental health stigma has also been tied to harmful health implications due to tendencies to delay or avoid seeking treatment for fear of being labeled (Link & Phelan, 2006). Self-esteem and self-efficacy also tend to be lower in people who internalize stigmatizing beliefs of others (Corrigan & Watson, 2009). Thus, increased research on stigma, particularly self-stigma, is warranted, yet the nature of stigma as being solely based on group membership (i.e., mental illness, race, sexuality) is limiting.

A number of self-stigma measures exist for individuals with a mental illness (Ritsher et al., 2003), chronic pain (Waugh et al., 2014), weight struggles (Lillis et al., 2010), substance abuse (Luoma et al., 2012), internalized racism (Choi et al., 2017) and internalized homonegativity (Mayfield, 2001). However, these measures only assess devaluation of the self as it pertains to the particular issue or label. This excludes people who may experience reduced self-worth due to negatively held beliefs about behaviors in which they engage, or experiences they have, such as the experience of emotions—a process that is not restricted to people of any particular group. For instance, while John might self-stigmatize due a diagnosis of generalized anxiety disorder, Kate who does not have a diagnosis may experience feelings of worthlessness because of her extreme worry which she perceives to be undesirable or unacceptable. In this circumstance, Kate is taking her particular emotional experiences to mean she is somehow less of a person, similar to the way John is stigmatizing himself for being labeled with a mental illness. The difference here is that John is engaging in self-stigma of a mental illness, while Kate is engaging in a process we refer to as self-invalidation due to emotion.

Distinguishing between self-invalidation due to emotion and self-stigma due to mental illness requires further exploration, as the former is a broader form of self-devaluation that can be experienced by anyone. Notably, while the experience of self-invalidation due to emotion is not limited to people with a mental illness, people who have a greater tendency to invalidate themselves due to their emotions may be at a greater risk for developing a psychological disorder. It seems likely that repeated and pervasive self-invalidation may become a self-perpetuating cycle characterized by persistent emotion suffering due to judging emotional experiences as unfavorable, equating the undesirable experience to a lack of self-worth, and viewing oneself as undeserving of emotional support. In this case, those who develop a

psychological disorder after extended periods of self-invalidation may face challenges related to both self-invalidation due to emotion and self-stigma due to a mental health diagnosis.

Because self-invalidation due to emotion is not a concept with a clear definition or measure, I first review existing related concepts such as stigma and perceived invalidation, and examine the extant research on consequences of invalidation in terms of psychopathology. This review of related and past work lays the framework for a clear definition of self-invalidation due to emotion and the expected nomological network of associated constructs (i.e., self-stigma due to mental illness, self-criticism, shame).

### **Perceived Invalidation and Stigma**

Although research on self-invalidation due to emotion is scarce, research has explored the extent to which people perceive other people to invalidate their emotions, both in past and present circumstances. Perceived invalidation of emotion has been defined as an exchange which occurs wherein an individual's emotional expression or experience is responded to by another in a manner which implies that the expressed emotion or experience is incorrect or inappropriate (Zielinski & Veilleux, 2018). Perceived invalidation of emotion parallels the concept of felt stigma (i.e., the stigmatized individual's internal awareness and expectation of being devalued by others on the basis of their condition; Boyle, 2018), further reinforcing the notion that self-invalidation due to emotion can be better understood through a self-stigma lens.

### **Potential Outcomes and Consequences of Self-Invalidation**

If self-invalidation is thought to be a variant of self-stigma in the context of emotion, it seems likely that individuals who invalidate themselves would experience a reduced sense of self, and a greater propensity for the development or worsening of symptoms of psychopathology due to more negative attitudes toward help-seeking as seen in people who self-stigmatize (Vogel

et al., 2007). It also seems reasonable that self-invalidation due to emotion may *stem* from perceived emotion invalidation similar to the way that people internalize stigmatizing beliefs of others (Link & Phelan, 2001). Additionally, negative consequences implicated in perceived emotion invalidation may be *amplified* when the invalidation is being directed inward. Below I review the literature on both general and emotion-specific perceived invalidation as a predictor for symptoms of borderline personality pathology and maladaptive manners of responding to the self and emotion. I also highlight the limitation of previous research in which emotion-specific perceived invalidation is inconsistently evaluated, and suggest that taking a self-perspective of emotion-specific invalidation is an important step in better understanding invalidation as a predictor of a number of negative outcomes.

### ***Invalidation Predicting and Maintaining Psychopathology***

Perceived emotion invalidation has been identified as a predictor for major depressive disorder (MDD) and post-traumatic stress disorder (PTSD; Westphal et al., 2016), and is related to both internalizing and externalizing behavior in adolescents (Buckholdt et al., 2014). Notably, research has tended to focus on the role of both general and emotion-specific perceived invalidation in the development of psychopathology symptoms of borderline personality disorder (BPD; Fruzzetti et al., 2005; Hong et al., 2011; Linehan, 1993; Selby et al., 2008; Sturrock & Mellor, 2014; Westphal et al., 2016; Yap et al., 2008). BPD is a disorder of pervasive emotion dysregulation theorized to develop out of continuous invalidation in which emotional expression is responded to with erratic or inappropriate behavior often in the form of punishment and disregard for one's emotions and thoughts (Linehan, 1993).

More than just contributing to the development of psychopathology, perceived invalidation of one's thoughts, feelings, and experiences is also thought to play a role in



maintaining symptoms of BPD, as past parental invalidation predicts less acceptance, awareness, and clarity of emotions, as well as less effective emotion regulation strategies, and impulse control in the future (Sturrock & Mellor, 2014). Additionally, even in the absence of real invalidation, simply the *anticipation* of being invalidated has been shown to significantly predict greater BPD symptoms (Hong et al, 2011). Considering the relationship between perceived invalidation and the development and maintenance of BPD symptoms, it seems likely that self- invalidation specifically due to emotion may be a risk and perpetuating factor for BPD, given the tendency to experience intense emotions which may be judged by the individual as unreasonable. Self- invalidation due to emotion may be even more strongly related to BPD psychopathology compared to perceived invalidation due to the hypothesized loss of identity which is thought to occur in self- invalidation, similar to the unstable self-image which is a core feature of BPD.

### ***Invalidation Predicting Maladaptive Responses to the Self and Emotion***

In addition to perceived invalidation as a predictor for symptoms of severe mental illness, particularly BPD, it has been linked to consequences which may contribute to suffering in anyone's life, regardless of a mental illness. Specifically, higher perceptions of invalidation related to thoughts, judgments, and emotions are associated with greater eating concerns (Haslam et al., 2012), greater beliefs about emotional expression as being a sign of weakness (Haslam et al., 2012), and greater difficulties identifying and expressing negative emotions- a predictor for self-harm behavior in adolescent girls (Sim et al., 2009). Perceived emotion invalidation also predicts greater shame and self-criticism related to one's emotional responses (Westphal et al., 2016), lower general health over time (i.e., physical, psychological, relational; Zielinski & Veilleux, 2018), as well as relationship dysfunction later in life, likely due to the invalidated person's maladaptive beliefs that they are unlovable or that communicating about issues within

relationships is unacceptable (Selby et al., 2008). Finally, greater perceived emotion invalidation has also been linked with maladaptive ways of responding to emotion including greater experiential avoidance (i.e., avoidance of one's private internal experiences; Gámez et al., 2011), greater emotion dysregulation (Zielinski & Veilleux, 2018), greater emotional reactivity (i.e., perceived sensitivity to and intensity of emotion experiences; Nock et al., 2008), and less emotional expression (Schreiber & Veilleux, 2021).

Considering the existing literature, it is clear that perceptions of having been previously or presently invalidated by another has the potential to lead to severe mental health concerns, maladaptive responses to emotion (i.e., emotional avoidance, dysregulation, and suppression), and declines in general health over time. Despite this evidence, research on invalidation remains limited due to the notable gap in the literature regarding emotion-specific invalidation directed inward at the self. Thus, a measurement tool which assesses self-invalidation due to emotion is necessary to bridge the gap between the nature and consequences of self-stigma and perceived emotion invalidation.

### **Toward a Measure of Self-Invalidation of Emotion**

Just as measures exist to evaluate self-stigma related to specific group membership or labels such as mental illness, there are number of existent measures for perceived invalidation, including the Invalidating Childhood Environment Scale (ICES; Mountford et al., 2007), which evaluates parental invalidating behavior, and the Illness Invalidation Inventory (I<sup>3</sup>; Kool et al., 2010; Kool et al., 2009), which assesses invalidation in patients with a medical condition. Two measures more specific to *emotion* invalidation include the Socialization of Emotion Scale (SES; Krause et al., 2003), which assesses perceptions of emotion invalidation during childhood, and

the Perceived Invalidation of Emotion Scale (PIES; Zielinski & Veilleux, 2018), which evaluates perceptions of current emotion invalidation rather than past emotion invalidation.

These measures have been used in research to evaluate perceptions of general invalidation, as well as invalidation specific to emotions, particularly within the context of parent-child relationships, or close partner relationships. However, none of the existing measures of invalidation, even those specific to emotion invalidation, evaluate internalized emotion invalidation. Without resources to identify self-invalidation due to emotion, we are limited in our ability to provide services to reduce internal suffering likely experienced by many people who, at some point throughout their lives, negatively judge their self-worth based on what they believe to be unacceptable ways of experiencing or expressing emotion.

### **Defining Self-Invalidation Due to Emotion**

#### ***Proposed Operational Definition***

Based on my review of stigma and invalidation literature, I conceptualize self-invalidation of emotion as an individual's experience of diminished self-worth due to the belief that the way they experience emotion is undesirable.

#### ***Definitional Components***

The proposed definition of self-invalidation due to emotion is comprised of three components. The highlighted aspects of the definition are described in the order in which each component is thought to be experienced by the individual as a result of a situation that initiates the process of self-invalidation. The first feature of self-invalidation due to emotion is the affective experience the individual encounters. This is not necessarily an experience of negative emotion, although it seems that people will be more likely to invalidate themselves for

experiencing emotions typically perceived as negative (i.e., anger, sadness, loneliness, anxiety) compared to positive (i.e., joy, gratitude, contentment, happiness).

The second component is the individual's belief that their own emotion experiences are undesirable. This perception of one's emotions as being unacceptable and unwanted is a negative judgment which is directed inward at the self. However, it is reasonable to assume that such a negative self-judgment may develop from messages received directly or indirectly from others in the past (perceived invalidation). This is similar to research which suggests greater public stigma (i.e., publicly endorsed stigmatizing perceptions; Vogel et al., 2006) significantly predicts subsequent greater self-stigma (Vogel et al., 2013), whereas *less* perceived discrimination in people with a mental illness tend to report lower rates of self-stigmatization and greater feelings of empowerment (Evans-Lacko et al., 2012). Thus, beliefs about undesirability of emotions is hypothesized to come from the self, while reasonably being rooted in perceived negative evaluation from others.

The third component of self-invalidation due to emotion emphasizes reduced feelings of worth and personal value. This shift in sense of self is driven by the perception that, not only are *emotional experiences* themselves undesirable, but they are a reflection of the person's identity as a whole, thus contributing to the self-invalidated person's belief that they are an undesirable and unacceptable *person*. Therefore, in the context of self-invalidation due to emotion, people's self-perception of having unfavorable emotional experiences gives rise to the idea that they are unimportant and insignificant.

## **Differentiation from Related Constructs**

To develop and validate a new measure of self-invalidation due to emotion, it is critical to distinguish it from related constructs similar to, yet different from the construct of interest according to my definition.

### ***Self-stigma***

Self-stigma is thought to be the form of stigma most comparable to our construct of self-invalidation due to emotion due to the self-focused perspective in which stigmatizing ideas perceived to be held by the public are internalized and endorsed by the individual (Corrigan & Watson, 2002; Molina et al., 2013) and directed at the self. Notably, the key component included in the various definitions of different forms of stigma emphasize stigma as a form of discrimination or devaluation directed at, or internalized by, people with a particular condition, characteristic, imperfection, label, or diagnosis (Link & Phelan, 2001; Corrigan & Watson, 2002; Scambler, 2009; Molina et al., 2013; Wang et al., 2016; Boyle, 2018). In contrast, self-invalidation is something that can be experienced by any individual regardless of defining characteristics or group membership.

### ***Self-criticism***

Self-criticism occurs when people experience a negative, unfavorable view of themselves in comparison to others thought to be superior, and/or in comparison to personal standards (Thompson & Zuroff, 2004). Central aspects of self-criticism include a sense of inferiority in relation to others and self-deficiency due to failure to meet high self-standards, or dissatisfaction with regard to experiences of success (Thompson & Zuroff, 2004). Highly self-critical individuals tend to be less able to distinguish their self-critical self from themselves as a whole person, tend to be more self-contemptuous and less resilient to their own criticism, and tend to

respond to their own criticism with submissive acceptance, sadness, and shame (Whelton & Greenberg, 2004).

Self-invalidation due to emotion involves a certain degree of self-criticism, as can be seen by the emphasis on an experience of diminished self-worth, which may be related to feelings of shame and sadness similarly experienced by highly self-critical individuals. However, the judgments and negative view of the self in self-invalidation are fueled by the fundamental belief that something about the individual is wrong or undesirable- in this case, the individual's experience of emotion. This belief is a broad critical evaluation of the self due to *emotion*, whereas self-criticism is a negative evaluation of the self due to *behavior*. Additionally, self-invalidation due to emotion goes beyond that of a dissatisfied evaluation of a piece of oneself, and includes the belief that the individual as a whole is unfavorable.

### ***Shame***

Shame is an emotion of self-consciousness which results from the failure to meet standards set by the self or by others. People enter a state of shame, but only experience this state if they have enough awareness to recognize the perceived failure (Lewis, 2003). Shame is dependent on how sensitive people are to someone else's evaluation of them, which may be positive or negative (Darwin, 1965). Shame has also been defined as an experience of affect resulting from an event that interrupts or completely eliminates feelings of excitement and enjoyment (Tomkins, 1963). Shame and self-invalidation are similar in that they may both develop as a result of a perceived failure to respond to events in the "correct" manner. Yet, while shame is a fluctuating emotional state, self-invalidation is a self-evaluation. Therefore, we might expect people who invalidate their own emotions to also experience more shame. Notably, although these constructs overlap we hypothesize that they will be distinct from one another.

### ***Self-compassion***

According to Neff (2003), self-compassion includes being kind and understanding to oneself, recognizing one's own experiences as experiences of common humanity, and being aware of one's painful thoughts and feelings without assuming they make up your identity. Neff (2003) argues that self-compassion does not include self-evaluation because the focus is on kindness towards oneself rather than criticism and judgment. While self-invalidation due to emotion is a process that involves devaluation of the self, it cannot be assumed that someone with little to no self-compassion will necessarily engage in self-invalidation. In other words, even the complete absence of self-compassion does not equate to the *active process* of devaluing and minimizing one's own emotional experiences.

### ***Emotional Reactivity***

Emotional reactivity pertains to an individual difference in how easily emotions are provoked, how intensely they are experienced, and how long they tend to last (Nock et al., 2008). It seems likely that people who tend to experience emotions more often, more intensely, and for a longer period of time may also tend to invalidate themselves more on the basis of these emotions, especially if comparing their own experiences to those of less emotionally reactive people. In this sense, perhaps people with greater emotional reactivity are at greater risk for self-invalidating, however self-invalidation due to emotion is hypothesized to be experienced due to a belief that the emotional experience is *undesirable*. Thus self-invalidation due to emotion is not the equivalent to experiences of high emotional reactivity, but may also be a way people devalue themselves for not experiencing *enough* emotion or simply not experiencing emotion as they "should."

## **Rationale for Measure of Self-Invalidation**

There is currently no self-invalidation due to emotion measure to evaluate the degree to which people minimize their own emotional experiences, and ultimately devalue themselves. Thus, the current research aimed to contribute to the growing research on emotion invalidation and broaden the scope of self-stigma beyond mental illness by constructing and validating a measure specifically to evaluate self-invalidation due to emotion. In developing such a measure, I took a self- rather than other-focused perspective unique from emotion invalidation measures such as the SES (Krause et al., 2003) and PIES (Zielinski & Veilleux, 2018). Further, I aimed to demonstrate that people's negative self-judgments related more to their emotions regardless of a mental illness can predict problematic responses to the self and emotion, in addition to greater symptoms of psychopathology, similar such consequences seen in people who perceive invalidation from others and who self-stigmatize on the basis of a mental health diagnosis.

## **II. Overview of Studies**

The present investigation included five studies, each of which contributed to the development and validation of the SIDES. Consistent with my definition, I sought to evaluate the degree to which people invalidate *themselves* because of how they perceive themselves to experience emotion rather than the degree to which people may invalidate their experience of the emotion itself. Study 1 consisted of expert ratings and qualitative feedback for individual scale items and the overall composition of the initial items following guidelines by Gehlbach and Brinkworth (2011). Study 2 established the structure of the SIDES, as well as preliminary convergent and incremental validity, followed by Study 3 which confirmed the factor structure of the finalized 10-item version of the SIDES. Study 4 assessed divergent, convergent, and incremental validity, replicating and expanding on Study 2 findings. Finally, Study 5



distinguished the SIDES from self-stigma of mental illness, and demonstrated predictive validity of the SIDES related to borderline personality pathology and psychological distress.

### **Initial SIDES Item Development and Item Anchors**

Measure items were developed through a number of processes. Initially, items were created based on items from previous measures of self-stigma related to mental illness (Boyd Ritsher et al., 2003), chronic pain (Waugh et al., 2014), weight struggles (Lillis et al., 2010), substance abuse (Luoma et al., 2012), internalized racism (Choi et al., 2017) and internalized homonegativity (Mayfield, 2001). Initial items and definitional components of self-stigma, perceived emotion invalidation, and self-invalidation due to emotion were then presented to undergraduate research assistants and clinical psychology graduate students who provided feedback on items to eliminate or add to the measure based on their own experiences of self-invalidation of emotion. Prior to Study 1, the SIDES Item pool was narrowed to 31 items, eliminating items that appeared redundant or irrelevant to the construct of interest (see Supplemental Table B for list of items renumbered by study). Items were rated on a 6-point Likert scale from 1 (*very untrue of me*) to 6 (*very true of me*).

### **III. Study 1: Expert Review**

The purpose of Study 1 was to narrow initial SIDES items, clarify item meanings as necessary, and establish content validity through expert review. Seven experts (three external and six internal reviewers) were invited to provide feedback for the initial pool of items generated prior to Study 1.

## **Method**

### ***Expert Selection***

Three external experts (Dr. Melissa Zielinski, Dr. Katherine Dixon-Gordon, and Dr. Jennifer Cheavens) were recruited via email to participate in the expert review study of the SIDES. All have a history or current research involvement in emotion invalidation, emotion regulation, or forms of psychopathology strongly linked with emotion invalidation (i.e., borderline personality disorder). Dr. Zielinski is currently a clinical psychologist and assistant professor at the University of Arkansas for Medical Sciences and the creator of the Perceived Invalidation of Emotion Scale (PIES), a measure of current perceived emotion invalidation. Dr. Dixon-Gordon is currently a clinical psychologist and associate professor at the University of Massachusetts Amherst, with a focus on the role of emotional processes in maintaining BPD. Dr. Cheavens is currently a professor at Ohio State University with research experience in evaluating patterns of emotion regulation associated with psychopathology. An additional external expert was contacted to provide feedback, however kindly declined participation due to being on sabbatical. Pertaining to internal expert reviewers, six clinical psychology graduate students from the University of Arkansas Treating Emotion and Motivational Processes Transdiagnostically lab were invited to provide quantitative and qualitative feedback on the items. Data from four of the six graduate students were considered in the final analysis due to incomplete data from two students.

### ***Procedures for Expert Review***

All reviewers were recruited via email wherein they were asked to independently provide constructive feedback on the pool of items for the SIDES given their extensive knowledge of research related to the field of emotion invalidation. The goals of the expert review were to (a)

assess clarity and relevancy of SIDES items, and (b) narrow and reword items as necessary to address content validity. All reviewers received an email that included information about the current study, as well as a Qualtrics link to the online review which included the definition of self-invalidation of emotion and further instructions for item ratings. The instructions and ratings on comprehensibility and relevancy followed guidelines from Gehlbach and Brinkworth (2011).

**Ratings.** Reviewers provided ratings for each item on (a) relevancy to the construct of self-invalidation of emotion based on the definition, (b) comprehensibility, or the clarity of the item wording, and (c) the anticipated mean response for each item if it were to be administered to a sample of people at risk for developing psychopathology. Relevancy was rated on a Likert-type scale from 1 (*not at all relevant*) to 5 (*extremely relevant*). Comprehensibility was rated on a Likert-type scale from 1 (*not at all understandable*) to 5 (*extremely understandable*). Anticipated mean responses were rated using the same scale to be used in the final version of the SIDES, ranging from 1 (*very untrue of me*) to 6 (*very true of me*). Reviewers were also asked to provide qualitative feedback on (a) construct definition, (b) overall ability of the items in assessing the construct, and (c) any aspects of the construct not captured by the items but hypothesized to be relevant.

### ***Analytical Approach***

Ratings of item relevancy and comprehensibility were evaluated independently, with relevancy ratings taking precedent followed by ratings of comprehensibility and qualitative feedback. Items with a mean relevancy rating of less than 3 (*somewhat relevant*), or items that were rated by at least one expert reviewer as 1 (*not at all relevant*) or 2 (*slightly relevant*) were eliminated from the item pool of the SIDES, unless the item was thought to be essential for capturing the essence of the construct. After evaluating relevancy ratings, comprehensibility

ratings were examined and items were eliminated or considered for rewording if rated as a 2 (*slightly understandable*) by at least one expert. Rewording was considered for items with a comprehensibility rating of less than perfect. Qualitative expert feedback was also considered for item rewording or for further elimination of initial SIDES items despite adequate relevancy and comprehensibility ratings. Clinical graduate student ratings of relevancy and comprehensibility, as well as qualitative feedback were considered secondary to ratings and feedback given by experts in the emotion invalidation and related research domains.

## **Results and Discussion**

Most items from the original pools of SIDES items received adequate relevancy and comprehensibility ratings. Therefore, 22 of the 31 items were retained in their original form or with slight rewording according to expert and non-expert qualitative feedback (see Supplemental Table A for additional information on dropped or reworded items). Additionally, one item was added to the measure to capture self-invalidation related to one's impact on interpersonal relationships due to experiencing *too little* emotion ("I ruin relationships with others because of how little emotion I experience"), as an existing item only addressed self-invalidation in the context of interpersonal relationships due to experiencing *too much* emotion.

Examination of expert and non-expert estimated mean item ratings for the SIDES-P revealed good variability across items which aligned with my goal of creating a measure appropriate for administering to a wide range of people at risk for psychopathology to varying degrees. Additional qualitative feedback regarding the construct definition revealed confusion pertaining to whether the construct was aimed at capturing how people invalidate their own emotions or invalidate themselves *on the basis* of their emotions. Although suggestions were made to alter the construct definition, these comments were provided based on the notion

that the construct was targeting invalidation of one's actual emotions rather than invalidation of the self because of one's emotions. However, the aim of the measure is to capture the degree to which respondents invalidate themselves as people due to judgments and beliefs they maintain about their emotions. For this reason, the construct definition was not altered, however items targeting invalidation of emotion rather than the self were reworded or eliminated. Additionally, the scale name was changed from the original Self-Invalidation of Emotion Scale (SIES) to the Self-Invalidation Due to Emotion Scale (SIDES).

#### **IV. Study 2: Exploratory Factor Analysis of SIDES-P**

Study 2 was an initial evaluation of the SIDES-P, which was comprised of 23 items that were retained after expert review. Convergent and predictive validity of the SIDES-P was examined with a measure of self-criticism, experiential avoidance, and emotional reactivity. Internal consistency and factor structures of the SIDES-P were also examined. A minimum sample size of 250 was selected (Costello & Osborne, 2005) based on recommendations for a 10 to 1 subject to item ratio for the purposes of exploratory factor analysis.

#### **Hypotheses**

The primary hypothesis for Study 2 were as follows:

1. It was expected that results of the exploratory factor analysis would reveal the SIDES as a two-dimensional measures due to item themes of self-invalidation due to high and low emotional experience.
2. The SIDES-P was expected to demonstrate some overlap in the form of a moderate, positive correlation with the Levels of Self-Criticism Scale (LOSC; Thompson & Zuroff, 2004), given that self-invalidation involves a certain amount of self-criticism (Linehan, 1993), However, the measure items were expected to still be unique from the LOSC

which measures general negative self-evaluation rather than the form of self-criticism measured by the SIDES which is thought to be more central to one's identity and specifically stemming from how people experience emotion.

## **Method**

### ***Participants and Procedure***

A sample of undergraduate students ( $n = 387$ ) from a large Mid-Southern university completed Study 2 via Qualtrics and received course credit for participation. Some participants ( $n = 83$ ) were excluded from data analyses for 1) failing to correctly respond to attention check items embedded into survey measures, and/or 2) reporting they did not pay attention.

### ***Measures***

**Self-Invalidation Due to Emotion Scale- Preliminary (SIDES-P).** The 23-item SIDES-P was assessed in Study 2 as a measure of self-invalidation due to emotion. Items were rated on a Likert-type scale, where potential responses ranged from 1 (*very untrue of me*) to 6 (*very true of me*).

**Levels of Self-Criticism Scale (LOSC).** The 22-item LOSC (Thompson & Zuroff, 2004) evaluates self-criticism using two subscales- internalized self-criticism and comparative self-criticism. Items are rated on a 7-point Likert-type scale from 1 (*not at all*) to 7 (*very well*). Items from each subscale are summed together to compute subscale scores, with higher scores indicating elevated levels of either internalized or comparative self-criticism. The internalized self-criticism subscale demonstrated excellent internal reliability ( $\alpha = .91$ ), while the comparative self-criticism subscale demonstrated questionable reliability ( $\alpha = .66$ ) in this study.

**Brief Experiential Avoidance Questionnaire (BEAQ).** The 15-item BEAQ (Gámez et al., 2014) is a shorter version of the 59-item Multidimensional Experiential Avoidance

Questionnaire; Gámez et al., 2011). The BEAQ evaluates the degree to which people use experiential avoidance strategies to avoid thoughts, feelings, and experiences associated with distress. Items are rated on a Likert-type scale, from 1 (*strongly disagree*) to 6 (*strongly agree*). A total score of experiential avoidance is calculated by summing all items together, with higher total scores indicating greater experiential avoidance in the face of distressing situations. The scale demonstrated good internal consistency ( $\alpha = .84$ ).

**Emotional Reactivity Scale (ERS).** The 21-item ERS (Nock et al., 2008) evaluates the extent to which an individual experiences emotion based on three subscales. The persistence subscale measures how long emotions last before returning to a baseline level of arousal; the sensitivity subscale measures how easily emotions are provoked; and the arousal/intensity subscale measures the strength or intensity of someone's emotions. Items are rated on a Likert-type scale from 1 (*not at all like me*) to 4 (*completely like me*). Total emotional reactivity scores can be calculated by summing items together, with higher scores indicating greater emotional reactivity. The ERS demonstrated excellent internal consistency ( $\alpha = .95$ ).

**Demographics.** Participants completed a demographics questionnaire to assess age, gender, race, sexual orientation, marital status, education level, and employment status.

## Results

### *Sample characteristics*

The sample of remaining participants ( $n = 304$ ) was predominantly White and female (see Table 1 for detailed demographic information).

### *Preliminary analyses*

Most SIDES items demonstrated low to moderate levels of positive skew, with all 23 items within appropriate ranges of both skewness and kurtosis (skewness  $< 2$ , kurtosis  $< 4$ ).

Intercorrelations between items were examined for the purposes of evaluating potential item redundancy. As expected, all items were significantly correlated, however no items possessed a correlation greater than .80. No items were eliminated prior to the exploratory factor analysis.

### ***Hypothesis Testing***

**Exploratory factor analysis.** After observing an appropriate Kaiser-Meyer-Olkin value for Bartlett's Test of Sphericity (.94,  $p < .001$ ), the factor structure of the data were examined via exploratory factor analysis. A principal axis factor extraction method was used with an oblique rotation, as resulting factors for the SIDES items were expected to be correlated. The SIDES-P was two-dimensional, with Factor 1 accounting for 44.46% of the variance and Factor 2 accounting for 19.05% of the variance prior to item elimination. Factor 1 contained 16 items which primarily appeared to capture self-invalidation due to high emotional experience (i.e., "I do not have a good enough reason to be as emotional as I am"). In contrast, Factor 2 contained 7 items which primarily appeared to capture self-invalidation due to low emotional experience (i.e., "I feel like less of a person because I experience too little emotion"). Intercorrelation between Factors 1 and 2 was  $r = .26$ .

Given the aim to create a brief and concise measure of self-invalidation due to emotion, I eliminated a total of 9 items after evaluating factor loadings, skewness and kurtosis of items relative to each other. Notably, I intentionally retained some items with higher skewness and stronger wording relative to other items. This was based on the assumption that eliminating all items that lended themselves more to one extreme would not allow the measure to adequately capture the wide range of severity of self-invalidation due to emotion that people may experience. Intercorrelations were once again evaluated as items were eliminated from the SIDES-P and the EFA analysis was rerun. In several instances, items were eliminated if



they shared a relatively higher correlation ( $r^2 = .70$ ) with other items thought to more appropriately and clearly capture the construct.

Additional items were primarily eliminated after reconsidering their relevancy to the construct, as some items that seemed to adequately describe self-invalidation *of* emotions themselves no longer seemed fitting to describe self-invalidation *due to* emotions- a small, yet important discrepancy which was brought to light after expert review (i.e., “My emotions are not as important as other people’s emotions,” “I am ashamed of the way I experience emotion). Further items were eliminated that, upon reconsideration, appeared to be capturing ambiguous feelings about the self in relation to emotion rather than self-invalidation specifically (i.e., “I feel less like myself when I am experiencing an emotion”).

After item elimination, the 14-item version of the SIDES-P continued to demonstrate an appropriate Kaiser-Meyer-Olkin value for Bartlett’s Test of Sphericity (.91,  $p < .001$ ) with a two-dimensional factor structure. Factor 1 continued to account for a larger portion of the variance (41.70%) compared to Factor 2 (27.25%). Both factors contained 7 items, however Factor 1 now consisted of items related to low rather than high emotional experience (i.e., “I am unworthy of love because I am not very emotional), while Factor 2 consisted of items related to high rather than low emotional experience (i.e., “I am wrong for allowing myself to be heavily influenced by my emotions”). Both subscales demonstrated excellent internal consistency: Factor 1 ( $\alpha = .93$ ); Factor 2 ( $\alpha = .91$ ). As expected, the subscales demonstrated a small, yet significant correlation ( $r = .21, p < .01$ ).

**Convergent validity.** Greater scores on the low emotional experience subscale of the SIDES-P were significantly associated with greater internalized and comparative self-criticism but to a lesser extent than the high emotional experience subscale which demonstrated positive,

moderate correlations with self-criticism. As expected, greater self-invalidation due to low emotional experience was significantly correlated with greater experiential avoidance, as was greater self-invalidation due to high emotional experience. Additionally, greater self-invalidation due to high emotional experience was also significantly correlated with greater emotional reactivity (see Table 2). There were no significant gender differences between scores of self-invalidation due to either high or low emotional experience ( $ps > .05$ ).

**Incremental validity.** Preliminary incremental validity of the SIDES-P was examined in a hierarchical regression, evaluating self-invalidation due to emotion as a predictor of experiential avoidance above and beyond emotional reactivity (Step 1) and self-criticism (Step 2). These variables were controlled for given that people who tend to experience emotions more quickly, intensely, and for a longer duration of time, and who tend to berate themselves often would also likely invalidate themselves to a greater degree than others. Finally, self-invalidation due to high and low emotion experiences were entered into step 3. The overall model explained 37% of the variance in experiential avoidance (see Table 3), and all predictors were significant. Notably, when controlling for emotional reactivity and self-criticism, both self-invalidation due to high emotional experience and low emotional experience were uniquely and significantly predictive of greater experiential avoidance, together explaining 8% of the variance in experiential avoidance.

## **Discussion**

Study 2 suggested that the 23-item SIDES-P was a two-dimensional measure, with one factor representing self-invalidation due to high emotional experience (Factor 2), and the second factor representing self-invalidation due to low emotional experience (Factor 1). Overall, the subscales of the SIDES-P demonstrated good internal validity, and each related to similar

constructs as expected. Specifically, the fact that greater self-invalidation due to experiencing “too much” emotion predicted greater self-criticism and greater experiential avoidance more so than self-invalidation due to experiencing “too little” emotion suggests that perceiving oneself to be overly emotional or dramatic tends to spark more negative feelings about the self and greater attempts to avoid rather than confront uncomfortable thoughts and emotions.

Additionally, that greater self-invalidation due to high emotional experience strongly predicted greater emotional reactivity while its counterpart non-significantly predicted less emotional reactivity may indicate a more pervasive, societally accepted belief that people who are more easily emotionally triggered and who experience intense emotions are somehow less than people who do not become as emotional or who at least do not express their emotions to the same extent. Further, evidence for incremental validity of the SIDES-P suggested that self-invalidation due to high and low emotional experience uniquely predicted a greater tendency to avoid uncomfortable thoughts and emotions more than just what might be expected based on negative self-evaluations which may be related to how emotionally reactive people are or how self-critical people feel .

### **V. Study 3: Confirmatory Factor Analysis of SIDES**

The purpose of Study 3 was to confirm the two-dimensional factor structure of the SIDES-P through a confirmatory factor analysis (CFA) of the measure structure with a new sample of participants. Our intended sample size consisted of a minimum of 600 participants, with the intention of using approximately half of the sample ( $n = \sim 300$ ) to run our initial CFA and the remaining half of the sample ( $n = \sim 300$ ) to run a secondary CFA should changes to the SIDES-P be warranted after the initial CFA (Brown, 2003; 2015).

## Method

### *Participants and Procedure*

All participants ( $N = 600$ ) were recruited from either the United States or the United Kingdom via Prolific and compensated .48 US dollars to complete the SIDES-P and a demographics questionnaire via Qualtrics. I intentionally recruited half of the sample as male and half as female to ensure a relatively equal gender distribution (note: individuals who identified as transgender or non-binary were also invited to participate). The sample was comprised of participants from both the United Kingdom (90.8%) and the United States (7.3%). See Table 1 for overall sample demographics.

### *Measures*

**Self-Invalidation Due to Emotion (SIDES).** The Self-Invalidation Due to Emotion Scale consisted of the two-dimensional, 14-item version modified after EFA analyses.

## Results

### *Confirmatory Factor Analysis (CFA)*

Prior to analyses, cases ( $n = 579$ ) were randomly split into two data sets after eliminating participants ( $n = 21$ ) who failed the attention check embedded into the SIDES (“Answer untrue of me for this one”). Dataset 1 was comprised of 298 participants and Dataset 2 was comprised of 281 participants. The two-dimensional factor structure of the SIDES-P CFA based on participant responses from Dataset 1 was examined using CFA in R with the ‘lavaan’ package. Evaluation of fit indices indicated the model did not demonstrate acceptable fit:  $\chi^2(76) = 394.73$ ,  $p < .001$ , comparative fit index (CFI) = .86, tucker-lewis index (TLI) = .83, root mean square error of approximation (RMSEA) = .12 (confidence interval CI [.11, .13]), Akaike

information criterion (AIC) = 12252.77. As a result, modification indices and item factor loadings were examined.

The original CFA model was modified, eliminating items 11 (“I should be more emotional than I am”) due to sharing error variance with other items related to feeling cold-hearted, unworthy, and less than a person. Item 14 (“My emotions make me an inconvenience to others”) was also eliminated due to sharing high error variance with several measure items related to feelings weak, wrong, feeling out of place with others. Both items shared error variance with item 3 (“My emotions make me a burden to others”). Additionally, we allowed items 5 (“I ruin relationships with others because of how little emotion I experience”) and 8 (“I am unworthy of love because I am not very emotional”) to correlate given that both items include reference to other people as the basis for self-invalidation due to emotion. The modified model demonstrated some improved fit statistics from the original model,  $\chi^2(52) = 172.27$ ,  $p < .001$ , comparative fit index (CFI) = .93, tucker-lewis index (TLI) = .91, and root mean square error of approximation (RMSEA) = .09 (confidence interval CI [.74, .10]).

However, further modification to the SIDES-P was warranted to improve fit statistics and to achieve a more condensed form of the measure. Item 2 (“I am wrong for allowing myself to be heavily influenced by my emotions”) was eliminated due to covariance with item 1 (“My emotions make me a weak person), and due to it being the lowest loading item onto Factor 2. Item 13 (“I feel out of place with most people because I do not feel emotions the way that other people do”) was also eliminated due to covariance with items related to burdening, being undeserving, and ruining relationships with others, and with Factor 2 (self-invalidation due to high emotional experience).

Two correlated error terms were also added to the model, between items 4 (“I should be more capable of handling my emotions”) and 7 (“I should be able to ‘get over’ my emotions faster than I do”) and items 1 (“My emotions make me a weak person”) and 3 (“My emotions make me a burden to others”). Items 4 and 7 are conceptually similar in that both intend to measure the extent to which people negatively evaluate themselves due to a belief that they should respond to emotion in a manner deemed quicker and more appropriate compared to how they believe themselves to respond. Items 1 and 3 are also conceptually similar in that both are based on the belief that emotions contribute to deficits in the ability to be strong and capable enough to deal with emotion. In its finalized version (see Figure 1), the SIDES yielded a two-dimensional 10-item measure with three correlated error terms, and positively correlated subscales ( $r = .33$ ). Evaluation of fit statistics indicated an improved and appropriate model fit,  $\chi^2(31) = 81.22, p < .001$ , comparative fit index (CFI) = .96, tucker-lewis index (TLI) = .95, root mean square error of approximation (RMSEA) = .07 (confidence interval CI [.05, .09]), Akaike information criterion (AIC) = 8739.38.

After achieving a good model of fit in Dataset 1, the modified model was evaluated and replicated (see Figure 2) using an independent sample in Dataset 2 ( $n = 281$ ). Subscales remained positively correlated ( $r = .22; p < .01$ ), and appropriate fit indices were confirmed:  $\chi^2(31) = 91.70, p < .001$ , comparative fit index (CFI) = .95, tucker-lewis index (TLI) = .93, root mean square error of approximation (RMSEA) = .08 (confidence interval CI [.06, .10]), Akaike information criterion (AIC) = 8160.03. Internal reliability was good in Dataset 1 ( $\alpha = .84$ ) and Dataset 2 ( $\alpha = .84$ ), and internal reliability was acceptable for items of high emotional experience (Dataset 1:  $\alpha = .72$ ; Dataset 2:  $\alpha = .70$ ) and low emotional experience (Dataset 1:  $\alpha = .65$ ; Dataset 2:  $\alpha = .67$ ).

## **Discussion**

Substantial changes were made to the 14-item SIDES-P after evaluation of fit statistics revealed poor fit statistics for the original model. A total of 4 items were eliminated from the SIDES-P, 2 items from each factor. Additionally, three correlated error terms were added for items that shared a strong conceptual basis pertaining to self-invalidation due to 1) how people perceive their emotional experience to influence their interpersonal relationships, 2) beliefs about failing to overcome emotions, and 3) perceptions being too reliant on others due to experiences of emotion. After the aforementioned modifications, the model fit was highly improved and confirmed in an independent sample. Modifications and revisions resulted in the finalized 10-item SIDES—a brief, practical, and statistically sound measure (see Appendix A for final version of the SIDES).

### **VI. Study 4: Validity and Test-retest Reliability of SIDES**

The purpose of Study 4 was to validate the SIDES by attending to convergent, discriminant, and construct validity. Test-retest reliability was also examined by inviting participants to complete the SIDES approximately two weeks after responding to the SIDES along with a number of additional study measures.

## **Method**

### ***Participants and Procedure***

Participants for this study ( $n = 281$ ) were recruited from both the psychology subject pool at a large mid-Southern university ( $n = 179$ ) and Prolific ( $n = 102$ ). All participants completed informed consent and study measures via Qualtrics, with demographic items provided at the end. Approximately two weeks after completing baseline study measures, participants were invited to complete additional measures for follow-up approximately two weeks later. Student participants

were provided with partial course credit for participation. Prolific participants were compensated \$2.38 at Time 1 for a 15 minute study and \$0.48 at Time 2 for a 3 minute study.

### **Measures**

**Self-Invalidation Due to Emotion Scale (SIDES).** The SIDES consisted of 10 items rated on a 6-point Likert type scale from 1 (*very untrue of me*) to 6 (*very true of me*). Half of the items measure the degree to which people believe they invalidate themselves due to experiencing too much emotion, and half of the items measure the degree to which people invalidate themselves due to experiencing too little emotion. The 10-item SIDES was used to assess self- invalidation due to emotion at both time points. Internal consistency was good at both time points for both the high emotional experience subscale ( $\alpha = .85; .85$ ), and the low emotional experience subscale ( $\alpha = .88; .90$ ).

**Levels of Self-Criticism Scale (LOSC).** Same as Study 2. Internalized consistency was good for the internalized subscale ( $\alpha = .93$ ) and adequate for the comparative subscale ( $\alpha = .71$ ).

**Experience of Shame Scale (ESS).** The EES (Andrews et al., 2002) measures the experiential, cognitive, and behavioral aspects of shame related to one's character (i.e., shame of personal habits), behavior (i.e., shame about saying something stupid), and body. All 25 items are answered based on the degree to which people have felt shame in the past year. Items are rated on a 4-point Likert scale from 1 (*not at all*) to 4 (*very much*). Subscale and total scores are calculated by summing the items. Internal consistency was excellent ( $\alpha = .96$ ).

**Self-Compassion Scale- Short Form (SCS-SF).** The SCS-SF (Neff, 2003) measures six components of self-compassion including self-kindness, self-judgment, common humanity, isolation, mindfulness, and over-identification. Each of the 26 items is rated on a 5-point Likert scale indicating how often people behave in a particular manner from 1 (*almost never*) to 5



(*almost always*). A total score is calculated by averaging all responses, with higher scores indicating greater self-compassion. Internal consistency for this measure was good ( $\alpha = .86$ ).

**Emotional Reactivity Scale (ERS).** Same as Study 2. Internal consistency was excellent ( $\alpha = .96$ ).

**Perceived Invalidation of Emotion Scale (PIES).** The PIES (Zielinski & Veilleux, 2018) is a 10-item measure of perceived invalidation of emotion which asks people to rate how others with whom they are typically in contact respond to their emotions. Items are rated on a 5-point Likert scale, from 1 (*almost never; 0-10%*) to 5 (*almost always; 91-100%*) and the item responses are averaged for a total score of perceived invalidation. Internal consistency for this measure was excellent ( $\alpha = .94$ ).

**Implicit Theories of Emotion Scale (ITES).** The ITES (Tamir et al., 2007) is a 4-item modified version of Dweck's Implicit Theories of Intelligence Scale (1999) which measures the degree to which people believe their emotions are fixed and uncontrollable, or are malleable and can be controlled. Items are rated on a 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*). A total score is calculated by averaging responses to all items, with higher scores indicating more beliefs that emotions can be changed or controlled. Internal consistency for this measure was good ( $\alpha = .80$ ).

**Difficulties with Emotion Regulation Scale- 16 Item Version (DERS-16).** The DERS-16 (Gratz & Roemer, 2004) evaluates six dimensions of emotion dysregulation, specifically lack of emotional clarity, lack of emotional awareness, limited access to emotion regulation strategies, difficulties engaging in goal-directed behavior, difficulties controlling impulses, and nonacceptance of emotional responses. Items are rated on a 5-point Likert scale from 1 (*almost*

*never*) to 5 (*almost always*), and responses are averaged for a total score, with higher scores indicating greater dysregulation. Internal consistency was excellent ( $\alpha = .95$ ).

**Emotional Expressivity Scale (EES).** The EES (Kring et al., 1994) is a 17-item measure assessing the degree to which people display their emotions to others according to a 6-point Likert scale from 1 (*never true*) to 6 (*always true*). A total score is calculated by averaging item responses, with higher scores indicating greater emotional expression. Internal consistency for the EES was excellent ( $\alpha = .94$ ).

**World Health Organization Quality of Life Scale- Brief Version (WHOQOL-Brief).** The brief version of the WHOQOL (The WHOQOL Group, 1998) assesses perceptions health as it pertains to physical health, psychological health, social relationships, and environment. The measure is comprised of 26-items for which people rate their health according to a 5-point Likert scale from 1 (*very poor, very dissatisfied, not at all, or never*) to 5 (*very good, very satisfied, an extreme amount, completely, or always*). Scores for each of the four health domains are calculated by averaging the corresponding items, with higher scores indicating perceptions of better health. The first two items ask specifically about general quality of life and general health, and are examined separately from the subscales. Internal consistency ranged from low to good at both time points for the relationship subscale ( $\alpha = .69; .65$ ), physical health subscale ( $\alpha = .77; .80$ ), environment subscale ( $\alpha = .82; .83$ ), and psychological subscale ( $\alpha = .84; .87$ ).

## **Results**

### ***Sample Characteristics***

In total, 281 participants completed the study, but 52 were excluded who admitted to not paying attention ( $n = 7$ ) and/or failed at least one of the three attention checks ( $n = 52$ ) embedded within the study measures asking participants to select a specific item response. Notably, a

majority of test-retest data at time 2 ( $n = 83$ ) was obtained from Prolific participants ( $n = 73$ ), as many eligible subject pool participants failed to respond to the follow-up invitation.

The final sample size included 229 participants (subject pool  $n = 141$ , Prolific  $n = 88$ ). The subject pool was significantly younger ( $M = 19.60$ ,  $SD = 3.00$ ) than the Prolific sample ( $M = 35.07$ ,  $SD = 11.09$ ),  $t(227) = -15.68$ ,  $p < .001$ , with a higher percentage of White (86.4%) participants compared to Prolific (73.9%),  $\chi^2 = 5.68$ ,  $p = .02$ . There were no significant gender differences between the samples, and a majority of participants being female (62.22%). See Table 1 for more detailed demographics.

### ***SIDES Scores and Demographic Variables***

We first examined SIDES scores based on demographic characteristics (sample, gender, race, and age). There were no significant differences on mean scores of self-invalidation due to high or low emotion based on sample or race/ethnicity (White vs non-White), and no association of SIDES and age. Notably, at T1 self-invalidation due to “too much” emotion was significantly greater for women ( $M = 14.59$ ,  $SD = 5.99$ ) compared to men ( $M = 12.81$ ,  $SD = 5.22$ ),  $t(223) = -2.27$ ,  $p = .02$ , while self-invalidation due to “too little” emotion was significantly greater for men ( $M = 11.69$ ,  $SD = 5.79$ ) compared to women ( $M = 8.35$ ,  $SD = 4.12$ ),  $t(223) = 5.05$ ,  $p < .001$ .

### ***Test-Retest Reliability***

Pearson correlation coefficients were used to examine test-retest reliability of the subscales. Individual SIDES subscales demonstrated good test-retest reliability, with large correlations between T1 and T2 scores for high emotional experience,  $r = .80$ ,  $p < .001$ , and low emotional experience,  $r = .84$ ,  $p < .001$ .

### ***Convergent Validity***

To assess convergent validity, I examined associations between the SIDES subscales and measures of shame, self-criticism, and emotional reactivity. All correlations with SIDES are

reported in Table 4 (see Supplemental Table's C-F for intercorrelations of all study variables). As seen in previous studies, self-invalidation due to high and low emotional experience were positively correlated ( $r = .21$ ;  $p < .01$ ). Additionally, as expected self-invalidation due to high emotional experience was more strongly correlated with greater overall shame and greater internal and comparative self-criticism compared to self-invalidation due to low emotional experience. Furthermore, only self-invalidation due to “too much” but not “too little” emotion was significantly associated with greater emotional reactivity.

### ***Divergent Validity***

To assess divergent validity, I examined associations between the SIDES subscales and constructs expected to demonstrated small or negative correlations including a subscale of bodily shame and measures of self-compassion and emotional reactivity. As expected, self-invalidation due to low emotional experience was weakly, non-significantly correlated with shame related to one's body. Both self-invalidation due to high and low emotional experience were negatively correlated with self-compassion. Specifically, self-invalidation due to high emotional experience was more strongly associated with less overall self-compassion compared to self-invalidation due to low emotional experience.

### ***Incremental Validity***

Hierarchical regression analyses were used to examine whether self-invalidation due to emotion as measured by the SIDES would predict emotion dysregulation (DERS-16 total scores), emotional reactivity (ERS), emotional expressivity (EES), emotion beliefs (ITES), and poorer quality of life (WHOQOL-Brief subscales) beyond what can be accounted for by other known predictors. T1 scores were used for 10 separate hierarchical regression analyses. Predictor variables in all three analyses included age, gender, and sample type (subject pool = 0, Prolific =

1) in Step 1; shame (ESS total scores), self-compassion (SCS-SF total scores), internalized and comparative self-criticism (LOSC subscale scores), perceived invalidation of emotion (PIES total scores) in Step 2; and self-invalidation due to high and low emotional experience (SIDES subscales) in Step 3.

Results of the hierarchical regression analyses are presented in Tables 5 and 6. After controlling for demographic variables, shame, self-compassion, self-criticism, and perceived invalidation of emotion together accounted for a significant portion of the variance in emotion dysregulation, emotional reactivity, emotion controllability beliefs, general quality of life, and health status in a number of domains (i.e., physical psychological, relational, environmental). Above and beyond such variables, self-invalidation due to high and low emotional experience significantly accounted for unique variance in responses to and beliefs about emotion but not quality of life or well-being. More specifically, greater self-invalidation due to experiencing “too much” emotion significantly explained greater emotional dysregulation, greater emotional reactivity, greater emotional expressivity, and less beliefs that emotions are controllable. Greater self-invalidation due to experiencing “too little” emotion significantly predicted less emotional reactivity, less emotional expressivity, and greater beliefs that emotions are controllable, but did not predict emotion dysregulation.

Six additional hierarchical regression analyses were conducted on data from 67 eligible participants who completed study measures at both T1 and T2 to analyze the ability of the SIDES to predict changes in general quality of life, and general, psychological, physical, relationship, and environmental health over time (Table 7). After controlling for age, gender, and sample differences (Step 1), and quality of life scores at T1 (Step 2), self-invalidation due to high

and low emotional experience did not significantly explain changes in quality of life scores at T2.

## **Discussion**

The purpose of Study 4 was to examine the psychometric properties of the Self-Invalidation Due to Emotion Scale (SIDES). Internal consistency was good at both time points for subscales of self-invalidation due to high and low emotional experience. Test-retest reliability was high, with large correlations for subscales at T1 and T2, supporting my belief of the SIDES as a measure of more stable, trait-like properties. Additionally, subscales of the SIDES continued to demonstrate small but significant positive correlations with each other, in line with findings that people who self-invalidated due to beliefs that they experience “too much” or “too little” emotion tended to be less self-compassionate, more self-critical, and more ashamed both generally, and specifically related to their character and behavior. Notably, people who invalidated themselves for feeling overly emotional tended to experience shame and self-criticism to a greater degree than people who invalidated themselves for not feeling enough emotion. Perhaps being less emotional or at least less emotionally expressive is perceived to be more appropriate or acceptable compared to its counterpart, contributing to smaller associations between self-invalidation due to “too little” emotion and maladaptive responses to oneself and one’s emotions.

Understandably, greater self-invalidation due to “too little” emotion was not related to shame about one’s body likely because bodily shame captures negative self-judgments about physical characteristics rather than emotion-related tendencies. In contrast, greater self-invalidation due to “too much” emotion *was* associated with more bodily shame, potentially due to effects of gender as women tended to report more self-invalidation due to high emotional

experience and also are likely held to societal standards that may contribute to shame related to one's physical appearance. Regardless of differences in shame, self-criticism, self-compassion, and perceived emotion invalidation, people with greater self-invalidation due to "too much" emotion tended to be more emotionally dysregulated, more emotionally reactive, more expressive of their emotions, and view emotions as less controllable, while people with greater self-invalidation due to "too little" emotion tended to be less emotionally reactive, less expressive of their emotions, and view emotions as more controllable, with no evidence of significant emotion dysregulation. These findings suggest that the way people invalidate themselves due to emotion is important to understand given that people who perceive themselves to be more emotional and ultimately judge themselves because of this are more likely respond to themselves in a self-deprecating manner and struggle to manage their emotions, which may fuel negative self-perceptions.

Notably, neither self-invalidation due to high or low emotional experience predicted quality of life or changes in quality of life over time, despite perceived emotion invalidation predicting changes in these domains (Zielinski & Veilleux, 2018). This may be in part because self-invalidation due to emotion is expected to be a trait-like component, with little fluctuation over time, while perceived emotion invalidation has been evaluated within a certain time context, suggesting it may be a variable subject to change by life circumstances. It may also be that quality of life measures are not as relevant for capturing the degree of distress experienced by people who self-invalidate due to emotion. Thus, it may be useful to evaluate predictive properties of the SIDES using more specific measures of psychological distress and psychopathology.

## VII. Study 5: Predictive Validity of the SIDES

The purpose of Study 5 was to examine the predictive validity of the SIDES in a sample of people with a current or previously diagnosed mental illness. In addition to the SIDES, participants completed additional study measures of psychological distress, self-stigma, perceived invalidation, and symptoms of borderline personality disorder.

### **Participants and Procedure**

Study 5 included 152 individuals recruited from Prolific who completed all study measures via Qualtrics. Participants took approximately 12.32 minutes to complete the survey and were compensated \$1.59. Participants answered a Prolific prescreening question about whether they currently have or have had a diagnosed, ongoing mental illness/condition. Participants who answered “yes” were invited to participate further in the study. In the study itself, participants were asked to specify whether the current and/or previous diagnosis was for depression, anxiety, post-traumatic stress disorder, obsessive-compulsive disorder, eating disorder, substance use disorder, bipolar disorder, personality disorder, schizophrenia or other psychotic disorder, and/or any other mental health condition not listed. Participants were excluded from the study if they did not indicate a current or previous diagnosis from the provided list, admitted to not paying attention during the study, and/or failed any one of the three attention checks embedded within study measures ( $n = 7$ ). The final sample size included 145 people, 75.9 % White and 70.4%% female. See Table 1 for additional demographic information.

### ***Measures***

**Self-Invalidation Due to Emotion Scale (SIDES).** Same as Study 4. Internal consistency was good for the high emotional experience subscale ( $\alpha = .88$ ) and excellent for the low emotional experience subscale ( $\alpha = .90$ ).



**Perceived Invalidation of Emotion Scale (PIES).** Same as Study 4. Internal consistency was excellent ( $\alpha = .95$ ).

**Internalized Stigma of Mental Illness Scale (ISMI).** The Internalized Stigma of Mental Illness Inventory (Ritsher, et al. 2003) is a 29-item measure assessing subjective experience of stigma due to mental illness on a 4-point Likert scale from 1 (*strongly disagree*) to 4 (*strongly agree*). Higher scores indicate greater self-stigma for having a mental illness ( $\alpha = .93$ ).

**Depression Anxiety and Stress Scale 21-Item Version (DASS-21).** The Depression Anxiety and Stress Scales 21-item version (Henry & Crawford, 2005) is a briefer version of the 42-item (Lovibond & Lovibond, 1995) that assesses recent symptoms of depression, anxiety, and stress that occurred in the past week. Participants are asked to rate each item on a 4-point Likert scale from 0 (*did not apply to me at all*) to 3 (*applied to me very much, or most of the time*). The scale consists of subscales that evaluate depression, physical symptoms of anxiety, and cognitive manifestations stress such as worry. General mood and anxiety symptoms were evaluated using the overall score ( $\alpha = .94$ ).

**Personality Assessment Inventory- Borderline Personality Scale (PAI-BOR).** The Personality Assessment Inventory-Borderline Features Scale is a 24-item scale of the Personality Assessment Inventory (PAI; Morey, 1991). The PAI-BOR assesses core features of BPD using four subscales-affective instability, identity problems, negative relationships, and self-harm. Items are rated on a 4-point Likert scale from 1 (*false, not at all true*) to 3 (*very true*). Internal reliability ranged from low to good ( $\alpha_{\text{negative relationships}} = .61$  negative relationships;  $\alpha_{\text{identity problems}} = .69$ ;  $\alpha_{\text{self harm}} = .79$ ;  $\alpha_{\text{affective instability}} = .82$ ;  $\alpha_{\text{total}} = .87$ ).

## **Results**

### *Sample Characteristics*

There were no significant gender differences for scores of high emotional experience.

### *Predictive Validity*

Correlation coefficients were examined to determine the predictive validity of the SIDES. Self-invalidation due to both high and low emotional experience was significantly associated with all constructs (Table 8). However, greater self-invalidation due to experiencing “too much” emotion was more strongly related to greater self-stigma of mental illness, greater perceived emotion invalidation, greater psychological distress, and greater BPD symptoms compared to greater self-invalidation due to experiencing “too little” emotion. Higher levels of self-invalidation due to “too much” emotion was also more strongly related to greater symptoms for all core features of BPD (i.e., affective instability, identity problems, negative relationships, and self-harm) compared to higher levels of self-invalidation due to “too little” emotion.

Hierarchical regression analyses were conducted with borderline personality disorder symptoms and psychological distress entered as outcome variables, age and gender entered into Step 1, perceived invalidation of emotion and internalized mental health stigma in Step 2, and self-invalidation due to high and low emotional experiences in Step 3. When controlling for perceptions of emotion invalidation and self-stigma, only self-invalidation due to experiencing “too much” emotion significantly predicted both outcome variables, but not self-invalidation due to experiencing “too little” emotion (see Table 9 for regression results).

### *Discussion*

The purpose of Study 5 was to evaluate the predictive validity of the SIDES in a sample of people who have received a mental health diagnosis (i.e., depression, anxiety, PTSD, BPD).

As anticipated, self-invalidation due to emotion significantly predicted perceived invalidation of emotion, self-stigma for having a mental illness, psychological distress, and symptoms of borderline personality disorder pathology. More specifically, self-invalidation due to feeling as though one experiences “too much” emotion was a stronger predictor of all variables compared to self-invalidation due to experiencing “too little” emotion. This finding was in line with expected results given that people who struggle with a mental illness likely inevitably experience at least particular emotions more strongly simply due to the nature of symptoms of psychopathology. For instance, it makes sense that people who experience greater symptoms of borderline personality disorder would experience emotions intensely and thus invalidate themselves for feeling highly emotional rather than for not feeling enough emotion. Further, given that both having a mental health condition and experiencing greater affective distress inevitably involve experiencing at least some emotions to a greater extent, it is not surprising that people who tend to self-stigmatize and/or experience more symptoms of depression and anxiety are also more likely to invalidate themselves for being *too* emotional.

Additionally, regression results revealed that how much people judge themselves for being labeled with a mental illness and how much people perceive others to invalidate their feelings matters when predicting symptoms of borderline personality psychopathology and general psychological distress. However, the extent to which people negatively evaluate themselves for experiencing something as human as emotion uniquely accounts for both greater symptoms of BPD and greater psychological distress even above and beyond these other influential factors. Thus, it is undoubtedly important to be cognizant of the role of self-stigma and perceived emotion invalidation when attending to psychological turmoil in people with a

mental illness. However, it is critical to consider how acceptable people believe their emotional experiences are and how much people base their self-worth on the way they experience emotion.

### **VIII. General Discussion**

The purpose of these studies was to develop and establish the Self-Invalidation Due to Emotions Scale (SIDES) as a psychometrically sound measure assessing the degree to which people devalue themselves due to how they experience emotions. Although measures exist to gauge how much people perceive *others* to invalidate their emotions either currently (PIES; Zielinski & Veilleux, 2018) or in the past (ICES; Mountford et al., 2007), the SIDES took a novel approach to emotion invalidation by 1) taking a self rather than other perspective, and 2) emphasizing invalidation directed at who the person *is* versus at the actual *emotions*.

#### **Extending Self-Stigma into Self-Invalidation**

Existing measures of self-stigma have been helpful in illuminating negative consequences like reduced self-esteem (Vogel et al., 2007) and self-worth (Corrigan & Watson, 2002) experienced by people who have internalized negative self-judgments for having a mental illness. Unfortunately one major limitation of self-stigma measures is that they only measure negative self-judgments people hold related to a label like being “mentally ill.” However, many people do not meet criteria for a mental health condition, or have a mental health diagnosis but do not view the label as being an important part of their identity, and thus may not self-stigmatize for having a mental illness (Corrigan & Watson, 2002). Yet, these people may still negatively evaluate themselves for the emotions they experience. Thus, the SIDES was created as a more inclusive measure of self-stigma that aimed to bridge the gap between the self-stigma and emotion invalidation literature. Notably, the fact that greater self-invalidation due to high emotional experience predicted greater psychological distress regardless of the degree to which

people stigmatized themselves (Study 5) highlights the SIDES as a unique measure from the Internalized Stigma of Mental Illness Scale (ISMI), and suggests that understanding the role of self-invalidation due to emotion in the context of heightened emotional distress is relevant regardless of whether people have a diagnosed mental health condition.

### **Self-Invalidation as a Form of Self-Criticism**

While the SIDES was created to be a *broader* form of self-stigma, it also might be thought of as a *narrower* kind of self-criticism. Self-invalidation due to emotion no doubt involves self-criticism, which was supported by small to moderate correlations between the SIDES and both comparative and internalized self-criticism (Study 2 and Study 4). However, people may criticize themselves for a number of things other than emotions, such as their physical appearance, behavior, character traits, etc. In contrast, the SIDES narrows the scope of self-criticism to criticism that occurs as a result of how people judge the way they feel their feelings. It seems reasonable to expect that self-invalidation may be a more intense, severe form of self-criticism that says “*I* am wrong” rather than “This *part* of myself is wrong.” However, future research is needed to explore whether self-invalidation exists on a continuum as a more severe form of self-criticism, and what factors may play a part in if and why people progress from one end of the spectrum to the other.

### **The SIDES as a Psychometrically Sound Measure**

In addition to establishing the SIDES as a measure distinct from self-stigma due to mental illness and self-criticism, findings revealed that self-invalidation due to emotion can be felt both when people feel like they experience “too much” emotion and “too little” emotion (Study 2 and 3), with women tending to report significantly more self-invalidation due to “too much” emotion and men tending to report significantly more self-invalidation due to “too little”

emotion (Study 4, though not replicated in Study 5). Both subscales of the SIDES demonstrated good internal reliability (Studies 4 and 5) and test-retest reliability in a large sample of college students and adults (Study 4). Notably, greater self-invalidation due to “too much” emotion rather than self-invalidation due to “too little” emotion tended to predict more negative outcomes that can perpetuate problematic ways of responding to emotion including higher emotion dysregulation and higher emotional reactivity (Study 4), along with more symptoms of BPD, depression, and anxiety in people with a diagnosed mental health condition (Study 5). Thus, it appears especially important to attend to self-invalidation in people who perceive themselves to experience “too much” emotion.

Notably, while self-invalidation due to “too much” emotion tended to predict more problematic outcomes in both people with and without mental health diagnoses, greater self-invalidation due to “too little” emotion did predict a greater degree of experiential avoidance (Study 2). Although both subscales were significant predictors of experiential avoidance, it makes sense that people who invalidate themselves for not feeling enough would have a greater tendency to avoid uncomfortable internal experiences (i.e., thoughts, emotions), and then perhaps berate themselves for seeming unable to feel as much as they “should.” Additionally, the finding that self-invalidation due to “too little” emotion predicted less emotional expressivity (Study 4) is in line with findings that emotion invalidation predicts more suppression (Krause et al., 2013) and greater beliefs of emotional expression as a sign of weakness (Haslam et al., 2012).

It is clear that self-invalidation due to high emotional experience and low emotional experience both play a role in predicting negative outcomes. However, it may be tempting to think of these as two distinct and unrelated forms of self-invalidation, especially considering that self-invalidation due to “too much” and “too little” emotion predicted emotional reactivity,

emotional expressivity, and beliefs about controllability of emotion in opposite directions (Study 4). Notably, these subscales of the SIDES were significantly *positively* correlated across all studies, suggesting that people may invalidate themselves for feeling that at times, the level of emotion they experience makes them “dramatic,” and at times makes them “cold-hearted.”

This may be especially relevant for people who restrict or try to control their emotions to such an extent that it is not sustainable over time, which may result in an emotional breaking point where an event triggers a reaction that seems, or is actually, out of proportion with the situation. This process has been referred to as emotional leakage and is suggested to occur in people with tendencies toward overcontrol, which inevitably leads to outbursts viewed by the overcontrolled person to indicate a greater need to control their reactions (Hempel et al., 2018). It seems reasonable that, in addition to returning to extreme emotional constraint, the overcontrolled person may also invalidate themselves for what they perceive to be an emotional outburst. The process of going from one emotional extreme to the other reflects a pattern that is often seen in people with symptoms of personality pathology, and reasonably may result in and be fueled by self-invalidation due to emotion. Further, that tendencies to constrain emotional expression and impulses have been conceptualized as a *dynamic* rather than static process (J. H. Block & J. Block, 1980), supports the notion that individuals can experience extreme emotional suppression *and* extreme emotional expressivity, possibly explaining the positive correlation between self-invalidation due to “too much” and “too little” emotion.

### **Implications for the SIDES Predicting Symptoms of BPD**

The finding that greater self-invalidation due to high emotional experience predicted greater symptoms of BPD in all four core components was notable, as this is in line with theories of BPD that identify emotion invalidation as a causal factor for the pervasive emotion

dysregulation that exists at the core of this disorder (Linehan, 1993; Fruzzetti, 2005). However, the focus of these theories tends to be on emotion invalidation *from others* and in combination with factors including emotional reactivity. Although the literature refers to self-invalidation as a factor that may develop out of repeated perceived emotional invalidation (Fruzzetti, 2005), self-invalidation in previous research is referred to as invalidation of the person's own private experiences of thoughts, emotions and behaviors (Fruzzetti, 2005), which is distinct from the definition on which the SIDES is based. Notably, self-invalidation as it has been previously defined and as we define it here, has garnered much less empirical support within the context of BPD compared to emotional invalidation from others. This is perhaps due to the lack of a validated measure for this construct. Thus, the development and validation of the SIDES not only creates the opportunity for a broader form of self-stigma to be evaluated and applied to *all* people regardless of the presence of a mental health diagnosis, but it also opens the door for future research to assess how self-invalidation *due to* emotion, rather than invalidation *of* one's emotions or emotional invalidation from others, may contribute to the development and maintenance of BPD.

### **Limitations and Strengths**

Limitations of the investigation included the self-report nature of study measures across all five studies, without the inclusion of a measure to control for socially desirable responding. Despite this limitation, the online nature of the studies may have been a protective factor against greater tendencies for socially desirable response styles that occur more frequently in face-to-face interviews (Podsakoff et al., 2003). Additionally, the inclusion of attention check items embedded within surveys and end of survey inquiries about honest responses, as well as the



placement of demographic questions at the end of study surveys, were all efforts to reduce common sources of method variance issues (Podsakoff et al., 2003).

Another potential limitation of the study is the ability to fully capture the construct of self-invalidation due to emotion. As it is captured in the SIDES, self-invalidation due to emotion stems from main themes including beliefs about failing to handle emotions the way that a person “should,” being “too much” for other people, ruining relationships with others, and being generally weak, incapable, or insufficient. It is possible that there are additional way in which people may invalidate themselves based on their emotions that are not captured by the items in the SIDES. However, a strength is that the SIDES addresses self-invalidation that may be experienced both when people feel “too much” or feel “too little,” thus not making it exclusive to people who may tend to be more emotionally reactive or expressive.

Further, although study findings demonstrated that self-invalidation due to emotion is related to a number of emotional tendencies and predicts several negative outcomes, it is unclear where self-invalidation due to emotion comes from or how it develops. In addition, the current research does not address how self-invalidation due to emotion may change over an extended period of time, or what factors may contribute to changes in how much people self-invalidate. Although Study 4 included a longitudinal component to evaluate SIDES score within approximately a two week period, the conclusions from this study were limited by a relatively small number of eligible participants who completed follow-up surveys. Additionally, two weeks is likely not a long enough time frame to notice significant changes in the degree to which people self-invalidate given that self-invalidation due to emotion as measured by the SIDES aims to address negative evaluation of one’s identity- a more stable, core part of who the person is.

Strengths of the current research included recruitment of both student and community samples, people with and without a specified mental health diagnosis, as well as the relatively large sample sizes for a majority of studies. Thus, the diverse and large sample sizes contributed to generalizability of results. Additionally, the inclusion of the expert review study in the item generation stage of the SIDES created an opportunity to receive invaluable feedback from individuals in fields related to emotion invalidation. This enhanced the content of measure items and ultimately highlighted an important discrepancy between item content and the construct definition. Another strength of the current research was the differentiation of self-invalidation due to emotion from related constructs (i.e., self-criticism, shame, self-compassion, and self-stigma of mental illness), thus supporting the notion that self-invalidation due to emotion is a unique construct not fully captured by other existing self-report measures.

### **Future Directions and Conclusion**

Future qualitative research may be useful in determining whether self-invalidation due to emotion stems from themes that are not captured by the SIDES. Conducting focus groups or interviews in which participants can elaborate on thoughts and beliefs they have about themselves related to how they experience emotion may give further insight into additional factors to consider in the context of self-invalidation due to emotion. Additionally, longitudinal research is needed to determine whether self-invalidation due to emotion leads to, is a result of, or shares a reciprocal relationship with problematic tendencies (i.e., emotional reactivity, emotional expressivity, emotion dysregulation, self-criticism), emotion beliefs (as being controllable versus unchangeable), and symptoms of psychopathology explored in the current research. Researchers may also explore whether self-invalidation due to emotion varies across forms of psychopathology. Given that some mental health disorders including borderline

personality disorder undoubtedly carry greater public stigma from others, and potentially greater self-stigma, perhaps people diagnosed with more stigmatized forms of psychopathology may tend to invalidate themselves on the basis of their emotional experiences more than people with less stigmatized mental health diagnoses.

Additionally, future research may explore whether self-invalidation due to emotion follows the stigma framework wherein self-stigma of mental illness develops over time as people become more aware of and begin to internalize stigmatizing beliefs held by others (Link & Phelan, 2001; Vogel et al., 2007; Vogel et al., 2013). Whether self-invalidation due to emotion develops only due to internalization of perceived emotional invalidation, or whether people self-invalidate despite existing in an environment where they perceive others to accept and validate their emotions, remains an empirical question. Perhaps people who compare themselves and their emotional reactions to those of others, or to larger societal standards of how emotions “should” be experienced, may still invalidate themselves on the basis of their emotional experiences even in the absence of perceived invalidation of emotion. Gaining a better understanding of how self-invalidation due to emotion develops may also shed light onto what factors can be targeted in treatment interventions for people with and without a diagnosed mental illness to reduce the degree of self-invalidation that is experienced. This seems like an especially important direction for future research given that self-invalidation due to emotion was found to be a predictor for general distress as well as more severe forms of psychopathology.

In conclusion, the current research revealed the Self-Invalidation Due to Emotion Scale (SIDES) as a psychometrically sound measure that predicted a number of maladaptive tendencies of responding to the self and emotions, which have implications for the well-being of all people, not just those who may self-stigmatize for having a mental illness. Additionally, the SIDES

predicted greater symptoms of psychopathology and greater general affective distress even when taking into consideration the extent to which people self-stigmatize for a mental illness or perceive others to invalidate their emotions. Thus, findings suggest the SIDES broadens the scope of measures of self-stigma, and provides a unique self-perspective compared to current measures of emotional invalidation.

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## X. Tables

**Table 1**  
*Demographic Data, Separated by Study*

	Study 2	Study 3	Study 4	Study 5
	( <i>N</i> = 304)	( <i>N</i> = 579)	( <i>N</i> = 229)	( <i>N</i> = 145)
	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )
Age, <i>M</i> ( <i>SD</i> )	19.13 (1.60)	33.27 (11.07)	25.55 (10.46)	32.16 (11.23)
	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)
Gender				
Female	205 (67.4%)	295 (50.9%)	140 (62.2%)	100 (70.4%)
Male	99 (32.6%)	274 (47.3%)	85 (37.8%)	42 (29.6%)
Race				
White	257 (84.5%)	476 (82.2%)	186 (81.6%)	110 (75.9%)
African American	16 (5.3%)	12 (2.1%)	8 (3.5%)	8 (5.5%)
Hispanic/Latino	19 (6.3%)	2 (.3%)	8 (3.5%)	12 (8.3%)
Asian American/Pacific Islander	5 (1.6%)	15 (2.6%)	12 (5.3%)	3 (91.7%)
Biracial/Mixed Race	7 (2.3%)	19 (3.3%)	7 (3.1%)	9 (0.7%)
Other	-	55 (9.5%)	7(3.1%)	2 (1.4%)
Sexual Orientation				
Heterosexual	268 (89.3%)	493 (86%)	199 (87.7%)	92 (63.9%)
Bisexual	26 (8.7%)	41 (7.2%)	15 (6.6%)	40 (27.8%)
Lesbian/Gay	5 (1.7%)	30 (5.2%)	11 (4.8%)	7 (4.9%)
Other	1 (.3%)	9 (1.6%)	2 (.9%)	5 (3.5%)
Marital Status				
Single	300 (98.7%)	356 (61.5%)	182 (79.8%)	90 (62.1%)
Married	2 (.7%)	188 (32.5%)	39 (17.1%)	38 (26.2%)
Separated/Divorced/Widowed	2 (.7%)	35 (6%)	7 (3.1%)	17 (11.8%)
Employment status				
Unemployed	-	158 (27.3%)	127 (55.5%)	60 (41.4%)
Part time	-	140 (24.2%)	59 (25.8%)	36 (24.8%)
Full time	-	281 (48.5%)	43 (18.8%)	49 (33.8%)

**Table 2***Bivariate Correlations for SIDES-P and Study 2 Variables*

Construct	1	2	3	4	5	6	<i>M (SD)</i>
1. Self-Invalidation Due to Emotion High Emotional Experience (SIDES-P)	--						2.71 (1.19)
2. Self-Invalidation Due to Low Emotional Experience (SIDES-P)	.21**	--					2.08 (1.13)
3. Internalized Self-Criticism (LOSC)	.55**	.18**	--				4.74 (1.25)
4. Comparative Self-Criticism (LOSC)	.63**	.35**	.45**	--			3.56 (.79)
5. Experiential Avoidance (BEAQ)	.51**	.36**	.40**	.49**	--		51.51 (11.46)
6. Emotional Reactivity (ERS)	.62**	-.07	.49**	.44**	.38**	--	32.58 (18.47)

\* $p < .05$ , \*\* $p < .01$

**Table 3**

*Study 2 Hierarchical Regression of the SIDES-P Predicting Experiential Avoidance Above Emotional Reactivity and Self-Criticism*

	BEAQ (Experiential Avoidance) $\beta$
Step 1	$R^2\Delta = .14^{**}$
Emotional Reactivity (ERS)	.38**
Step 2	$R^2\Delta = .15^{**}$
Internalized Self-Criticism (LOSC)	.17**
Comparative Self-Criticism (LOSC)	.35**
Step 3	$R^2\Delta = .08^{**}$
Self-Invalidation due to High Emotional Experience (SIDES-P)	.22**
Self-Invalidation due to Low Emotional Experience (SIDES-P)	.25**
Overall Model	$R^2 = .37^{**}$

\* $p < .05$ , \*\* $p < .01$

**Table 4***Bivariate Correlations for SIDES and Study 4 Predictors and Outcome Variables at T1*

Construct	Self-Invalidation Due to High Emotional Experience (SIDES)	Self-Invalidation Due to Low Emotional Experience (SIDES)	<i>M (SD)</i> at T1
Internalized Self-Criticism (LOSC)	.57**	.17**	4.51 (1.39)
Comparative Self-Criticism (LOSC)	.52**	.36**	3.54 (.85)
Shame (ESS)	.60**	.24**	59.62 (18.97)
Characterological Shame (ESS)	.55**	.31**	26.55 (9.69)
Behavioral Shame (ESS)	.58**	.18**	23.01 (7.45)
Bodily Shame (ESS)	.41**	.05	10.06 (4.00)
Self-Compassion (SCS-SF)	-.58**	-.19**	2.92 (.74)
Emotional Reactivity (ERS)	.61**	-.02	32.26 (19.69)
Perceived Invalidation of Emotion (PIES)	.38**	.24**	2.01 (.88)
Beliefs about Emotion Uncontrollability (ITES)	-.32**	.04	3.26 (.88)
Emotional Dysregulation (DERS-16)	.64**	.25**	2.48 (.94)
Emotional Expressivity (EES)	.12	-.54**	3.39 (.96)
Physical Health (WHOQOL-Brief)	-.30**	-.25**	15.16 (2.60)
Psychological Health (WHOQOL-Brief)	-.45**	-.28**	13.26 (3.19)
Relational Health (WHOQOL-Brief)	-.16*	-.17**	14.15 (3.63)
Environmental Health (WHOQOL-Brief)	-.17*	-.19**	15.33 (2.63)

\* $p < .05$ , \*\* $p < .01$

**Table 5**

*Study 4 Hierarchical Regressions of the SIDES Predicting Responses To and Beliefs about Emotion*

	DERS-16 (Emotion Dysregulation) $\beta$	ERS (Emotional Reactivity) $\beta$	EES (Emotional Expressivity) $\beta$	ITES (Emotion Beliefs) $\beta$
Step 1	$R^2\Delta = .08^{**}$	$R^2\Delta = .08^{**}$	$R^2\Delta = .10^{**}$	$R^2\Delta = .02$
Age	-.34**	-.18	.12	.14
Gender	.12	.26**	.29**	-.11
Sample	.12	.14	-.02	-.05
Step 2	$R^2\Delta = .55^{**}$	$R^2\Delta = .42^{**}$	$R^2\Delta = .02$	$R^2\Delta = .11^{**}$
Shame (ESS)	.23**	.09	-.04	.05
Self-Compassion (SCS-SF)	-.23**	-.22**	-.10	.29**
Internalized Self- Criticism (LOSC)	.27**	.28**	-.02	-.06
Comparative Self- Criticism (LOSC)	.01	.03	-.11	-.02
Perceived Emotion Invalidation (PIES)	.22**	.23**	-.04	-.05
Step 2	$R^2\Delta = .03^{**}$	$R^2\Delta = .07^{**}$	$R^2\Delta = .26^{**}$	$R^2\Delta = .03^{**}$
Self-invalidation due to High Emotional Experience (SIDES)	.22**	.29**	.29**	-.17**
Self-invalidation due to low emotional experience (SIDES)	.04	-.20**	-.55**	.14**
Overall Model	$R^2 = .66^{**}$	$R^2 = .57^{**}$	$R^2 = .38^{**}$	$R^2 = .16^{**}$

\* $p < .05$ , \*\* $p < .01$

**Table 6**  
*Study 4 Hierarchical Regressions of the SIDES Predicting Quality of Life*

	General Quality of Life $\beta$	General Health $\beta$	Psychological Health $\beta$	Physical Health $\beta$	Relationship Health $\beta$	Environmental Health $\beta$
Step 1	$R^2\Delta = .14^{**}$	$R^2\Delta = .05^{**}$	$R^2\Delta = .04^{**}$	$R^2\Delta = .07^{**}$	$R^2\Delta = .04^{**}$	$R^2\Delta = .07^{**}$
Age	.11	.07	.27 <sup>**</sup>	.09	.18	.11
Gender	.07	-.04	-.05	-.04	.07	.06
Sample	-.44 <sup>**</sup>	-.27 <sup>**</sup>	-.25 <sup>**</sup>	-.33 <sup>**</sup>	-.27 <sup>**</sup>	-.33 <sup>**</sup>
Step 2	$R^2\Delta = .19^{**}$	$R^2\Delta = .14^{**}$	$R^2\Delta = .44^{**}$	$R^2\Delta = .19^{**}$	$R^2\Delta = .19^{**}$	$R^2\Delta = .22^{**}$
Shame (ESS)	-.16	-.20 <sup>*</sup>	-.30 <sup>**</sup>	-.12	-.07	-.04
Self-Compassion (SCS-SF)	.38 <sup>**</sup>	.28 <sup>*</sup>	.49 <sup>**</sup>	.19 <sup>*</sup>	.28 <sup>**</sup>	.39 <sup>**</sup>
Internalized Self- Criticism (LOSC)	.24 <sup>*</sup>	.16	.23 <sup>**</sup>	.11	.18	.28 <sup>*</sup>
Comparative Self- Criticism (LOSC)	-.02	-.05	-.15 <sup>**</sup>	-.08	-.13	-.10
Perceived Emotion Invalidation (PIES)	-.17 <sup>*</sup>	-.05	-.04	-.27 <sup>**</sup>	-.21 <sup>**</sup>	-.24 <sup>**</sup>
Step 2	$R^2\Delta = .001$	$R^2\Delta = .001$	$R^2\Delta = .01$	$R^2\Delta = .02$	$R^2\Delta = .01$	$R^2\Delta = .004$
Self-invalidation due to High Emotional Experience (SIDES)	.04	.04	-.04	-.07	.11	.08
Self-invalidation due to Low Emotional Experience (SIDES)	.002	.003	-.09	-.15 <sup>*</sup>	-.01	-.03
Overall Model	$R^2 = .34^{**}$	$R^2 = .19^{**}$	$R^2 = .48^{**}$	$R^2 = .28^{**}$	$R^2 = .24^{**}$	$R^2 = .23^{**}$

\* $p < .05$ , \*\* $p < .01$



**Table 7***Study 4 Regressions of the SIDES Predicting Changes in Quality of Life Over Time*

	General Quality of Life at T2 $\beta$	General Health at T2 $\beta$	Psychological Health at T2 $\beta$	Physical Health at T2 $\beta$	Relationship Health at T2 $\beta$	Environmental Health at T2 $\beta$
Step 1	$R^2\Delta = .08$	$R^2\Delta = .04$	$R^2\Delta = .02$	$R^2\Delta = .03$	$R^2\Delta = .06$	$R^2\Delta = .04$
Age	-.15	-.12	.11	-.15	-.16	.003
Gender	.24	.16	.05	.02	.22	.19
Sample	-.09	-.06	-.01	-.05	.01	-.06
Step 2	$R^2\Delta = .56^{**}$	$R^2\Delta = .41^{**}$	$R^2\Delta = .70^{**}$	$R^2\Delta = .70^{**}$	$R^2\Delta = .59^{**}$	$R^2\Delta = .70^{**}$
Corresponding WHOQOL subscale at T1	.78**	.66**	.84**	.85**	.78**	.85**
Step 2	$R^2\Delta = .03$	$R^2\Delta = .01$	$R^2\Delta = .01$	$R^2\Delta = .01$	$R^2\Delta = .004$	$R^2\Delta = .001$
Self-invalidation due to High Emotional Experience at T1 (SIDES)	-.12	-.03	-.06	-.08	.02	-.01
Self-invalidation due to low emotional experience at T1 (SIDES)	-.10	-.07	-.07	.12	-.07	-.02
Overall Model	$R^2 = .67^{**}$	$R^2 = .46^{**}$	$R^2 = .72^{**}$	$R^2 = .74^{**}$	$R^2 = .65^{**}$	$R^2 = .74^{**}$

\* $p < .05$  \*\* $p < .01$

**Table 8***Examining Predictive Validity of the SIDES*

Construct	1	2	3	4	5	6	<i>M (SD)</i>
1. Self-Invalidation Due to High Emotional Experience (SIDES)	--						16.92 (6.31)
2. Self-Invalidation Due to Low Emotional Experience (SIDES)	.17*	--					9.85 (5.32)
3. Self-Stigma of Mental Illness (ISMI)	.54**	.24**	--				55.63 (14.04)
4. Perceived Invalidation of Emotion (PIES)	.52**	.26**	.50**	--			2.31 (.97)
5. Psychological Distress (DASS-21)	.58**	.31**	.65**	.49**	--		52.54 (28.72)
6. Borderline Personality Disorder Symptoms Total Score (PAI-BOR)	.61**	.25**	.57**	.40**	.72**	--	37.14 (12.20)

\* $p < .05$ , \*\* $p < .01$

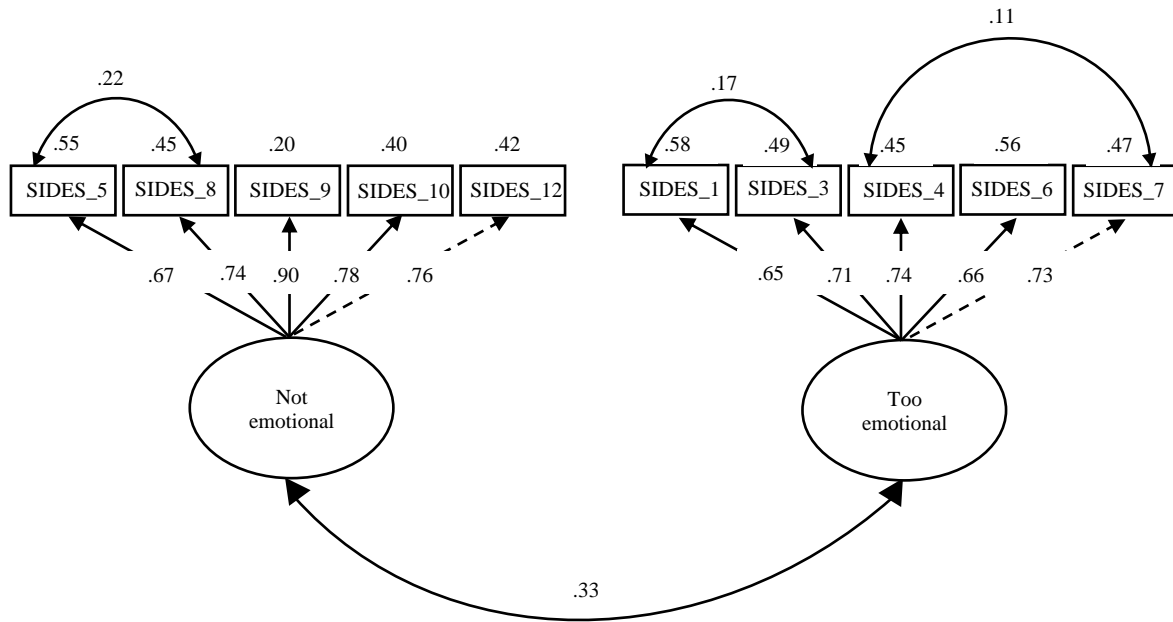
**Table 9**

*Study 5 Hierarchical Regressions of SIDES Predicting BPD Symptoms and Psychological Distress*

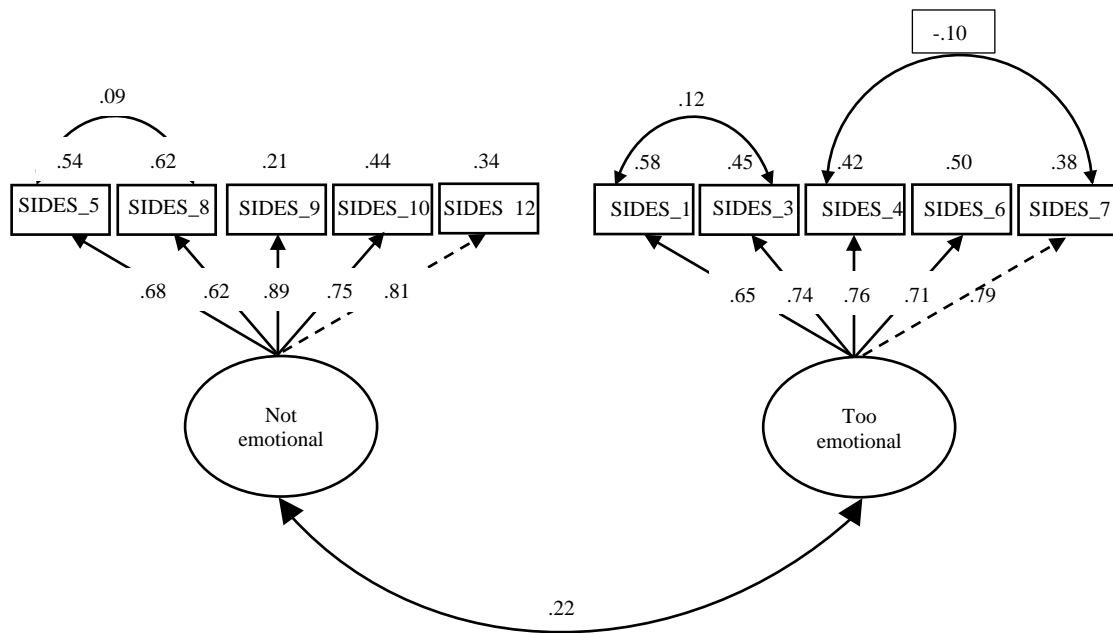
	PAI-BOR (Borderline Personality Disorder Symptoms) $\beta$	DASS-21 (Psychological Distress) $\beta$
Step 1	$R^2\Delta = .06^*$	$R^2\Delta = .05^*$
Age	-.25**	-.13
Gender	.004	-.17*
Step 2	$R^2\Delta = .30^{**}$	$R^2\Delta = .44^{**}$
Internalized Stigma of Mental Illness (ISMI)	.46**	.53**
Perceived Emotion Invalidation (PIES)	.16*	.21**
Step 2	$R^2\Delta = .11^{**}$	$R^2\Delta = .07^{**}$
Self-invalidation due to High Emotional Experience (SIDES)	.41**	.32**
Self-invalidation due to Low Emotional Experience (SIDES)	.09	.11
Overall Model	$R^2 = .47^{**}$	$R^2 = .55^{**}$

\* $p < .05$ , \*\* $p < .01$

## XI. Figures



**Figure 1**  
*The 10-item CFA Model for Dataset 1*



**Figure 2**  
*The 10-item CFA Model for Dataset 2*

## XII. Supplemental Materials

**Supplemental Table A**

*Expert Ratings for SIDES-P Item Relevancy and Comprehensibility, and Reasoning for Item Retainment*

	Relevancy				Comprehensibility				Items Retained	Why items were dropped or reworded
	External Expert Ratings Only	All Experts Ratings	External Expert Ratings Only	All Expert Ratings	External Expert Ratings Only	All Expert Ratings	External Expert Ratings Only	All Expert Ratings		
SIDES- P items (Study 1)	<i>M</i> ( <i>SD</i> )	Range	<i>M</i> ( <i>SD</i> )	Range	<i>M</i> ( <i>SD</i> )	Range	<i>M</i> ( <i>SD</i> )	Range		
1. I am unlovable because I experience too much emotion	3.67 (.58)	3-4	4 (.63)	4-5	4(0)	4	4.29 (.49)	4-5	X	
2. I am a weak person because of my emotions	4 (0)	4	4.29 (.49)	4-5	4.33 (.58)	4-5	4.57 (.54)	4-5	X	Reworded according to expert qualitative feedback.
3. I am wrong for having the emotions that I have	4.67 (.58)	4-5	4.57 (.79)	3-5	4 (1)	3-5	4 (.58)	3-5	X	
4. I feel worse about myself when I express my emotions to others	3 (0)	3	3.71 (.95)	3-5	4.33 (.58)	4-5	4.57 (.54)	4-5	X	Reworded according to both expert and non-expert qualitative feedback.
5. I am too vulnerable with others when I am feeling a lot of emotion	2.67 (.58)	2-3	3.57 (1.13)	2-5	3 (1)	2-4	3.86 (1.07)	2-5		At least one expert rated item relevancy as a 2 and mean relevancy rating was less than 3. Item comprehensibility was also rated as a 2 by at least one expert.
6. I am overdramatic when I am emotional	3.67 (1.53)	2-5	4.14 (1.07)	2-5	3.33 (1.16)	2-4	4.14 (1.07)	2-5		At least one expert rated item relevancy as a 2. Item comprehensibility was also rated as a 2 by at least one expert.

	Relevancy				Comprehensibility						
	External Expert Ratings Only		All Experts Ratings		External Expert Ratings Only		All Expert Ratings				
7.	I am wrong for allowing myself to be heavily influenced by my emotions	4.67 (.58)	4-5	4.86 (.38)	4-5	4.33 (.58)	4-5	4.57 (.54)	4-5	X	
8.	I am a burden when I express my emotions to others	3.33 (.58)	3-4	3.86 (.90)	3-5	4.33 (.58)	4-5	4.57 (.54)	4-5	X	Reworded according to both expert and non-expert qualitative feedback.
9.	I am undeserving of people's compassion when I am emotional because my emotions are too much	4 (1)	3-5	4.14 (.69)	3-5	3(1)	2-4	3.86 (1.07)	2-5	X	Reworded due to lower expert comprehensibility rating and qualitative feedback.
10.	I should be more capable of handling my emotions	4.67 (.58)	4-5	4.71 (.49)	4-5	4.67 (.58)	4-5	4.71 (.49)	4-5	X	
11.	I ruin relationships because I experience too much emotion	3 (0)	3	4 (1)	3-5	4.67 (.58)	4-5	4.86 (.38)	4-5	X	Reworded due to non-expert qualitative feedback. A similar item was added to the measure aimed at evaluating the perception of ruining relationships due to experiencing too <i>little</i> emotion.
12.	I do not have a good enough reason to be as emotional as I am	5 (0)	5	4.29 (.95)	3-5	4 (1)	3-5	4.29 (.76)	3-5	X	
13.	I should be able to "get over" my emotions faster than I do	4.67 (.58)	4-5	4.57 (.54)	4-5	4.67 (.58)	4-5	4.71 (.49)	4-5	X	
14.	I am an unfit partner because I am overly emotional	3.67 (.58)	3-4	4 (.82)	3-5	4.33 (.58)	4-5	4.43 (.54)	4-5		Not inclusive to individuals without a partner.
15.	I am unworthy of love because I am not very emotional	3.33 (.58)	3-4	4.14 (.90)	3-5	3.67 (.58)	3-4	4.14 (.69)	3-5	X	
16.	I feel like less of a person because I experience too little emotion	4.33 (1.12)	3-5	4.57 (.79)	3-5	4.33 (.58)	4-5	4.57 (.54)	4-5	x	

	Relevancy				Comprehensibility					
	External Expert Ratings Only		All Experts Ratings		External Expert Ratings Only		All Expert Ratings			
17. I am a cold-hearted person because I do not express my emotions to others	3.67 (.58)	3-4	4.33 (.82)	3-5	4 (0)	4	4.43 (.54)	4-5	X	Reworded due to expert qualitative feedback regarding concerns of conflating emotion expression and emotion experience.
18. I am incapable of having close relationships because I do not experience a lot of emotion	2.33 (.58)	2-3	3.57 (1.27)	2-5	4.33 (.58)	4-5	4.57 (.54)	4-5		At least one expert rated item relevancy as a 2 and mean item relevancy was less than 3. Expert critique about whether the item was capturing invalidation or feelings of closeness with others.
19. I should be more emotional than I am	4.67 (.58)	4-5	4.43 (.79)	3-5	4.67 (.58)	4-5	4.71 (.49)	4-5	X	
20. I am undeserving of being emotionally confided in by others because I am incapable of sharing that emotional vulnerability	3 (0)	3	3.86 (.90)	3-5	2.33 (.58)	2-3	3.43 (1.27)	2-5		At least one expert rated item comprehensibility as a 2 and mean item comprehensibility was less than 3. Expert critique that the item might be conflating the ability to be emotionally vulnerable with actual emotional vulnerability.
21. I am disgraceful because I do not experience emotion as much as other people	3 (1)	2-4	3.71 (1.11)	2-5	3 (1)	2-4	3.43 (.79)	2-4		At least one expert rated item relevancy as a 2. At least one expert rated comprehensibility as a 2. Expert criticism that the term “disgraceful” might be difficult to understand.



	Relevancy				Comprehensibility					
	External Expert Ratings Only		All Experts Ratings		External Expert Ratings Only		All Expert Ratings			
22. I am ashamed of my inability to express my emotions like other people	4 (1)	3-5	4.57 (.79)	3-5	4.33 (.58)	4-5	4.57 (.54)	4-5		
23. I am embarrassed that not many things influence me emotionally	3.33 (.58)	3-4	3.83 (.75)	3-5	4 (0)	4	4.33 (.52)	4-5	X	Reworded to better capture self-invalidation due to emotion. Upon reconsideration, embarrassment was thought to be conceptually different from invalidation.
24. I feel out of place with most people because of how little emotion I experience	4 (0)	4	4.29 (.49)	4-5	4.33 (.58)	4-5	4.43 (.54)	4-5	X	Reworded according to non-expert qualitative feedback to be inclusive of people who may invalidate themselves due to being too emotional or not emotional enough.
25. I am a waste of other people's time when I try to talk to them about my emotions	2.67 (1.12)	2-4	3.86 (1.35)	2-5	2.67 (.58)	2-3	3.71 (1.11)	2-5		At least one expert rated item relevancy as a 2 and mean item relevancy was less than 3. Item demonstrated a relatively low expert comprehensibility ratings, as expert comments suggested that the item may hold many different interpretations.
26. I am an inconvenience to others because of the way I experience emotion	3.33 (.58)	3-4	4.29 (.95)	3-5	3.33 (.58)	3-4	4.14 (.90)	3-5	X	Reworded according to expert qualitative feedback regarding lack of item clarity.
27. I am irrational when I experience emotion	3.67 (1.53)	2-5	4.43 (1.13)	2-5	4 (0)	4	4.43 (.54)	4-5		At least one expert rated item relevancy as a 2. Expert comment suggested

	Relevancy				Comprehensibility					
	External Expert Ratings Only		All Experts Ratings		External Expert Ratings Only		All Expert Ratings			
28. I feel I am inferior to others who do not seem to experience emotions like I do	4.33 (.58)	4-5	4.57 (.54)	4-5	4 (0)	4	4.29 (.76)	3-5	X	that the item may be targeting emotional expression rather than emotional experience. Reworded according to expert qualitative feedback.
29. I feel less like myself when I am experiencing an emotion	3 (1)	2-4	3.29 (1.11)	2-5	3.67 (.58)	3-4	4.29 (.76)	3-5	X	Despite being rated by one expert on item relevancy as a 2, this item was retained as it was considered by item developers as important to the construct.
30. I am ashamed of the way I experience emotion	4.33 (.58)	4-5	4.71 (.49)	4-5	4.67 (.58)	4-5	4.71 (.49)	4-5	X	
31. My emotional experience is not as important as someone else's emotional experience	4 (0)	4	4 (.58 )	3-5	4.33 (.58)	4-5	4.43 (.54)	4-5	X	Reworded according to expert qualitative feedback.

## Supplemental Table B

### Breakdown of SIDES Items by Study

Original Item #	Item # after Expert Review	Item # after EFA	Corresponding Factor after EFA	Item # after CFA	Item	Item Rewording after Expert Review
1	1	X			I am unlovable because I experience too much emotion	
2	2	1	2 <sup>nd</sup>	1	I am a weak person because of my emotions	My emotions make me a weak person
3	3	X			I am wrong for having the emotions that I have	
4	4	X			I feel worse about myself when I express my emotions to others	I feel worse about myself because of the emotions I experience
5	X	X			I am too vulnerable with others when I am feeling a lot of emotion	
6	X	X			I am overdramatic when I am emotional	
7	5	2	2 <sup>nd</sup>		I am wrong for allowing myself to be heavily influenced by my emotions	
8	6	3	2 <sup>nd</sup>	3	I am a burden when I express my emotions to others	My emotions make me a burden to others
9	7	X			I am undeserving of people's compassion when I am emotional because my emotions are too much	My emotions make me undeserving of others' compassion
10	8	4	2 <sup>nd</sup>	9	I should be more capable of handling my emotions	
11	9	X			I ruin relationships because I experience too much emotion	I ruin relationships with other people because of how much emotion I experience
Added after Study 1	10	5	1 <sup>st</sup>	2	I ruin relationships with others because of how little emotion I experience	

Original Item #	Item # after Expert Review	Item # after EFA	Corresponding Factor after EFA	Item # after CFA	Item	Item Rewording after Expert Review
12	11	6	2 <sup>nd</sup>	7	I do not have a good enough reason to be as emotional as I am	
13	12	7	2 <sup>nd</sup>	5	I should be able to “get over” my emotions faster than I do	
14	X	X			I am an unfit partner because I am overly emotional	
15	13	8	1 <sup>st</sup>	10	I am unworthy of love because I am not very emotional	
16	14	9	1 <sup>st</sup>	4	I feel like less of a person because I experience too little emotion	
17	15	10	1 <sup>st</sup>	6	I am a cold-hearted person because I do not express my emotions to others	I am a cold-hearted person because I do not feel a lot of emotion
18	X	X			I am incapable of having close relationships because I do not experience a lot of emotion	
19	16	11	1 <sup>st</sup>		I should be more emotional than I am	
20	X	X			I am undeserving of being emotionally confided in by others because I am incapable of sharing that emotional vulnerability	
21	X	X			I am disgraceful because I do not experience emotion as much as other people	
22	X	X			I am ashamed of my inability to express my emotions like other people	
23	17	12	1 <sup>st</sup>	8	I am embarrassed that not many things influence me emotionally	I feel like less of a person because not many things influence me emotionally

Original Item #	Item # after Expert Review	Item # after EFA	Corresponding Factor after EFA	Item # after CFA	Item	Item Rewording after Expert Review
24	18	13	1 <sup>st</sup>		I feel out of place with most people because of how little emotion I experience	I feel out of place with most people because I do not feel emotions the way that other people do
25	X	X			I am a waste of other people's time when I try to talk to them about my emotions	
26	19	14	2 <sup>nd</sup>		I am an inconvenience to others because of the way I experience emotion	My emotions make me an inconvenience to others
27	X	X			I am irrational when I experience emotion	
28	20	X			I feel inferior to others who do not seem to experience emotions like I do	I feel inferior to others because of my emotions
29	21	X			I feel less like myself when I am experiencing an emotion	
30	22	X			I am ashamed of the way I experience emotion	
31	23	X			My emotional experience is not as important as someone else's emotional experience	My emotions are not as important as other people's emotions

**Supplemental Table C**

*Study 4 Intercorrelations of SIDES and Responses to the Self and Emotion*

	1	2	3	4	5	6	7	8	9	10	11	12	13	
1	Self-Invalidation Due to High Emotional Experience (SIDES)	--												
2	Self-Invalidation Due to Low Emotional Experience (SIDES)	.20**	--											
3	Perceived Invalidation of Emotion (PIES)	.38**	.24**	--										
4	Beliefs about Emotion Uncontrollability (ITES)	-.32**	.04	-.15*	--									
5	Self-Compassion (SCS-SF)	-.58**	-.19**	-.32**	.35**	--								
6	Internalized Self-Criticism (LOSC)	.57**	.17*	.26**	-.30**	-.73**	--							
7	Comparative Self-Criticism (LOSC)	.52**	.36**	.51**	-.24**	-.62**	.61**	--						
8	Emotional Expressivity (EES)	.12	-.54**	-.06	-.09	.03	-.04	-.13	--					
9	Emotional Reactivity (ERS)	.61**	-.02	.44**	-.42**	-.58**	.60**	.50**	.32**	--				
10	Shame (ESS)	.60**	.24**	.40**	-.25**	-.67**	.70**	.61**	-.05	.57**	--			
11	Characterological Shame (ESS)	.55**	.31**	.40**	-.23**	-.62**	.61**	.59**	-.09	.52**	.94**	--		
12	Behavioral Shame (ESS)	.58**	.18**	.36**	-.23**	-.61**	.74**	.56**	-.03	.53**	.91**	.77**	--	
13	Bodily Shame (ESS)	.41**	.05	.28**	-.24**	-.54**	.50**	.41**	.05	.48**	.77**	.61**	.62**	--

14	Emotion Dysregulation (DERS-16)	.64**	.25**	.46**	-.38**	-.67**	.69**	.57**	-.07	.72**	.69**	.66**	.63**	.51**
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\* $p < .05$ , \*\* $p < .01$

**Supplemental Table D***Study 4 Intercorrelations of SIDES and Quality of Life*

	1	2	3	4	5	6	7	8	9
1 Self-Invalidation Due to High Emotional Experience (SIDES)	--								
2 Self-Invalidation Due to Low Emotional Experience (SIDES)	.20**	--							
3 Physical Health (WHOQOL-Brief)	-.30**	-.25**	--						
4 Psychological Health (WHOQOL-Brief)	-.45**	-.28**	.58**	--					
5 Relational Health (WHOQOL-Brief)	-.16**	-.17**	.39**	.57**	--				
6 Environmental Health (WHOQOL-Brief)	-.17**	-.38**	.63**	.60**	.52**	--			
7 General Quality of Life (WHOQOL-Brief)	-.20**	-.15**	.61**	.63**	.53**	.69**	--		
8 General Health Satisfaction (WHOQOL-Brief)	-.17**	-.08	.59**	.60**	.43**	.55**	.69**	--	

\* $p < .05$ , \*\* $p < .01$



**Supplemental Table E**

*Study 4 Intercorrelations of Responses to Self and Quality of Life Variables*

	1	2	3	4	5	6	7	8	9	10	11	12
1 Self-Compassion Scale (SCS-SF)	--											
2 Internalized Self-Criticism Scale (LOSC)	-.73**	--										
3 Comparative Self-Criticism Scale (LOSC)	-.62**	.61**	--									
4 Shame (ESS)	-.67**	.70**	.61**	--								
5 Characterological Shame (ESS)	-.62**	.61**	.59**	.94**	--							
6 Behavioral Shame (ESS)	-.61**	.74**	.56**	.91**	.77**	--						
7 Bodily Shame (ESS)	-.54**	.50**	.41**	.77**	.61**	.62**	--					
8 Physical Health (WHOQOL-Brief)	.30**	-.20**	-.33**	-.31**	-.32**	-.25**	-.23**	--				
9 Psychological Health (WHOQOL-Brief)	.62**	-.43**	-.53**	-.56**	-.55**	-.44**	-.51**	.58**	--			
10 Relational Health (WHOQOL-Brief)	.32**	-.17*	-.36**	-.25**	-.27**	-.18**	-.21**	.39**	.57**	--		
11 Environmental Health (WHOQOL-Brief)	.32**	-.13	-.33**	-.24**	-.27**	-.16*	-.19**	.63**	.60**	.52**	--	
12 General Quality of Life	.33**	-.14*	-.30**	-.27**	-.31**	-.18**	-.21**	.61**	.63**	.53**	.69**	--

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	(WHOQOL- Brief)												
	General Health												
13	Satisfaction (WHOQOL- Brief)	.31**	-.17**	-.27**	-.29**	-.30**	-.16*	-.34**	.59**	.60**	.43**	.55**	.69**

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\* $p < .05$ , \*\* $p < .01$

**Supplemental Table F**

*Study 4 Intercorrelations of Responses to Emotion and Quality of Life Variables*

	1	2	3	4	5	6	7	8	9	10
1 Perceived Invalidation of Emotion (PIES)	--									
2 Beliefs about Emotion Uncontrollability (ITES)	-.15*	--								
3 Emotional Expressivity (EES)	-.06	-.09	--							
4 Emotional Reactivity (ERS)	.44**	-.42**	.32**	--						
5 Emotional Dysregulation (DERS-16)	.46**	-.38**	-.07	.72**	--					
6 Physical Health (WHOQOL-Brief)	-.40**	.15*	.10	-.23**	-.31**	--				
7 Psychological Health (WHOQOL-Brief)	-.33**	.28**	.11	-.37**	-.55**	.58**	--			
8 Relational Health (WHOQOL-Brief)	-.36**	.13*	.12	-.17*	-.24**	.39**	.57**	--		
9 Environmental Health (WHOQOL-Brief)	-.38**	.16*	.08	-.22**	-.24**	.63**	.60**	.52**	--	
10 General Quality of Life (WHOQOL-Brief)	-.32**	.17**	.07	-.20**	-.24**	.61**	.63**	.53**	.69**	--
11 General Health Satisfaction (WHOQOL-Brief)	-.24**	.21**	-.04	-.19**	-.26**	.59**	.60**	.43**	.55**	-.26**

\* $p < .05$ , \*\* $p < .01$

## Appendices

### Appendix A

#### The Self-Invalidation Due to Emotion Scale

**Instructions:** Please indicate how much each statement applies to you.

Very untrue of me <b>1</b>	Untrue of me <b>2</b>	Slightly untrue of me <b>3</b>	Slightly true of me <b>4</b>	True of me <b>5</b>	Very true of me <b>6</b>
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1. My emotions make me a weak person
2. I ruin relationships with others because of how little emotion I experience
3. My emotions make me a burden to others
4. I feel like less of a person because I experience too little emotion
5. I should be able to “get over” my emotions faster than I do
6. I am a cold-hearted person because I do not feel a lot of emotion
7. I do not have a good enough reason to be as emotional as I am
8. I feel like less of a person because not many things influence me emotionally
9. I should be more capable of handling my emotions
10. I am unworthy of love because I am not very emotional

**Appendix B- IRB Approval Memo**

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**To:** Jennifer C Veilleux  
MEMH 312

**From:** , Chair

**Date:** 04/19/2021

**Action:** **Exemption Granted**

**Action Date:** 06/11/2019

**Protocol #:** 1906200113

**Study Title:** Online experimental studies linking emotion and self-control

The above-referenced protocol has been determined to be exempt.

If you wish to make any modifications in the approved protocol that may affect the level of risk to your participants, you must seek approval prior to implementing those changes. All modifications must provide sufficient detail to assess the impact of the change.

If you have any questions or need any assistance from the IRB, please contact the IRB Coordinator at 109 MLKG Building, 5-2208, or [irb@uark.edu](mailto:irb@uark.edu).

cc: Katie Anne Welch, Key Personnel  
Caroline G Geels, Key Personnel  
Kiley Angelina Torres, Key Personnel