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**THE INITIAL DEVELOPMENT OF THE SELF-EFFICACY IN EMOTION
REGULATION SCALE (SEERS)**

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by
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ABSTRACT

Emotion regulation and self-efficacy are fields of study that have yielded much attention over the past twenty years (Gross, 2015; Sheeran et al., 2016); however, there has been a dearth of work attempting to measure an individual's emotion regulation self-efficacy. The work that exists on this topic is limited in its scope of measurement. This is due in part to the foundational theories that guided their creation. Prior measures have also been limited to overly specific situations (e.g., keep from getting dejected when you are lonely?) In the present research, I introduce The Self-Efficacy in Emotion Regulation Scale (SEERS) which draws from basic emotion and emotion regulation theories and is one of the first attempts to quantify the construct of self-efficacy in emotion regulation in young adults (18-25). Exploratory Factor Analysis (EFA) results provide evidence for an emotion specific self-efficacy scale that can be linked to distinct intervention efforts to regulate different emotions (e.g., anger, fear, sadness, happiness). Evidence for convergent and discriminant validity was also found with other similar instruments. This scale promises to be an effective measurement tool in the study of self-efficacy in emotion regulation in both normative and potentially clinical samples.

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Chapter 1

Introduction

There is hardly a waking moment during which any of us could truly be described as devoid of emotion. As such, emotion adds depth and meaning to our lives, perhaps even adds the sense of ‘living’ to it. Indeed, some of the most profound questions of human existence relate to emotion: What guides our thoughts, motivations, and actions? Why do we engage in social interaction? What determines our preferences for careers, foods, entertainment, and significant others? Often it feels like our emotions are hard to control, but it is critical we learn to manage them in order to effectively navigate our social worlds. This leads to the ability to regulate our emotions which is intertwined with every action a person engages in, from the tragic to the mundane. One particular construct that is not directly related to emotion regulation but is a relevant aspect of emotion regulation is self-efficacy. Even though emotion regulation is critical for navigating the tasks of life, its measurement and the constructs related to it such as self-efficacy are complicated and difficult to quantify. Self-efficacy is also critical in how someone decides to regulate their emotions. Given the importance emotion regulation plays in people’s lives, it is vital to assess and understand how self-efficacy in emotion regulation influences well-being. The aim of this work is to quantify individuals’ self-efficacy to regulate their emotions. To situate this work, I first review existing theory on emotion regulation and self-efficacy theory, how these constructs are typically measured, and then I introduce the theoretical foundation I chose for the development of a new scale to measure emotion regulation self-efficacy.

Emotion Regulation and Self-Efficacy Importance

Emotions are inherent in human behavior and learning to regulate them represents a major developmental milestone (National Research Council and Institute of Medicine, 2000). As children develop, their patterns of emotional experiences are predictive of their physical health as adults (Goodwin et al., 2009; Kubzansky et al., 2006; Repetti et al., 2002). Emotions have shown direct links to health including negative emotions influencing the development of cardiovascular disease (Roest et al., 2010), the decline in lung function (Kubzansky et al., 2006), an increased incidence of diabetes (Mezuk et al., 2008) and cancer (Kroenke et al., 2005). Given these links, emotion regulation has been a growing field over the past 20 years (DeSteno et al., 2013; Gross, 2015). Gross's (2015) explicit definition of emotion regulation is "the activation of one's goal to modify the unfolding emotional response" (p. 11). On the other end of the emotion regulation continuum is emotion dysregulation. Thompson (2019) defined emotion dysregulation as "patterns of emotional experience or expression that interfere with goal-directed activity" (p. 1). Emotion dysregulation has garnered much research interest given its importance in understanding psychopathology (Thompson, 2019). Emotion dysregulation is a hallmark characteristic that occurs throughout many disorders such as personality disorders (Dimaggio et al., 2017), post-traumatic stress, substance abuse (Tull et al., 2015), disordered eating (Baldofski et al., 2015), and depression (Paulus et al., 2016)

Similarly, self-efficacy in everyday life is critical to understanding human functioning. In developing the SEERS scale, I drew heavily from the social cognitive theory the Model of Triadic Reciprocity to conceptually draw emotion regulation and

self-efficacy together. This model incorporates the underlying factors involved in emotion regulation as well as other important moderating factors to consider, including self-efficacy. The Model of Triadic Reciprocity highlights three distinct factors that interact to explain human functioning. These include environmental (social context, actions of others), behavioral (actions, choices, environmental regulation), and personal (values, outcome expectations, attributes, and affective dispositions) factors. Self-efficacy, emotions, and goals are thought to interact with one another within the personal factor. Self-efficacy is defined as being “concerned with people’s beliefs in their capabilities to produce given attainments” (Bandura, 1997, p. 3). Self-efficacy, by its definition, impacts many aspects of an individual’s functioning, including how someone behaves, the individual’s perceptions of goals and the goals barriers, how one sets goals, their outcome expectations, and their “affective dispositions” (i.e., emotions; Bandura, 1997). In terms of interactions within the personal factor, self-efficacy beliefs might then impact an individual’s cognition around goals when it comes to planning strategically, their thoughts on the likelihood to obtain the goal, and whether they have frantic or erratic cognition (Bandura, 2006). Progressively, such thoughts can impact a person’s actions towards their goals (behavior factor), highlighting a cross-factor interaction.

According to the model of triadic reciprocity, such interplay between personal and behavioral factors influence ones goal perception, their commitment to goals, their persistence and effort towards those goals, what actions and behaviors they engage in to reach those goals, their expected goal attainments, the perceived barriers to goals, their perseverance in the face of barriers to the goals, their coping abilities with managing their environment while pursuing a goal, and finally, what they actually accomplish, all of

which have implications for their life (Bandura, 2006). For example, a student with anxiety around math might have low self-efficacy beliefs (personal factor) and thus might engage in activities that do not help them learn such as lack of persistence, effort, or not attending to instruction (behavioral factor). The environmental factor also interacts with the other factors in this model. For instance, the presence of a teacher offering negative or positive feedback to a student might hinder or enhance the student's personal self-efficacy, which in turn could influence their behavioral choice of how to pursue learning (Schunk & DiBenedetto, 2020). The above examples illustrate the dynamic interplay of all three factors in determining outcomes for the individual.

Critically, the logic of this model can easily be applied to emotion regulation as well. For instance, if a person does not believe that they can do something (personal factor) then why would they attempt it (behavioral factor)? Belief itself then creates the barrier to the completion of the action. When we take this logic and apply it to emotion regulation, we can ask the question "if people don't feel efficacious to regulate emotions, why would they engage in actions to do so?" This question has implications for how individuals might pursue and interact with their emotions which ultimately affects their daily function or dysfunction. Without a tool to measure self-efficacy to regulate emotions, one cannot begin to answer this question.

In terms of empirical support for how self-efficacy manifests itself in individuals' lives, there are many studies that demonstrate that self-efficacy beliefs are potent and critical to educational, physical, and mental health outcomes. In terms of educational outcomes, self-efficacy has been shown to predict students' academic achievement (Urduan & Pajaras, 2006). Sheeran et al. (2016) found in a meta-analysis on health and

behavior interventions that self-efficacy had a moderate predictive relationship with intention to engage in the behavior and a small relationship with eventual engagement in the behavior. In terms of physical health, one study found that lower levels of self-efficacy in patients with coronary heart disease predicted worse ongoing health outcomes (Barham et al., 2019). Finally, in terms of mental health, self-efficacy beliefs have been shown to predict psychological well-being (Fatima et al., 2018). Further, in another study on college students, self-efficacy was found to be associated with less stress and higher well-being (Schönfeld et al., 2019).

These studies are but a glimpse of how self-efficacy relates to human behavior, highlighting the influence it could have on emotion regulation as well. Gross's (2015) model of emotion regulation highlights that one's goals influence subsequent behaviors and modifies emotional experiences. Self-efficacy is critical to consider when discussing emotion regulation and may influence the strategies one uses to regulate emotions. For instance, if someone does not feel efficacious to regulate a particular emotion, then why would one engage in a strategy to effectively regulate it?

Many theories and models that have contributed to the understanding of emotion regulation, but there have been few attempts to measure self-efficacy in relation to it. Those that do exist are limited in scope (see below for review) and do not measure self-efficacy to regulate emotion meaningfully. Different types of emotion, however, arguably require different strategies for effective regulation. As such, it should not be assumed that high self-efficacy for regulating one emotion will necessarily mean high self-efficacy for another. An individual may have problems regulating anger but have no problem

regulating fear or sadness. Another may have difficulty regulating sadness but not disgust.

In constructing the SEERS, I drew from two emotion theories that have historically been at odds in the ways they conceptualize that humans experience emotion. Despite wide disagreements about the fundamental nature of felt emotion, and beyond the two theories that the SEERS draws from, most emotion theories tend to agree that humans experience a set of distinct emotions. Whether these are innate at birth, culturally learned, psychologically constructed, require cognitive appraisal or not, we nonetheless share a set of emotional experiences that we communicate through verbal and nonverbal language. I aimed to construct a scale that distinguishes our self-efficacy for regulating a set of core emotion experiences that understand these emotions to be widely understood as core emotions including: fear, disgust, anger, sadness, surprise, and happy. Below I review relevant emotion theory, emotion regulation, and how Bandura's (1986) Model of Triadic Reciprocity can be applied to understanding self-efficacy in emotion regulation.

Theoretical Underpinnings

Emotion Theories

The definition of an emotion is a hotly debated topic that has ebbed and flowed throughout the past 50 years. The most prominent theories that have gone back and forth are Neurocultural Theory of Emotion which is similar to basic emotion theory and psychological constructionist theory.

The Neurocultural Theory of Emotion (Ekman & Friesen, 1971) presumed that we all possess a universal affect program for each emotion and that these are felt and expressed the same way across all cultures. Although this theory stressed the innate and universal components of emotions, it also acknowledged the role of cultural influence and variability. The theory asserts that cultural variability can affect emotion elicitors, the display rules that are culturally learned, and the consequences of emotions (verbal, physiological, bodily movements, and facial muscle activations). They asserted cultural influence and variability among the universality that may exist in the range of emotional experiences humans have. This then led into Ekman proposing basic emotion theory.

Basic emotion theory posits that emotional expressions can be seen and recognized across all cultures regardless of geographic region with distinct categories for each emotion. The foundation of basic emotion theory was based on Darwin's book *The Expression of the Emotions in Man and Animals* (Darwin, 1872). Basic emotion theory also describes the distinctiveness of emotional categories especially when it comes to expression (Ekman, 1972, 1992). Ekman and Friesen (1978) proposed that there are six basic emotions and presented evidence that expressions of these six emotions can be recognized within one another across cultures at above chance levels. These six emotions are fear, disgust, anger, sadness, surprise, and happy. For decades the assumption that these basic emotions are evolutionarily hardwired has driven a substantial body of literature in the field of emotions (Fernández-Dols & Russell, 2017).

While the majority of the research testing the universality of facial expressions has used nonverbal paradigms, there is a modicum of evidence that has been shown with verbal cues as well. In one study, when participants were asked to rate the similarity of

different emotion words, cluster analysis results demonstrated a hierarchical relationship resulting in five of the six basic emotions (joy, surprise, anger, sadness, and fear) plus love which is not included in the six basic emotions (Shaver et al., 1987). A number of follow up cross-cultural studies demonstrated similar results in different lexicons (Alonso-Arbiol et al., 2006; Shaver et al., 2001; & Pérez-Sánchez et al., 2021). The commonalities across these studies' cluster analyses demonstrated that across Spain, Basque Country, Indonesia, and United States lexicons that love, happiness, anger, sadness, and fear are universal.

Though there has been empirical support for basic emotion theory (Biehl et al., 1997; Ekman et al., 1969; Ekman & Friesen, 1971; Ekman et al., 1987), there is also work that has challenged this view, proposing instead a constructionist model of emotion (Barrett, 2006; Lindquist, 2013; Nelson & Russell, 2013; Russell, 1994). The psychological constructionist theory of emotion is based on the premise that emotions are made up of more specific “ingredients” that are not specific to any one emotion, but that they combine to represent the same individualized and discrete emotions we typically experience and share (Lindquist, 2013). The two components that make up the emotional experience in this theory are an individual's core affect and their appraisal of that affect (Lindquist & Barrett, 2012; Lindquist, 2013).

Core affect is conceptualized as the combination of bodily information and sensory information from someone's environment or an individual's internal state. This core affect has been conceptualized as being the combination of arousal and valence (Barrett & Bliss-Moreau, 2009; Lindquist, 2013). Core affect is not as divisive as once believed by basic emotion theorists (Ekman, 1992). The constructionist theory of emotion

suggests that this core affect accompanies all emotional experience need not be distinct to each of the six basic emotions. Core affect is also believed to be ever-present (i.e., cannot be turned off) within one's internal state of heart beats, hormone balances, and any other bodily systems that are functioning at any given moment (Lindquist, 2013). The other main aspect is one's conceptualization or appraisal (see also Scherer, 1999 for review on appraisal theory of emotion) of core affect. Core affect is funneled through an individual's past experiences and knowledge of emotions which ultimately leads to an interpretation of the core affect that makes sense to that individual. Given this, core affect is transformed and shaped based on these prior experiences culminating in a discrete and unique experience to the individual (Albohn, 2014; Lindquist, 2013; Lindquist & Barrett, 2012). Critically, although this theory and others like it (see Mesquita & Fridja, 1992 for review of cultural constructionism theory of emotion) disagree that basic emotions are innate, they do not argue against the idea that we experience a set of similar emotions.

While these theories may seem at odds with one another, they can coexist to explain the emotional experience (Panksepp, 2007). Panksepp (2007) discussed that there is an abundance of evidence to suggest that there are numerous emotional operating systems embedded within the brain, and believes that these systems are the ancestral pieces of what it is to be a mammal. When these areas of the brain are provoked with neurochemical and electrical stimulation, they have been shown to elicit affective changes within humans and other mammals (Craig, 2003; Herman & Panksepp, 1981; Naqvi et al., 2007; Panksepp et al., 1988; Vogt, 2005). Support for universality remains a critical component to understanding emotions for many theories. The constructionist theory of emotion also may be a valid way of understanding emotions, though the

concepts of core affect and appraisal arguably cannot be as precisely measured with current scientific tools (Panksepp, 2006).

How the lay individual believes emotions occur is also reflected in how someone is taught about them during their developmental years (Bretherton & Beeghly, 1982). One common example of this is the social-emotional-learning curricula Zones of Regulation (Kuypers, 2011). Given that the ability to differentiate between emotional states has been shown to increase an individual's ability to cope with their emotions (Barrett, 2004), it is no surprise that this approach is widely applied. The idea that we share a basic set of emotional experiences is so implicitly foundational that it appears in pop culture like the movie *Inside Out* (Docter & Del Carmen, 2015). Using basic emotion theory (fear, disgust, anger, sadness, surprise, and happy), this clever film illustrates some of the connections between emotion, memory, internal states, and external displays in an approachable and comical way. This shows us that even lay understanding of emotions conform to a basic set of shared emotions, particularly in western cultures.

Taken together, both basic emotion theory (Ekman & Friesen, 1978) and constructionist theory of emotion (Lindquist & Barrett, 2012) have their merit in trying to understand the emotional experience, and both acknowledge some parts that are more innate while others involve more thoughts and interpretation. These different components are relevant to measurement of emotion regulation and related constructs. Basic emotion theory framework allows for individuals to understand their emotional experience with discrete categories for measurement, while the constructionist theory of emotion highlights the need for measurement of physiological and bodily experiences that occur for an individual while they regulate emotions. I incorporated both in my theoretical

approach to developing this scale. By incorporating both perspectives, an emotional experience can be quantified, explored, and understood more fully.

Emotion Regulation Theories

Emotion regulation theories focus on how we regulate a basic set of discrete emotions, though they also focus on a common set of processes for how we do so. One of the more notable theories is Gross's process model of emotion regulation (2015). In his original model, he defined emotion regulation as "the activation of one's goal to modify the unfolding emotional response" (p. 11). Gross (1998a) posited that emotion regulation includes four distinct stages: situation, attention, appraisal, and response. These four stages occur in a linear progression leading from one right after the other. For example, a child is in a situation where a peer takes a toy that they want. Their attention may be upon the peer who took their toy. From there, the child makes an appraisal that their peer taking their toy makes them feel angry. The child then steals the toy back from their peer as their response to the appraisal in the proposed emotion regulation process.

Interestingly, Gross (1998b) also discussed how emotion regulation strategies map onto these distinct points in his model as antecedent or consequence emotion regulation strategies where the strategies are employed either before or after the emotion is generated. Even before his first stage, he contended that situation selection is an emotion regulation strategy. Next, once a person is in the situation, they can take the regulation strategy to modify the situation. Once in the attention phase a person can regulate their emotions by distracting themselves from certain aspects of the situation. In

the appraisal stage, a person can then cognitively reframe their interpretation of an event to regulate their emotions. Lastly, a person can suppress their emotional response after it has been generated (Gross, 1998b). Gross & Thompson (2007) then modified this model by acknowledging the cyclical nature of emotion regulation noting that regulation occurs many times as the situation temporally unfolds. Gross (2015) reconceptualized the model leading to the extended process model of emotion regulation. Gross stated that emotion regulation unfolds through valuation cycles in three distinct emotion regulation phases: *Identification, Selection, and Implementation*. From this theory, these stages were drawn upon to establish a foundational understanding for the development of the current scale.

Though Gross's (2015) definition brings the person and their goals into emotion regulation, there are some aspects that are assumed and not stated explicitly such as the environmental affordances one has. Gross's (2015) extended process model of emotion regulation does not explicitly consider a critical element to regulate their emotions: the environment. Environmental factors are imperative to observe when deciding how to regulate emotions and within Gross's (2015) definition are not discussed or are more generally implied. A more complete definition of emotion regulation, therefore, needs to mention how environmental affordances shape our use and choice of emotion regulation more explicitly. In other definitions of emotion regulation, the environment is more explicitly stated to have a role in the process:

Emotion regulation may be conceptualized as involving the (a) awareness and understanding of emotions, (b) acceptance of emotions, (c) ability to control impulsive behaviors and behave in accordance with desired goals when experiencing negative emotions, and (d) ability to use situationally appropriate

emotion regulation strategies flexibly to modulate emotional responses as desired in order to meet individual goals and situational demands. (Gratz & Roemer, 2004a, p. 42-43).

In criteria D of their emotion regulation conceptualization, they state that emotion regulation is shaped by situational demands. These situational demands are explicitly stated and incorporated into the process of emotion regulation rather than left ambiguously alluded to like in Gross's (2015) definition. By understanding and incorporating one's "situational demands," one can more fully understand human behavior as it is related to the emotion regulation process.

Social Cognitive Theory

As already noted, Bandura's (1986) Model of Triadic Reciprocity specifically focuses on situational demands and how they shape human behavior. This model incorporates many components that align with the process model of emotion regulation, with other critical factors to consider. To review, the Model of Triadic Reciprocity has three distinct factors that interact to explain human functioning including *environmental*, *behavioral*, and *personal*.

Environmental influences include, but are not limited to, self-evaluations of actions, instruction, modeled behaviors, rewards, rules, and feedback from others. Next, behavioral influences include an individual's behaviors, such as the types of activities one chooses to do, how they interact with their environment, the amount of effort they put towards a task, the amount of achievement they get from completing tasks, and their

persistence as they progress through a task. These behavioral processes are not mentioned in existing emotion regulation models, but one could infer that emotion regulation is either entangled within the behavioral processes or is a distinct behavioral process itself. Lastly, there are personal processes and factors that are also relevant. Some of these include how one evaluates their progress towards goals, attributions that they make towards their success, the things that they value, what they expect to occur if they engage in an action, social comparisons with others, the individual's self-efficacy to engage in a task, and the emotions one feels. These personal factors not only have interactions with each other, but they also have interactions with environmental and behavioral factors which together explain how one navigates their environment and makes choices (Bandura, 1986; Schunk & DiBenedetto, 2020).

At present, these elements of Bandura's model have not been directly related to emotion regulation. Goals are similarly found within personal processes along with emotions which has many similarities to Gross's (2015) definition of emotion regulation. Central to the current scale development is the personal process of self-efficacy that is critical to emotion regulation. When thinking about how these principles could be applied to emotion regulation, one must be willing to consider this central question: if someone does not feel efficacious to regulate an emotion, then why would they attempt a strategy to do so in the first place? This lack of self-efficacy when applied to emotion regulation is that the lack of self-efficacious thought (personal factor) impairs one's willingness to engage in the action to change or modify their emotional experience (behavioral factor). Now framed in real life context, if someone already believes that they have road rage or anger issues, they are potentially less likely to engage in emotion regulation strategies to

manage that anger when it inevitably occurs. Trying to develop and measure this type of construct can be useful to better understand the complex relationships between these beliefs and real-life choices that humans make that affect their daily function.

Review of Existing Emotion Regulation and Self-Efficacy Instruments

There is an existing body of literature that details research that has attempted to examine the relationship between emotion regulation and self-efficacy, though few scales have examined these types of phenomena indirectly. Two instruments that have been used widely to understand emotion regulation have been the Difficulties in Emotion Regulation Scale (DERS) and the Emotion Regulation Questionnaire (ERQ). When examining self-efficacy, there are several scales that have also examined similar constructs including the (Emotion Regulation Questionnaire Self-Efficacy) ERQ-SE, Coping Self-Efficacy Scale (CSES), General Self Efficacy Scale (GSES), and Regulatory Emotional Self-Efficacy scale (RESE). The DERS, ERQ, ERQ-SE, CSES, GSES, and RESE were reviewed to gain a better understanding of their significance to the work at hand. Using the PsychInfo database, articles were identified with the following search criteria: 1) the specific scale's name, and reliability, 2) only peer reviewed items were allowed, 3) the instrument in the search was checked as being required to be used within the article, 4) the instrument within the search was used on a young adult population (age 18-29 years), 5) the average age of participants fell within 18-29 years, and 6) the article had to have been written in English. These criteria were established to distinguish the most relevant literature specifically to better understand the effect and reliability of each

tool as they related to the development of the SEERS. Articles were identified in June of 2023 during a period of time when PsychInfo was indexing more than 105 separate search engines. While this search was not exhaustive, it yielded a topical review of the current body of evidence available for each instrument's reliability in college populations, as well as the different variables with which each scale has been tested (See Table 1).

Table 1*Review of Self-Efficacy and Emotion Regulation Instruments*

Scale	Reliability Evidence (Cronbach's alphas)	Populations	Analysis Use	Related Variables	Citations Reviewed
DERS	Large (.86-.95)	Undergraduate Students Pregnant Women Community Sample	Convergent Validity Discriminant Validity Confirmatory Factor Analysis Structural Equation Modeling	Distress Tolerance Cognitive Strategies Stress Emotion Regulation Strategies Attention Deficit Hyperactivity Disorder Sluggish Cognitive Tempo Eating Beliefs Well-Being Nonsuicidal Self-Harm Disorder Positive Emotion Regulation Self-Concept Identity Automatic Mood Regulation Contamination Aversion Aversion Tasks Adolescent Reactions to Parents	Adams et al., 2013 Becker et al., 2018 Brown et al., 2022 Burton et al., 2017 Cooper et al., 2014 De France & Hollenstein, 2017 Grant et al., 2018 Grasso et al., 2019 Gratz & Roemer, 2004a Gratz et al., 2015 Hutchison & Gunthert, 2013 Karr, 2022 Kaufman et al., 2015 Kremyar et al., 2020 Macpherson et al., 2013 Parra et al., 2010 Pepping et al., 2016 Weiss et al., 2015
ERQ	Large (.61-.92)	Undergraduates Undergraduates with Trauma Young Adults	Convergent Validity Discriminant Validity	Musical Ethnocultural Identify Affect Integration Rumination	De France & Hollenstein, 2017 Groarke & Hogan, 2018 Gross & John, 2003a

		Athletes	Latent Profile Analysis Factor Analysis	Adaptive Functions of Music Listening Appraisals of Scenes Music in Mood Regulation Scale	Haner & Rude, 2015 Kimmes et al., 2018 Marchetti et al., 2018 Miranda et al., 2021 Müssig et al., 2022 Nedelcea et al., 2022 Saarikallio, 2012 Solbakken & Monsen, 2021 Uphill et al., 2012
ERQ-SE	None (.56-.95)	Social Anxiety Disorder Patients Bipolar I Patients	Mediator Outcome Measure	Social Anxiety Disorder Symptoms Self-Efficacy Measures Subjective Units of Distress Other Emotion Regulation Scales Self-Views Brain Activation	Goldin et al., 2009 Goldin et al., 2012 Painter et al., 2019 Talmon et al., 2021 Werner et al., 2011
CSES	Small (.74-.94)	Undergraduates	Concurrent Validity Convergent Validity	Coping Expectancies Quiet Ego Scale	Friedmen-Wheeler et al., 2016 Wayment et al., 2015
GSES	Large (.76-.9)	Undergraduates Professional Athletes Coronary Heart Disease Patients	Convergent Validity Discriminant Validity	Body Image Ratings Choice to Study Abroad Nonsuicidal Self Injury Disorder Professional Activity Assessments Self-Efficacy for Online Learning Quality of Family Relationships Action in Hope Measure Sports Performance Satisfaction Novel Experience Measurement	Aubuchon-Endsley & Callahan, 2014 Bachem & Maercher, 2018 Blecharz et al., 2015 Dawkin et al., 2022 Grevenstein et al., 2019 Kwon et al., 2023 Lau et al., 2021 Romppel et al., 2013 Tsai et al., 2020

					Wang & Lent, 2022
					Ward et al., 2017
RESE	Small (.69-.88)	Undergraduates	Factor Analysis Convergent Validity	Nonsuicidal Self-Injury Self-Efficacy	Caprara et al., 2008 Dawkins et al., 2022

Note. Difficulties in Emotion Regulation Scale = DERS, Emotion Regulation Questionnaire = ERQ, Emotion Regulation Questionnaire Self-Efficacy = ERQ-SE, Coping Self-Efficacy Scale = CSES, General Self-Efficacy Scale = GSES, and Regulatory Emotional Self-Efficacy = RESE.

Difficulties in Emotion Regulation Scale (DERS)

The DERS is a 36-item self-report measure that assesses individuals' trait emotional dysregulation including emotion regulation strategies, difficulties in engaging in goal directed behavior, emotional non-acceptance, lack of emotional clarity, lack of emotional awareness, and emotional impulsivity on a 1 (*Almost Never*) to 5 (*Almost Always*) Likert scale. In Gratz and Roemer's (2004a) initial validation of the DERS, the DERS demonstrated adequate reliability ($\alpha = .93$). Higher scores on this scale indicate more difficulty with emotion regulation. Fifty-nine articles were identified that included the DERS. Each article was then reviewed more carefully to make sure it met all the search criteria. Out of the 59 articles, only 17 articles were determined to meet the criteria for mean ages between 18 and 29. When these articles were reviewed, the samples mainly consisted of undergraduate students in addition to just female undergraduates, pregnant women, and a community sample. Upon analysis it was determined that the DERS was used frequently to demonstrate convergent and discriminant validity as well as in confirmatory factor analyses (Cooper et al., 2014) and other types of structural equation modeling (Adams et al., 2013).

There were a few studies that used DERS as an outcome measure when examining differences between groups with different disorders. The DERS for young adults was associated with distress tolerance (Brown et al., 2022), cognitive strategies (Karr, 2022), stress (Grasso et al., 2019), emotion regulation strategies (Grant et al., 2018), attention deficit hyperactivity disorder, sluggish cognitive tempo (Becker et al., 2018), eating beliefs (Burton et al., 2017), well-being (Pepping et al., 2016), nonsuicidal

self-harm disorder (Gratz et al., 2015), positive emotion regulation (Weiss et al., 2015), self-concept, identity (Kaufman et al., 2015), automatic mood regulation (Hutchison & Gunthert, 2013), contamination aversion, aversion tasks (Macpherson et al., 2012), and adolescent reactions to parents (Parra et al., 2010). The psychometric properties in terms of Cronbach's alphas ranged from .86-.95. From the studies reviewed, there were 10,585 participants that completed the DERS (De France & Hollenstein, 2017; Gratz and Roemer, 2004a; Kremyar et al., 2020).

A study of note that contributed to the largest impact on evidence for its use in undergraduate populations was the Becker et al., (2018) study. In Becker et al. (2018) the DERS was utilized as a convergent measure to help validate a new Adult Concentration Inventory with individuals who were demonstrating sluggish cognitive tempo symptoms (a new disorder that is not yet diagnosable). The DERS was administered to 3,172 undergraduate students across 5 universities where the reliability coefficient was .94.

The DERS has three alternative forms. There is a DERS-36 modified version that was changed to remove all reverse worded items. Within the data, five of the original factors were retained from the original DERS-36. The sixth factor was emotional awareness that was no longer distinguishable. The instrument demonstrated high reliability of .97. There is a shortened version of the DERS that has 16 items, but only shows factor structures representing only five of the original factors within the DERS-36 (lack of emotional awareness was omitted). The DERS-16 demonstrated high reliability in two different samples. Lastly, there is positive difficulties in emotion regulation version that was only focused on difficulties in expressing the emotion of happiness. This revision also demonstrated reliability above .8. This DERS-36 has been translated into

nine other languages and has other alternative forms for parents and adolescents as well (Gratz & Roemer, 2004b). Findings from the literature support the conclusion that the DERS is a reliable tool for measuring the construct of emotion dysregulation in college aged populations.

Emotion Regulation Questionnaire (ERQ)

The ERQ is a 10-item self-report measure that examines different emotion regulation strategies including emotion suppression and cognitive reappraisal. Items are answered on a 7-point Likert scale from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*). In Gross & John's (2003a) initial validation of the ERQ, the ERQ demonstrated adequate reliability ($\alpha = .68 - .82$). Scoring is broken down into two facets of emotion suppression and cognitive reappraisal strategies where higher scores are indicative of higher use of that emotion regulation strategy. When the search criteria were examined for the ERQ, there were 39 articles that were discovered. Out of the 39 articles, only 11 articles were found to all have mean ages for the samples of between 18 to 29 years old. When these articles were reviewed, the samples mainly consisted of undergraduate students and undergraduates who had been exposed to trauma (Kimmes et al., 2018; Marchetti et al., 2018) as well as young adults (Nedelcea et al., 2022) and athletes (Uphill et al., 2012). When the ERQ was examined in terms of usage within these articles, it was used frequently to demonstrate convergent and discriminant validities (Groarke & Hogan, 2018; Haner & Rude, 2015) as well as in correlations with other outcome measures (Miranda et al., 2021).

There were a few articles that used the ERQ within latent profile analyses (De France & Hollenstein, 2017) as well as testing the factor structure of the ERQ within new populations (Uphill et al., 2012). The ERQ for young adults was associated with musical ethnocultural identity (Miranda et al., 2021), affect integration (Solbakken & Monsen, 2021), rumination (Marchetti et al., 2018), adaptive functions of music listening, appraisals of scenes, (Haner & Rude, 2015), and the music in mood regulation scale (Saarikallio, 2012). When the psychometric properties were reviewed the Cronbach's alphas ranged from .61-.92. In the studies reviewed, there were 7,605 participants that completed the ERQ. A study that contributed to the validity for the ERQ was De France & Hollenstein (2017). In De France & Hollenstein (2017), 1,709 undergraduates were given the ERQ where it demonstrated a reliability between .86 and .88. The ERQ was administered as a source of convergent validity with a new measure called the regulation of emotion systems survey where not only the two emotion regulation strategies measured on the ERQ (cognitive reappraisal and suppression), but four more were included (distraction, rumination, engagement, and arousal control; De France & Hollenstein, 2017). From the review of the articles found, it can be concluded that the ERQ has robust evidence to deem it reliable for measuring the constructs of cognitive reappraisal and emotional suppression emotion regulation strategies in college aged populations.

The ERQ has been translated in over 30 languages and there is an ERQ with nine items that has demonstrated adequate reliability outside of college samples. There are other adaptations of the ERQ designed to measure self-efficacy and frequency of use of the strategies that it measures as well as versions of the ERQ that target the use of

strategies in the presence of shame and guilt. The ERQ has been adapted for children and adolescents as well (Gross & John, 2003b).

Emotion Regulation Questionnaire – Self-Efficacy (ERQ-SE)

The Emotion Regulation ERQ-SE (Goldin et al., 2012) is a scale derived from the ERQ (Gross & John, 2003a). The scale consists of 10 items that are rated on a 7-point Likert scale 1 (*Strongly Disagree*) to 7 (*Strongly Agree*). The ten items are used to measure an individual's self-efficacy in their use of the cognitive reappraisal and suppression emotion regulation strategy within the past month. Each item rating is then added to determine a composite score. The ERQ-SE has shown to have adequate reliability ($\alpha = .95$). When the search criteria were applied to find psychometric evidence for the ERQ-SE, zero articles were found. Following this, the search was broadened to include all population ages which returned one article.

To examine the reliability evidence for the ERQ-SE further, the term “emotion regulation questionnaire self-efficacy” was searched given that this scale was modified originally from the ERQ. This search yielded five articles. These five articles were reviewed even though they did not fit the search criteria. Even those articles did not meet the criteria, there was no other evidence to review to determine the validity of this instrument in college aged populations. In culmination, five articles were reviewed for reliability information on the scales use. When these articles were reviewed the samples consisted of individuals with social anxiety disorder (SAD; Goldin et al., 2009; Goldin et al., 2012), and Bipolar I patients (Painter et al., 2019). The scale was frequently used to

examine differences between individuals pre- and post-treatment whether that be CBT or other forms of psychotherapy.

The scale was also used as a mediator demonstrating that higher scores on an individual's self-efficacy to regulate were associated with a reduction in symptoms of SAD (Goldin et al., 2012). The types of variables that the ERQ-SE examined with were SAD symptoms, other self-efficacy measures (Painter et al., 2019), subjective units of distress (Werner et al., 2011), other emotion regulation constructs, self-views (Talmon et al., 2021), and even fMRI scans (Goldin et al., 2009). When the psychometric properties in terms of Cronbach's alphas were examined, they ranged from $\alpha = .56-.95$. Within the studies reviewed, there were 418 participants that completed the ERQ-SE. Even though there were no college samples found within the five articles, the largest study to contribute to the reliability of the ERQ-SE in community samples was Goldin et al. (2012). Within this study, the ERQ-SE was found to mediate the relationship between cognitive behavioral treatment and SAD symptoms. The sample consisted of 75 patients where the ERQ-SE reliability estimate was .95. Based on the evidence from this search, it can be concluded that the ERQ-SE has a small amount of evidence to deem it reliable for measuring the self-efficacy of cognitive reappraisal and emotional suppression emotion regulation strategies. However, none of these samples were from college-aged individuals which means there is no data to support its reliability for its use in this type of population from the search conducted. The ERQ-SE has no alternative forms and is not translated into any other languages.

Coping Self-Efficacy Scale (CSES)

The CSES is a 26-item self-report measure that was developed to measure individuals' self-efficacy to cope with challenges and problems. Items are answered on a 11-point Likert scale about how much they could engage in a specific coping behavior with the anchors of 0 (*Cannot Do At All*), 5 (*Moderately Certain Can Do*), and 10 (*Certain Can Do*). In Chesney et al.'s (2006) initial validation of the CSES, the CSES demonstrated adequate reliability ($\alpha = .95$). Higher scores on the scale are indicative of higher self-efficacy to engage in coping behaviors. When applying the search criteria, ten articles were identified for review. Of those ten articles, only two had samples with mean ages that fell between 18-29. Both articles were samples of undergraduates. Within these studies the CSES was used for convergent and concurrent validity in the development of other scales. The CSES was found to be associated with outcome expectancies and quiet ego. When the psychometric properties were examined in terms of Cronbach's alphas they ranged from $\alpha = .74-.94$. Across the two studies, 707 participants completed the CSES (Friedman-Wheeler et al., 2016; Wayment et al., 2015).

In the Friedman-Wheeler et al. (2016) study, the CSES was used as convergent and discriminant validity for the development of a new scale examining coping expectancies rather than coping self-efficacy. Within this study, 552 participants were administered the CSES, and reliabilities were found to be between .74-.87. Based on the evidence from this search, it can be concluded that the CSES has a small amount of evidence to deem it reliable for measuring the construct of coping self-efficacy in college aged individuals. The CSES is translated into two other languages. The scale that was

initially tested included 26 items of which 13 items were found to have high loadings on the construct of coping self-efficacy. In the literature both the 26-item version and the 13-item version are used and shown to be reliable (Chesney et al., 2006b).

General Self-Efficacy Scale (GSES)

The GSES is a 10 item self-report measure that was developed to assess individuals' general sense of perceived self-efficacy to cope with daily hassles and adapt after experiencing stressful events. Each item was rated on a 4-point Likert scale from 1 (*Not At All True*) to 4 (*Exactly True*). In Schwarzer & Jerusalem's (1995a) initial validation of the GSES, it demonstrated adequate reliability ($\alpha = .76$ to $.90$). Higher scores on the scale reflect higher perceived self-efficacy to cope with life adversity. When the search criteria were examined for the GSES, 72 articles were discovered. From there, each article was reviewed more carefully to ensure it met all the criteria. Out of the 72 articles, only 11 articles were found to all have mean ages for the samples of between 18 to 29 years old.

When these articles were reviewed, the samples mainly consisted of undergraduate students (Kwon et al., 2023; Wang & Lent 2022), professional athletes (Blecharz et al., 2015), and nursing students (Lau et al., 2021). The GSES was used frequently for convergent and discriminant validity purposes (Bachem & Maercker, 2018; Kwon et al., 2023). It was also used in some mediations (Blecharz et al., 2015) as well as an outcome measure when examining different diagnoses (Tsai et al., 2020). The types of variables that the GSES was tested with were body image ratings (Kwon et al.,

2023), choice to study abroad decisions (Wang & Lent 2022), nonsuicidal self-injury disorder (Dawkin et al., 2022), professional activity assessments (Lau et al., 2021), self-efficacy for online learning (Tsai et al., 2020), quality of family relationships (Grevenstein et al., 2019), action in hope measurements (Ward et al., 2017), sports performance satisfaction (Blecharz et al., 2015), and novel experience measurement (Aubuchon-Endsley & Callahan, 2014). When the psychometric properties were examined the Cronbach's alphas ranged from .76-.9. These reliability coefficients came from the 11 studies, where there were 27,379 participants that completed the GSES. Within the Rommepel et al. (2013) study, the GSES was utilized to validate a shorter 6-item version of the GSES. The GSES was administered to 21,179 participants and demonstrated a reliability coefficient of .85. Based on the evidence from this search, it can be concluded that the GSES has a large amount of evidence to deem it reliable for measuring the construct of general self-efficacy in college aged populations. The GSES has been translated into 33 languages and has one alternative short form. The GSES-6 has shown adequate reliability between .79 and .88 when tested in new samples (Schwarzer & Jerusalem, 1995b).

Regulatory Emotional Self-Efficacy (RESE) Scale

The RESE is a 12-item measure that assesses one's capability to express positive affect and to engage in regulation of negative affect (Caprara et al., 2008). These items are rated on a 1 (*Not Well At All*) – 5 (*Very Well*) Likert scale. This scale has been shown to have adequate reliability ($\alpha = .69-.82$). When the search criteria were applied to find

psychometric evidence for the RESE, six articles were found. The original articles where it was initially developed were also included. In total, only two articles met the search criteria. The two samples were university students, and the first article was demonstrating the scales validity in English and the other used it as a source of convergent validity. The RESE has been shown to relate to general self-efficacy and have moderate correlations with an instrument measuring the self-efficacy to not engage in nonsuicidal self-injury. When the psychometric properties in terms of Cronbach's alphas were examined, they ranged from .69-.88. Within the studies reviewed, there were 2,051 participants that completed the RESE (Caprara et al., 2008; Dawkins et al., 2022). The Caprara et al. (2008) article where the initial RESE was developed had 1,401 undergraduates complete the scale with reliabilities between .69-.72. Based on the evidence from this search, it can be concluded that the RESE has a small amount of evidence to deem it reliable for measuring self-efficacy in emotion regulation. The RESE has been translated into four other languages. There is a revised form of this scale that has demonstrated adequate reliability as well as other versions that expand upon exclusively negative emotions (Caprara et al., 2013) and another that included items that emphasized using memories of joy and humor to manage difficult emotions (Caprara & Gerbino, 2001; Caprara et al., 2022).

Emotion Regulation and Self-Efficacy Instrument Limitations

There have been many instruments created to quantify the different facets of emotion regulation and self-efficacy beliefs. Some instruments include the Emotion

Regulation Questionnaire – Self-Efficacy (ERQ-SE; Goldin et al., 2009; Gross & John, 2003a), the Difficulties in Emotion Regulation scale (DERS; Gratz & Roemer, 2004a), and the Coping Self Efficacy scale (CSES; Chesney et al., 2006a). Though these tools have demonstrated merit in their measurement of emotion regulation, their foci on feelings when a person becomes upset (DERS) or efficacy to engage in emotion regulation strategy use (i.e., ERQ-SE and CSES) do not elucidate how self-efficacy and emotion regulation interact. In the self-efficacy literature, there has been some attempt to measure a similar construct, but it has been examined as general self-efficacy through the General Self-Efficacy scale (GSES; Schwarzer & Jerusalem, 1995a) and the Regulatory Emotional Self-Efficacy scale (RESE; Caprara et al., 2008; for review of instruments see Table 1).

The DERS was an instrument that was developed to measure emotion dysregulation which indirectly corresponds to self-efficacy to regulate emotions, but in the opposite direction. Most items on the DERS are in relation to what one can accomplish or the degree to which they manage their emotions when they are upset. While useful, it is not the construct of self-efficacy to regulate emotions that the SEERS is attempting to measure. Because DERS uses upset as an item stem, it lacks the dimensionality needed to understand how one might be dysregulated from each of the six basic emotions proposed by Ekman & Friesen (1978). The DERS has been found to have six factors: nonacceptance of emotional responses, difficulties engaging in goal-directed behavior, impulse control difficulties, lack of emotional awareness, limited access to emotion regulation strategies, and lack of emotional clarity (Gratz & Roemer, 2004a). Though these factors are expansive and capture aspects of emotion regulation, they do

not correspond to self-efficacy to regulate emotions. Additionally, when emotions are discussed within the scale items, they do not mention any aspects of how emotions are felt through bodily sensations which in relation to the constructionist theory of emotion is critical to how we appraise and interpret our emotional experience. The DERS has its merit in terms of what it captures for emotion dysregulation but is tangentially related to the construct in question.

The ERQ-SE is another instrument that has aspects of measuring emotion regulation and self-efficacy, but it measures an individual's self-efficacy to engage in the emotion regulation strategies of cognitive reappraisal and emotional suppression (Goldin et al., 2009). It is critical to not only understand what emotion regulation strategies one has the proclivity to use, but also one's self-efficacy to use them. This instrument, though not well-used, does indeed measure a self-efficacy aspect to emotion regulation, but only for cognitive reappraisal and emotion suppression emotion regulation strategies. The current work's instrument is not measuring self-efficacy for any one particular strategy, but the self-efficacy to regulate a particular type of emotion category.

The CSES examines a piece of emotion regulation, but it measures efficacy to use strategies to cope. Items include, "Talk positively to yourself," "Develop new hobbies or recreations," "Make a plan of action and follow it when confronted with a problem," "Visualize a pleasant activity or place," and "Pray or meditate." On the CSES, there are numerous items that target efficacy to lessen negative feelings, thoughts, and sadness. These items are "Keep from getting down in the dumps," "Take your mind off unpleasant thoughts," "Keep from feeling sad," and "Make unpleasant thoughts go away" (Chesney et al., 2006a). The CSES is a good initial measure of self-efficacy in emotion regulation

strategy use and coping abilities, but it does not target any emotions other than sadness. Without attempting to understand an individual's efficacy to regulate other types of emotion categories, the construct in question cannot be fully measured.

The GSES measures some general sense of how a person might be able to solve and handle a variety of situations. For example, one item states "I can remain calm when facing difficulties because I can rely on my coping abilities." Though this item speaks to some measure of general ability to cope with difficulties, it does not specifically examine self-efficacy from an emotion regulation perspective.

The RESE examines self-efficacy from an emotion regulation perspective but includes specific situations instead of accessing more global beliefs. The RESE was developed to better understand this construct but was conceptualized as the wedding of personality traits and social-cognitive theory (Caprara et al., 2013). This perspective, though incredibly helpful on how to conceptualize the construction of the RESE, omits critical elements that emotion theorists would deem necessary to assess and understand how an individual experiences an emotion subjectively and physiologically. The items that are also included within the RESE do not capitalize on an overarching belief in regulation and place emphasis on situations where one can experience joy and regulate feelings of despondency and sadness. Some example items include, "How well can you express joy when good things happen to you?," "How well can you express enjoyment freely at party?," "How well can you reduce your upset when you don't get the appreciation you feel you deserve?," and "How well can you avoid flying off the handle when you get angry?"

Though there is some self-efficacy imbued within these items, they are measuring self-efficacy of emotion at a topical level, the physiological aspect of emotions is not measured which is deemed critical to understand how an individual experiences the emotion. Also, within the items of the scale, nine items specifically tap into how one feels in particular situations which does not measure one's more global sense of self-efficacy to regulate emotions when they are experienced. Lastly, at its inception, the items in preliminary studies only focused on the dimensions of positive and negative which was limited in scope due to the range of emotions that individuals experience. In Porto Noronha et al., (2022/1999) during the preliminary studies of these items, the positive dimension included happiness, enthusiasm, empathy, joy, and tenderness and the negative dimension included frustration, bad mood, panic, anger, and discomfort. Although these work to assess more general dimensions, it does leave gaps in terms of understanding individual's efficacy to regulate other emotion categories through a basic emotion theory lens.

For this study, it was hypothesized that given the additional bolstering of items for each of the six basic emotions, that a six-factor structure would emerge; one factor for each of the six basic emotions (fear, disgust, anger, sadness, surprise, and happy).

In terms of discriminant and convergent validity, it was hypothesized that the DERS and the SEERS will have a small to moderate negative correlation. Higher scores on the DERS are indicative of more emotion dysregulation whereas higher scores on the SEERS are indicative of more self-efficacy to regulate emotions. The items in the DERS are phrased in a way that reflect a lack of self-efficacy to regulate emotions. For example, two items that demonstrate this are, "When I'm upset, I become out of control" and

“When I’m upset, I have difficulty controlling my behaviors.” Given this correspondence there will be some overlap between the construct the SEERS is measuring and the construct of emotion dysregulation that the DERS is measuring.

The SEERS is expected to have a small correlation with the ERQ-SE. Even though the ERQ-SE is measuring self-efficacy for certain emotion regulation strategies, it still is capturing some aspects of self-efficacy to regulate emotions. The items are phrased where they do capture one’s belief that they are able to regulate their emotions which will have a small relationship with the SEERS’s construct.

The GSES and the SEERS are expected to have a small positive relationship with one another given the broad nature that GSES encompasses. These items also capture some aspects of one’s self-efficacy to rely on one’s coping abilities. This would have some small overlap with one’s self-efficacy to regulate emotions.

Similar to the GSES, the CSES is expected to have a small to moderate positive relationship with the SEERS. This would be due to some of the items actually capturing self-efficacy to regulate the emotion of sadness. Additionally, this scale used Bandura’s (2006) guide to creating self-efficacy scales which was how the SEERS items were constructed. Thus, these scales will have a small-moderate relationship even though they are measuring different constructs that do overlap.

It is expected that the SEERS will have a moderate correlation to the RESE. This is expected due to some similarities in the way the construct of self-efficacy to regulate emotions is being measured. This includes how the RESE does capture multiple emotions which is similar to the SEERS; however, the RESE does not include bodily experiences

of emotions or six basic emotions that the SEERS is attempting to use to the understand the construct of self-efficacy to regulate emotions.

Chapter 2

Method

Item Development

The theories reviewed in the previous chapter informed the development of a “test blueprint” that was used to then generate the pool of items for the new measure that was the focus of the current study. First, basic emotion theory allows for the discrete categories of emotions to be asked and understood by individuals when measuring the construct. Given the popular belief that basic emotion theory is the way that emotions are represented, the scale items were based on the six basic emotions as a form of face validity for a lay individual to be able to report on their experiences. Remaining item stems were created based on the theories noted in the previous chapter. These stems were then used to generate items specific to each of the six basic emotions. Additional items were included that were intended to assess broad beliefs across emotions.

The first item stem included an overall self-efficacy item based on one’s belief that they can regulate that emotion, “Overall, I feel like I can regulate (emotion) when I need to.” Second, aspects from the psychological constructionist theory of emotions were borrowed to include the physiological experience of the emotion through core affect and the subjective experience through the appraisal of the core affect. These two components then resulted in the bodily experience of the emotion with the stem, “I can regulate (emotion) when I feel it in my body” and the subjective experience of the emotion with

the stem, “I can regulate (emotion) regardless of its intensity.” Third, the stages of emotion regulation from Gross’s (2015) extended process model of emotion regulation were used to create item stems about the identification, “I can identify when I feel (emotion),” choice of emotion regulations strategy, “When I feel (emotion), I know what to do to regulate it,” and the implementation, “When I know what to do to regulate my (emotion), I can do it.” Fourth, with the environmental demands discussed in Gratz and Roemer’s (2004a) definition and the contextual elements represented in Bandura’s Model of Triadic Reciprocity, two item stems were created to assess self-efficacy to regulate their emotions in certain environments “I can regulate my (emotion) in any environment” and with any person “I can regulate (emotion) regardless of who I am with”; please see Table 2). Finally, other aspects of Bandura’s (1986) Model of Triadic Reciprocity were considered for item stems but were ultimately deemed not as relevant to the current construct. The content considered for item stems were around the concepts of effort, “I can regulate (emotion) even when it takes a lot of effort,” temporality, “I can regulate my (emotion) quickly,” outcome expectations, “I can regulate (emotion) even when I feel like it won’t matter,” and persistence, “I can regulate (emotion) even when there is an obstacle to doing so.” These stems were created, but ultimately deemed less relevant compared to the other stems. Once the items were created, they were reviewed by experts who have many years of research experience on the topics of emotion, emotion regulation, self-efficacy, and scale development. Items were subsequently rewritten based on the feedback of scale development and emotion experts.

Table 2*Self-Efficacy for Emotion Regulation Item Stems*

Item Stems	Concept	Theory
Overall, I feel like I can regulate (emotion) when I need to	General Self-Efficacy	Basic Theory of Emotion
I can regulate (emotion) when I feel it in my body	Body	Constructionist
I can regulate (emotion) regardless of its intensity	Subjective Experience	Constructionist
When I feel (emotion), I know what to do to regulate it	Strategy Choice	Gross
I can identify when I feel (emotion)	Identification	Gross
When I know what to do to regulate my (emotion), I can do it	Implementation	Gross
I can regulate (emotion) regardless of who I am with	Persons	Bandura & Gratz & Roemer
I can regulate my (emotion) in any environment	Environment	Bandura & Gratz & Roemer

Note. The abbreviations are as follows for each of the stems, Overall, I feel like I can regulate (emotion) when I need to = GEN, I can regulate (emotion) when I feel it in my body = PHYSIO, I can regulate (emotion) regardless of its intensity = EXPERIENCE, When I feel (emotion), I know what to do to regulate it = CHOICE, I can identify when I feel (emotion) = IDENTIFICATION, When I know what to do to regulate my (emotion), I can do it = IMPLEMENT, I can regulate (emotion) regardless of who I am with = INDIVIDUAL, and I can regulate my (emotion) in any environment = ENVIRONMENT.

The two explanations of Bandura's (1986) self-efficacy and Gross's (2015) emotion regulation were combined to create the guiding definition of the current scale. The definition that guided the creation of all items was people's beliefs in their capabilities and goals to modify an emotion as it unfolds. This understanding places emphasis on capabilities and goals to create items to measure it; however, Gross's conceptualization of emotion regulation lends itself more to strategy use which I am trying to avoid. The use of this definition, in conjunction with Ekman & Friesen's (1978) basic emotion theory, allowed for items to be created at a general level about emotions while having the lay person understand the questions.

This definition, construct, and content is based on the prior theories that were reviewed which were then made into a scale utilizing Bandura's (2006) guide to creating self-efficacy scales. Bandura's (2006) guide to creating self-efficacy scales was critical so the overall creation of the current items and their scaling. Firstly, because Bandura's guide stated that one must use scale anchors that range from 0 (*Cannot Do At All*) - 100 (*Highly Certain Can Do*) those same anchors were utilized for the current scale to capture the granularity of self-efficacy in the emotion regulation construct. Items were also created using Bandura's suggestion of including the phrasing "can do" in order to measure one's belief in their capability to engage in the task. The scale also follows the suggestion to include instructions prior to item administration that would set the participants in the correct mindset to rate the strength of their beliefs in their self-efficacy to regulate emotions.

The aim of the current project was to complete the initial development of the SEERS to be used with college aged individuals. The SEERS is one of the first attempts to integrate emotion regulation and self-efficacy and to measure global beliefs about how an individual can regulate their emotions. Many of the prior scales including the RESE, CSES, GSES, ERQ, and ERQ-SE all target specific emotion regulation strategies while measuring parts of emotion regulation and self-efficacy. The SEERS specifically was not designed to measure efficacy in strategy use, but to measure a global belief about if someone thinks they can regulate an emotion. The argument posed here is that if an individual does not believe themselves to be efficacious to regulate an emotion why would they choose to enact any strategy to do so? This leaves the question, how exactly

are researchers measuring self-efficacy in emotion regulation to address this as a critical piece to emotion regulation. Based on the development of this scale, researchers will have a tool for use with college-aged individuals that would be able to measure the self-efficacy that underlies emotion regulation, rather than just the strategies chosen to do so.

Participants

The SEERS items and the RESE, DERS, GSES, ERQ-SE, and the CSES were administered to undergraduate students ($n = 1,367$) at the Pennsylvania State University through the psychology department subject pool. The data were cleaned by removing incomplete responses ($n = 41$) and duplicate responders ($n = 86$) resulting in a final sample of 1,240. Individuals also completed an attention check within the scale which was used for data cleaning purposes ($n = 977$). The final sample was majority female (66.8%) with an average age of 19.01 years. The racial demographics of the sample included White = 61.1%, Black = 7%, Hispanic = 6.7%, American Indian or Alaskan Native = .1%, Asian = 7.8%, Native Hawaiian or Pacific Islander = .3%, Middle Eastern or North African = 1.8%, Other = .7%, and Missing = 14.5%. Data on these items were analyzed to examine how the items performed psychometrically along with having their factor structure analyzed with Exploratory Factor Analysis (EFA).

Measures

Self-Efficacy in Emotion Regulation Scale (SEERS)

Responses were quantified on a 0-100 scale of how confident they would feel engaging. The scale anchors were at 0 (*Cannot Do At All*), at 50 (*Moderately Can Do*), and at 100 (*Certain Can Do*). The scale of 0-100 was chosen to allow for more flexibility for analysis where there is an arbitrary 0 assigned as suggested by Bandura (2006). Higher scores on the SEERS are reflective of individuals' higher self-efficacy beliefs that they can successfully regulate their emotions (please see Appendix A for all items).

Difficulties in Emotion Regulation Scale (DERS)

The DERS is a 36-item self-report measure that assesses individuals' trait emotional dysregulation including limited emotion regulation strategies, difficulties engage in goal directed behavior, emotional non-acceptance, lack of emotional clarity, lack of emotional awareness, and emotional impulsivity on a 1 (*Almost Never*) to 5 (*Almost Always*) Likert scale. In Gratz and Roemer's (2004a) initial validation of the DERS, the DERS demonstrated high reliability ($\alpha = .93$). Higher scores on this scale indicate more problems with emotion regulation. The DERS scores were summed for each subscale as well as for all the items to produce a total composite score (Hallion et al., 2018).

Emotion Regulation Questionnaire – Self-Efficacy (ERQ-SE)

The ERQ-SE (Goldin et al., 2009) is a scale derived from the ERQ (Gross & John, 2003a). The scale consists of ten items that are rated on a 7-point Likert scale 1 (*Strongly Disagree*) to 7 (*Strongly Agree*). The ten items are used to measure an individual's self-efficacy in their use of the cognitive reappraisal emotion regulation strategy within the past month. One example item is, "When I really want to, I am very capable of controlling my emotions by changing the way I think about the situation I'm in." Each item rating is then summed together to get a composite score. The ERQ-SE has shown to have high reliability ($\alpha = .95$). Scores for the ERQ-SE subscales were summed similar to Goldin et al. (2012).

Coping Self Efficacy Scale (CSES)

The CSES is a 26-item self-report measure that was developed to measure individuals' self-efficacy to cope with challenges and problems. Items are rated on a 11-point Likert scale about how much they could engage in a specific coping behavior with the anchors of 0 (*Cannot Do At All*), 5 (*Moderately Certain Can Do*), and 10 (*Certain Can Do*). In Chesney et al.'s (2006a) initial validation of the CSES, the CSES demonstrated high reliability ($\alpha = .95$). Higher scores on the scale are indicative of higher self-efficacy to engage in coping behaviors. Items were summed as instructed in Chesney et al., (2006).

General Self Efficacy Scale (GSES)

The GSES is a ten item self-report measure that was developed to assess individuals' general sense of perceived self-efficacy to cope with daily hassles and adapt after experiencing stressful events. Each item was rated on a 4-point Likert scale from 1 (*Not At All True*) to 4 (*Exactly True*). In Schwarzer & Jerusalem's (1995a) initial validation of the GSES, it demonstrated adequate reliability ($\alpha = .76-.90$). Higher scores on the scale reflect higher perceived self-efficacy to cope with life adversity. The GSES was summed together to create aggregate scores for each participant (Schwarz & Jerusalem, 1995a).

Regulatory Emotional Self-Efficacy (RESE) Scale

The RESE is a 12-item measure that assess one's capability to express positive affect and to engage in regulation of negative affect (Caprara et al., 2008). These items are rated on a 1 (*Not Well At All*) – 5 (*Very Well*) Likert scale. Some example items include, "How well can you express joy when good things happen to you?," "How well can you express enjoyment freely at party?," "How well can you reduce your upset when you don't get the appreciation you feel you deserve?," and "How well can you avoid flying off the handle when you get angry?" This scale has been shown to have adequate reliability ($\alpha = .69-.82$). Mean responses of the total scale and the subscales were scored similar to that in published work of Caprara et al. (2008).

Procedures

Data collection was completed using the online platform Qualtrics during the Fall semester of 2023. Participants were first given an electronic consent form to complete. Participants were then administered the SEERS items as well as the ERQ-SE (Goldin et al., 2009), the RESE (Caprara et al., 2008), the DERS (Gratz & Roemer, 2004a), the CSES (Chesney et al., 2006a), the GSES (Schwarzer & Jerusalem, 1995a), and demographic questions. The sequence of the instruments was randomized to account for any order effects. The SEERS data were then analyzed to test the hypothesized factor structure. In an effort to address research questions of convergent and discriminant validity within the sample, correlations were conducted to test these types of constructs (for information of all the instruments used please see Appendix B).

Data Analysis

The normality of the data was examined utilizing the Kolmogorov-Smirnov test, Q-Q plots, and by examining each item's histogram, where each of the SEERS's items had significant ($<.001$) Kolmogorov-Smirnov results. To explore this further, each item's Q-Q plot and histogram was analyzed in order to understand whether the data were normally distributed. All Q-Q plots had linear trends and the histograms appeared normally distributed suggesting the data was normally distributed. The data were examined to determine that they would meet the assumptions of EFA as outlined in Howard (2016). Bartlett's test of sphericity was used to test whether the relationships

within the current data set are different than a matrix with zero relationships between items. The results indicated that there were sufficient relationships within the data to be explored via EFA, $\chi^2(1540) = 63784.45, p < .001$. Additionally, the Kaiser-Meyer-Olkin (KMO) test was examined to determine whether or not there is a set of common variances that could be detected if the latent factor is represented in this data. The KMO was .97 which indicated a high likelihood that the data have a latent factor that is represented within the current data. One set of criteria for reviewing factor loadings for removal of items from factors was considered for the current work. The rules for examining factor loadings were similar to the .40-.30-.20 rule that was proposed by Howard (2016). The .4 represents the minimum that the item must load onto the factor, the .3 represents the highest that the item can load onto another factor, and the .2 represents the maximum difference that is needed between how an item loads onto its primary factor and any cross loadings that it may have on other factors.

For testing convergent and discriminant validity, each individual factor will be correlated with each the instruments were summed or averaged. In addition to each subscale score, the SEERS was made into three separate composites, one to represent the grand composite, another to represent just the basic emotions, and lastly, one that just included the general emotion items that loaded from the EFA results. This was done in order to determine whether unique averaged sets of items within the grand composite, the emotion composite, and the overall composite would have different convergent and discriminant validity with other instruments. Given that basic emotions theory specifically targets the six basic emotions, it was deemed appropriate to create an

emotions composite. The seventh factor also renamed as the Overall composite was created given the rotated pattern matrix, but also to examine whether the general items might bare more convergent and discriminant validity compared to the emotion specific items. This would allow for comparisons of whether researchers would potentially want to use the overall items as a briefer version of the scale when the nuances or the granularity of the construct for each emotion is not deemed necessary. Lastly, the grand composite of all the items was created to understand if there was value in the creation of the other two aggregates.

Chapter 3

Results

It was hypothesized that six factors would emerge from the EFA including items that would reflect each of the theories applied to the six basic emotions. The final EFA structure was then used to create factor scores that were correlated with the RESE, DERS, GSES, ERQ-SE, and the CSES to provide evidence for the current scales convergent and discriminant validity.

Summary Statistics

Table 3

Descriptive Statistics

Item	Item Content	Mean	Standard Deviation	Skewness		Kurtosis	
				Statistic	Std. Error	Statistic	Std. Error
SEERS 1	Overall, I feel like I can regulate my anger when I need to	68.33	23.70	-0.59	0.08	-0.42	0.16
SEERS 2	I can regulate my anger when I feel it in my body	65.42	24.37	-0.48	0.08	-0.49	0.16
SEERS 3	I can regulate my anger regardless of its intensity	58.49	26.06	-0.19	0.08	-0.92	0.16
SEERS 4	I can regulate my anger regardless of who I am with	59.96	26.65	-0.29	0.08	-0.88	0.16
SEERS 5	I can regulate my anger in any environment	60.38	26.73	-0.29	0.08	-0.89	0.16
SEERS 6	When I feel angry, I know what to do to regulate it	63.94	26.48	-0.48	0.08	-0.67	0.16
SEERS 7	I can identify when I feel angry	81.98	19.24	-1.34	0.08	1.71	0.16
SEERS 8	When I know what to do to regulate my anger, I can do it	70.70	23.70	-0.78	0.08	-0.05	0.16
SEERS 9	Overall, I feel like I can regulate my sadness when I need to	60.03	25.29	-0.26	0.08	-0.77	0.16
SEERS 10	I can regulate my sadness when I feel it in my body	56.98	26.82	-0.17	0.08	-0.98	0.16
SEERS 11	I can regulate my sadness regardless of its intensity	51.25	27.25	0.03	0.08	-1.01	0.16
SEERS 12	I can regulate my sadness regardless of who I am with	54.53	27.26	-0.07	0.08	-1.01	0.16
SEERS 13	I can regulate my sadness in any environment	53.79	26.21	-0.05	0.08	-0.93	0.16
SEERS 14	When I feel sad, I know what to do to regulate it	58.58	25.71	-0.23	0.08	-0.81	0.16
SEERS 15	I can identify when I feel sad	80.27	20.10	-1.19	0.08	1.25	0.16
SEERS 16	When I know what to do to regulate my sadness, I can do it	64.04	24.99	-0.44	0.08	-0.64	0.16
SEERS 17	Overall, I feel like I can regulate my happiness when I need to	77.88	20.53	-1.01	0.08	0.67	0.16
SEERS 18	I can regulate my happiness when I feel it in my body	77.51	21.14	-1.08	0.08	0.92	0.16
SEERS 19	I can regulate my happiness regardless of its intensity	75.44	21.17	-0.88	0.08	0.45	0.16

SEERS 20	I can regulate my happiness regardless of who I am with	74.15	22.21	-0.78	0.08	-0.02	0.16
SEERS 21	I can regulate my happiness in any environment	75.15	21.92	-0.84	0.08	0.15	0.16
SEERS 22	When I feel happy, I know what to do to maintain it	72.89	24.44	-0.98	0.08	0.35	0.16
SEERS 23	I can identify when I feel happy	86.24	17.99	-1.85	0.08	3.77	0.16
SEERS 24	When I know what to do to regulate my happiness, I can do it	78.83	20.42	-1.11	0.08	0.90	0.16
SEERS 25	Overall, I feel like I can regulate my disgust when I need to	65.00	24.43	-0.41	0.08	-0.61	0.16
SEERS 26	I can regulate my disgust when I feel it in my body	62.58	24.93	-0.38	0.08	-0.67	0.16
SEERS 27	I can regulate my disgust regardless of its intensity	58.39	26.04	-0.26	0.08	-0.82	0.16
SEERS 28	I can regulate my disgust regardless of who I am with	61.65	26.07	-0.33	0.08	-0.85	0.16
SEERS 29	I can regulate my disgust in any environment	60.18	26.19	-0.31	0.08	-0.84	0.16
SEERS 30	When I feel disgusted, I know what to do to regulate it	64.03	25.85	-0.44	0.08	-0.66	0.16
SEERS 31	I can identify when I feel disgusted	80.83	20.00	-1.18	0.08	1.00	0.16
SEERS 32	When I know what to do to regulate my disgust, I can do it	68.50	23.87	-0.60	0.08	-0.36	0.16
SEERS 33	Overall, I feel like I can regulate my surprise when I need to	69.55	22.75	-0.74	0.08	0.02	0.16
SEERS 34	I can regulate my surprise when I feel it in my body	68.19	23.68	-0.67	0.08	-0.16	0.16
SEERS 35	I can regulate when I am surprised regardless of its intensity	64.92	24.90	-0.51	0.08	-0.47	0.16
SEERS 36	I can regulate when I am surprised regardless of who I am with	66.77	24.34	-0.56	0.08	-0.42	0.16
SEERS 37	I can regulate when I am surprised in any environment	66.26	23.89	-0.53	0.08	-0.42	0.16
SEERS 38	When I feel surprised, I know what to do to regulate it	66.47	24.19	-0.57	0.08	-0.27	0.16
SEERS 39	I can identify when I feel surprised	81.33	19.42	-1.17	0.08	1.04	0.16
SEERS 40	When I know what to do to regulate my surprise, I can do it	71.63	22.33	-0.73	0.08	0.08	0.16
SEERS 41	Overall, I feel like I can regulate when I am afraid when I need to	59.34	26.80	-0.28	0.08	-0.90	0.16
SEERS 42	I can regulate my fear when I feel it in my body	56.77	27.36	-0.17	0.08	-0.99	0.16
SEERS 43	I can regulate when I am afraid regardless of its intensity	50.71	27.42	0.02	0.08	-1.02	0.16
SEERS 44	I can regulate when I am afraid regardless of who I am with	54.31	27.42	-0.08	0.08	-1.02	0.16
SEERS 45	I can regulate when I am afraid in any environment	50.51	28.13	0.05	0.08	-1.07	0.16
SEERS 46	When I feel afraid, I know what to do to regulate it	57.14	27.21	-0.22	0.08	-0.90	0.16
SEERS 47	I can identify when I am afraid	80.88	21.72	-1.37	0.08	1.45	0.16
SEERS 48	When I know what to do to regulate my fear, I can do it	61.24	26.71	-0.34	0.08	-0.85	0.16
SEERS 49	Overall, I feel like I can regulate my emotions when I need to	68.52	22.73	-0.59	0.08	-0.30	0.16
SEERS 50	I can regulate my emotions when I feel them in my body	64.45	23.50	-0.44	0.08	-0.49	0.16

SEERS 51	I can regulate my emotions regardless of their intensity	58.61	24.79	-0.21	0.08	-0.81	0.16
SEERS 52	I can regulate my emotions regardless of who I am with	60.42	24.84	-0.26	0.08	-0.84	0.16
SEERS 53	I can regulate my emotions in any environment	59.71	25.24	-0.26	0.08	-0.83	0.16
SEERS 54	When I feel my emotions, I know what to do to regulate it	64.68	24.27	-0.44	0.08	-0.55	0.16
SEERS 55	I can identify when I feel certain emotions	78.65	20.49	-1.14	0.08	1.11	0.16
SEERS 56	When I know what to do to regulate my emotions, I can do it	68.54	23.02	-0.60	0.08	-0.21	0.16

Descriptive statistics were examined to decide whether items should be kept or discarded including range, skew, and kurtosis. No items showed a restricted range that was lower than 97 on the 0-100 scale. Visual inspection of each item's histogram demonstrated that a number of items showed positive skew. No items demonstrated negative skew above .37. Conversely, there were items that demonstrated a positive skew with skew values above 1. These included Items 7, 15, 17, 18, 23, 24, 31, 39, 47, and 55 (See Table 3). Of these 10 items that showed positive skew, seven were questions that related to the efficacy to identify basic emotions (fear, disgust, anger, sadness, surprise, and happy). These items were 7, 15, 23, 31, 39, 47, and 55. These data suggest that individuals believe they have high efficacy to identify their emotions.

Five of the items that overlapped with identification of emotions were related to the regulation of happiness whether it be the ability to identify it, the ability to regulate it subjectively, or when it is experienced in one's body. These results suggest that individuals feel more efficacious to maintain or regulate happiness compared to other types of emotions. Most other items demonstrated variability and while these few items related to happiness, each were determined important to the overall operationalized construct. Each were retained for EFA and correlational analysis despite the potential that they may not contribute much variance to the overall construct.

Spearman correlations were conducted between all the items. Items that correlated above .8 were evaluated in terms of their content (Cohen et al., 2018), and related to specific emotions. These items included questions that asked about regulation of each of the basic emotions overall, the bodily experience, the subjective experience of the emotion, regulating the emotion regardless of the environment and regardless of who the

individual is around. These high correlations suggest that the items may potentially reflect a shared underlying factor that could foreshadow the emergence of a factor in subsequent analyses. These items were retained for each of the basic emotions even though they demonstrated correlations above .8. Items were meant to be eliminated if they demonstrated low correlations ($<.15$) with the other items; however, no items demonstrated correlations below that threshold.

Item level summary statistics were conducted on each item with the current sample separated into white ($n = 566$) and underrepresented groups ($n = 238$) participants. This analysis was repeated using male ($n = 306$) and female ($n = 610$) participants to complete item level analyses. The scale items and data appeared similar to one another when parsed into the different race and gender groups. Items 12 and 13 had an average difference in mean response of 10 or more but were retained given that the standard deviations of these items was 20 or more. These items' content was related to self-efficacy to regulate sadness regardless of who is present and in any environment. Items 41, 42, 43, 44, 45, 46, and 48 demonstrated that males had a higher mean score ($M = 10$ or more) on each of them compared to females. All of these items stemmed from the basic emotion of fear. These items were retained for subsequent analysis due to the standard deviations being above 20 which rendered a mean difference of 10 to be innocuous.

Item-total correlations were also conducted for each set of items that were hypothesized to potentially create a factor. These analyses contained 6 questions for each of the basic emotions and the overall self-efficacy to regulate emotion items. These were done to detect if there was one particular item that, when removed, would benefit the

EFA. All items within these analyses had corrected item-total correlations above .72 and all Cronbach's alpha levels if any one item was deleted would not improve the scale's reliability above $\alpha = .00$.

Exploratory Factor Analysis (EFA)

All 56 items were retained for the EFA analysis, and the data were analyzed using the principal axis factoring extraction method within IBM SPSS Statistics (Version 29). The equamax rotation was selected to maximize the amount of distance between the hypothesized six factor solution with each one representing a basic emotion. This type of rotation simplifies the number of items that load onto a particular factor and uses the least amount of factors to explain the variable in question (Akhtar-Danesh, 2017). The data revealed the possibility that eight factors existed based on the eigenvalues (please see Figure 1 and Appendix C).

An examination of the scree plot suggested that one factor should be retained given its large eigenvalue and the lower second factor eigenvalue (Please see Figure 1). However, given the theoretical background with the use of the six basic emotions (Ekman & Friesen, 1978) in addition to an overall self-efficacy to regulate emotions items, seven factors were retained. When examining the eight factors that were represented in the rotated pattern matrix, six of them, as hypothesized, encompassed the six basic emotions of fear, disgust, anger, sadness, surprise, and happy. In addition to these factors, the overall general items loaded onto one factor. Lastly, the eighth factor consisted of all the items that were centered around the ability to identify overall emotions and each of six

basic emotions items. The eighth factor was not interpreted due to its relatively small contribution of variance 1.39%. The full rotated pattern matrix is included in Appendix C. Additionally for factor eight the eigenvalue was 1.01 suggesting that it did not highly contribute to understanding the overall current construct. The seven factors that were retained accounted for 72.99% of the variance within the data.

Figure 1

Scree Plot for Exploratory Factor Analysis

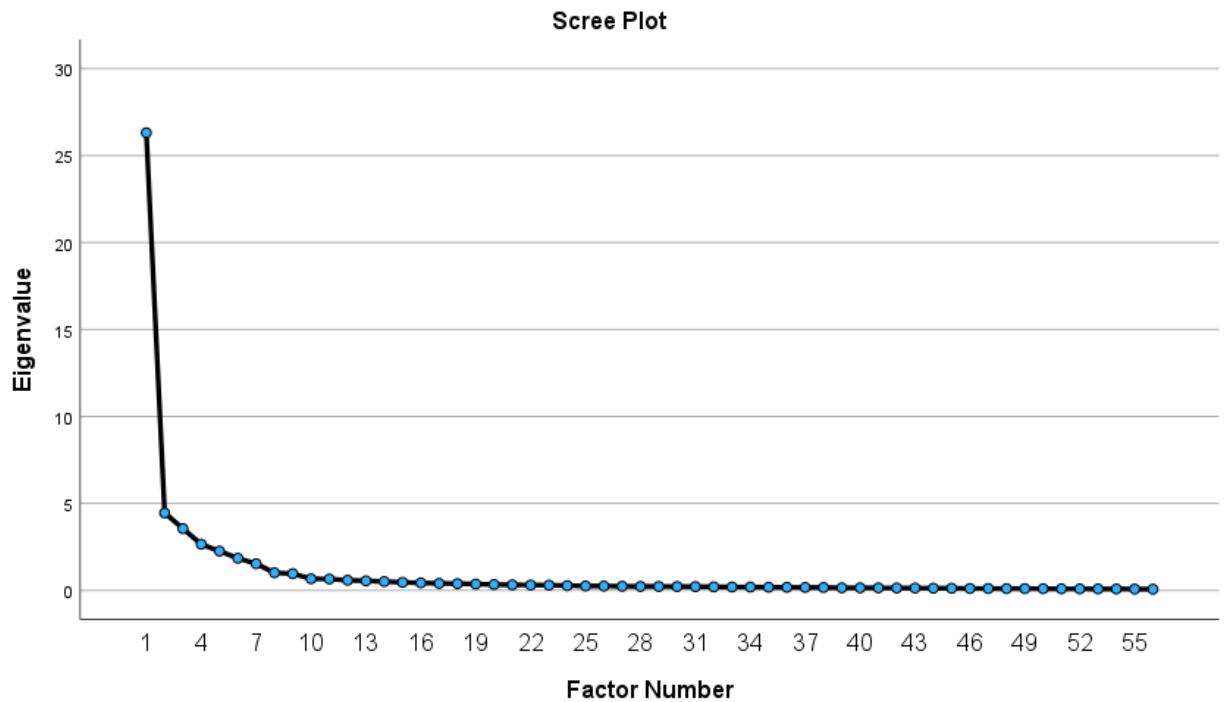


Table 4*Rotated Pattern Matrix Loadings for Exploratory Factor Analysis*

Items	Item Content	Factor Loadings						
		1	2	3	4	5	6	7
SEERS 44	I can regulate when I am afraid regardless of who I am with	.80						
SEERS 45	I can regulate when I am afraid in any environment	.79						
SEERS 43	I can regulate when I am afraid regardless of its intensity	.79						
SEERS 46	When I feel afraid, I know what to do to regulate it	.76						
SEERS 41	Overall, I feel like I can regulate when I am afraid when I need to	.74						
SEERS 42	I can regulate my fear when I feel it in my body	.73						
SEERS 48	When I know what to do to regulate my fear, I can do it	.69						
SEERS 27	I can regulate my disgust regardless of its intensity		.83					
SEERS 25	Overall, I feel like I can regulate my disgust when I need to		.80					
SEERS 29	I can regulate my disgust in any environment		.80					
SEERS 26	I can regulate my disgust when I feel it in my body		.79					
SEERS 28	I can regulate my disgust regardless of who I am with		.78					
SEERS 30	When I feel disgusted, I know what to do to regulate it		.69					
SEERS 32	When I know what to do to regulate my disgust, I can do it		.63					
SEERS 3	I can regulate my anger regardless of its intensity			.82				
SEERS 2	I can regulate my anger when I feel it in my body			.80				
SEERS 4	I can regulate my anger regardless of who I am with			.78				
SEERS 1	Overall, I feel like I can regulate my anger when I need to			.78				
SEERS 5	I can regulate my anger in any environment			.77				
SEERS 6	When I feel angry, I know what to do to regulate it			.68				
SEERS 8	When I know what to do to regulate my anger, I can do it			.57				
SEERS 10	I can regulate my sadness when I feel it in my body				.77			

					56
SEERS 11	I can regulate my sadness regardless of its intensity			.76	
SEERS 9	Overall, I feel like I can regulate my sadness when I need to			.74	
SEERS 13	I can regulate my sadness in any environment			.69	.33
SEERS 12	I can regulate my sadness regardless of who I am with			.67	
SEERS 14	When I feel sad, I know what to do to regulate it			.62	.33
SEERS 16	When I know what to do to regulate my sadness, I can do it			.62	.30
SEERS 35	I can regulate when I am surprised regardless of its intensity			.78	
SEERS 36	I can regulate when I am surprised regardless of who I am with			.77	
SEERS 34	I can regulate my surprise when I feel it in my body			.73	
SEERS 37	I can regulate when I am surprised in any environment			.72	
SEERS 33	Overall, I feel like I can regulate my surprise when I need to			.71	
SEERS 38	When I feel surprised, I know what to do to regulate it			.68	
SEERS 40	When I know what to do to regulate my surprise, I can do it			.61	
SEERS 21	I can regulate my happiness in any environment				.80
SEERS 19	I can regulate my happiness regardless of its intensity				.80
SEERS 20	I can regulate my happiness regardless of who I am with				.78
SEERS 18	I can regulate my happiness when I feel it in my body				.70
SEERS 17	Overall, I feel like I can regulate my happiness when I need to				.67
SEERS 24	When I know what to do to regulate my happiness, I can do it				.64
SEERS 22	When I feel happy, I know what to do to maintain it				.58
SEERS 53	I can regulate my emotions in any environment	.34		.32	.68
SEERS 52	I can regulate my emotions regardless of who I am with		.31	.31	.67
SEERS 51	I can regulate my emotions regardless of their intensity			.39	.66
SEERS 50	I can regulate my emotions when I feel them in my body			.37	.64
SEERS 54	When I feel my emotions, I know what to do to regulate it				.60
SEERS 49	Overall, I feel like I can regulate my emotions when I need to			.36	.59
SEERS 56	When I know what to do to regulate my emotions, I can do it				.51

Note. Extraction Method: Principal Axis Factoring. Rotation Method: Equamax with Kaiser Normalization. Rotation converged in 16 iterations.

On the first six factors, there were seven items that had loadings that were above .3 on more than one factor. Item 8, “When I know what to do to regulate my anger, I can do it,” item 40, “When I know what to do to regulate my surprise,” I can do it, item 17, “Overall, I feel like I can regulate my happiness when I need to,” and item 24, “When I know what to do to regulate my happiness, I can do it,” all cross loaded above .3 with factor eight. Factor eight was not interpreted and the items were retained for the factors that they had the highest loading for. The next three items were item 13, “I can regulate my sadness in any environment,” item 14, “When I feel sad, I know what to do to regulate it,” and item 16, “When I know what to do to regulate my sadness, I can do it.” These items cross loaded between Factor 4 and 7. Factor 4’s items were related to self-efficacy to regulate sadness and factor 7’s items were related to overall general self-efficacy to regulate emotions. These cross loading would be expected given the similarity of the content of each factor. Hence, items 13, 14, and 16 were kept and interpreted with Factor 4. Factor 7 had five out of its six items cross loaded above .3 across multiple factors. Upon further inspection of these items, they were all measuring general overall self-efficacy to regulate emotions. These cross loadings would be expected given the general self-efficacy to regulate all emotions would be related to self-efficacy to regulate specific emotions. Therefore, these items were retained and interpreted for factor 7.

All factors demonstrated adequate internal consistency ($\alpha = .92-.96$). In addition to examining the individual multifactor solution, the first six factors were averaged together in order to examine whether an overall composite would better represent the current construct. When the items were combined to create a grand composite, they also demonstrated that the current scale has some evidence based on the Cronbach’s alpha

levels that it is reliable ($\alpha = .97$). Factor one demonstrated high reliability ($\alpha = .96$). This factor was named self-efficacy to regulate fear. Factor two demonstrated high reliability ($\alpha = .96$). This factor was named self-efficacy to regulate disgust. Factor three demonstrated high reliability ($\alpha = .95$). This factor was named self-efficacy to regulate anger. Factor four demonstrated high reliability ($\alpha = .96$). This factor was named self-efficacy to regulate sadness. Factor five demonstrated high reliability ($\alpha = .96$). This factor was named self-efficacy to regulate surprise. Factor six demonstrated high reliability ($\alpha = .94$). This factor was named self-efficacy to regulate happiness. Factor seven demonstrated high reliability ($\alpha = .92$). This factor was named overall self-efficacy to regulate emotions (for all items please see Table 4). Each of the subscales were averaged into emotion specific composites (please see Table 5 for descriptive information). The happy and surprise subscale were more highly correlated as compared to with their negative emotion counterparts of fear, anger, and sadness. Interestingly, for the disgust subscale, it was most highly correlated with the surprise subscale ($\rho = .66$).

Table 5*SEERS Subscale Descriptive, Reliability, and Correlation Statistics*

Variable	Mean	SD	Alpha	Fear	Disgust	Anger	Sadness	Surprise	Happy
1. Fear Subscale	55.72	24.77	.96	--	--	--	--	--	--
2. Disgust Subscale	62.90	22.64	.96	.58*	--	--	--	--	--
3. Anger Subscale	63.89	22.41	.95	.49*	.50*	--	--	--	--
4. Sadness Subscale	57.02	23.33	.96	.65*	.52*	.58*	--	--	--
5. Surprise Subscale	67.69	21.24	.96	.57*	.66*	.57*	.54*	--	--
6. Happy Subscale	75.98	18.74	.94	.41*	.51*	.52*	.53*	.68*	--

Note. * indicates $p < .01$.

Convergent and Discriminant Validity Correlations

Items were averaged to create three different scores. The first included all the items from the seven factors together as a grand composite. This included 49 of the original 56 items initially created. The grand composite scale demonstrated high reliability ($\alpha = .98$). The second score was a composite of the first six factor items as a more granular measure of self-efficacy across the six basic emotions. This encompassed 42 of the initial 56 items that were tested. The emotion composite scale demonstrated high reliability as well ($\alpha = .97$). The third score was a composite of the items on Factor 7 to create a measure of general overall self-efficacy to regulate emotions. This scale contained seven of the original 56 items. The overall general self-efficacy to regulate emotions scale items demonstrated high reliability ($\alpha = .96$). Each of these scales were highly correlated with each other ($\rho = .84-1.00$). The emotion composite scale was the least correlated with the Overall item composite ($\rho = .84$) suggesting that the emotion scale might be measuring something different than the overall item composite. These were both highly correlated, so while there may be some difference, it may not be significant. Emotion subscale scores were also created for each of the six factors. These scores were then correlated with each other and with the other convergent and discriminant instruments. Spearman Rho correlations were used given that some of the data could be classified as ordinal rather than completely as interval. All scores reported below were significantly correlated with each of the instruments (please see Table 6 and 7 for all correlations).

Emotion Regulation Questionnaire – Self-Efficacy (ERQ-SE).

The grand composite scale, the emotion specific composite, and general overall item composite scores were all moderately positively correlated with the ERQ-SE cognitive reappraisal and emotional suppression self-efficacy subscales on the ERQ-SE ($\rho = .37-.55$; Goldin et al., 2009). These results were similar to the previously hypothesized relationship. They were actually more related to the current self-efficacy to regulate emotions construct.

General Self-Efficacy Scale (GSES).

The grand composite scale, the emotion specific composite, and general overall item composite scores were all moderately positively correlated with the GSES ($\rho = .46 - .50$).

Difficulties in Emotion Regulation (DERS) Questionnaire.

Each one of the DERS subscales (nonacceptance of emotions, difficulty engaging in goal behavior, impulse control, emotional awareness, access to emotion regulation strategies, lack of emotional clarity) and a total DERS score were small to moderately correlated with each of the studies instruments. Each DERS correlation was negative and in the predicted direction to act as a source of discriminant validity for the all three of the SEERS composites ($\rho = -.26 - -.58$). In all cases, the DERS was more highly correlated with the grand composite and the general overall item composite score compared to the

emotion items only composite. Next, the general overall item composite was more highly correlated with all subscales of the DERS compared to the grand composite score. There was one exception which was the emotional awareness subscale where the grand composite score was correlated at $-.27$ and the general overall item composite was correlated at $-.27$.

Coping Self-Efficacy Scale (CSES).

The grand composite scale, the emotion specific composite, and general overall item composite scores were all moderately positively correlated with the CSES ($\rho = .56-.59$). These results were consistent with the hypothesis that the SEERS would have moderate positive relationships with this scale given that it was constructed utilizing Bandura's (2006) guide to creating self-efficacy scales.

Regulatory Emotional Self-Efficacy (RESE) Scale.

The three subscales of the RESE (positive, despondency, and anger) and a total composite score were all significantly correlated with the grand composite scale, the emotion specific composite, and general overall item composite scores. The RESE had overall small to moderately positive correlation with the grand composite scale, the emotion specific composite, and general overall item composite scores ($\rho = .25-.57$). The emotions composite score was more highly correlated with the RESE positive subscale ($\rho = .26$) compared to the general overall item composite score ($\rho = .25$). These results were

expected given that the SEERS is most similar to the RESE but demonstrated that the SEERS is ultimately measuring a different construct.

Table 6

Three Composite Convergent and Discriminant Validity Correlation Matrix

Variable	Grand	Emotion	General
1. SEERS Grand Composite	--	--	--
2. SEERS Emotions Composite	1.00*	--	--
3. SEERS General Overall Item Composite	.89*	.84*	--
4. ERQ-SE Cognitive Reappraisal	.54*	.52*	.55*
5. ERQ-SE Emotional Suppression	.40*	.40*	.37*
6. GSES	.48*	.46*	.50*
7. DERS Nonacceptance of Emotions	-.35*	-.32*	-.40*
8. DERS Difficulty Engaging in Goal	-.39*	-.36*	-.45*
9. DERS Impulse Control	-.48*	-.45*	-.54*
10. DERS Emotional Awareness	-.27*	-.26*	-.27*
11. DERS Access to Emotion Regulation Strategies	-.47*	-.43*	-.55*
12. DERS Lack of Emotional Clarity	-.37*	-.35*	-.40*
13. DERS Composite Score	-.51*	-.48*	-.58*
14. CSES	.58*	.56*	.59*
15. RESE Positive	.26*	.26*	.25*
16. RESE Despondency	.52*	.51*	.51*
17. RESE Anger	.50*	.48*	.51*
18. RESE Composite Score	.57*	.56*	.57*

Note. * indicates $p < .01$. Difficulties in Emotion Regulation Scale = DERS, Emotion Regulation Questionnaire = ERQ, Emotion Regulation Questionnaire Self-Efficacy = ERQ-SE, Coping Self-Efficacy Scale = CSES, General Self-Efficacy Scale = GSES, and Regulatory Emotional Self-Efficacy = RESE.

Emotion Specific Subscale Correlations.

All emotion subscales were correlated in the expected directions to provide evidence for convergent and discriminant validity (please see Table 7). Sadness was the

most correlated emotion subscale with the other convergent and discriminant instruments. Given the content of many of these scales is centered around regulation of the emotion of sadness this makes sense that it was the most highly correlated compared to the other emotion subscales. The sadness subscale was most correlated with the CSES ($\rho = .60$) suggesting that the CSES seems to be measuring the most similar construct when it comes to the self-efficacy to regulate the emotion of sadness. Item content within the CSES also contains the actual word sadness so this again is in line with one might expect. In contrast the least correlated emotion subscale compared to the other scales was the disgust subscale score ($\rho = .17-.37$). None of the current scales that were tested have items that are related to the emotions of disgust so again these results make sense. Worthy of note is that even though these scales do not have any items related to the emotion of disgust it is still exhibiting small correlations with the other scales showing that it is somewhat related to these constructs. Unexpectedly, when examining the happy subscales correlations, it was most highly correlated with the CSES ($\rho = .43$) rather than the RESE positive subscale ($\rho = .34$). The subscales were also significantly correlated with one another ($\rho = .41-.68$). On the other hand, the anger subscale was most highly correlated with the RESE anger subscale ($\rho = .53$). The happy and surprise subscale were more highly correlated as compared to with their negative emotion counterparts of fear, anger, and sadness. Interestingly, for the disgust subscale, it was most highly correlated with the surprise subscale ($\rho = .66$).

Table 7*SEERS Subscale Correlations for Convergent and Discriminant Validity*

Variable	Fear	Disgust	Anger	Sadness	Surprise	Happy
1. ERQ-SE Cognitive Reappraisal	.44*	.32*	.43*	.57*	.37*	.35*
2. ERQ-SE Emotional Suppression	.32*	.28*	.35*	.36*	.33*	.27*
3. GSES	.40*	.25*	.36*	.46*	.36*	.36*
4. DERS Nonacceptance of Emotions	-.24*	-.17*	-.28*	-.39*	-.22*	-.26*
5. DERS Difficulty Engaging in Goal	-.34*	-.17*	-.31*	-.47*	-.21*	-.20*
6. DERS Impulse Control	-.30*	-.26*	-.50*	-.47*	-.30*	-.35*
7. DERS Emotional Awareness	-.13*	-.20*	-.27*	-.22*	-.24*	-.27*
8. DERS Access to Emotion Regulation Strategies	-.34*	-.21*	-.37*	-.56*	-.28*	-.33*
9. DERS Lack of Emotional Clarity	-.240*	-.24*	-.28*	-.38*	-.27*	-.32*
10. DERS Composite Score	-.35*	-.26*	-.44*	-.55*	-.33*	-.38*
11. CSES	.45*	.33*	.47*	.60*	.41*	.43*
12. RESE Positive	.15*	.17*	.19*	.25*	.22*	.34*
13. RESE Despondency	.50*	.34*	.42*	.55*	.34*	.31*
14. RESE Anger	.42*	.32*	.53*	.47*	.32*	.26*
15. RESE Composite Score	.46*	.37*	.51*	.56*	.39*	.39*

Note. * indicates $p < .01$. Difficulties in Emotion Regulation Scale = DERS, Emotion Regulation Questionnaire = ERQ, Emotion Regulation Questionnaire Self-Efficacy = ERQ-SE, Coping Self-Efficacy Scale = CSES, General Self-Efficacy Scale = GSES, and Regulatory Emotional Self-Efficacy = RESE.

Chapter 4

Discussion

The current work provides a new scale to examine an individual's self-efficacy to regulate emotions. The ERQ-SE and the RESE attempted to measure a similar construct but did so in a limited fashion. The ERQ-SE was more focused on the self-efficacy to engage in emotional suppression or cognitive reappraisal whereas the RESE was more so aligned with the current scales but did not find evidence with more of the six basic emotions and used specific situations in their items to ask about one's regulatory emotional self-efficacy. Given the theoretical underpinnings of the current scale, the RESE and the SEERS seem to be measuring different aspects of self-efficacy to regulate emotions.

The purpose of the current work was to develop and examine initial evidence for a scale intended to assess self-efficacy in emotion regulation. Items were generated and tested using EFA analyses to determine preliminary evidence that they are indeed measuring the construct of self-efficacy to regulate emotions. This study provided initial evidence for the creation of scales to measure self-efficacy to regulate emotions. As hypothesized, the current work yielded a more specific self-efficacy to regulate each of the six basic emotions scale that emphasized the different regulatory elements of each of the six basic emotions. Additionally, a seventh factor emerged as an overall general self-efficacy to regulate emotions. Lastly, the grand composite, emotion composite, and general overall composite and each of the six subscales demonstrated predicted convergent and discriminant validity with appropriate constructs.

The EFA results yielded an interpretation from the data and theoretical perspective of seven different factors each with seven items highly loading onto each. As hypothesized, the first six of these factors represented one's self-efficacy to regulate one of the six basic emotions (fear, disgust, anger, sadness, surprise, and happy). The seventh factor that emerged was related to overall general self-efficacy to regulate emotions that was not specific to any one basic emotion (please see Table 8). This provided initial

evidence of a scale that emphasized different aspects of each of the basic emotions to be a self-assessment of a person's self-efficacy to regulate particular emotions and overall ability.

Table 8

SEERS Items and Factors

<p>Factor 1: Self-Efficacy to Regulate Fear</p> <p>SEERS44: I can regulate when I am afraid regardless of who I am with</p> <p>SEERS45: I can regulate when I am afraid in any environment</p> <p>SEERS43: I can regulate when I am afraid regardless of its intensity</p> <p>SEERS46: When I feel afraid, I know what to do to regulate it</p> <p>SEERS41: Overall, I feel like I can regulate when I am afraid when I need to</p> <p>SEERS42: I can regulate my fear when I feel it in my body</p> <p>SEERS48: When I know what to do to regulate my fear, I can do it</p>	<p>Factor 5: Self-Efficacy to Regulate Surprise</p> <p>SEERS35: I can regulate when I am surprised regardless of its intensity</p> <p>SEERS36: I can regulate when I am surprised regardless of who I am with</p> <p>SEERS34: I can regulate my surprise when I feel it in my body</p> <p>SEERS37: I can regulate when I am surprised in any environment</p> <p>SEERS33: Overall, I feel like I can regulate my surprise when I need to</p> <p>SEERS38: When I feel surprised, I know what to do to regulate it</p> <p>SEERS40: When I know what to do to regulate my surprise, I can do it</p>
<p>Factor 2: Self-Efficacy to Regulate Disgust</p> <p>SEERS27: I can regulate my disgust regardless of its intensity</p> <p>SEERS25: Overall, I feel like I can regulate my disgust when I need to</p> <p>SEERS29: I can regulate my disgust in any environment</p> <p>SEERS26: I can regulate my disgust when I feel it in my body</p> <p>SEERS28: I can regulate my disgust regardless of who I am with</p> <p>SEERS30: When I feel disgusted, I know what to do to regulate it</p> <p>SEERS32: When I know what to do to regulate my disgust, I can do it</p>	<p>Factor 6: Self-Efficacy to Regulate Happiness</p> <p>SEERS21: I can regulate my happiness in any environment</p> <p>SEERS19: I can regulate my happiness regardless of its intensity</p> <p>SEERS20: I can regulate my happiness regardless of who I am with</p> <p>SEERS18: I can regulate my happiness when I feel it in my body</p> <p>SEERS17: Overall, I feel like I can regulate my happiness when I need to</p> <p>SEERS24: When I know what to do to regulate my happiness, I can do it</p> <p>SEERS22: When I feel happy, I know what to do to maintain it</p>
<p>Factor 3: Self-Efficacy to Regulate Anger</p> <p>SEERS3: I can regulate my anger regardless of its intensity</p> <p>SEERS2: I can regulate my anger when I feel it in my body</p> <p>SEERS4: I can regulate my anger regardless of who I am with</p> <p>SEERS1: Overall, I feel like I can regulate my anger when I need to</p> <p>SEERS5: I can regulate my anger in any environment</p> <p>SEERS6: When I feel angry, I know what to do to regulate it</p> <p>SEERS8: When I know what to do to regulate my anger, I can do it</p>	<p>Factor 7: Overall Self-Efficacy to Regulate Emotions</p> <p>SEERS53: I can regulate my emotions in any environment</p> <p>SEERS52: I can regulate my emotions regardless of who I am with</p> <p>SEERS51: I can regulate my emotions regardless of their intensity</p> <p>SEERS50: I can regulate my emotions when I feel them in my body</p> <p>SEERS54: When I feel my emotions, I know what to do to regulate it</p> <p>SEERS49: Overall, I feel like I can regulate my emotions when I need to</p> <p>SEERS56: When I know what to do to regulate my emotions, I can do it</p>
<p>Factor 4: Self-Efficacy to Regulate Sadness</p> <p>SEERS10: I can regulate my sadness when I feel it in my body</p> <p>SEERS11: I can regulate my sadness regardless of its intensity</p>	

SEERS9: Overall, I feel like I can regulate my sadness when I need to

SEERS13: I can regulate my sadness in any environment

SEERS12: I can regulate my sadness regardless of who I am with

SEERS14: When I feel sad, I know what to do to regulate it

SEERS16: When I know what to do to regulate my sadness, I can do it

These findings were consistent with prior work completed with the RESE (Caprara et al. 2008). The scale items contained some of the item content as the RESE but was more specific for each of the basic emotions which the RESE contains three of the six basic emotions. Caprara et al. (2008) found two distinct dimensions (positive and negative emotions) when assessing a similar construct of regulatory self-efficacy. Further, they had the negative factor that had sub factors of despondency and anger. The RESE items were more specific to situations where one was asked how likely they would express particular emotions which is different than more general items that ask about one's ability to regulate emotions without any particular context presented. This could be a plausible explanation as to why the RESE positive subscale was less correlated with the happy subscale. The current study's scale was also different from the RESE as it had a different factor for each of the different basic emotions. The correlation between the RESE and these items was also moderately positive. Given that current works items included more emotions compared to the items in the RESE, these scale's correlations with one another suggest they are measuring similar, but ultimately different, constructs.

Seven factors were interpreted where each one represented one of each of the six basic emotions. The items that loaded onto each factor represented Ekman & Friesen's (1978) basic emotion theory, Gross's (2015) extended process model of emotion regulation, Gratz and Roemer's (2004) definition of emotion regulation, Linquist's (2013) constructionist theory of emotions, and Bandura's Model of Triadic Reciprocity (Bandura, 1986). Ekman & Friesen's (1978) theory of basic emotions was shown through each of the six factors being one of the basic emotions. Lindquist (2013) and Linquist & Barrett (2012) were represented by each factor having items reflecting one's self-efficacy to regulate a basic emotion regardless of the subjective experience or intensity of it as

well as when one experiences it in their body. These items were standard across each one of the factors. Gross's (2015) theory was represented through items related to an individual's self-efficacy to implementation an emotion regulation strategy. Gratz and Roemer (2004) definition of emotion regulation and Bandura's (1986) theory were reflected in the items related to the environment and the individual personal factor of choice of emotion regulation strategy.

When reexamining the results with the intended theoretical blueprint that was created, most items were identified as relevant to the current construct. Seven out of the eight initially hypothesized theoretical elements were found within the data including GEN, PHYSIO, EXPERIENCE, CHOICE, IMPLEMENT, INDIVIDUAL, and ENVIRONMENT for each of the six basic emotions and the broad overall emotion category. The only part of the theoretical blueprint that was not found to load within the results was IDENTIFICATION. Interestingly, the items that were not represented in the seven interpreted factors were all centered around the identification of emotions. Embedded within Gross's (2015) theory is the identification of one's emotional state to then choose and implement an emotion regulation strategy. The current results suggest that identification of emotional state is a different construct compared to self-efficacy to regulate emotions. This is potential a separate process that could be explored as self-efficacy to identifying emotions might be an important construct. The Toronto Alexthymia Scale (Taylor et al., 1985) assesses part of this construct by assessing an individual's beliefs related to the identification of emotions. However, the items do not encompass each of the six basic emotions when trying to assess this construct.

In addition to the EFA results for construct validity, convergent and discriminant validities were tested. The grand composite, emotions composite, the general overall composite, and emotion subscales were then tested with the ERQ-SE, GSES, CSES, DERS, and RESE. All the composites and subscales showed predicted positive and negative relationships that were appropriate with each of the constructs as hypothesized. Thus, demonstrating similarities to other scales that measure like constructs.

When comparing the grand composite to the general overall composite, the general overall composite had higher correlations with most of the other instruments.

These results as well as the lower correlations produced from the emotions composite, would suggest that the addition of the basic emotion items allows for this scale to measure different information than existing scales. The general overall scale which had items that more generally reflected self-efficacy to regulate emotions compared to the emotion composite items, had overall higher correlations with most of the composite scores and subscales for the ERQ-SE, GSES, DERS, CSES, and the RESE. This may be due to the more general nature of general overall composite items compared to the specific basic emotion items that were intentionally created in the emotion composite. The only correlations that were higher in the expected directions for emotions composite were the ERQ-SE emotional suppression subscale (Goldin et al., 2009) and the RESE positive subscale (Capara et al., 2008). The content of the ERQ-SE measures the ability to suppress positive and negative emotions which, at a more granular emotional level, the emotions composite is measuring compared to the general overall composite. Given that the general overall composite does not contain content related to the valence of emotions and more broadly asks about “emotions” these results would be potentially expected.

When explaining the higher correlations amongst the RESE positive subscale and the emotions composite, the items in the emotion composite included more positive emotions such as a factor for happy and surprise. Since this was the case, the RESE positive subscale results of having a stronger relationship with emotion composite are also unsurprising.

More interestingly, the general overall composite was most highly correlated with the CSES which was unexpected compared to the RESE. When interpreting this with the correlation between the RESE composite scale score the CSES ($\rho = .65$), there is the potential that each scale seems to be measuring similar, but distinct types of constructs. Even though the difference was quite small between correlations (.29), it begs the question, is the general overall composite scale measuring more coping self-efficacy or self-efficacy to regulate specific emotions. There is the potential that the high correlation found with the CSES is due to the use of Bandura’s (2006) guide to creating self-efficacy scales that was used to construct each of the scales. The emotions composite was most

highly correlated with the RESE. Given the emotion composite's emphasis on particular emotions would potentially lend itself to this relationship.

When examining the GSES, the grand composite, the emotions composite, and the general overall composite were positively moderately correlated which demonstrated the scales bore some similarity to general self-efficacy, but diverge enough that each scale seems to be measuring a more specific construct. All three composites were moderately positively correlated with both dimensions of the ERQ with the cognitive reappraisal dimension more so compared to the emotional suppression subscale. This result suggesting that again both scales bear some similarity to the ERQ-SE but are distinct enough in that they are measuring a different construct. Each of the three composites were also moderately negatively correlated with the DERS composite scale score. This suggests that the composites are in the opposite direction of the DERS which was expected and that they are again measuring a similar type of construct, but also a distinct construct that the DERS is not measuring. These results suggest that all three composites have some form of convergent and discriminant validity when examined with scales that measure similar constructs.

The emotions scale is different than the general overall composite. When examining the correlations of each the emotion composite and the general composite, the emotion composite was the least correlated with the other instruments. These data suggest that the emotion subscale is providing a different type of information or granularity on each of the six basic emotions as a comparison to the general overall composite. Additionally, the correlations between the two composites are high ($\rho = .836$), but not perfectly correlated suggesting they are measuring a similar construct, but in different ways. The use of the emotion composite scale would allow for an individual to understand where they might have different levels of self-efficacy for particular emotions in the emotion regulation process. This would create a 42-item scale that could be used to measure and link particular interventions for individuals. Conversely, the general overall composite is a broader measure of an individual's beliefs about their self-efficacy to regulate their emotions broadly. This could be used as a 7-item measure to more generally understand one's self-efficacy to regulate emotions.

Limitations and Future Directions

The current study represents preliminary work to create a measure of self-efficacy in emotion regulation. However, the current work is not without its limitations. First, the current work employed EFA which, although an effective method, only provides initial evidence of a reliable and valid scale. More sophisticated analyses need to be employed such as confirmatory factor analysis to corroborate the suspected structure of this construct. Additionally, EFA analysis does not allow for hierarchical factor relationships to be detected which may or may not exist for the current construct. This might be relevant when examining the current scale where there might be more complicated dimensions at work. Each of the basic emotions might load onto a larger factor of either positive, negative, or potentially one over-arching factor of self-efficacy to regulate emotions.

Second, evidence for correlations with other constructs and the two SEERS scales is only preliminary. These results need to be replicated across more diverse populations (the samples used in the current works were predominantly white and female) to demonstrate the items' distinctiveness to measure this construct. These scales would also potentially lend themselves to being administered to a general population as well as a population with emotion regulation difficulties such as populations with borderline personality disorder. This would allow for the scale's sensitivity to be tested to determine whether or not it would detect significant differences between the general population and a population with emotion regulation difficulties. Additionally, the scale should be administered to participants who are more incentivized to give their best efforts. The current undergraduate samples used were significantly reduced when the attention check item was used as a filter for the use of viable data.

Another limitation of this work was the lack of statistical analyses that were conducted to detect differential item functioning. In this work, the items were examined to detect whether their distribution differed between males and females or white and nonwhite participants. Future work should do more sophisticated analyses including item response theory types of techniques to detect whether items are functioning differently for different groups. Additionally, item characteristic curves could also be generated and

examined amongst the items to determine whether the participants responses are representative of the probability of being true responses as well (Furr, 2011). Future work could also consider examining the psychometric properties of the emotion composite in terms of creating composite index scores for positive and negative emotions compared to emotion specific subscales as well.

Other potential future directions include understanding emotion regulation not only from a western perspective. Emotions are culturally constructed (Matsumoto & Hwang, 2012; Mesquita & Frijda, 1992). With this information, one can surmise that the current scales items may be culturally loaded for westernized views of emotions. The current items and scales should also be examined in relation to their predictive nature of other outcomes such as actual emotion regulation ability as well as mental health outcomes. Potentially these scales should be given to individuals and then have them regulate their emotions in an emotion inducing scenario while measuring their physiology such as heart rate variability. Heart rate variability could then be used as a proxy for emotion regulation capability (Kim et al., 2018) where self-efficacy to regulate emotions could then predict one's actual ability to regulate specific emotions. Additionally, these items should be administered with other scales to examine its relationship with mental health outcomes with instruments such as the Depression Anxiety Stress Scales (DASS; Lovibond & Lovibond, 1995) or the Generalized Anxiety Scale (GAD; Spitzer et al., 2006). In future studies, it is recommended that the relationship between this scale and the Toronto Alexthymia Scale (Taylor et al., 1985) be tested. Given that low interoceptive awareness is associated with ability to regulate emotions in many psychopathologies (Murphy et al., 2017), it would only make sense that self-efficacy to regulate emotions might change based on one's ability to feel their emotions.

Other future directions could include adaptations of the scale for children and adolescents as well given that these are populations where emotion regulation skills are emerging within development. Thus, self-efficacy may be a potential issue or critical to the development of emotion regulation (National Research Council and Institute of Medicine, 2000). The items could be adapted to use less sophisticated language in order

to match appropriate developmental understanding of emotions and emotion regulate for measurement purposes.

Broader Implications

Everyone engages in emotion regulation and some individuals struggle with it. The current scale leads us to better understand the mechanisms that work within the emotion regulation process by examining self-efficacy that is hugely relevant to the process as a whole. Without one's self-efficacy to regulate, why would someone choose to attempt a strategy if you have already doomed it to potentially fail by thinking it won't in the first place? With the use of the SEERS, we can attempt to have measure to disentangle these types of constructs within the emotion regulation process to inform where there is a breakdown or disconnect from feeling and regulating one's emotions to attain one's goal (Gross, 2015). Without the ability to measure this construct, we as researchers and as people are unable to better understand the nuances of how the emotion regulation process unfolds and when it starts and ends. Gross's (2015) extended process model of emotion has three phases of emotion generation, emotion regulation selection, and emotion regulation implementation, but one aspect that is not accounted for is one's thoughts or self-efficacy before they choose a strategy to regulate one's emotion. The current scale development is a step closer to measuring this aspect albeit as a self-report more trait like measure, rather than a tool to be used to assess situational self-efficacy to regulate emotions.

The current scale is a self-assessment tool of this construct when examining each of the basic emotions. This would lend itself to a better use in disordered populations to link potential intervention efforts based on where self-efficacy to regulate a particular emotion deficit might be found. For example, if an individual scored low on their efficacy to feel anger in their body and regulate it, an intervention related to interoceptive awareness could be prescribed in order to help that individual remediate this deficit. Additionally, if an individual scores low on the item "When I feel sad, I know what to do to regulate it," then a therapeutic agent could work with that individual about different

coping strategies that they might be able to use to regulate their sadness. Further, if someone scores low on any one of the items where they are having trouble implementing strategies to regulate their emotions, different interventions could be to identify different barriers to their emotion regulation strategy use. The current scale would be particularly helpful to work with populations with emotion regulation difficulties such as borderline personality disorder or attention deficit and hyperactivity disorder. Another example of this would be an anger management group is typically centered around the regulation of anger. The current scale can measure where there is potential folly within each particular client's self-efficacy to regulate anger process. Each client may have individualized needs where one might struggle with emotion regulation implementation self-efficacy while another might struggle with the self-efficacy to regulate the bodily intensity that accompanies his or her anger.

With this scale, individuals can start to understand the nuances and the granularity of self-efficacy within the emotion regulation process. From there, targeted interventions can be tried and tested to increase one's self-efficacy in that one particular area to increase their emotion regulation capabilities. Additionally, in Goldin et al., (2012), self-efficacy to engage in cognitive reappraisal was found to be critical in mediating the relationship between cognitive behavior therapy and severity social anxiety disorder symptoms. Thus, providing evidence for the importance for further understanding the critical role that self-efficacy can play as a mediator or moderator when examining the relationship between psychological treatments and symptom severity in different psychopathologies. In addition to targeted interventions, the current scale could be potentially useful for progress monitoring one's self-efficacy to regulate emotions while receiving therapeutic treatment to determine an interventions effectiveness. This progress monitoring data could then be used with the addition of data regarding frequency or intensity of difficult emotion regulation events one is experiencing. It would be hoped that as someone demonstrates higher scores on the SEERS that they would have less frequent and less intense emotion regulation difficulty events in their lives.

The results of the convergent and discriminant correlations also demonstrate that the SEERS is uniquely measuring a not previously measured construct. Researchers

would be particularly interested, as this scale measures a new facet of self-efficacy to regulate emotions. Furthermore, this scale can be used to test and predict real life emotion regulation outcomes such as intervention effects on self-efficacy to regulate emotions and its impacts on symptom severity in psychopathology (Goldin et al., 2012). The RESE currently measures aspects of this construct but does not encompass many of the emotions one would need to potentially regulate. The current work expanded upon those emotions allowing for better measurement of one's self-efficacy to regulate emotions. Now that this scale has initial evidence, this scale can be further developed and validated to measure this construct in a new and nuanced manner.

This work additionally expands on the emotions previously measured within the RESE scale. This is critical given that some individuals might potentially feel efficacious to regulate some emotions over others. This could potentially lead to similar presentations of behaviors but could have different aspects that require intervention. For example, depression is characterized by sometimes overwhelming feelings of sadness (American Psychiatric Association, 2013). There is a potential that this individual could potentially be struggling with efficacy to regulate sadness which would be captured by the SEERS; however, there is a potential that the person could have issues related to not feeling efficacious to upregulate their happiness. The SEERS would capture these dimensions and could potentially lead to particular profiles of individuals characterized by different diagnoses. Hence, the importance of capturing more emotions to encompass a richer more detailed picture related to an individual's self-efficacy to regulate emotions. With this, certain psychopathologies that are characterized with emotion regulation difficulties might display more general lower self-efficacy to regulate all six of the emotions measured (e.g. borderline personality disorder) rather than other diagnoses that might be more emotion specific (depression or anxiety). The SEERS and self-efficacy to regulate once further studied within psychopathologies could not only be linked to intervention efforts but could potentially be more diagnostically used to determine what type of psychopathology someone might be experiencing.

Conclusion

In the current work, I present initial results for a scale that measures self-efficacy in emotion regulation. Importantly, this scale is distinct from existing scales that measure self-efficacy in emotion regulation. The current results demonstrate a seven factor (one for each basic emotion and an overall emotion factor) scale with 49 items, that is a self-assessment scale of self-efficacy in emotion regulation. Lastly, the grand composite, emotions composite, general overall composite, and subscales demonstrated adequate discriminant and convergent evidence with other related constructs. Taken together, the SEERS scale demonstrated initial and promising evidence as an instrument to measure self-efficacy in emotion regulation.

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Appendix A

Self-Efficacy in Emotion Regulation Scale

Instructions

Emotion regulation is defined as a way that we change or maintain our emotions in pursuit of a goal. Emotion regulation can be seen as successful when we can change our emotional responses to meet our goals.

Table A

Self-Efficacy in Emotion Regulation Scale Items

Variable Name	Item
Rate your degree of confidence by recording a number from 0 to 100 using the scale given below:	
SEERS 1	Overall, I feel like I can regulate my anger when I need to.
SEERS 2	I can regulate my anger when I feel it in my body.
SEERS 3	I can regulate my anger regardless of its intensity.
SEERS 4	I can regulate my anger regardless of who I am with.
SEERS 5	I can regulate my anger in any environment.
SEERS 6	When I feel angry, I know what to do to regulate it.
SEERS 7	I can identify when I feel angry.
SEERS 8	When I know what to do to regulate my anger, I can do it.
SEERS 9	Overall, I feel like I can regulate my sadness when I need to.

- SEERS 10 I can regulate my sadness when I feel it in my body.
- SEERS 11 I can regulate my sadness regardless of its intensity.
- SEERS 12 I can regulate my sadness regardless of who I am with.
- SEERS 13 I can regulate my sadness in any environment.
- SEERS 14 When I feel sad, I know what to do to regulate it.
- SEERS 15 I can identify when I feel sad.
- SEERS 16 When I know what to do to regulate my sadness, I can do it.
- SEERS 17 Overall, I feel like I can regulate my happiness when I need to.
- SEERS 18 I can regulate my happiness when I feel it in my body.
- SEERS 19 I can regulate my happiness regardless of its intensity.
- SEERS 20 I can regulate my happiness regardless of who I am with.
- SEERS 21 I can regulate my happiness in any environment.
- SEERS 22 When I feel happy, I know what to do to maintain it.
- SEERS 23 I can identify when I feel happy.
- SEERS 24 When I know what to do to regulate my happiness, I can do it.
- SEERS 25 Overall, I feel like I can regulate my disgust when I need to.
- SEERS 26 I can regulate my disgust when I feel it in my body.
- SEERS 27 I can regulate my disgust regardless of its intensity.
- SEERS 28 I can regulate my disgust regardless of who I am with.
- SEERS 29 I can regulate my disgust in any environment.
- SEERS 30 When I feel disgusted, I know what to do to regulate it.
- SEERS 31 I can identify when I feel disgusted.

- SEERS 32 When I know what to do to regulate my disgust, I can do it.
- SEERS 33 Overall, I feel like I can regulate my surprise when I need to.
- SEERS 34 I can regulate my surprise when I feel it in my body.
- SEERS 35 I can regulate when I am surprised regardless of its intensity.
- SEERS 36 I can regulate when I am surprised regardless of who I am with.
- SEERS 37 I can regulate when I am surprised in any environment.
- SEERS 38 When I feel surprised, I know what to do to regulate it.
- SEERS 39 I can identify when I feel surprised.
- SEERS 40 When I know what to do to regulate my surprise, I can do it.
- SEERS 41 Overall, I feel like I can regulate when I am afraid when I need to.
- SEERS 42 I can regulate my fear when I feel it in my body.
- SEERS 43 I can regulate when I am afraid regardless of its intensity.
- SEERS 44 I can regulate when I am afraid regardless of who I am with.
- SEERS 45 I can regulate when I am afraid in any environment.
- SEERS 46 When I feel afraid, I know what to do to regulate it.
- SEERS 47 I can identify when I am afraid.
- SEERS 48 When I know what to do to regulate my fear, I can do it.
- SEERS 49 Overall, I feel like I can regulate my emotions when I need to.
- SEERS 50 I can regulate my emotions when I feel them in my body.
- SEERS 51 I can regulate my emotions regardless of their intensity.
- SEERS 52 I can regulate my emotions regardless of who I am with.
- SEERS 53 I can regulate my emotions in any environment.

SEERS 54	When I feel my emotions, I know what to do to regulate it.
SEERS 55	I can identify when I feel certain emotions.
SEERS 56	When I know what to do to regulate my emotions, I can do it.

Note. These items were asked on a 0 (*Cannot Do At All*), at 50 (*Moderately Can Do*), and at 100 (*Certain Can Do*) Likert scale.

Appendix B

Convergent and Discriminant Validity Instruments

Emotion Regulation Questionnaire – Self-Efficacy

Instructions

We would now like to ask you some questions about HOW CAPABLE you are of controlling (that is, regulating and managing) your emotional experience and your emotional expression. Note that a person might almost never control their emotional experience or emotional expression in everyday life, and yet might be very capable of doing so if he or she really wanted to. Conversely, someone might frequently try to control their emotional experience or emotional expression in everyday life, but not feel very capable. Although some of the following questions may seem similar to one another, they differ in important ways.

Table B1

Emotion Regulation Questionnaire – Self-Efficacy Items

Item

For each item, please answer using the following scale:

When I really want to, I am very capable of changing the way I'm thinking about a situation when I want to feel more positive emotion (such as joy or amusement).

When I really want to, I am very capable of keeping my emotions to myself.

When I really want to, I am very capable of changing what I'm thinking about when I want to feel less negative emotion (such as sadness or anger).

When I really want to, I am very capable of not expressing positive emotions when I am feeling them.

When I really want to, I am very capable of making myself think about a stressful situation in a way that helps me stay calm.

When I really want to, I am very capable of controlling my emotions by not expressing them.

When I really want to, I am very capable of changing what I'm thinking about when I want to feel more positive emotion.

When I really want to, I am very capable of controlling my emotions by changing the way I think about the situation I'm in.

When I really want to, I am very capable of not expressing negative emotions when I am feeling them.

When I really want to, I am very capable of changing the way I'm thinking about a situation when I want to feel less negative emotion.

Note. These items were asked on a 1 (*Strongly Disagree*) – 7 (*Strongly Agree*) Likert scale.

General Self-Efficacy Scale

Table B2

General Self-Efficacy Scale Items

Item

Please read the following statements and select the response that best reflects your understanding.

I can always manage to solve difficult problems if I try hard enough.

If someone opposes me, I can find the means and ways to get what I want.

It is easy for me to stick to my aims and accomplish my goals.

I am confident that I could deal efficiently with unexpected events.

Thanks to my resourcefulness, I know how to handle unforeseen situations.

I can solve most problems if I invest the necessary effort.

I can remain calm when facing difficulties because I can rely on my coping abilities.

When I am confronted with a problem, I can usually find several solutions.

If I am in trouble, I can usually think of a solution

I can usually handle whatever comes my way.

Note. These items were asked on a 1 (*Not At All True*) – 4 (*Exactly True*) Likert scale.

Difficulties in Emotion Regulation Questionnaire

Table B3

Difficulties in Emotion Regulation Questionnaire Items

Items

Please choose the response that is most true for you.

I am clear about my feeling

I pay attention to how I feel

I experience my emotions as overwhelming and out of control

I have no idea how I am feeling

I have difficulty making sense out of my feelings

I am attentive to my feelings

I know exactly how I am feeling

I care about what I am feeling

I am confused about how I feel

When I'm upset, I acknowledge my emotions

When I'm upset, I become angry with myself for feeling that way

When I'm upset, I become embarrassed for feeling that way

When I'm upset, I have difficulty getting work done

When I'm upset, I become out of control

When I'm upset, I believe that I will remain that way for a long time

When I'm upset, I believe that I'll end up feeling very depressed

When I'm upset, I believe that my feelings are valid and important

- When I'm upset, I have difficulty focusing on other things
- When I'm upset, I feel out of control
- When I'm upset, I can still get things done
- When I'm upset, I feel ashamed with myself for feeling that way
- When I'm upset, I know that I can find a way to eventually feel better
- When I'm upset, I feel like I am weak
- When I'm upset, I feel like I can remain in control of my behaviors
- When I'm upset, I feel guilty for feeling that way
- When I'm upset, I have difficulty concentrating
- When I'm upset, I have difficulty controlling my behaviors
- When I'm upset, I believe that there is nothing I can do to make myself feel better
- When I'm upset, I become irritated with myself for feeling that way
- When I'm upset, I start to feel very bad about myself
- When I'm upset, I believe that wallowing in it is all I can do
- When I'm upset, I lose control over my behaviors
- When I'm upset, I have difficulty thinking about anything else
- When I'm upset I take time to figure out what I'm really feeling.
- When I'm upset, it takes me a long time to feel better
- When I'm upset, my emotions feel overwhelming

Note. These items were asked on 1 (*Almost Never*) – 5 (*Almost Always*) Likert scale.

Coping Self-Efficacy Scale

Instructions

CSES For each of the following items, write a number from 0 - 10, using the scale above.

Table B4

Coping Self-Efficacy Scale Items

Items

When things aren't going well for you, how confident are you that you can:

Keep from getting down in the dumps.

Talk positively to yourself.

Sort out what can be changed, and what can not be changed.

Get emotional support from friends and family.

Find solutions to your most difficult problems.

Break an upsetting problem down into smaller parts.

Leave options open when things get stressful.

Make a plan of action and follow it when confronted with a problem.

Develop new hobbies or recreations.

Take your mind off unpleasant thoughts.

Look for something good in a negative situation.

Keep from feeling sad.

See things from the other person's point of view during a heated argument.

Try other solutions to your problems if your first solutions don't work.

Stop yourself from being upset by unpleasant thoughts.

Make new friends.

Get friends to help you with the things you need.

Do something positive for yourself when you are feeling discouraged.

Make unpleasant thoughts go away.

Think about one part of the problem at a time.

If you are reading this question, please answer with a 3 (Attention check not part of the CSES).

Visualize a pleasant activity or place.

Keep yourself from feeling lonely.

Pray or meditate.

Get emotional support from community organizations or resources.

Stand your ground and fight for what you want.

Resist the impulse to act hastily when under pressure.

Note. These items were asked on a 1(*Cannot Do At All*) – 10(*Certain Can Do*) Likert scale.

Regulatory Emotional Self-Efficacy Scale

Table B5

Regulatory Emotional Self-Efficacy Scale Items

Items

How well can you:

Express joy when good things happen to you?

Feel gratified over achieving what you set out to do?

Rejoice over your successes?

Express enjoyment freely at parties?

Keep from getting dejected when you are lonely?

Keep from getting discouraged by strong criticism?

Reduce your upset when you don't get the appreciation you feel you deserve?

Keep from getting discouraged in the face of difficulties?

Manage negative feelings when reprimanded by your parents or significant others?

Avoid getting upset when others keep giving you a hard time?

Get over irritation quickly for wrongs you have experienced?

Avoid flying off the handle when you get angry?

Note. These items were asked on a 1 (*Not Well At All*) – 5 (*Very Well*). Likert scale

Appendix C

Additional Figures and Tables

Figure C1

Exploratory Factor Analysis Eigenvalues

Factor	Initial Eigenvalues			Total Variance Explained			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
	1	26.311	46.984	46.984	26.075	46.563	46.563	5.704	10.186
2	4.454	7.954	54.938	4.173	7.451	54.014	5.564	9.935	20.122
3	3.551	6.341	61.280	3.322	5.933	59.947	5.437	9.708	29.830
4	2.654	4.739	66.019	2.432	4.343	64.289	5.342	9.540	39.370
5	2.257	4.030	70.048	1.957	3.495	67.784	5.287	9.440	48.810
6	1.849	3.302	73.350	1.612	2.879	70.663	5.137	9.173	57.983
7	1.533	2.737	76.087	1.303	2.327	72.990	4.747	8.476	66.459
8	1.014	1.811	77.898	.782	1.397	74.387	4.440	7.928	74.387
9	.960	1.715	79.613						
10	.667	1.190	80.803						
11	.653	1.166	81.969						
12	.584	1.042	83.011						
13	.550	.982	83.993						
14	.508	.906	84.899						
15	.460	.822	85.721						
16	.431	.770	86.491						
17	.402	.717	87.208						
18	.387	.692	87.900						
19	.364	.650	88.549						
20	.336	.601	89.150						
21	.319	.570	89.720						
22	.305	.544	90.265						
23	.299	.533	90.798						
24	.274	.490	91.287						
25	.256	.457	91.744						
26	.250	.446	92.190						
27	.239	.427	92.617						
28	.228	.407	93.024						
29	.227	.405	93.429						
30	.222	.396	93.825						
31	.218	.388	94.214						
32	.202	.360	94.574						
33	.196	.350	94.923						
34	.191	.341	95.265						
35	.181	.323	95.588						
36	.177	.315	95.903						
37	.169	.302	96.204						
38	.164	.292	96.496						
39	.147	.263	96.760						
40	.146	.260	97.020						
41	.144	.257	97.277						
42	.137	.245	97.522						
43	.135	.241	97.763						
44	.126	.224	97.988						
45	.122	.217	98.205						
46	.109	.195	98.400						
47	.107	.190	98.591						
48	.103	.183	98.774						
49	.100	.178	98.952						
50	.096	.172	99.123						
51	.090	.161	99.285						
52	.087	.155	99.440						
53	.085	.152	99.592						
54	.083	.149	99.741						
55	.076	.135	99.877						
56	.069	.123	100.000						

Extraction Method: Principal Axis Factoring.

Figure C2*Rotated Pattern Matrix*

Items	Factor							
	1	2	3	4	5	6	7	8
SEERS 44	0.801	0.224	0.153	0.231	0.169	0.105	0.211	.041
SEERS 45	0.791	0.213	0.170	0.241	0.169	0.101	0.209	-.001
SEERS 43	0.789	0.247	0.151	0.278	0.188	0.087	0.191	-.011
SEERS 46	0.756	0.155	0.165	0.187	0.154	0.066	0.243	0.128
SEERS 41	0.741	0.211	0.144	0.240	0.205	0.133	0.252	0.106
SEERS 42	0.727	0.241	0.124	0.269	0.198	0.139	0.239	0.065
SEERS 48	0.688	0.179	0.121	0.193	0.205	0.092	0.267	0.197
SEERS 27	0.203	0.825	0.147	0.168	0.228	0.123	0.134	0.019
SEERS 25	0.179	0.800	0.175	0.135	0.181	0.128	0.118	0.207
SEERS 29	0.221	0.798	0.134	0.120	0.247	0.135	0.170	0.020
SEERS 26	0.203	0.789	0.143	0.169	0.227	0.146	0.163	0.115
SEERS 28	0.192	0.781	0.166	0.112	0.235	0.166	0.186	0.094
SEERS 30	0.180	0.694	0.137	0.104	0.181	0.126	0.136	0.211
SEERS 32	0.161	0.630	0.129	0.179	0.268	0.134	0.182	0.262
SEERS 3	0.159	0.145	0.816	0.188	0.184	0.153	0.180	0.058
SEERS 2	0.143	0.169	0.796	0.180	0.154	0.151	0.164	0.175
SEERS 4	0.155	0.179	0.783	0.161	0.212	0.151	0.223	0.053
SEERS 1	0.115	0.144	0.782	0.131	0.127	0.120	0.204	0.247
SEERS 5	0.179	0.135	0.766	0.163	0.183	0.170	0.252	0.066
SEERS 6	0.109	0.145	0.680	0.196	0.130	0.108	0.243	0.187
SEERS 8	0.106	0.111	0.565	0.240	0.132	0.154	0.267	0.375
SEERS 10	0.249	0.158	0.178	0.771	0.138	0.199	0.274	0.154
SEERS 11	0.270	0.172	0.210	0.763	0.146	0.163	0.260	0.012
SEERS 9	0.213	0.129	0.174	0.738	0.117	0.189	0.281	0.191
SEERS 13	0.268	0.191	0.216	0.686	0.157	0.161	0.330	0.005
SEERS 12	0.265	0.165	0.203	0.672	0.163	0.141	0.279	0.042
SEERS 14	0.266	0.110	0.208	0.623	0.142	0.143	0.330	0.166
SEERS 16	0.208	0.134	0.160	0.618	0.137	0.216	0.303	0.292
SEERS 35	0.193	0.261	0.182	0.144	0.783	0.215	0.167	0.048
SEERS 36	0.210	0.247	0.176	0.115	0.766	0.261	0.187	0.070
SEERS 34	0.192	0.254	0.171	0.146	0.734	0.275	0.171	0.142
SEERS 37	0.199	0.231	0.175	0.149	0.719	0.263	0.185	0.103
SEERS 33	0.169	0.247	0.176	0.145	0.710	0.245	0.152	0.204
SEERS 38	0.164	0.232	0.163	0.136	0.678	0.226	0.188	0.186
SEERS 40	0.161	0.248	0.160	0.147	0.605	0.260	0.183	0.321
SEERS 21	0.099	0.139	0.162	0.140	0.226	0.798	0.185	0.185
SEERS 19	0.094	0.183	0.148	0.160	0.246	0.796	0.173	0.182
SEERS 20	0.122	0.174	0.158	0.145	0.254	0.783	0.152	0.132
SEERS 18	0.110	0.136	0.128	0.183	0.232	0.704	0.129	0.259
SEERS 17	0.093	0.107	0.128	0.193	0.216	0.670	0.118	0.311
SEERS 24	0.096	0.110	0.137	0.129	0.224	0.635	0.184	0.359
SEERS 22	0.089	0.109	0.150	0.151	0.214	0.580	0.117	0.214

SEERS 53	0.335	0.211	0.257	0.316	0.203	0.160	0.675	0.073
SEERS 52	0.282	0.203	0.305	0.310	0.193	0.157	0.667	0.075
SEERS 51	0.279	0.193	0.276	0.387	0.221	0.150	0.657	0.069
SEERS 50	0.250	0.179	0.289	0.366	0.163	0.189	0.639	0.206
SEERS 54	0.273	0.140	0.264	0.297	0.177	0.136	0.596	0.238
SEERS 49	0.232	0.143	0.286	0.364	0.145	0.178	0.588	0.297
SEERS 56	0.225	0.136	0.185	0.288	0.203	0.197	0.510	0.356
SEERS 39	0.046	0.150	0.121	0.022	0.282	0.170	0.067	0.698
SEERS 55	0.046	0.082	0.148	0.105	0.100	0.146	0.303	0.650
SEERS 7	0.047	0.094	0.199	0.117	0.055	0.198	0.134	0.618
SEERS 31	0.072	0.173	0.117	0.087	0.221	0.192	0.072	0.615
SEERS 23	-0.008	0.083	0.049	0.079	0.085	0.419	0.095	0.615
SEERS 15	0.014	0.076	0.111	0.139	0.055	0.203	0.123	0.600
SEERS 47	0.163	0.094	0.097	0.070	0.059	0.141	0.111	0.597

Note. Extraction Method: Principal Axis Factoring. Rotation Method: Equamax with

Kaiser Normalization. Rotation converged in 16 iterations.

Appendix D

SEERS Correlation Matrix

Table D

Means, Standard Deviations, and Correlations for Convergent and Discriminant Validity

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. SEERS Composite Score	--																	
2. SEERS Emotions Composite	.995**	--																
3. SEERS Overall Item Composite	.886**	.836**	--															
4. ERQ-SE Cognitive Reappraisal	.538**	.521**	.545**	--														
5. ERQ-SE Emotional Suppression	.402**	.397**	.373**	.550**	--													
6. GSES	.475**	.455**	.501**	.506**	.355**	--												
7. DERS Nonacceptance of Emotions	-.345**	-.323**	-.397**	-.277**	-.108**	-.285**	--											
8. DERS Difficulty Engaging in Goal	-.388**	-.364**	-.448**	-.350**	-.213**	-.281**	.444**	--										
9. DERS Impulse Control	-.478**	-.452**	-.537**	-.360**	-.286**	-.349**	.572**	.524**	--									
10. DERS Emotional Awareness	-.271**	-.264**	-.270**	-.252**	-0.043	-.331**	.288**	0.014	.285**	--								
11. DERS Access to Emotion Regulation Strategies	-.465**	-.434**	-.547**	-.477**	-.231**	-.425**	.690**	.631**	.733**	.276**	--							
12. DERS Lack of Emotional Clarity	-.368**	-.352**	-.396**	-.294**	-.122**	-.349**	.464**	.250**	.455**	.531**	.480**	--						
13. DERS Composite Score	-.508**	-.479**	-.578**	-.448**	-.216**	-.445**	.810**	.635**	.812**	.515**	.890**	.679**	--					
14. CSES	.582**	.562**	.591**	.646**	.300**	.536**	-.401**	-.350**	-.415**	-.435**	-.582**	-.410**	-.583**	--				

15. RESE Positive	.264**	.259**	.254**	.247**	0.030	.289**	-.270**	-.082*	-.214**	-.397**	-.295**	-.336**	-.355**	.433**	--			
16. RESE Despondency	.519**	.506**	.512**	.498**	.342**	.442**	-.326**	-.378**	-.344**	-.183**	-.464**	-.291**	-.440**	.559**	.274**	--		
17. RESE Anger	.499**	.484**	.509**	.479**	.353**	.373**	-.301**	-.370**	-.400**	-.182**	-.421**	-.212**	-.423**	.499**	.161**	.655**	--	
18. RESE Composite Score	.571**	.556**	.567**	.540**	.319**	.478**	-.381**	-.365**	-.422**	-.327**	-.513**	-.371**	-.532**	.647**	.594**	.843**	.805**	--
<i>M</i>	63.82	63.87	63.56	26.62	19.28	30.02	14.41	16.05	13.41	16.26	18.98	12.12	91.22	160.52	4.14	3.01	3.07	3.41
<i>SD</i>	17.65	17.49	21.47	7.44	4.88	4.52	5.94	4.44	5.13	5.24	7.10	4.07	23.69	42.42	0.77	0.84	0.87	0.63

Note. *M* and *SD* are used to represent mean and standard deviation, respectively. * indicates $p < .05$. ** indicates $p < .01$. Difficulties in Emotion Regulation Scale = DERS, Emotion Regulation Questionnaire = ERQ, Emotion Regulation Questionnaire Self-Efficacy = ERQ-SE, Coping Self-Efficacy Scale = CSES, General Self-Efficacy Scale = GSES, and Regulatory Emotional Self-Efficacy = RESE.

VITA

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- Mobile Therapist/Behavioral Skills Consultant** July 2019 – July 2020
Pennsylvania Counseling Services
- ADHD Psychological Evaluator** September 2019 – May 2020
Millersville University
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