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Measuring Ability to Enhance and Suppress Emotional Expression: The Flexible Regulation of Emotional Expression (FREE) Scale

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Flexibility in self-regulatory behaviors has proved to be an important quality for adjusting to stressful life events and requires individuals to have a diverse repertoire of emotion regulation abilities. However, the most commonly used emotion regulation questionnaires assess frequency of behavior rather than ability, with little evidence linking these measures to observable capacity to enact a behavior. The aim of the current investigation was to develop and validate a Flexible Regulation of Emotional Expression (FREE) Scale that measures a person's ability to enhance and suppress displayed emotion across an array of hypothetical contexts. In Studies 1 and 2, a series of confirmatory factor analyses revealed that the FREE Scale consists of 4 first-order factors divided by regulation and emotional valence type that can contribute to 2 higher order factors: expressive enhancement ability and suppression ability. In Study 1, we also compared the FREE Scale to other commonly used emotion regulation measures, which revealed that suppression ability is conceptually distinct from suppression frequency. In Study 3, we compared the FREE Scale with a composite of traditional frequency-based indices of expressive regulation to predict performance in a previously validated emotional modulation paradigm. Participants' enhancement and suppression ability scores on the FREE Scale predicted their corresponding performance on the laboratory task, even when controlling for baseline expressiveness. These studies suggest that the FREE Scale is a valid and flexible measure of expressive regulation ability.

Keywords: emotion regulation, flexibility, scale development, suppression

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Expressive regulation, and in particular expressive suppression, has been associated with significant costs despite its seemingly implicit benefits in social interactions (Gross, 1998; Gross & Levenson, 1997; Roberts, Levenson, & Gross, 2008). Several models of coping and emotion regulation account for the costs and benefits of using specific behaviors, including the flexibility model, which has been increasingly implicated as an essential component of psychological health and adjustment (Aldao, Sheppes, & Gross, 2015; Bonanno & Burton, 2013; Kashdan & Rottenberg, 2010). Cross-sectional studies have consistently shown greater levels of regulatory flexibility in healthy controls when compared to individuals with psychopathology (Burton et al., 2012; Bylsma, Morris, & Rottenberg, 2008; Gupta & Bonanno, 2011) and suggest that flexibility serves as a buffer against life stress (Bonanno, Pat-Horenczyk, & Noll, 2011; Westphal, Seivert, & Bonanno, 2010). Models of flexibility emphasize the importance of both regulatory abilities and the context in which they are used when assessing the efficacy of a specific emotion regulation strategy. These models were partially informed by research on flexibility in expressive regulation, or expressive flexibility, which has traditionally been conducted using a behavior-based laboratory paradigm to investigate individual differences in the ability to both enhance and suppress displayed emotions. These expressive enhancement and suppression abilities have been associated with important clinical and social outcomes following stressful life events (Bonanno, Papa, Lalande, Westphal, & Coifman, 2004; Gupta & Bonanno, 2011; Westphal et al., 2010).

Although the laboratory measurement of enhancement and suppression ability allows for experimental control and maximizes internal validity, the possibly artificial nature of the laboratory task may limit its ecological validity. Such designs can also be prohibitively difficult to employ in large-scale longitudinal or prospective field studies of aversive life events. We accordingly attempted to address these limitations in the research on expressive regulation through the development and validation of a relatively simple self-report scale to measure expressive flexibility, the Flexible Regulation of Emotional Expression (FREE) Scale. In the first and second studies, we attempted to establish the factor structure of the FREE Scale and its relationship to other important measures in emotion regulation and adjustment, and in the third we tested its incremental validity through comparing it to another emotion questionnaire's ability to predict participants' behavior during the laboratory expressive flexibility task.

Laboratory Assessment of Expressive Flexibility

Experimental studies of emotion regulation have demonstrated that it is possible to capture participants' ability to up- and down-

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regulate their emotion experience (e.g., Deveney & Pizzagalli, 2008; Jackson et al., 2000; Urry, 2010). Neuroscience data have indicated that these tasks tend to recruit common brain regions, suggestive of at least some similar underlying processes. These studies have also suggested, however, that upregulation and downregulation of emotion are separable and that each task is associated with unique areas of activation (Kim & Hamann, 2007; Ochsner et al., 2004).

Extending this research, Bonanno and colleagues (2004) developed a within-subjects experimental paradigm to measure individual differences in the ability to enhance and suppress emotional *expression*. In this task, participants were repeatedly exposed to blocks of pleasant or unpleasant visual stimuli, each prefaced with one of three instructions requiring participants to enhance emotional expression, to suppress emotional expression, or to behave normally. Participants' subjective experience of emotion did not vary across conditions. However, their visible expressions of emotion, rated from videotape by coders blind to condition, varied significantly and in the expected direction across conditions. Importantly, because a within-subjects design was used, it was possible to calculate enhancement and suppression ability scores for each participant. Specifically, enhancement ability was measured as the difference between the enhancement and behave normal conditions, while suppression ability was measured as the difference between the suppression and behave normal conditions.

The expressive flexibility paradigm was first tested among New York students after the 9/11 attack (Bonanno et al., 2004). The students reported on their level of distress soon after the attack and then 1 to 3 months later participated in the flexibility experiment. Distress was measured again 2 years after the attack. Both enhancement and suppression ability independently predicted reduced distress at the 2-year point, net of initial distress. Moreover, a flexibility score, calculated from combining the two ability scores in such a way as to capture the ability to use both strategies, predicted an even stronger inverse relationship with distress. By contrast, participants with high scores on only one form of regulation did not evidence improved adjustment.

A follow-up study measuring expressive flexibility across a 3-year period demonstrated stability (i.e., test–retest scores in the moderate to high range) in both expressive and suppressive ability, as well as the overall expressive flexibility score (Westphal et al., 2010). Expressive flexibility was again linked to better adjustment—in this case, peer ratings of adjustment. Additionally, consistent with the conceptualization of flexibility as a buffer against stress, the association between expressive flexibility and adjustment was comparatively stronger in participants with greater levels of recent stressful life events and among participants who had demonstrated flexibility in the context of a subliminal threat prime. Another study comparing older and younger adults on this task found that expression and suppression ability is consistent across age (Emery & Hess, 2011). Gupta and Bonanno (2011) compared expressive flexibility among bereaved adults who met diagnostic criteria for complicated grief disorder, bereaved adults who were asymptomatic, and married (i.e., nonbereaved) adults. Married and asymptomatic bereaved participants demonstrated equal suppression and enhancement ability, whereas participants with complicated grief had significantly lower scores for both kinds of expression regulation and thus less overall flexibility than their counterparts. Finally, another recent study by Côté and colleagues (2010) measured enhancement and suppression ability across diverse stimuli types, including auditory and visual, and observed that persons who could suppress their reaction to an acoustic startle sound and enhance their reaction to a disgust-inducing video clip reported greater life satisfaction.

Although the experimental paradigms employed in studies of expressive flexibility, reviewed above, provide a rigorous and valid means of measuring this construct, the methods on which these studies rely are significantly limited in their potential for application to longitudinal or prospective field research. Reliance on laboratory equipment limits the mobility of procedures, for example, while the coding of expressive behavior becomes prohibitive in large samples. Such procedures also require a considerable amount of time from participants, and the emotionally evocative quality of the stimuli can be psychologically taxing and potentially inappropriate for use in sensitive populations. The limitations of the experimental flexibility paradigm are especially problematic for stress research, which often relies on field studies including large sample sizes. An obvious potential solution to these issues would be the creation of a comparable questionnaire measure of expressive flexibility. However, use of such a measure would be predicated on both demonstrable statistical overlap with the experimental measure as well as convergent and discriminate validity in relation to other measures.

The Flexible Regulation of Emotional Expression (FREE) Scale

Questionnaires have proved to be a valuable supplement to experimental procedures in emotion regulation research and are ideal to implement within variable time frames or large samples (Gross & John, 2003). However, such a tool for measuring self-regulatory *ability* is notably absent. Studies employing self-reports of emotion regulation have almost exclusively sought to capture individual differences in the *frequency* with which respondents recall using a specific strategy (e.g., Garnefski, Kraaij, & Spinhoven, 2001; Gratz & Roemer, 2004; Gross & John, 2003; Treynor, Gonzalez, & Nolen-Hoeksema, 2003). In contrast, the theory underlying regulatory flexibility emphasizes that frequency of specific strategy use is less important than the ability of its user and the specific context in which it is used (Bonanno & Burton, 2013). In other words, the more skill an individual possesses in executing a functionally diverse set of self-regulatory behaviors (i.e., the greater that person's *repertoire* of strategies), the better prepared he or she will be to address the variety of demands inherent in stressful life events. As the majority of research on expressive flexibility has focused on individual differences in ability, a questionnaire of this construct would need to do the same.

In the current investigation, we attempt to address the need for a flexibility-based survey method by developing a brief questionnaire to measure self-perceived ability to modulate emotional expressions upward or downward. In Studies 1 and 2, we explored the factor structure and reliability of the FREE Scale and attempted to chart its relationship to other important measures in the emotion regulation literature. In Study 3, we attempt to validate the FREE Scale against actual expressive flexibility behavior. Specifically, we compare self-reported emotional expression and suppression

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ability from the FREE Scale against performance in the experimental measures of these constructs.

Study 1

Introduction

In constructing the FREE Scale, we attempted to address a number of methodological limitations that often threaten self-report design. First, to reduce bias associated with retrospective measures of self-regulation (Schwartz, Neale, Marco, Shiffman, & Stone, 1999), the FREE Scale was constructed to ask respondents to identify their hypothetical ability rather than their remembered history of engaging in regulatory behaviors. Next, to ensure that participants were referencing identical contextual information for establishing their behavioral standards (Higgins & Lurie, 1983), we anchored items across an array of hypothetical scenarios similar to other widely used and validated questionnaires (e.g., Downey & Feldman, 1996). This second element improves upon preexisting ability-based questionnaires that provide no contextual information and are consequently subject to error inherent in idiographic designs. Finally, the hypothetical contexts of this questionnaire were designed to include both positively and negatively valenced emotions. Many existing emotion regulation questionnaires do not attempt to account for the valence of emotions and are thus unable to test hypotheses where the types of experiences being regulated are central to the question at hand.

The FREE Scale was designed to produce a multifactor structure consisting of enhancement ability and suppression ability in positively and negatively valenced emotions. Because the FREE Scale was designed using these predefined theoretical factors, we conducted a confirmatory factor analysis to compare fit indices across competing models that differed in their regulation ability type and emotion type factor structures. We then explored the FREE Scale's relationships with preexisting measures, comparing it to several relevant scales relating to emotion regulation and flexibility. We anticipated that the expressive enhancement and suppression subscales would be mildly positively correlated to frequency-based measures of emotional expression regulation and moderately positively correlated with conceptually similar affect regulation ability. We anticipated that the FREE Scale would be negatively associated with measures associated with psychological rigidity such as rumination or personality scales such as neuroticism. Similarly, we expected the FREE Scale to be positively associated with measures of psychological flexibility such as ego resilience.

The theoretical model from which the idea of expressive flexibility is derived separates the ability to read the demands of specific contexts, known as context sensitivity, from the ability to employ varied regulatory strategies, known as repertoire (Bonanno & Burton, 2013). The FREE Scale was designed to assess repertoire, but was not designed to measure context sensitivity. This reasoning is based on the assumption that flexibility's relationship to psychological adjustment is assumed to depend on situational factors. Specifically, regulatory flexibility is thought to relate to adjustment most clearly under conditions of adversity (Bonanno & Burton, 2013; Bonanno et al., 2011; Levy-Gigi et al., 2015). Expressive flexibility, for example, has been found in experimental studies to be more closely associated with improved adjustment among individuals who have had the greatest exposure to stressful life events (Bonanno et al., 2004; Westphal et al., 2010). Because this current study's sample was not adjusting to any known stressors where expressive regulation may be salient, we hypothesized that expression and suppression ability on the FREE Scale would mildly correlate with measures of social adjustment and depressive symptoms. Likewise, we did not anticipate that trauma exposure itself would influence FREE Scale scores. As the FREE Scale uses items involving expressive regulation for the purpose of social conformity, we did anticipate mild correlations with a measure of social desirability. Finally, as previous studies have linked participants' moral valuation of concealing their emotion with their actual ability to do so (Mauss, Butler, Roberts, & Chu, 2010), we anticipated that there would be a moderately positive association between suppression ability with participants' attitudes about the importance of concealing their emotions, whereas enhancement ability would be inversely related to these attitudes.

Method

Two hundred English-speaking U.S. participants were recruited using SocialSci, an online survey tool that allows researchers to upload and distribute surveys to a preexisting national pool of participants who complete study procedures from their personal computers. The majority of the participants were Caucasian (73.5%) and female (61%), and the sample's ages ranged from 18 to 40 ($M = 26.52$, $SD = 5.09$). All participants provided informed consent prior to beginning the survey.

Measures

Expressive regulation ability. The FREE Scale was designed to provide standardized hypothetical scenarios to assess participants' perceived ability to modulate their emotional expressions (see the online Supplementary material for the Appendix). Preliminary scenarios were collected through casual polling of colleagues, students, and friends of the authors. A panel of emotion researchers then selected the final 16 scenarios according to their face validity and diversity of contexts. Each item on the FREE Scale asks participants to what extent they would be able to modulate their expression compared to how they were actually feeling in a given scenario on a 6-point scale, ranging from 1 (*not at all*) to 6 (*very much*). The scenarios were organized into clusters consisting of four scenarios each that were based on the ability they would require. Scenarios were clustered in this way to enhance the clarity of the scale's instructions and to minimize potential participant confusion for the regulation type and affect involved for each item. The instructions prior to each cluster explicitly state the required ability in order to disambiguate participants' perceived ability from preference or appropriateness to carry out the specific self-regulatory strategy. Four expressive abilities are assessed: enhancing positive emotion, enhancing negative emotion, suppressing positive emotion, and suppressing negative emotion.

Emotion regulation frequency. Frequency of expressive suppression ($\alpha = .79$) and cognitive reappraisal ($\alpha = .87$) were measured with the Emotion Regulation Questionnaire (ERQ; Gross & John, 2003). Participants are asked to respond to descriptions such as "When I am feeling negative emotions, I make sure not to express them" and rate the extent that they apply on a

7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

Emotion regulation difficulty: affect. Participants' self-reported Difficulties in Emotion Regulation Scale (DERS; Perez, Venta, Garnaat, & Sharp, 2012) scores were used to measure participants' ability to regulate their experience, rather than expression, of emotions. The DERS consists of six subscales, including Awareness ($\alpha = .94$), Clarity ($\alpha = .87$), Impulse ($\alpha = .92$), Goals ($\alpha = .90$), Nonacceptance ($\alpha = .95$), and Strategies ($\alpha = .93$) that, combined, consist of 36 items, including, "When I'm upset, my emotions feel overwhelming." Participants list to what extent each phrase applies to them on a 5-point scale (1 = *almost never*, 5 = *almost always*).

Emotional control values. Participants' attitude regarding the importance of controlling emotions was measured by the Emotional Control Values (ECV) Scale (Mauss et al., 2010; $\alpha = .78$). This six-item scale asks participants to rate their agreement on a scale of 1 (*strongly agree*) to 6 (*strongly disagree*) to a number of statements regarding emotions, including, "People should not express their emotions openly."

Rumination. Participants' habitual use of rumination was measured with the Response Styles Questionnaire (Nolen-Hoeksema & Morrow, 1991; $\alpha = .94$), a 22-item self-report that asks participants to rate how frequently they engage in a list of cognitively oriented behaviors on a 4-point scale (1 = *almost never*, 4 = *almost always*).

Social functioning. Participants' impairments in social functioning were measured using the Life Functioning Questionnaire (LFQ; Altshuler, Mintz, & Leight, 2002; $\alpha = .90$). This 14-item measure assesses participants' self-reported difficulties in professional, domestic, and leisure social contexts using a scale that ranges from 0 (*no problems*) to 3 (*severe problems*).

Social desirability. Participants' tendency to portray themselves in a favorable manner to others was measured with the short-form Social Desirability Scale (SDS; Reynolds, 1982; $\alpha = .74$). This 11-item scale asks participants to indicate whether certain statements apply to them in a true or false format.

Trait rigidity: personality. Participants' personality was assessed with the Ten Item Personality Inventory (TIPI; Gosling, Rentfrow, & Swann, 2003), which consists of five factors: Extraversion (talkative, assertive, energetic), Agreeableness (good-natured, cooperative, trustful), Conscientiousness (orderly, responsible, dependable), Emotional Stability (calm, not easily upset), and Openness (intellectual, imaginative, independent-minded). The scale consists of 10 items asking participants to what extent certain qualities apply to them, using a scale ranging from 1 (*disagree strongly*) to 7 (*agree strongly*). This measure's scales have shown convergent validity with respective personality scales measured in longer personality inventories ($r = .56–.76$).

Ego resilience. Participants' ability to adapt one's level of control temporarily up or down as circumstance dictates was measured by the Ego Resiliency Scale (Block & Kremen, 1996; $\alpha = .83$). Items are rated on a 4-point scale ranging from 1 (*does not apply at all*) to 4 (*applies very strongly*) in response to 14 descriptions such as "I quickly get over and recover from being startled."

Lifetime trauma exposure. Exposure to trauma exposure was measured with the Life Events Checklist (LEC), a widely used self-report that provides subjects with a list of potentially traumatic events and asks participants to indicate their experience of that event on a 5-point scale (1 = *happened to me*, 2 = *witnessed it*, 3 = *learned about it*, 4 = *not sure*, 5 = *does not apply*). The LEC has been shown to be comparable with other measures of trauma exposure as well as measures of PTSD symptoms.

Results

Confirmatory factor analyses of the FREE Scale. Confirmatory factor analyses were conducted within AMOS (Arbuckle, 2006) in order to compare alternative factor structures of the FREE Scale. We considered five structural models of increasing complexity: The first and least complex was a single *expressive regulation* factor where all items loaded onto a single latent factor. Second, we examined fit for two competing dual latent factors: one an emotion-based model (positive–negative) and the other a regulation type model (enhance–suppress). The fourth model we tested consisted of four latent factors composed of four items each, resulting from the two regulation types crossed with the two emotional valence types. The final model we considered was hierarchical: The first included the four latent factors from the fourth model, but with each of these loading onto one of two higher order factors divided by regulation type.

Testing fit for single factor. We began by assessing the goodness of fit of the simplest model with one factor of expressive regulation consisting of all 16 of the scale's items. Indices of fit suggested that this model did not adequately fit the data. All of the examined indices, consisting of the model chi-square ($\chi^2 = 280.13$; $p < .001$), root mean square error of approximation (RMSEA; .094), goodness-of-fit index (GFI; .845), and comparative fit index (CFI; .758), fell into the unacceptable range. These results suggest that the FREE Scale does not capture a single dimension of expressive regulation.

Testing fit for dual factors. We next tested two models, each consisting of two factors. The first was an emotion-based model with the two factors distinguished by emotional valence types. In this model, the first factor was composed of the scale's eight positive emotionally valenced items, and the second factor was composed of the eight negative emotionally valenced items. The resulting fit for this model was poor ($\chi^2 = 260.88$, $p < .001$), with the RMSEA (.085), GFI (.853), and CFI (.783) all falling outside the unacceptable range. We next tested a dual-factor model that was distinguished by expressive regulation type, where the first factor consisted of the eight suppression items and the second factor consisted of the eight enhancement items. This model evidenced improved fit; the RMSEA was within acceptable limits (.072), although the GFI was marginally unacceptable (.889), and the CFI and chi-square fell outside acceptable limits (.861; $\chi^2 = 203.02$, $p < .001$).

Testing fit for four factors. The next model we tested consisted of four factors, each comprising four items: a suppression of positive emotion factor, a suppression of negative emotion factor, an enhancement of positive emotion factor, and an enhancement of negative emotion factor. In contrast to the previously tested models, this model was acceptable across all fit indices ($\chi^2 = 157.49$, $p < .001$; RMSEA = .057; GFI = .924; CFI = .917).

Testing fit for a hierarchical model. The final confirmatory factor analysis we conducted examined fit of a hierarchical model with a first level that consisted of four first-order factors (the same tested in the four-factor model just described) while adding two second-order factors (see Figure 1). Specifically, the model was

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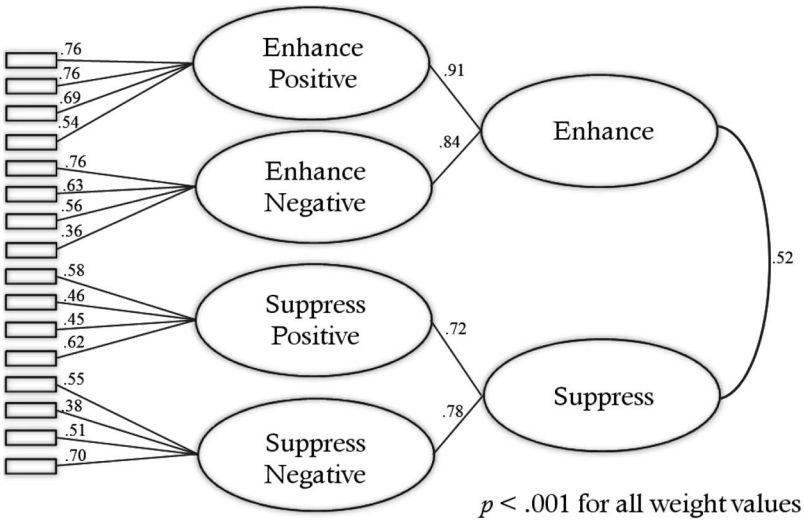

Figure 1. Standardized factor loadings for hierarchical model of the FREE Scale.

constructed using expressive regulation type as the second-order factor, such that the suppression of positive emotion and enhancement of positive emotion factors loaded onto one overarching factor and suppression of negative emotion and enhancement of negative emotion loaded onto the other overarching factor. The fit indices indicated that this model also evidenced acceptable fit ($\chi^2 = 158.07$, $p < .001$; RMSEA = .055; GFI = .913; CFI = .919). Although the tests of model chi-square in this and the previous models might suggest differences in the predicted and observed covariances, this statistic is sensitive to sample size and nearly always rejects models when larger samples, like the one used in this study, are employed (Bentler & Bonett, 1980). Thus, both the independent four-factor model and the hierarchical model with enhancement ability and suppression ability evidenced similarly good fit of the data. Internal consistencies were acceptable for the eight-item composite enhancement ($\alpha = .81$, $M = 31.41$, $SD = 6.68$, skewness = −.07, kurtosis = −.27) and suppression scales ($\alpha = .70$, $M = 31.14$, $SD = 6.24$, skewness = .08, kurtosis = .06) but were comparatively lower for the enhance—positive ($\alpha = .77$, $M = 17.08$, $SD = 3.78$, skewness = −.30, kurtosis = −.45), enhance—negative ($\alpha = .65$, $M = 14.33$, $SD = 3.71$, skewness = −.03, kurtosis = −.39), suppress—positive ($\alpha = .68$, $M = 16.49$, $SD = 3.93$, skewness = −.08, kurtosis = −.67), and suppress—negative ($\alpha = .66$, $M = 14.65$, $SD = 3.87$, skewness = .17, kurtosis = −.39) subscales.

Comparing the FREE Scale with other measures of emotion regulation, personality, and adjustment. In the section that follows, we review the relationship of the FREE Scale's expressive enhancement and suppression subscales with other studied measures. Correlations of the FREE Scale's second- and first-order factors, calculated by summing the respective items within each of the subscales, are presented with various measures of emotion regulation, personality, and adjustment in Table 1.

Expressive enhancement. Consistent with our expectations, participants' self-reported ability to enhance their emotional expressions showed significant but small patterns of correlations with emotion regulation strategy frequencies of use. Specifically, enhancement ability was positively correlated with reappraisal frequency and negatively correlated with suppression frequency. Rumination, which is also considered an emotion regulation strategy, evidenced a nonsignificant association with self-reported enhancement ability. However, enhancement ability was typically more strongly correlated with emotion regulation ability deficits measured by the DERS, such that greater enhancement ability was associated with greater ability to maintain goal-directed behavior while emotionally aroused, greater ability to access strategies to regulate emotions, and greater ability to acknowledge and identify experienced emotions. Relatedly, enhancement ability was positively correlated with ego resiliency as well as Emotional Stability and Openness. Individuals reporting greater enhancement ability also reported placing less value on regulating their emotional expression. Although we anticipated that there would be no relationship between the FREE Scale and valuation of display of emotional states, it is reasonable that persons who report greater ability to increase emotional expressions to meet social demands would not consider public displays of emotion as intrinsically inappropriate. Of the social measures, enhancement ability was positively correlated with Extraversion and Agreeableness as well as social desirability. Enhancement ability was negatively correlated with social functioning deficits, such that higher ability scores were associated with higher quality of relationships. In contrast to social measures, enhancement ability was not significantly associated with depressive symptoms.

Expressive suppression. The most interesting distinction between the enhancement and suppression abilities' relationship with other measures was that suppression ability did not correlate significantly with suppression frequency (although suppression ability was positively correlated with reappraisal frequency). Suppression ability also evidenced a modest negative correlation with both rumination frequency and number of depressive symptoms but did not correlate with value of emotional control. Suppression ability demonstrated a similar profile to enhancement ability in its relationship to most measures of emotion regulation deficits, personality dimensions, and social functioning.

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Table 1
Zero-Order Correlations of First- and Second-Order Factors of the Flexible Regulation of Emotional Expression (FREE) Scale With Measures of Emotion Regulation, Personality, and Functioning

	FREE second-order factors		FREE	FREE first-order factors				ERQ scales	
	Enhance ability	Suppress ability	flexibility score	Enhance—positive	Enhance—negative	Suppress—positive	Suppress—negative	Reappraisal frequency	Suppression frequency
ERQ									
Reappraisal frequency	**.162***	**.207****	**.173***	.235**	.052	.176*	.154*	—	−.137
Suppression frequency	**−.185****	**.129**	**−.057**	−.175*	−.154*	.020	.188	−.137	—
DERS									
Nonacceptance	**−.128**	**−.172***	**−.160***	−.219**	−.008	−.176	−.098	−.339***	.262***
Goals	**−.219****	**−.266****	**−.238****	−.252**	−.183	−.257**	−.168*	−.248***	.019
Impulse	**−.137**	**−.246****	**−.149***	−.237**	−.005	−.183**	−.210**	−.377***	.062
Awareness	**−.175***	**−.036**	**−.131**	−.152*	−.161*	−.131	.075	−.343***	.555***
Strategies	**−.224****	**−.254****	**−.223****	−.312**	−.085	−.213**	−.193**	−.413***	.172*
Clarity	**−.260****	**−.155***	**−.223****	−.286**	−.177*	−.209**	−.037	−.314***	.396***
TIPI									
Extraversion	**.172***	**.114**	**.165***	.192**	.114	.079	.103	.198**	−.408***
Agreeableness	**.315****	**.147***	**.274****	.293**	.268**	.135	.101	.310***	−.229**
Conscientiousness	**.039**	**.162***	**.148***	.082	−.013	.260**	−.003	.285***	−.171*
Emotional stability	**.140***	**.301****	**.230****	.231**	.016	.199**	.282**	.497***	−.031
Openness	**.261****	**.202****	**.219****	.286**	.172*	.172*	.151*	.279***	−.343***
Emotional control values	**−.251****	**−.120**	**−.215****	−.257**	−.190**	−.131	−.045	−.256***	.374***
Social desirability	**.220****	**.258****	**.271****	.229**	.162*	.178*	.235**	.242**	−.026
Social functioning[a]	**−.180***	**−.139***	**−.148***	−.237**	−.083	−.175*	−.046	−.234**	.228**
Rumination	**−.074**	**−.158***	**−.093**	−.135	.003	−.100	−.154*	−.103	.071
Depression	**−.134**	**−.210****	**−.183***	−.203**	−.035	−.159*	−.177*	−.358***	.263***
Trauma exposure	**.021**	**−.001**	**−.014**	.024	.014	−.007	.005	−.026	−.027
Ego resilience	**.265****	**.338****	**.316****	.297**	.175*	.216**	.326**	.318***	−.241**

Note. ERQ = Emotion Regulation Questionnaire; DERS = Difficulties in Emotion Regulation Scale; TIPI = Ten Item Personality Inventory.
[a] Higher scores indicate worse functioning. Primary correlations between the FREE and other scales are listed in bold.
* $p < .05$. ** $p < .01$. *** $p < .001$.

Specifically, suppression ability was negatively correlated to deficits in accepting emotional state, maintaining goal-directed behavior while emotionally aroused, impulse control, having access to strategies for regulation emotion, and the ability to identify experienced emotions. Suppression ability was also positively correlated with Agreeableness, Conscientiousness, Emotional Stability, and Openness, as well as ego resilience and social desirability. Finally, suppression ability was negatively correlated with deficits in social functioning, meaning that persons who had greater suppression ability reported higher quality social relationships.

For the purpose of comparison, we also examined suppression frequency's correlation with these same measures. Most notably, suppression frequency evidenced several correlations that were in the opposite direction than those observed for suppression ability; suppression frequency was associated with worse social functioning, higher depressive symptoms, and lower ego resilience. Suppression frequency, unlike suppression ability, was also positively correlated with participants' values on emotional control, such that participants who reported more frequent suppression also tended to rank higher the importance of concealing emotion ($r = .374$, $p < .001$).

Discussion

The results of this study suggest that the factor structure of the FREE Scale is appropriate for its intended goal: to measure enhancement and suppression ability of positive and negative emotional expressions. The results of the confirmatory factor analyses suggested similarly good fit for a four-factor and hierarchical factor structure, both of which are compatible with a flexibility framework where individuals are understood to draw from interrelated but conceptually distinct regulatory abilities (Bonanno & Burton, 2013). The FREE Scale's item loadings on their respective factors were generally good to acceptable, although the loading scores for one item within both the enhance—negative and enhance—positive factors were comparatively low.

The observed correlations depict the FREE Scale's enhancement and suppression abilities as sharing similar profiles in their relationship to several personality and emotion regulation measures. Moreover, these series of correlations indicate that the FREE Scale is theoretically consistent with what we might expect in such a measure of emotion regulation ability—inversely correlated with emotion regulation deficits as well as deficits in social functioning. Perhaps the most notable pattern we observed in the

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FREE Scale with other measures was the contrast between the FREE Scale's suppression ability scale and the ERQ's suppression frequency scale. Suppression frequency, consistent with other research using this scale, was typically associated with maladaptive levels across these variables, whereas greater suppression ability was nearly always correlated with more adaptive levels of these variables. This study's findings lend credence that suppression frequency and suppression ability are indeed different constructs, with unique implications in predicting an individual's psychological and social patterns.

Study 2

In our second study, we sought to replicate the factor structure of the FREE Scale using a different method of collection (in person rather than online) as well as a more diverse sample. The previous study's results suggested two viable factor structures of the FREE Scale: a four-factor structure divided by affect type and regulation type and a hierarchical factor structure with identical first-order factors that underlie two overarching factors of enhancement and suppression ability. To determine if these results were consistent, we collected a second sample to complete the FREE Scale in person and used the same series of confirmatory factor analyses across all possible models to determine their quality of fit.

Method

One hundred and eighty-five participants were recruited from the New York City area to complete procedures for which the primary hypothesis was unrelated to the current study. This sample was more racially diverse than the previous study, where 43.8% of the sample identified as African American; 25.9% of the sample identified as Caucasian; 16.8% identified as Asian; and 13.5% identified as Biracial, Other, or elected to not disclose their race. The participants' ages ranged from 18 to 65 ($M = 33.01$, $SD = 10.68$), and the majority of the sample was female (55%). Participants completed the FREE Scale using pen and paper after they provided informed consent.

Results

A confirmatory factor analysis for the single-factor model produced fit indices that fell into the unacceptable range ($\chi^2 = 341.35$, $p < .001$; RMSEA = .114; GFI = .803; CFI = .751). The confirmatory factor analysis run on the dual-factor models indicated that both the emotion model ($\chi^2 = 248.74$, $p < .001$; RMSEA = .090; GFI = .856; CFI = .846) and the regulation type model ($\chi^2 = 294.95$, $p < .001$; RMSEA = .103; GFI = .824; CFI = .798) evidenced poor fit. A confirmatory factor analysis of the four-factor model produced acceptable fit indices ($\chi^2 = 160.84$, $p < .001$; RMSEA = .061; GFI = .912; CFI = .933). A confirmatory factor analysis examining fit of the hierarchical model likewise produced acceptable fit indices similar to those found in Study 1 ($\chi^2 = 170.37$, $p < .001$; RMSEA = .063; GFI = .908; CFI = .925).

To test measurement invariance, we combined the samples from Study 1 with those from Study 2 and conducted multisample confirmatory factor analyses on the four-factor and hierarchical models. The test of equal form invariance was not significant for the four-factor ($\chi^2 = 19.48$, $p = .078$) or the hierarchical models ($\chi^2 = 19.55$, $p = .076$), indicating that the overall factor structures of both models did not significantly differ between samples.

Discussion

The results of the series of confirmatory factor analyses in this study were highly consistent to those in Study 1, confirming that the FREE Scale was best characterized by a four-factor or hierarchical model. A formal test of factor invariance directly comparing the two samples suggested that this was indeed the case. The difference in sampling method, where Study 1 used online data collection compared to Study 2's use of in-person paper-and-pencil collection, likewise supports the FREE Scale as a sturdy and versatile instrument. Although the data indicated similarity of fit between the four-factor model and the hierarchical model, in practice previous studies of expressive regulation ability have emphasized the importance of ability types rather than the valence of the emotion being regulated (Bonanno et al., 2004; Westphal et al., 2010). In these studies, it is regulation ability, irrespective of emotional valence, that predicts future psychological adjustment in participants. The primacy of ability type over valence type is most consistent with the hierarchical model, which also retains the advantage of not precluding hypotheses regarding emotional valence type. It was the combination of previous research and the theoretical flexibility of the hierarchical factor structure that led us to select it as our preferred model and to focus our analyses on the model's second-order factors. If future research examining emotion regulation across contexts suggests that emotional valence is equivalent in its importance with regulation type, then this model preference for the FREE Scale should be reconsidered.

Establishing the factor structure is an important step in the validation of the FREE Scale, but a number of critical questions remain. First, it remains unknown whether an individual's responses on the FREE Scale correspond with expressive behavior—regulated or otherwise. Second, when developing a measure of flexibility, it is crucial that the measure have adequate specificity in measuring the targeted facets of an individual's emotion regulation repertoire to permit an adequate assessment of overarching flexibility. To accomplish this, both of the self-reported abilities on the FREE Scale must be able to predict the corresponding expressive behavior but should not be associated with the alternative behavior. Finally, it remains possible that other measures of emotional expressivity are equally capable, if not superior, to the FREE Scale in the ability to predict regulatory success. We attempted to address these remaining concerns in the subsequent study.

Study 3

Introduction

In this study, we used ability scores drawn from the FREE Scale to test if these measures were capable of predicting self-regulatory performance in a laboratory paradigm: the expressive flexibility task. Because it is unclear to what extent frequency-based surveys measure individual differences in self-regulatory ability, we also aimed to test the FREE Scale's incremental validity in relation to such measures by collecting participants' self-reported frequency

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of emotional expression and concealment as to compare them with the FREE Scale and the experiment-based assessment of expressive enhancement and suppression ability.

Our primary hypothesis in conducting this study was that *individuals are capable of assessing their own ability to enhance and suppress emotional expression.* There is some empirical evidence in past research on emotional enhancement and suppression to support this theory. In their measurement of behavioral expressive flexibility across a 3-year period, Westphal et al. (2010) reported moderate to high stability of enhancement and suppression behavioral ability across this time. Complementarily, Emery and Hess (2011) found that the similarly assessed components of expressive flexibility did not appear to vary across the life span. The enduring and trait-like nature of expressive and suppressive ability suggests that people might become increasingly aware of their regulatory abilities over time, and therefore these abilities should be amenable to accurate self-report.

A second line of evidence supporting this hypothesis rests with the nature of expressive enhancement and expressive suppression, as they are forms of self-regulation that occur late in the development of an emotional reaction (Goldin, McRae, Ramel, & Gross, 2008) and require a greater amount of conscious effort than regulatory processes occurring at earlier stages (Richards & Gross, 2000). These qualities of expressive regulation suggest that an individual is more aware of when he or she is engaging in these behaviors and is consequently more likely to be aware of the success or failure of his or her regulation attempts. Accordingly, we hypothesized that expressive suppression and enhancement abilities can indeed be accurately captured by self-report and as such will positively correlate with laboratory measures of the same construct.

Our second hypothesis of this study was that *self-reported ability of emotional expression and suppression is a better predictor of behavioral ability than self-reported frequency of emotional expression and concealment*. This hypothesis is chiefly based on the face validity of the two self-report measures. If expressive and suppressive abilities are indeed capable of being measured by self-report, then the methodological benefits of an ability-based questionnaire should allow it to better predict behavioral measures of ability than a frequency-based measure if the two constructs are different.

Method

Participants. Participants were recruited by posting flyers in a university setting. The resulting sample ($N = 61$) was predominantly female (68.9%) and was, on average, 22.6 years of age ($SD = 3.74$). All participants provided informed consent prior to initiating study procedures.

Measures

Ability of emotional enhancement and suppression. Participants' ability to enhance and suppress their emotional expressions was measured with the FREE Scale, described in detail in Study 1.

Frequency of emotional expression and suppression. Measures of individual differences in habitual emotional expression and concealment were derived from a previously conducted factor analysis of seven commonly used measures in emotional expression research (Barr, Kahn, & Schneider, 2008), which included the Berkeley Expressivity Questionnaire (Gross & John, 1997), the Emotional Expressivity Scale (Kring, Smith, & Neale, 1994), the Emotional Expressiveness Questionnaire (King & Emmons, 1990), the Distress Disclosure Index (Kahn & Hessling, 2001), the Emotional Self-Disclosure Scale (Snell, Miller, & Belk, 1988), the Ambivalence Over Emotional Expressiveness Questionnaire (King & Emmons, 1990), and the Self-Concealment Scale (Larson & Chastain, 1990). The results of the factor analysis yielded seven first-order factors that together comprised two overarching factors: *emotional constraint* and *emotional expression*. Participants responded to such questions as "When I feel depressed or sad, I tend to keep those feelings to myself" and "What I'm feeling is written all over my face." In the current study, we omitted items from the *disclosure of lack of affect* factor because these measures ask respondents to rate behavior during nonemotional experiences. Participant responses were standardized within each first-order factor and then averaged to produce the overall *constraint* and *expression* scores.

Expressive flexibility task. Participants completed the same laboratory task previously used by Bonanno and colleagues (2004). Following the completion of the questionnaires, a graduate student experimenter guided participants to sit in front of a desktop computer with a small web camera affixed to the top of the monitor. Participants then completed practice trials consisting of one block of either five positive or five negative images drawn from the International Affective Picture System (IAPS; Lang, Bradley, & Cuthbert, 2008). After each block, participants were instructed to rate the extent they felt negative emotion by typing a number on a scale of 1 (*no negative emotion*) to 7 (*extreme negative emotion*). Participants next indicated the extent they experienced positive emotion on a similar scale. After these practice trials, the experimenter then informed the participant that there was another participant in the adjacent room whom they would not see but who could see them at certain parts of the experiment. The actual participant was also informed that this (fictional) second participant would sometimes see them on a video monitor in order to guess the actual participant's emotions as they viewed pictures. However, the actual participant would always be informed when the monitor in the other room was on or off, and the observer would not be able to hear them or know what pictures the actual participant was viewing. The participant was further informed that prior to each picture block, the computer would instruct them (a) to enhance their expression of emotions so that the observer could easily guess what they were feeling; (b) to suppress their emotional expressions so that the observer could not easily guess what they were feeling; or (c) that the monitor in the other room was turned off, and thus they could behave normally (for a further detailed description of the task instructions and procedures, see Gupta & Bonanno, 2011). Digital recordings of the participants' emotional expressions were then rated by two graduate psychology students. The raters, blind to condition and stimulus type, used the same positive and negative emotion scales that were used by the participant during the task itself. Agreement among the raters on participant emotion across all trials was adequate, Intraclass Correlation Coefficient (ICC; (2.2) = .70.

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Results

Manipulation check for the expressive flexibility task. To ensure that ratings of participants' facial expressions varied across the three within-subject conditions of the expressive flexibility task, an initial manipulation check using paired *t* tests was performed. Results indicated that levels of expressiveness indeed differed between conditions in the intended directions, such that participants were rated as being more expressive in the enhance condition than they were in both the monitor off, $t(60) = 10.81$, $p < .001$, and the suppress, $t(60) = 18.14$, $p < .001$, conditions. Participants were similarly rated as being more expressive in the monitor off condition than the suppress condition, $t(60) = 6.866$, $p < .001$.

Predicting expressive flexibility task performance with the FREE Scale. We first performed zero-order correlations to allow basic comparisons of self-reported enhancement and suppression ability scores from the FREE Scale with objective ratings of emotion from the three conditions of the expressive flexibility task (see Table 2). As expected, self-reported enhancement ability from the FREE Scale correlated positively with the degree of emotion displayed in the enhance condition of the behavioral task, but not the suppress condition. Self-reported suppression ability from the FREE Scale correlated with the expressive flexibility task's conditions as expected; self-reported suppression did not correlate with ratings of emotion in the enhance or monitor off conditions, but did correlate inversely with ratings of emotion expressed in the suppress condition, indicating that individuals who reported greater ability to suppress on the FREE Scale were rated by judges as showing less emotion in the suppression condition of the expressive flexibility task. There was also a marginal but nonsignificant positive association between self-reported enhancement ability and the monitor off condition.

Finally, a flexibility score was calculated for both the FREE Scale and the expressive flexibility task (Bonanno et al., 2004). These flexibility scores were calculated by first summing each participant's overall ability scores as well as calculating a polarity score by subtracting each participant's smaller ability score from their larger ability score. The final flexibility score was calculated by subtracting the polarity score from the sum score, such that higher scores in this variable indicate greater flexibility. Results indicated that there was a positive correlation between the FREE Scale's calculated flexibility score and the expressive flexibility task's calculated flexibility score.

Establishing correlations of the FREE Scale with corresponding expressive flexibility task conditions further establishes its convergent and discriminant validity. However, a more accurate test of predicting participants' regulatory abilities requires accounting for their baseline expressiveness (monitor off condition). Accordingly, we next performed a regression analysis using self-reported enhancement ability to predict emotion ratings in the enhance condition while controlling for emotion ratings in the monitor off condition. Self-reported enhancement scores from the FREE Scale significantly predicted emotion in the enhance condition after controlling for monitor off condition emotion levels, $\beta = .324$, $p = .008$. In a similar analysis, self-reported suppression ability was used to predict emotion ratings in the suppress condition while controlling for emotion ratings in the monitor off condition. The results indicated that self-reported suppression ability scores also significantly predicted emotion in the suppress condition after controlling for monitor off condition emotion ratings, $\beta = -.324$, $p = .039$.

Predicting expressive flexibility task performance with frequency-based measures. The next series of analyses tested whether measures of the self-reported frequency of emotional expression and concealment might better account for participants' ability to regulate their emotional responses in the expressive flexibility task. Index scores[1] of emotional constraint and emotional expression were calculated from the scales outlined by Barr et al. (2008) as measures of participants' self-reported frequency of concealment or expression of emotion. For these analyses, we repeated the regressions reported above but substituted the emotional constraint and emotional expression scales for the respective FREE scales. In the first analysis, self-reported habitual emotional expression failed to predict emotion ratings in the enhancement condition ($\beta = .178$, $p = .215$). Similarly, in the second analysis, self-reported habitual emotional constraint failed to predict emotion ratings in the suppress condition ($\beta = -.071$, $p = .596$). Finally, we tested both Barr et al. (2008) scales, each with its corresponding FREE scale in the same analyses. For the first analysis, self-reported enhancement ability from the FREE Scale continued to predict emotion ratings in the enhance condition ($\beta = .320$, $p = .018$) while controlling for emotion ratings in the monitor off condition. The emotional expression scale from Barr et al. (2008) was again nonsignificant ($\beta = .011$, $p = .945$). In the second analysis, self-reported suppression ability from the FREE Scale continued to predict emotion ratings in the suppress condition ($\beta = -.263$, $p = .042$) while controlling for emotion ratings in the monitor off condition. The emotional constraint scale from Barr et al. (2008) was again nonsignificant ($\beta = -.064$, $p = .309$).

Discussion

In this study, we attempted to establish the convergent, discriminant, and incremental validity of the FREE Scale by using it to predict behavioral performance on a laboratory expressive regulation task. Each of the overarching ability scores of the FREE Scale was found to predict emotional display in its respective condition but not in its opposing condition (see Table 2). Moreover, the calculated flexibility scores from the FREE Scale and the expressive flexibility task were also positively correlated with one another. These findings indicate that individuals are capable of assessing their ability to regulate their emotional expressions and that these two abilities are not identical but comprise a larger repertoire of expressive regulatory behaviors.

When controlling for expressiveness in the control condition of the expressive flexibility task, each of the ability scores measured by the FREE Scale continued to predict performance in the respective conditions in which participants were instructed to either enhance or suppress their emotions. This analysis was important because it not only indicated that the FREE Scale is not simply

[1] We also conducted sensitivity analyses by repeating all analyses below, replacing the index scores used by Barr, Kahn, and Schneider (2008) with scores derived from the original scales that comprised them. Using these scores did not significantly predict emotions in the target condition or alter the magnitude of direction of the relationship with the FREE Scale when included in the same analysis.

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Table 2
Zero-Order Correlates of the Flexible Regulation of Emotional Expression (FREE) Scale With Objective Ratings of Emotions in the Expressive Flexibility Task and Index Scores of Self-Reported Habitual Emotional Constraint and Emotional Expression

	Enhance condition	Monitor off (control) condition	Suppress condition	Expressive flexibility task flexibility score	Self-reported emotional expression	Self-reported emotional constraint
FREE enhance ability	**.411****	.249	−.031	.222	.444***	−.136
FREE suppress ability	.023	−.114	**.282***	.179	.039	.049
FREE flexibility score	.217	.035	−.224	**.284***	.291*	−.086

* $p < .05$. ** $p < .01$. *** $p < .001$.

predicting the gross level of emotion in a particular task but that it also predicts differences in participants' regulated behavior with respect to their "natural," unregulated expressive reactions. In other words, the FREE Scale predicted both between-subjects *and* within-subject differences in the regulation task.

Finally, the FREE Scale continued to predict emotionally expressive behavior in the expressive flexibility task even when including a corresponding measure of habitual emotional expression or suppression. Moreover, these measures of habitual emotional expression or suppression failed to predict behavioral expressive regulatory ability when included in a separate analysis or when combined with the expressive or suppressive ability scores from the FREE Scale. These data suggest that the FREE Scale is better suited for the measurement of expressive regulatory ability.

General Discussion

Review of the Observed Results

As research in emotion regulation continues to advance, our understanding of the field moves increasingly toward a person-by-situation interactionist approach. The flexibility model in particular emphasizes the importance of considering both the context of an emotion regulation behavior as well as the skill of the individual using that behavior when attempting to predict successful adjustment to a given stressor (Bonanno & Burton, 2013). Very few means of measurement are available for assessing emotion regulation ability. The expressive flexibility task designed by Bonanno et al. (2004) is the only existing means for the measurement of expressive regulation ability, but this measure is significantly limited in its research applicability due to its intrusive and resource-intensive design as well as its ecological validity. We attempted to address this gap by developing a context-based and user-friendly self-report measure that assesses individual differences in the abilities to enhance and suppress expressions of emotion.

Our first step toward achieving this goal was performing a series of confirmatory factor analyses to establish the distinction between the enhance ability and suppress ability subscales (Studies 1 and 2). These analyses suggested equally good fit between two similar models of the data, but a hierarchical model organized by the overarching factors of enhancement and suppression ability was the most supported by preexisting empirical evidence. We then compared participants' ability scores, as well as their constituent subfactor scores divided by emotional valence, with their responses on several preexisting emotion regulation, personality, and functioning questionnaires. The observed correlations of the FREE Scale with other measures were typically in the hypothesized direction and were, at most, modest in their effect size, providing evidence that enhancement ability and suppression ability are novel and distinct constructs. The most notable of these was enhancement and suppression ability's inverse association with depression and social functioning; this contrasts with the observed relationships with suppression frequency as well as most literature on this construct, which link this behavior with deficits in the interpersonal and mental health domains.

The next step for developing the FREE Scale required us to establish the convergent, discriminant, and incremental validity by using the FREE Scale to predict behavioral performance on an expressive regulation task. Each of the overarching ability scores of the FREE Scale was found to predict emotional display in its respective condition but not in its opposing condition, thereby indicating that individuals are capable of assessing their ability to regulate their emotional expressions and that these two abilities are not identical but comprise a larger repertoire of expressive regulatory behaviors. Moreover, self-reported ability on the FREE Scale was a better predictor of emotionally expressive behavior on this task than measures of habitual emotional expression or suppression.

Limitations in the Current Designs

A number of limitations should be considered in our process of validating the FREE Scale. The measurement of expressive flexibility by controlled experiment is well established, and our explicit goal was to create an easy-to-use self-report scale that might also capture the phenomenon. Although the FREE Scale was carefully designed to minimize respondent bias and was capable of predicting performance on the behavioral expressive regulation task, the limits of self-report data should still be considered. For example, there was a significant, albeit modest, relationship between self-reported ability scores on the FREE Scale and social desirability, suggesting that it may be susceptible to demand biases in certain research designs in which the researcher is perceived as having an evaluative role, such as within a corporate organization. It is also worth considering that the relationship between the FREE Scale and participants' actual behaviors in the expressive flexibility experiment were in the moderate range. Thus, a considerable portion of participants' actual expressive regulation ability was not captured by the FREE Scale. One potential cause of this may be the discrepancy in the social nature of the contexts in the FREE Scale and the asocial nature of the expressive regulation task, in which the participant never sees, hears, nor communicates in any way with the person for whom they are regulating their emotions.

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Regardless of the cause, researchers investigating emotion regulation ability, frequency, or any other dimension of the construct should endeavor to use behavior- and outcome-based measures whenever such designs are feasible.

A related limitation of the current investigation is its reliance on a cross-sectional design. Although the reported data provide a strong foundation for the validity of the FREE Scale, future research is required to determine if perceptions of ability change across time and context. One previous study reported consistency across time within expressive regulation ability scores measured by the expressive regulation task (Westphal et al., 2010), but situational stress such as recent interpersonal rejection may activate certain cognitive–affective processing dispositions that influence perceptions of the self and others, leading to changes in self-regulatory behaviors (Downey & Feldman, 1996). However, preliminary evidence suggests that self-ratings of regulation ability are not influenced by cumulative life stress, based upon the absence of an observed relationship between trauma exposure and FREE Scale scores in Study 1.

A final point of consideration is that the items in the FREE Scale consist solely of hypothetical social contexts. The majority of emotion regulation research to date, however, has focused on its intrapersonal rather than interpersonal functions (Hofmann, 2014). The FREE Scale may be less appropriate for researchers who are interested in measuring the relationship between expressive regulation ability and modulating emotions within *oneself* rather than the relationship between expressive regulation ability and modulating the emotions *of others*. Relatedly, although the FREE Scale was designed to give a rough assessment of an individual's expressive regulation, an individual's ability to enhance or suppress may change according to certain features of the situation in which the given regulation strategy is being used, including the regulator's goals, the severity of the stressor, and the regulator's relationship to other persons present.

Directions for Future Research

The significant association between the FREE Scale and performance on the expressive flexibility task makes the FREE Scale one of the few self-reports of emotion regulation that has been empirically linked to the observable behavior that it was designed to measure. However, as previously discussed, the relationship between the FREE Scale and the flexibility task in the present study was modest in its effect size. It is anticipated that ability scores from the FREE Scale will be more strongly correlated with regulatory efforts in actual social contexts. To this end, an important next step in research with the FREE Scale—and in emotion regulation ability research in general—is to investigate the predictive utility of individual differences in enhancement and suppression ability in naturalistic social environments. For example, the inclusion of the FREE Scale in daily diary studies or ecological momentary assessment designs would provide informative data on how expressive regulatory ability can influence social and emotional outcomes in different social contexts. Research on emotion regulation ability would also benefit from including assessments of individual differences in context sensitivity, which is the ability to assess environmental demands to help select the most adaptive regulation strategy for any given context. (Burton & Bonanno, 2014). The link between regulatory ability and mental health likely depends on an individual's accurate determination of which regulation behavior is best suited for a specific situation rather than wholly relying on his or her regulation skills alone.

Future studies should also investigate the interrelationship between expressive regulation abilities and their frequency of use, an important point that was only briefly considered in the current studies. Although the data presented here provide strong evidence that they are distinct constructs, there are a number of avenues by which frequency of a particular behavior may influence the perceived ability to enact that behavior, and vice versa. Persons who regularly engage in expressive enhancement or suppression might employ regularity of use as a key determinant when assessing their own ability, just as someone who frequently bakes might describe themselves as "good" at baking—particularly in the absence of feedback. It is important to note that research on cognitive reappraisal has observed a link between users' skill and their self-reported frequency of use, which may suggest a similar relationship for suppression or expression ability and frequency (McRae, Jacobs, Ray, John, & Gross, 2012; Troy, Shallcross, Davis, & Mauss, 2013).

Considered together, the results from these studies suggest that individuals are capable of assessing their ability to regulate their emotional expressiveness and that assessments of both expression and suppression ability are conceptually distinct from these regulation strategies' self-reported frequency of use. Further research is required to determine in which contexts expressive regulation ability is most and least important and to what extent these regulatory abilities alter the benefits and costs traditionally associated with expressive suppression as well as expressive enhancement. As the field of emotion regulation moves toward a more nuanced approach considering both individual and situational factors, it is our hope that the FREE Scale will provide a useful and efficient means of measuring emotion regulation ability and flexibility.

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