Cogn Ther Res (2013) 37:1243–1256
DOI 10.1007/s10608-013-9559-7

ORIGINAL ARTICLE

Measuring Beliefs About Automatic Mood Regulation: Development of a Self-Report Scale

Jesse A. Hutchison · Kathleen C. Gunthert

Published online: 25 September 2013

Abstract Although mood regulation often occurs through automatic processes, there are likely individual differences in whether people believe that their mood can be regulated without effortful control. Believing in automatic mood regulation is hypothesized to be adaptive as it could lead one to conserve cognitive resources, making emotions less disruptive and threatening. A self-report scale measuring beliefs about automatic mood regulation was piloted among undergraduates, and further validated in another undergraduate and community sample. The final measure showed strong internal consistency, test–retest reliability, discriminant validity, and construct validity. After controlling for overlapping variance with confidence in effortful mood regulation, belief in automatic mood regulation was associated with lower depression and less action-oriented coping and emotional awareness. Thus, the scale appears to capture a non-effortful approach to emotion regulation that is associated with lower depression symptoms.

Keywords Emotional regulation · Coping behavior · Automatic processes · Depression

Introduction

A great deal of literature focuses on the correlates and outcomes of effortful mood regulation strategies. However, the full spectrum of mood regulation likely ranges from "controlled, effortful, and conscious" to "automatic, effortless, and unconscious" (Gross 1999, p. 558). Automatic emotion regulation has recently begun to receive a great deal of research attention (Koole and Rothermund 2011). Some theorists have proposed that automatic mood regulation can be adaptive, is commonly used, and includes strategies such as attentional deployment, cognitive appraisals, and regulating emotional expression (Mauss et al. 2007).

Several lines of experimental research support the existence of automatic mood regulation. For example, one study found that when self-image is threatened, people display increased automatic stereotyping which helps them feel better by improving self-image (Fitzsimons and Bargh 2004). Another series of studies found that those experiencing acute social exclusion showed automatic and nonconscious increases in the accessibility of information related to positive emotions (DeWall et al. 2011). Additional research has shown that increased relationship stress leads to the automatic coping response of increased trust (Koranyi and Rothermund 2012).

Automatic self-regulation is hypothesized to be useful in part because it likely requires fewer resources than effortful regulation (Bargh and Williams 2007). Since actively doing something to feel better generally requires time, energy, or other cognitive resources, the capacity for active regulation is limited. We know, for example, that people are less successful at effortful regulation when under a cognitive load (Wegner et al. 1993), and a temporary reduction in regulatory ability occurs after acts of self-control, including emotion suppression (Baumeister et al. 1998). In addition, automatic emotion regulation may at times be more effective than effortful regulation because conscious attempts to change one's appraisals or impressions may be less believable than nonconscious reappraisals (Koole and Rothermund 2011; Koranyi and Rothermund 2012).

J. A. Hutchison · K. C. Gunthert (✉)
Department of Psychology, American University, 4400 Massachusetts Ave. NW, Washington, DC 20016, USA
e-mail: gunthert@american.edu

Automatic emotion regulation might also be adaptive because it involves a greater degree of letting emotions take their natural course rather than working to avoid them. A great deal of research indicates that experiential avoidance can be ineffective and detrimental (Hayes et al. 2004). Allowing emotions to take their natural course might also be useful because of the adaptational potential of emotions (e.g., Stanton et al. 2000; Tamir 2009).

How might automatic mood regulation develop and function? Because emotion regulation occurs so frequently, it might, like any skill, become easier and less effortful with repeated practice (Fitzsimons and Bargh 2004; Bargh and Williams 2007). For example, someone might frequently down-regulate upset feelings while watching a disturbing television show by reminding herself that the program is fictional. Over time, this strategy of reappraising the program could become automatized, leaving the person feeling only fleetingly upset without being aware of engaging in any effortful regulation. Recent experimental evidence supports that repeated training in positive and negative interpretation of ambiguous scenarios can impact implicit interpretation biases and levels of self-esteem (Tran et al. 2011).

Given the adaptive potential and likely prevalence of automatic mood regulation, the current study aimed to develop a self-report measure about this approach to emotion regulation. The proposed measure, the Beliefs About Automatic Mood Regulation Scale (BAMR), focuses on individuals' beliefs that automatic mood regulation can work for them. There is likely adaptive value in believing that emotions are fleeting, and do not necessarily require attention and effort to stabilize. Knowing that one can rely on automatic regulation could lead to less reliance on effortful strategies, conserving resources for other pursuits. Believing that emotions require less work to regulate might also lead one to view emotions as less disruptive, discouraging negative emotional responses to emotions (secondary emotional reactions; Gratz and Roemer 2004) and increasing emotional acceptance. Finally, believing in automatic mood regulation might prevent the use of potentially harmful coping strategies, such as drug use or excessive drinking.

Research has shown that beliefs about emotion have important correlates, including depression and anxiety (e.g., Leahy 2002). In particular, the Negative Mood Regulation Scale (NMR) is a widely used measure that assesses "the expectancy that some behavior or cognition will alleviate a negative mood state" (Catanzaro and Mearns 1990, p. 546). In line with this definition, the strategies described in the NMR are generally effortful. Higher scores on the NMR have been associated with outcomes as diverse as lower depression (Catanzaro and Mearns 1990), lower anger and distress (Mearns and Mauch 1998), and increased active coping (Mearns 1991). At times, however, people might rely on more automatic, effortless regulation than that measured by the NMR. They might be content to let emotions take their course, perhaps not even paying much attention to them. The BAMR is designed to assess the belief that this alternative approach to emotion regulation is useful, and hence the BAMR can be thought of as a complement measure to the NMR.

Of course, any measure of beliefs about mood regulation likely captures beliefs about a specific topic (e.g., effortful mood regulation) and also more global response expectancies. Response expectancies are expectations about internal experiences not under direct voluntary control, such as feelings of fear or pain (Kirsch 1985). Numerous studies show that response expectancies can be self-fulfilling (Kirsch 1985). Placebo effects are a classic example of this; simply believing that a pill will make one feel better can in fact make one feel better, and can even produce a variety of physiological reactions (Kirsch 1985). Response expectancies help explain how the NMR affects emotions both directly and indirectly (Kirsch et al. 1990; Catanzaro et al. 2000). Indirectly, expectancies about being able to change one's mood impact coping behaviors, which in turn affect moods (Kirsch et al. 1990; Catanzaro et al. 2000). Expectancies about being able to change one's mood also appear to be self-fulfilling in that they *directly* affect emotions: independent of coping behaviors, the NMR still predicts dysphoria (Kirsch et al. 1990; Catanzaro et al. 2000).

In summary, the NMR likely captures the global response expectancy that one can feel better, in addition to more specific beliefs that one can effortfully manage emotions. Similarly, the BAMR will likely capture both global expectancies regarding emotion regulation and specific beliefs that one can regulate emotion noneffortfully (see Fig. 1). In order to capture the *specific* beliefs about automatic mood regulation that are unique to the BAMR, we believe that it is important to control for the NMR when

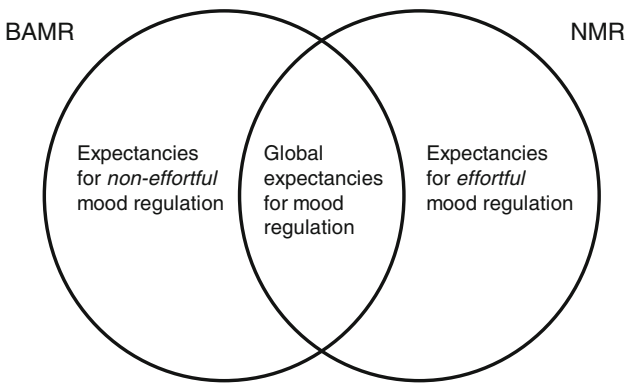

Fig. 1 Hypothesized overlap between the BAMR and the NMR

using the BAMR. By controlling for the overlapping variance in these two measures, the remaining variance in each should tap distinct constructs—beliefs about effortful (NMR) and automatic (BAMR) mood regulation.

Two studies were conducted as part of the current project. The first focused on selecting items for the new measure, and testing hypotheses that the BAMR would correlate positively with optimism and the NMR, and correlate negatively with neuroticism and depression. The second study focused on further refining the BAMR and investigating its factor structure, internal consistency, test–retest reliability, and construct validity.

Study 1

Method

Participants

Participants were 122 students recruited from undergraduate psychology classes and compensated with extra credit. Of these participants, the data of three were excluded because they did not have BAMR data, leaving a final sample of 119 (22 men, 97 women). Seventy percent were Caucasian, 11 % were Asian, 5 % were African American, 1 % were Native Hawaiian or Other Pacific Islander, and 13 % indicated another ethnicity. Participants ranged in age from 18 to 37 years ($M = 19.89$, $SD = 2.36$).

Procedure

Participants completed a demographic questionnaire followed by the pilot BAMR and several open-ended questions about the measure and coping. Next, participants completed the Social Desirability Scale (Crowne and Marlowe 1960), the Neuroticism subscale of the NEO Five-Factor Inventory (Costa and McCrae 1992), the NMR (Catanzaro and Mearns 1990), the Life Orientation Test-Revised (Scheier et al. 1994), and the Center for Epidemiological Studies Depression Scale (Radloff 1977).

Measures

Preliminary Beliefs About Automatic Mood Regulation Scale (*BAMR*) The structure of the BAMR was modeled closely after the NMR (Catanzaro and Mearns 1990). All BAMR items begin with the stem used in the NMR, "When I'm upset, I believe that …" (Catanzaro and Mearns 1990, p. 552). In addition, directions to the BAMR are an adapted version of those used in the NMR and the items are rated on the same 5-point scale (Catanzaro and Mearns 1990; see "Appendix" for the annotated final BAMR). While most BAMR items are original, a few are drawn from other scales, including one from the NMR (Catanzaro and Mearns 1990; see "Appendix"). In developing items, we intentionally erred on the side of being overly inclusive to ensure the construct of automatic mood regulation was fully covered. In this spirit, items were developed to form three potential subscales: Automaticity, Duration, and Letting Be. Automaticity items asked specifically about beliefs regarding automatic mood regulation, such as "my body knows how to calm itself down" and "I'll feel better if I let my emotions take their natural course." Duration items asked more generally about beliefs regarding the transience of negative emotions, such as "this bad mood could go on and on" (reverse scored). Letting Be items asked whether people believe it is important to try to change their upset moods. An example item is, "trying to change my mood often seems like more trouble than it is worth." Items focused on general beliefs about automatic mood regulation rather than specific strategies employed automatically since people are likely unaware of these. The pilot BAMR consisted of 44 items (15 Automaticity, 8 Duration, 9 Letting Be, and 12 filler items). Higher BAMR scores indicated a greater belief in the automaticity of mood regulation, the transience of emotions, and the lack of importance or inefficiency of trying to change negative moods.

Open-Ended Questions These questions asked about whether anything in the BAMR was confusing, and about participants' experiences with automatic mood regulation so that we could read their own words on this topic.

NMR (Catanzaro and Mearns 1990) This 30-item self-report scale measures generalized expectancies about behaviors and cognitions that might decrease negative moods. The scale showed test–retest correlations over a 6–8 week period of .67–.78 (Catanzaro and Mearns 1990). In the present study, the scale showed an internal consistency coefficient of .91.

NEO Five-Factor Inventory Neuroticism subscale (*NEO-FFI-N*; Costa and McCrae 1992) The Neuroticism subscale has 12 items, and Costa and McCrae found that it had a 3 month test–retest reliability of .79 (Murray et al. 2003). In the present study, the scale showed an internal consistency coefficient of .88.

Life Orientation Test-Revised (*LOT-R*; Scheier et al. 1994) This scale assessing optimism is composed of 10 items, 4 of which are filler. Test–retest correlations at 4, 12, 24, and 28 months ranged from .56 to .79 (Scheier et al. 1994). In the present study, the internal consistency coefficient was .80.

Social Desirability Scale (*SDS*; Crowne and Marlowe 1960) This self-report scale assesses the tendency to respond in socially desirable ways, and is composed of 33

items evaluated as true or false. The scale had a 1 month test–retest correlation of .89 (Crowne and Marlowe 1960). In the present study, the scale showed an internal consistency coefficient of .76.

Center for Epidemiological Studies Depression Scale (*CESD*; Radloff 1977). This 20-item self-report scale is designed to measure depression in the general population. Test–retest reliability across intervals of 2–8 weeks ranged from .51 to .67 (Radloff 1977). In the present study, Cronbach's α was .91.

Results and Discussion

Response distributions of the preliminary BAMR items were examined to guard against floor or ceiling effects. Item means were examined to ensure that none were too near the extremes of the response range (DeVillis 2003). Item means ranged from 2.15 to 3.87, well within the desired range of 1.5–4.5 used by Catanzaro and Mearns (1990). Items were also examined to see whether 95 % or more of respondents selected the same response, which would show restricted variability (Clark and Watson 1995); no items were at or above this cutoff.

In terms of item standard deviations, approximately equal deviations ensure items are weighted approximately equally (Peterson et al. 1982). Relatively high variance is also desirable because it reflects an adequate range of responses (DeVillis 2003). The standard deviations of BAMR items ranged from .92 to 1.26, near the target of approximately 1.0 described by Catanzaro and Mearns (1990). The distribution of standard deviations was examined so that any outliers could be eliminated. Outliers were defined as being below .88 or above 1.26 (calculated by $\pm$ 1.5 times the interquartile range away from the 25th and 75th percentiles of the standard deviations). No BAMR items fell outside this range.

Corrected item-total correlations within each of the three hypothesized subscales were examined next. Initially, items with the lowest item-total correlations (below .25) were eliminated. Subscales were then re-examined and no item-total correlations fell below the more conservative cutoff of .27. To ensure items were correctly classified on the hypothesized subscales, we compared corrected item-total correlations for items on Duration and Letting Be to the corrected item-total correlation of that item with Automaticity. Two Letting Be items were moved to Automaticity because they correlated more highly with this subscale. Next, item-total correlations within the subscales were reexamined, and items with correlations less than .27 were deleted. One further item was deleted from Automaticity because it was almost identical to another item, correlated highly with this other item, yet had a lower item-total correlation.

As the subscales were hypothesized to be part of one construct, the remaining items on each subscale (15 Automaticity, 8 Duration, 5 Letting Be) were combined. Items with item-total correlations less than .27 were deleted because items were only of interest to the extent that they related to the overall concept of automatic mood regulation. After items were deleted, item-total correlations were recalculated and items with correlations below .27 were again deleted. Once the scale stabilized, items with item-total correlations below .30 (the cutoff for discriminating items recommended by Nunnally and Bernstein 1994) were eliminated. Over the course of these analyses, all Letting Be and three of eight Duration items were deleted. It seemed, then, that the Automaticity items dominated the scale, and the Letting Be items were not strongly enough correlated to the overall construct that they belonged in the scale. Whether the remaining items form any subscales or one unidimentional scale was examined through factor analysis in Study 2.

Item difficulty was considered next. This concept originally emerged from ability testing, where it referred to the proportion of a sample responding to an item correctly (Smith and McCarthy 1995). The concept has since been applied to trait assessment, where it provides a measure of the level of attribute intensity at which an item discriminates. For example, some items discriminate between people in the lower versus middle portion of the distribution for a construct like BAMR, whereas other items discriminate between those in the middle versus upper portion (Fraley et al. 2000). Ideally, items should show a range of difficulties with most at a moderate level (Kaplan and Saccuzzo 2009). Item difficulty was estimated using item means and standard deviations, as Nunnally and Bernstein (1994) recommend for tests such as personality inventories that use mulitcategory scoring. The 20 remaining BAMR items showed standard deviations that ranged from .92 to 1.21 and means that ranged from 2.15 to 3.70. Moderate difficulty was operationalized as mean of three, the theoretical midpoint of the BAMR's one to five Likert scale plus or minus one standard deviation of the item means, yielding a range of 2.52–3.48. Based on this criterion, 13 items showed moderate difficulty, 4 high difficulty, and 3 low difficulty. Thus, this initial analysis suggests that the BAMR fits the ideal of having a range of difficulties with most at a moderate level.

After these analyses, the BAMR consisted of 20 items with a coefficient α of .88, which is in the range that DeVillis (2003) considers "very good." As hypothesized, the BAMR correlated positively with optimism and the NMR, and negatively with neuroticism and depression (see Table 1). No significant correlation with social desirability was found.

The goals of Study 2 were to test the psychometric properties of the revised BAMR, examine its concurrent

Table 1 Correlations among the measures in Study 1

	(BAMR)	(CESD)	(NMR)	(LOT-R)	(NEO-FFI-N)
Beliefs About Automatic Mood Regulation Scale (BAMR)					
Center for Epidemiological Studies Depression Scale (CESD)	−.39***				
Negative Mood Regulation Scale (NMR)	.46***	−.60***			
Life Orientation Test-Revised (LOT-R)	.30**	−.53***	.69***		
Neuroticism subscale of the NEO-FFI (NEO-FFI-N)	−.46***	.66***	−.71***	−.58***	
Social Desirability Scale (SDS)	.12	−.16	.27**	.22*	−.30**

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

and divergent validity, and establish its test–retest reliability. In terms of concurrent validity, we again hypothesized the BAMR would correlate positively with optimism and the NMR. Because we believe that the BAMR should relate to an accepting stance towards one's inner experiences, we also hypothesized that our measure would correlate positively with mindfulness, positively with the facet scales of mindfulness measuring a nonjudging and nonreactive attitude towards internal experience, negatively with fear of emotion, and negatively with difficulties in emotion regulation, specifically emotional nonacceptance. We also hypothesized that the BAMR would correlate negatively with difficulties with goal-directed behaviors because relying on automatic mood regulation should leave more cognitive resources free to invest in achieving one's desired goals. As found in Study 1, we also hypothesized that the BAMR would correlate negatively with neuroticism and depression. Importantly, we also believed that the *unique* variance in the BAMR, after controlling for the NMR, would correlate negatively with action-oriented coping and with depression.

Study 2

Method

Participants

Student Sample Participants were 199 students recruited from undergraduate psychology classes and compensated with research credit for a psychology course. The data of one participant were excluded due to large amounts of missing information, leaving a final sample of 198 (154 females, 44 males). The race and age distributions were similar to those reported in Study 1.

Community Sample Participants were 167 individuals recruited by postings on Craigslist.org and fliers. Sixty members of this sample were unpaid volunteers recruited via Craigslist, 50 were paid participants recruited via Craigslist, and 57 were paid participants recruited via flier. Eighteen respondents were excluded from analyses due to missing data, 5 excluded due to random response patterns, and 26 (primarily paid participants recruited via Craigslist) excluded due to completing the surveys in less than 10 minutes. This time cut-off was determined by asking five students to take the surveys as fast as possible while still skimming all questions; no one finished in less than 10 minutes. Thus, the final community sample consisted of 118 individuals (88 females, 30 males). Sixty-seven percent of the final sample was Caucasian, 20 % was African-American, 8 % was Asian, 3 % was biracial, and 3 % was missing data on race/ethnicity. Nine percent of the sample identified as Hispanic or Latino. Participants ranged in age from 18 to 72 ($M = 31.15$, $SD = 10.94$); 4 % did not report their age. Twenty-three percent were full-time students, 4 % part-time students, 71 % not students, and 2 % did not respond to this question. In terms of highest level of education completed, 3 % indicated a high school degree or equivalent, 16 % had completed some college, 3 % had completed a 2-year college degree, 45 % had completed a 4-year college degree, and 32 % had completed a graduate degree. Twenty-two percent were not employed, 19 % employed part time, and 59 % employed full time.

Follow-Up Sample To evaluate test–retest reliability, the first 180 participants of the student sample were invited to take a follow-up survey consisting of just the BAMR. Participants were compensated by a lottery for two $50 prizes. Of the 140 individuals participating (response rate 78 %), 1 was excluded due to a random response pattern and 7 were excluded due to a technical error in data collection, yielding a final sample of 132. *T* tests and χ^2 tests examined whether this subsample differed significantly from the 66 students without usable follow-up data. Results showed no significant differences on age or BAMR scores, $t(187) = -.71$, $p = .48$; $t(196) = .46$, $p = .64$, respectively. However, non-Caucasian students appeared less likely to participate in the follow-up, $\chi^2(1, N = 189) = 3.79$, $p = .05$.

Procedure

All participants completed a demographic questionnaire, the revised BAMR, the NMR, the Social Desirability Scale, the NEO Five Factor Inventory Neuroticism subscale, the

Life Orientation Test-Revised, the Center for Epidemiological Studies Depression Scale, the Brief COPE (Carver 1997), the Difficulties in Emotion Regulation Scale (Gratz and Roemer 2004), the Five Facet Mindfulness Questionnaire (Baer et al. 2006), and the Affective Control Scale (Williams et al. 1997). One week after their initial participation, the first 180 participants in the student sample were invited to take the follow-up.

Measures

BAMR The revised BAMR, generated based on the results of Study 1, was composed of 21 scored and 9 filler items. Questions asked about beliefs regarding automatic mood regulation and the transience of emotions. One new item was added based on the open-ended comments of participants in Study 1: "letting a little time pass will be enough to make me feel better." After the final item selection was completed (described in the "Results" section), the scale showed internal consistency coefficients of .89/.92 (student sample/community sample).

Brief COPE (Carver 1997) This 28 item self-report scale measures a variety of coping strategies assessed by 14 subscales: Active Coping, Planning, Positive Reframing, Acceptance, Humor, Religion, Using Emotional Support, Using Instrumental Support, Self-Distraction, Denial, Venting, Substance Use, Behavioral Disengagement, and Self-Blame (Carver 1997). In the present study, the subscales showed internal consistency coefficients ranging from .43 to .97. Some low alphas are to be expected given that each subscale is composed of only two items. Most relevant to our results, Active Coping and Planning showed internal consistency coefficients of .79/.82 and .74/.77 (student sample/community sample), respectively.

Difficulties in Emotion Regulation Scale (*DERS*; Gratz and Roemer 2004) This 36 item self-report questionnaire assesses difficulties in various areas of emotion regulation. The scale has 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 Emotional Clarity (Gratz and Roemer 2004). After a period of 4–8 weeks, the overall scale showed retest reliability of .88, and its factors showed retest reliabilities of .57–.89 (Gratz and Roemer 2004). In the present study, the overall scale showed internal consistency coefficients of .94/.96 (student sample/community sample) and the internal consistency coefficients of the subscales ranged from .80 to .95.

Five Facet Mindfulness Questionnaire (*FFMQ*; Baer et al. 2006) This scale is a 39 item self-report measure created by factor analysis using five existing mindfulness questionnaires. The five facets are: Observing, Describing, Acting With Awareness, Nonjudging of Inner Experiences, and Nonreactivity to Inner Experience (Baer et al. 2006). In the present study, the scale showed internal consistency coefficients of .87/.93 (student sample/community sample). The internal consistency coefficients of the facets ranged from .78 to .94.

Affective Control Scale (*ACS*; Williams et al. 1997) This 42 item measure assesses fear of emotions. Two-week test–retest reliability was .78 (Williams et al. 1997). In the present study, the scale showed internal consistency coefficients of .94/.96 (student sample/community sample).

Other Measures Scales also administered in Study 1 showed the following α levels in Study 2 (student sample/community sample): NMR—.89/.94; NEO-FFI Neuroticism subscale—.86/.91; Life Orientation Test-Revised—.82/.87; Social Desirability Scale—.71/.76; and Center for Epidemiological Studies Depression Scale—.91/.93.

Results and Discussion

The psychometric properties of the BAMR were examined first. One item was eliminated because it had a corrected item-total correlation below .30 in both the student and community samples, and two items were eliminated because they had corrected item-total correlations below .20 in one sample. Item-total correlations were then recalculated; they ranged from .29 to .66/.39 to .82 (student sample/community sample), close to or above the minimum of .30 recommended by Nunnally and Bernstein (1994). The final scale (see "Appendix") showed internal consistency coefficients of .89/.92 (student sample/community sample). Across the combined sample, there were no sex differences on the BAMR, $t(314) = -1.76$, $p = .08$. When looking separately at the community and student samples, no sex difference was found in the student sample, $t(196) = -.50$, $p = .62$. However, a difference was found in the community sample, $t(116) = -2.08$, $p = .04$, with men scoring higher than women.

We also examined the readability of the final BAMR by submitting it to the website http://www.readabilityformulas.com, which evaluates text using seven readability indexes and summarizes the results (Scott, retrieved 2012). According to this site, the BAMR has a reading level of grade four, is "easy to read," and is appropriate for readers as young as 8–9 years of age.

An exploratory factor analysis examined the dimensionality of the BAMR. We used the principal axes method of extracting factors, the most frequently employed method in exploratory analyses (Floyd and Widaman 1995), and promax oblique rotation, which allows the factors to correlate. Since it is recommended that the sample size of factor analyses be a minimum of 200–400 respondents with ratios of cases to indicators of at least 10:1 to 20:1 (Kline 2013), we combined the student and community samples.

A scree plot suggested the retention of three factors. The first factor was dominant as it had an eigenvalue of 7.01, over four times larger than the eigenvalue of the second factor, 1.58. This first factor accounted for 38.94 % of the variance in BAMR scores while the second and third factors only accounted for 8.77 and 7.49 %, respectively. After conducting the promax oblique rotation, the factor loadings were examined. The items loading highest on the second and third factors were all reverse-scored items that had been rescored prior to any analysis, suggesting that these factors represented artifacts of item wording rather than substantive subscales. Based on these data, it was not entirely clear whether the BAMR was unidimensional or multidimensional. However, taking into account the factors' eigenvalues, their percentage of variance, and the artifactual nature of the second and third factors, the BAMR did not appear to us to be composed of meaningful facets.[1] Thus, the hypothesized subscales were not used in further analyses.

[1] In order to further test the unidimensionality of the BAMR, we also ran a confirmatory factor analysis on the sample from Study 1. We excluded the 3 variables that were later eliminated in Study 2, leaving a total of 17 items to be analyzed. One item from the final BAMR was missing from this analysis because this item was added to the measure only after the completion of Study 1. We ran our confirmatory analysis testing a one-factor model using the confa command in Stata (Kolenikov 2009), which uses maximum likelihood estimation. Fit indices suggested that the model did not fit the data well. In particular, the goodness of fit test showed that the model had a likelihood ratio of 268.75, $p < .0001$. The root mean square error of approximation (RMSEA = 0.11) was above the desired cutoff of 0.05 (Kolenikov 2009). The Tucker–Lewis Index (TLI = 0.43) and the Comparative Fit Index (CFI = .50) were also below the desired cutoffs of 0.95 (Hu & Bentler 1999). Given that the exploratory analysis in Study 2 showed three factors, it is not surprising this one-factor model did not fit the data from Study 1.

In order to better understand the factor structure of the sample from Study 1, we also ran an exploratory factor analysis using the principal axes method of extracting factors and promax oblique rotation. A scree plot suggested the retention of approximately three factors. The first factor accounted for 33.15 % of the variance in BAMR scores, while the second and third factors accounted for only 12.36 and 7.29 % of the variance respectively. Thus, both Studies 1 and 2 show strong first factor variance overall. However, in contrast to Study 2, the rotated factor loadings from Study 1 suggested the possibility of meaningful subscales. Items loading highest on factor two primarily related to feeling better without effort, and items loading highest on factor three were primarily reverse-scored items related to engaging in active coping. However, we are reluctant to make any definitive conclusions based on this analysis for several reasons. A 10:1 ratio of cases to indicators is one of the most common guidelines for sample size in factor analysis, and some experts recommend minimum sample sizes of 200–400 (Kline 2013). In addition, the final version of the BAMR that is factor analyzed in Study 2 has one item not included in Study 1. Given these concerns, we place more emphasis on the exploratory analysis conducted using the final BAMR and larger sample in Study 2. As elaborated in the "Discussion" section, future research should continue to examine the factor structure of the BAMR.

A second exploratory factor analysis was conducted to examine the factor structure of the combined BAMR and NMR items. We again utilized the principal axes extraction method and promax oblique rotation. As suggested by the scree plot, three factors were retained. The rotated factor loadings (structure matrix) displayed in Table 2 show that the NMR and BAMR items largely load on different factors, supporting that the two scales assess different constructs. If .40 is used as the minimum cutoff to determine an item loads on a given factor, the first factor consisted of 80 % NMR items (primarily reverse-scored), the second factor consisted of 70.83 % BAMR items, and the third factor consisted of 94.44 % NMR items (primarily regularly scored).

Correlates of the BAMR

Table 3 lists the correlations of the BAMR with relevant constructs; the student and community samples were combined since correlations were largely the same in terms of being statistically significant. Partial correlations that differed between samples in terms of statistical significance were tested to see if the magnitude of the difference between the correlations was significant using Fisher's z (calculated via Preacher 2002). Only one of these discrepancies was statistically significant: the BAMR showed a significant negative correlation with the facet of mindfulness measuring observing internal and external experiences in the student sample, but did not show a significant correlation with this facet in the community sample. As hypothesized, the BAMR correlated positively with optimism, the NMR, mindfulness, and the facet scales of mindfulness measuring a nonjudging attitude towards internal experience and a nonreactive attitude towards internal experience. Also as hypothesized, the BAMR correlated negatively with neuroticism, depression, fear of emotion, and difficulties in emotion regulation, specifically nonacceptance and difficulties engaging in goal-directed behavior.

Partial correlations also examined how the BAMR related to other measures when controlling for the NMR, and how the NMR related to other measures when controlling for the BAMR. Controlling for the overlapping variance with the NMR allows us to focus on the variance leftover in the BAMR that is specific to beliefs about *automatic* mood regulation (rather than global expectancies regarding mood regulation). Since the BAMR's partial correlations for the student and community samples were again largely the same in terms of statistical significance, the samples were combined. Partial correlations that differed between samples in terms of statistical significance were again tested to see if the magnitude of the difference between the correlations was significant using Fisher's z (calculated via Preacher 2002). Only three of these discrepancies were

Table 2 Rotated factor loading (structure) matrix for BAMR and NMR items

Item	Factor		
	1	2	3
BAMR1	.38	**.57**	.29
BAMR4	**.43**	**.48**	.29
BAMR6	.34	**.67**	.20
BAMR7	.35	**.54**	.29
BAMR9	.28	**.64**	.17
BAMR11	.14	**.40**	.03
BAMR12	**.45**	**.66**	.35
BAMR18	.30	**.72**	.17
BAMR20	.36	**.68**	.28
BAMR24	.29	**.65**	.24
BAMR26	.34	**.73**	.25
BAMR27	.34	**.79**	.21
NMR1	**.67**	.31	**.59**
NMR2	**.63**	.22	**.62**
NMR4	.32	.30	**.52**
NMR6	.24	.18	.33
NMR7	.26	.11	**.47**
NMR10	**.58**	**.50**	**.51**
NMR12	**.41**	.38	**.53**
NMR13	.23	.21	**.41**
NMR15	.14	−.04	**.44**
NMR16	.37	**.45**	.24
NMR17	.07	.10	.37
NMR20	**.62**	**.44**	**.46**
NMR23	.35	.20	.33
NMR26	.29	.14	**.52**
NMR29	**.45**	.27	**.47**
BAMR3 (r)	**.59**	**.44**	.28
BAMR13 (r)	**.72**	**.49**	**.42**
BAMR15 (r)	**.61**	**.55**	.24
BAMR16 (r)	.31	**.43**	.00
BAMR19 (r)	.23	**.54**	−.15
BAMR22 (r)	.04	.37	−.34
NMR3 (r)	**.71**	.25	**.42**
NMR5 (r)	**.53**	.16	.25
NMR8 (r)	**.65**	.20	**.46**
NMR9 (r)	**.52**	.20	**.50**
NMR11 (r)	**.49**	.23	.25
NMR14 (r)	**.78**	**.50**	.37
NMR18 (r)	**.42**	.13	.22
NMR19 (r)	**.54**	.31	.24
NMR21 (r)	**.40**	.20	**.40**
NMR22 (r)	.25	.16	.34
NMR24 (r)	**.82**	**.46**	**.49**
NMR25 (r)	**.69**	**.43**	.33
NMR27 (r)	**.70**	**.43**	.32
NMR28 (r)	**.62**	.37	**.60**
NMR30 (r)	**.58**	.27	.14

Items loading on each factor ≥.40 are in boldface

(*r*) Reverse scored item

statistically significant: the partial correlations between the BAMR and the COPE Positive Reframing and Humor scales were higher in the community than the student sample, and the BAMR showed a stronger negative correlation with the facet of mindfulness about describing one's inner experiences using words in the community sample.

Comparing the partial correlations of the NMR and BAMR helps illustrate the ways in which these measures are similar and different. As shown in Table 4, the BAMR and NMR both have significant positive partial correlations with optimism, nonjudging of and nonreactivity to inner experiences, and positive reframing; both have significant negative partial correlations with depression, neuroticism, self-blame, fear of emotion, and difficulties in emotion regulation (including impulse control difficulties, limited access to emotion regulation strategies, and nonacceptance of emotion). Importantly, the BAMR and NMR also showed a number of significant partial correlations that were *opposite* in direction. Whereas the NMR showed positive partial correlations with active coping and planning, the BAMR showed negative partial correlations with both. Thus, the NMR is associated with greater action-oriented coping and the BAMR is associated with less action-oriented coping. The NMR is also associated with greater ability to describe one's experiences and greater emotional awareness, while the BAMR is associated with less of each. The NMR was unique in showing significant partial correlations with greater mindfulness (including acting with awareness); greater emotional clarity; greater use of the coping strategies of self-distraction, emotional and instrumental support, venting, humor, acceptance, and religion; less use of the coping strategies of behavioral disengagement and denial; and less difficulty engaging in goal-directed behavior. The BAMR was unique in showing a significant negative partial correlation with substance use.

Further supporting the discriminant validity of the BAMR, no correlations or partial correlations were sufficiently high to suggest that the BAMR and any other scale were measuring the same construct. The BAMR's strongest correlation was with the DERS Limited Access to Emotion Regulation Strategies subscale, $r = -.62$, $p < .001$. Even when controlling for this subscale, the BAMR correlated

Table 3 Correlations among select measures in Study 2

Measure	(BAMR)	(NMR)
Beliefs About Automatic Mood Regulation Scale (BAMR)	1.00	.57***
Center for Epidemiological Studies Depression Scale	−.47***	−.60***
Negative Mood Regulation Scale (NMR)	.57***	1.00
Life Orientation Test-Revised	.50***	.63***
Neuroticism subscale of the NEO-FFI	−.58***	−.68***
Social Desirability Scale	.13*	.36***
Affective Control Scale	−.55***	−.65***
Difficulties in Emotion Regulation Scale (DERS)	−.50***	−.74***
DERS Lack of Emotional Awareness	.01	−.29***
DERS Lack of Emotional Clarity	−.15**	−.41***
DERS Nonacceptance of Emotional Responses	−.43***	−.47***
DERS Difficulties Engaging in Goal-Directed Behavior	−.31***	−.51***
DERS Impulse Control Difficulties	−.44***	−.53***
DERS Limited Access to Emotion Regulation Strategies	−.62***	−.82***
Five Facet Mindfulness Questionnaire (FFMQ)	.37***	.61***
FFMQ Observe	−.03	.05
FFMQ Describe	.11	.42***
FFMQ Act With Awareness	.18**	.42***
FFMQ Nonjudge	.42***	.46***
FFMQ Nonreact	.48***	.48***
COPE Self-Distraction Scale	.09	.23***
COPE Active Coping Scale	.11	.50***
COPE Denial Scale	−.14*	−.24***
COPE Substance Use Scale	−.24***	−.22***
COPE Use of Emotional Support Scale	.07	.24***
COPE Use of Instrumental Support Scale	.11	.24***
COPE Behavioral Disengagement Scale	−.30***	−.51***
COPE Venting Scale	−.02	.11
COPE Positive Reframing Scale	.44***	.60***
COPE Planning Scale	.08	.36***
COPE Humor Scale	.24***	.34***
COPE Acceptance Scale	.16**	.20**
COPE Religion Scale	.13*	.22***
COPE Self-Blame Scale	−.47***	−.53***

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

significantly with a number of measures; of particular interest, these significant partial correlations included the NMR, $r = .15$, $p = .01$; active coping, $r = -.17$, $p = .003$; DERS Lack of Emotional Awareness, $r = .14$, $p = .02$ and Lack of Emotional Clarity, $r = .13$, $p = .03$;

Table 4 Partial correlations among select measures in Study 2

	Partial correlations between the BAMR and select measures in Study 2, controlling for the NMR	Partial correlations between the NMR and select measures in Study 2, controlling for the BAMR
Center for Epidemiological Studies Depression Scale	−.20**	−.46***
Life Orientation Test-Revised	.22***	.49***
Neuroticism subscale of the NEO-FFI	−.33***	−.52***
Social Desirability Scale	−.12*	.37***
Affective Control Scale	−.29***	−.49***
Difficulties in Emotion Regulation Scale (DERS)	−.15*	−.63***
DERS Lack of Emotional Awareness	.22***	−.35***
DERS Lack of Emotional Clarity	.11	−.40***
DERS Nonacceptance of Emotional Responses	−.23***	−.29***
DERS Difficulties Engaging in Goal-Directed Behavior	−.03	−.43***
DERS Impulse Control Difficulties	−.21***	−.37***
DERS Limited Access to Emotion Regulation Strategies	−.32***	−.72***
Five Facet Mindfulness Questionnaire (FFMQ)	.04	.51***
FFMQ Observe	−.07	.08
FFMQ Describe	−.18**	.44***
FFMQ Act With Awareness	−.09	.41***
FFMQ Nonjudge	.21***	.29***
FFMQ Nonreact	.30***	.28***
COPE Self-Distraction Scale	−.05	.22***
COPE Active Coping Scale	−.26***	.54***
COPE Denial Scale	.01	−.21***
COPE Substance Use Scale	−.13*	−.11
COPE Use of Emotional Support Scale	−.08	.24***
COPE Use of Instrumental Support Scale	−.03	.21***

Table 4 continued

	Partial correlations between the BAMR and select measures in Study 2, controlling for the NMR	Partial correlations between the NMR and select measures in Study 2, controlling for the BAMR
COPE Behavioral Disengagement Scale	−.01	−.43***
COPE Venting Scale	−.10	.15*
COPE Positive Reframing Scale	.14*	.48***
COPE Planning Scale	−.16**	.38***
COPE Humor Scale	.06	.25***
COPE Acceptance Scale	.06	.13*
COPE Religion Scale	.01	.18**
COPE Self-Blame Scale	−.24***	−.36***

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

and the facet scales of mindfulness measuring acting with awareness, $r = -.12$, $p = .04$ and nonreactivity to inner experience, $r = .26$, $p < .001$.

Finally, the BAMR's test–retest validity in the student sample was examined, and a correlation of $r = .84$, $p < .001$ was found over an average interval of 11.68 days ($SD = 8.31$, range = 7–53), showing that the BAMR appears to relatively stable over the time period studied.

General Discussion

Two studies were conducted to develop and validate a new measure, the BAMR. The first study focused on selecting items. All potential items showed adequate and approximately equal variability, but a number were deleted due to low item-total correlations. Items showed a range of difficulties with most at the moderate level. The revised BAMR showed good internal consistency and, as expected, correlated positively with optimism and the NMR, and correlated negatively with neuroticism and depression.

Study 2 focused on further refining the BAMR and investigating its reliability and validity among participants from both college and community populations. Based on item-total correlations, several additional items were eliminated. The BAMR showed good internal consistency across both samples, and a high test–retest correlation. An exploratory factor analysis suggested that the BAMR did not appear to be composed of meaningful facets, and thus no subscales were created.

In terms of construct validity, the BAMR correlated with other measures as expected. In particular, it correlated positively with optimism, the NMR, mindfulness, and the facet scales of mindfulness measuring a nonjudging and nonreactive attitude towards internal experience. In addition, the BAMR correlated negatively with neuroticism, depression, fear of emotion, and difficulties in emotion regulation, specifically nonacceptance of emotional responses and difficulties engaging in goal-directed behavior. A factor analysis of the NMR and BAMR showed that items from the two scales loaded largely on different factors, supporting the discriminant validity of the BAMR.

Since the BAMR and NMR do share some variance, it is particularly important to explore the unique correlations of the BAMR and NMR while controlling for the other measure. Controlling for this overlap removes variance due to global expectancies for mood regulation, thus accessing more "pure" belief in *non-effortful* (BAMR) and *effortful* (NMR) mood regulation. For this reason, it is recommended that whenever the BAMR is used, the NMR be used as well. Comparing the partial correlations of the BAMR and NMR illustrates both the overlap of the measures and their uniqueness. Speaking to the overlap between the two, both correlated significantly with a number of constructs including greater optimism and lower depression, neuroticism, fear of emotion, and difficulties in emotion regulation. Speaking to their uniqueness, the BAMR and NMR showed several opposite partial correlations. Whereas the NMR showed positive partial correlations with active coping and planning, the BAMR showed negative partial correlations with both. The NMR was also associated with greater ability to describe one's experiences and greater emotional awareness, while the BAMR was associated with less of both. The measures also showed unique partial correlations. For example, the NMR was unique in correlating significantly with mindfulness, emotional clarity, and the use of a number of coping strategies including seeking support and venting. The BAMR was unique in showing a statistically significant negative correlation with substance use.

While the NMR and BAMR share many adaptive correlates, they appear to capture two very different approaches to emotion regulation. Those with higher belief in effortful regulation show greater emotional awareness and more effortful coping, whereas those with higher belief in automatic regulation are less tuned into their emotions and engage in less active problem solving and emotion regulation. It is particularly interesting to find that the BAMR shows negative partial correlations with action-oriented coping and depression, given that active coping is usually conceptualized as healthy. These findings suggest that for certain people, believing that they can just let time run its course in terms of emotion regulation is potentially healthy.

In terms of further research related to the psychometric properties of the BAMR, several directions are suggested. A confirmatory factor analysis of the BAMR should be conducted in a new sample to confirm the scale's unidimensional structure. If a single factor model does not appear to capture the BAMR's variance in an independent sample, future research should further investigate whether meaningful subscales can be derived from the BAMR. A second confirmatory factor analysis further evaluating the factor structure of the combined NMR and BAMR items could also provide additional confirmation for the discriminant validity of the BAMR. In addition, the sample sizes in the present study were less than those recommended for item response theory analyses (e.g., Reise and Yu 1990, recommend sample sizes of at least 500 when examining items with five response categories); however, future research using item response theory analyses in larger samples could provide a more formal evaluation of the range of item difficulties found in the BAMR.

Future research on the validity of the BAMR should also make use of different ways of assessing emotion and emotion regulation, such as including behavioral and physiological measures. In particular, research could explore how the BAMR relates to performance on a task requiring attentional resources when people are feeling distressed. Since automatic processes require less cognitive effort, distressed people scoring higher on the BAMR are hypothesized to have more attentional resources available than those who are actively trying to modulate their moods. Hence, we would predict that when distressed, those scoring higher on the BAMR would perform better on a performance task requiring attentional resources and perhaps show less distress after performing the task because they would be able to engage in simultaneous automatic emotion regulation.

One possible limitation of the current study is sampling bias. The majority of participants were female, and further research is needed to explore whether the BAMR operates differently for men and women. In addition, this research was conducted with predominantly Caucasian and highly educated samples. Future research should also examine how the BAMR relates to outcomes such as depression and anxiety in clinical samples. Belief in automatic mood regulation might be particularly salient among people experiencing greater difficulty regulating their moods.

A conceptual limitation of developing a self-report measure about automatic mood regulation is that people may not be particularly aware of automatic mood regulation, and accordingly, they might have trouble reporting on their beliefs about such automatic processes. In particular, those who believe in automatic mood regulation may be generally less tuned into their emotional experiences. For example, our results showed that when controlling for belief in effortful mood regulation, those scoring higher on the BAMR showed less emotional awareness and less ability to describe their inner experiences in words. However, the unique correlates of the BAMR show strong support that this measure effectively taps into a construct reflecting generally healthy attitudes toward emotion (e.g., less depression, less fear of emotion), but low effort directed at active coping. Laboratory studies that measure BAMR and then examine subsequent mood regulation abilities while participants are under a cognitive load (hindering more effortful mood regulation) could help provide more direct evidence that the BAMR is related to actual abilities in using automatic mood regulation. Furthermore, incorporating physiological measurements of emotion could also provide additional information on coping, especially for individuals who may have more difficulty reporting directly on their emotional states.

Another challenge of measuring beliefs about mood regulation is that it is difficult to tease out expectancies about different mood regulation strategies from people's actual experiences managing their emotions. In particular, the BAMR may be capturing the automatic emotion regulation skill of respondents or their biological predisposition towards being emotionally regulated rather than reflecting the importance of their *belief* in automatic mood regulation. Similarly, the NMR may capture actual skill in mood regulation rather than the importance of *expectancies*. While the instructions to both the BAMR and the NMR emphasize that the questionnaires are about beliefs rather than what respondents "actually or usually do" (Catanzaro and Mearns 1990, p. 563), it is still possible that people's experiences with managing their emotions influence their responses. Laboratory studies that manipulate mood regulation expectancies and then subsequently examine mood regulation effectiveness could test the extent to which these cognitive beliefs have causal effects.

In addition, we would like to note that although the BAMR focuses on beliefs about automatic mood regulation, effective coping requires situational flexibility and any one strategy will not be useful for all people in all situations (Gratz and Roemer 2004; Hofmann et al. 2012). Moreover, flexibility in coping may be important to overall psychological health (Hofmann et al. 2012). The coping literature is fraught with instances in which researchers discuss the strengths and weaknesses of different strategies without attention to their situational contexts or flexible use. Future research will also need to explore the situations in which relying on automatic mood regulation is more and less adaptive, the types of people for whom belief in automatic mood regulation is more and less helpful, and the ability of individuals to flexibly engage in automatic versus effortful coping. In particular, future research should work to clarify the effectiveness of automatic mood

regulation for coping with emotions of different intensities. For example, relying on automatic coping is likely more helpful for mild to moderate emotions than for very intense affect.

In summary, this research is promising with respect to the importance of beliefs about automatic mood regulation. Evidence regarding the BAMR's internal consistency, test–retest reliability, and validity suggests that beliefs about automatic mood regulation can successfully be measured via a self-report questionnaire. Furthermore, the BAMR's correlations with numerous adaptive outcomes highlight that relying on automatic mood regulation may at times be healthy and is thus a way of coping that deserves future research attention.

Acknowledgments This paper is based on the first author's master's thesis, and the research was funded by American University's College of Arts and Sciences. We would like to thank Anthony H. Ahrens and David A. F. Haaga for their helpful comments. We would also like to thank our research assistants Hannah Cayton, Heather Dewey, Annie Limowski, Lauren McDonough, Julianne Moore, Ellie Rose, and Melissa Speroni for their help with this research.

Conflict of interest None.

Appendix: Final BAMR Items and Instructions[2]

This is a questionnaire to find out what people believe about upsetting emotions or feelings. Please answer the statements by giving as true a picture of your own beliefs as possible. Of course, there are no right or wrong answers. *Remember, the questionnaire is about what you believe, not about what you actually or usually do.*

To help you focus on beliefs, all items start with the phrase, "*When I'm upset, I believe that…*"[3] Please respond by marking the appropriate number:

1. Strongly disagree
2. Mildly disagree
3. Agree and disagree equally
4. Mildly agree
5. Strongly agree

When I'm upset, I believe that …

1. Feeling better will just naturally happen with some time.
2. Doing something productive will help me feel better. (filler)
3. This bad mood could go on and on. (r)[4]
4. My body knows how to calm itself down.
5. These feelings are justified. (filler)
6. I often feel better without even trying.
7. Strong feelings only last a short period of time.[5]
8. I've learned to cope well with these feelings. (filler)
9. Sometimes these feelings take care of themselves.
10. Exercising will help me feel better. (filler)
11. I'll feel better if I let my emotions take their natural course.
12. I'll bounce right back with a bit of time.[6]
13. I'll feel this way for a long time. (r)[7]
14. Religion will help me cope. (filler)
15. Dealing with these feelings will take a lot of work. (r)
16. I won't feel better unless I try to control my mood. (r)
17. This reaction is normal. (filler)
18. My feelings sometimes get better on their own.
19. Improving these bad moods usually takes some conscious effort. (r)
20. It's just a passing thing.[8]
21. Laughter is the best medicine. (filler)
22. I'll need to do some active coping to feel better. (r)
23. A distraction might do me some good. (filler)
24. Letting a little time pass will be enough to make me feel better.
25. Things are not as bad as they might seem. (filler)
26. Sometimes my mood improves even when I don't give it much thought.
27. Even if I just let this mood be, I'll feel better soon.

[2] These instructions are a modified version of those from "Measuring Generalized Expectancies for Negative Mood Regulation: Initial Scale Development and Implications," by S. J. Catanzaro and J. Mearns, 1990, *Journal of Personality Assessment, 54,* pp. 562–563. © 1990 Lawrence Erlbaum Associates, Inc. (Taylor & Francis Group). Adapted with permission of the authors and the publisher (Taylor & Francis Ltd., http://www.tandf.co.uk/journals, http://www.informaworld.com).

[3] This item stem is from "Measuring Generalized Expectancies for Negative Mood Regulation: Initial Scale Development and Implications," by S. J. Catanzaro and J. Mearns, 1990, *Journal of Personality Assessment, 54,* p. 552. © 1990 Lawrence Erlbaum Associates, Inc. (Taylor & Francis Group). Reprinted with permission of the authors and the publisher (Taylor & Francis Ltd., http://www.tandf.co.uk/journals, http://www.informaworld.com).

[4] (r) = reverse scored item.

[5] Based on item 29 in the Emotional Schema Questionnaire: "Strong feelings only last a short period of time." (Leahy 2002, p. 181).

[6] Based on item 4 in the Affective Control Scale: "If I get depressed, I am quite sure that I'll bounce right back." (Williams et al. 1997, p. 242).

[7] Based on item 24 in the Negative Mood Regulation Scale, "When I'm upset, I believe that I'll be upset for a long time," from "Measuring Generalized Expectancies for Negative Mood Regulation: Initial Scale Development and Implications," by S. J. Catanzaro and J. Mearns, 1990, *Journal of Personality Assessment, 54,* p. 552. © 1990 Lawrence Erlbaum Associates, Inc. (Taylor & Francis Group). Adapted with permission of the authors and the publisher (Taylor & Francis Ltd., http://www.tandf.co.uk/journals, http://www.informaworld.com).

[8] Based on item 38 in the Affective Control Scale: "I don't really mind feeling nervous; I know it's just a passing thing" (Williams et al. 1997, p. 242).

References

Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment, 13*, 27–45.

Bargh, J. A., & Williams, L. E. (2007). The nonconscious regulation of emotion. In J. J. Gross (Ed.), *Handbook of emotion regulation* (pp. 429–445). New York: The Guilford Press.

Baumeister, R. F., Bratslavsky, E., Muraven, M., & Tice, D. M. (1998). Ego depletion: Is the active self a limited resource? *Journal of Personality and Social Psychology, 74*, 1252–1265.

Carver, C. S. (1997). You want to measure coping but your protocol's too long: Consider the brief COPE. *International Journal of Behavioral Medicine, 4*, 92–100.

Catanzaro, S. J., & Mearns, J. (1990). Measuring generalized expectancies for negative mood regulation: Initial scale development and implications. *Journal of Personality Assessment, 54*, 546–563.

Catanzaro, S. J., Wasch, H. H., Kirsch, I., & Mearns, J. (2000). Coping-related expectancies and dispostitions as prospective predictors of coping responses and symptoms. *Journal of Personality, 68*, 757–788.

Clark, L. A., & Watson, D. (1995). Constructing validity: Basic issues in objective scale development. *Psychological Assessment, 7*, 309–319.

Costa, P. T., & McCrae, R. R. (1992). *Revised NEO personality inventory (NEO PI-R) and NEO five-factor inventory (NEO-FFI) professional manual*. Odessa, FL: Psychological Assessment Resources.

Crowne, D. P., & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology, 24*, 349–354.

DeVillis, R. F. (2003). Scale development: Theory and applications. In L. Bickman & D. J. Rog (Eds.), *Applied social research methods series* (2nd ed., Vol. 26). Thousand Oaks, CA: Sage.

DeWall, C. N., Twenge, J. M., Koole, S. L., Baumeister, R. F., Marquez, A., & Reid, M. W. (2011). Automatic emotion regulation after social exclusion: Tuning to positivity. *Emotion, 11*, 623–636.

Fitzsimons, G. M., & Bargh, J. A. (2004). Automatic self-regulation. In R. F. Baumeister & K. D. Vohs (Eds.), *Handbook of self-regulation: Research, theory, and applications* (pp. 151–170). New York: The Guilford Press.

Floyd, F. J., & Widaman, K. F. (1995). Factor analysis in the development and refinement of clinical assessment instruments. *Psychological Assessment, 7*, 286–299.

Fraley, R. C., Waller, N. G., & Brennan, K. A. (2000). An item response theory analysis of self-report measures of adult attachment. *Journal of Personality and Social Psychology, 78*, 350–365.

Gratz, K. L., & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the Difficulties in Emotion Regulation Scale. *Journal of Psychopathology and Behavioral Assessment, 26*, 41–54.

Gross, J. J. (1999). Emotion regulation: Past, present, future. *Cognition and Emotion, 13*, 551–573.

Hayes, S. C., Strosahl, K., Wilson, K. G., Bissett, R. T., Pistorello, J., Toarmino, D., et al. (2004). Measuring experiential avoidance: A preliminary test of a working model. *The Psychological Record, 54*, 553–578.

Hofmann, S. G., Sawyer, A. T., Fang, A., & Asnaani, A. (2012). Emotion dysregulation model of mood and anxiety disorders. *Depression and Anxiety, 29*, 409–412.

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*, 1–55.

Kaplan, R. M., & Saccuzzo, D. P. (2009). *Psychological testing: Principles, applications, and issues* (7th ed.). Belmont, CA: Wadsworth.

Kirsch, I. (1985). Response expectancy as a determinant of experience and behavior. *American Psychologist, 40*, 1189–1202.

Kirsch, I., Mearns, J., & Catanzaro, S. J. (1990). Mood-regulation expectancies as determinants of dysphoria in college students. *Journal of Counseling Psychology, 37*, 306–312.

Kline, R. (2013). Exploratory and confirmatory factor analysis. In Y. Petscher, C. Schatschneider, & D. L. Compton (Eds.), *Applied quantitative analysis in education and the social sciences* (pp. 171–207). New York: Routledge.

Kolenikov, S. (2009). Confirmatory factor analysis using confa. *The Stata Journal, 9*, 329–373.

Koole, S. L., & Rothermund, K. (2011). "I feel better but I don't know why": The psychology of implicit emotion regulation. *Cognition and Emotion, 25*, 389–399.

Koranyi, N., & Rothermund, K. (2012). Automatic coping mechanisms in committed relationships: Increased interpersonal trust as a response to stress. *Journal of Experimental Social Psychology, 48*, 180–185.

Leahy, R. L. (2002). A model of emotional schemas. *Cognitive and Behavioral Practice, 9*, 177–190.

Mauss, I. B., Bunge, S. A., & Gross, J. J. (2007). Automatic emotion regulation. *Social and Personality Psychology Compass, 1*, 146–167.

Mearns, J. (1991). Coping with a breakup: Negative mood regulation expectancies and depression following the end of a romantic relationship. *Journal of Personality and Social Psychology, 60*, 327–334.

Mearns, J., & Mauch, T. G. (1998). Negative mood regulation expectancies predict anger among police officers and buffer the effects of job stress. *Journal of Nervous and Mental Disease, 186*, 120–125.

Murray, G., Rawlings, D., Allen, N. B., & Trinder, J. (2003). NEO Five-Factor Inventory scores: Psychometric properties in a community sample. *Measurement and Evaluation in Counseling and Development, 36*, 140–149.

Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York: McGraw-Hill.

Peterson, C., Semmel, A., von Baeyer, C., Abramson, L. Y., Metalsky, G. I., & Seligman, M. E. P. (1982). The Attributional Style Questionnaire. *Cognitive Therapy and Research, 6*, 287–300.

Preacher, K. J. (2002). *Calculation for the test of the difference between two independent correlation coefficients* [*Computer software*]. Available from http://quantpsy.org.

Radloff, L. S. (1977). The CES-D Scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement, 1*, 385–401.

Reise, S. P., & Yu, J. (1990). Parameter recovery in the graded response model using MULTILOG. *Journal of Educational Measurement, 27*, 133–144.

Scheier, M. F., Carver, C. S., & Bridges, M. W. (1994). Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): A reevaluation of the Life Orientation Test. *Journal of Personality and Social Psychology, 67*, 1063–1078.

Scott, B. *Text readability consensus calculator*. Retrieved June 17, 2012, from http://www.readabilityformulas.com/free-readability-formula-tests.php.

Smith, G. T., & McCarthy, D. M. (1995). Methodological considerations in the refinement of clinical assessment instruments. *Psychological Assessment, 7*, 300–308.

Stanton, A. L., Kirk, S. B., Cameron, C. L., & Danoff-Burg, S. (2000). Coping through emotional approach: Scale construction

and validation. *Journal of Personality and Social Psychology, 78*, 1150–1169.

Tamir, M. (2009). What do people want to feel and why? Pleasure and utility in emotion regulation. *Current Directions in Psychological Science, 18*, 101–105.

Tran, T. B., Siemer, M., & Joormann, J. (2011). Implicit interpretation biases affect emotional vulnerability: A training study. *Cognition and Emotion, 25*, 546–558.

Wegner, D. M., Erber, R., & Zanakos, S. (1993). Ironic processes in the mental control of mood and mood-related thought. *Journal of Personality and Social Psychology, 65*, 1093–1104.

Williams, K. E., Chambless, D. L., & Ahrens, A. (1997). Are emotions frightening? An extension of the fear of fear construct. *Behaviour Research and Therapy, 35*, 239–248.