Measuring Generalized Expectancies for Negative Mood Regulation: Initial Scale Development and Implications

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A scale measuring generalized expectancies for negative mood regulation (NMR) was developed. The construct was defined as the expectancy that some behavior or cognition will alleviate a negative mood state. Data from five samples of college undergraduates ($N = 1,630$) were reported. Internal consistency, discriminant validity from social desirability, and temporal stability were demonstrated for a 30-item scale derived from an initial pool of 50 items. Further analyses revealed (a) modest correlations of the 30-item scale with internal–external control, (b) that high scorers on the NMR scale reported few symptoms of depression, and (c) that the NMR scale predicted a different pattern of emotions than the Beck Depression Inventory did. Discussion focused on possible roles for expectancies for negative mood regulation in the coping process and directions for future research on the mood regulation process.

Research has expanded the study of behavioral self-regulation (Mischel, 1973) to affective self-regulation. Rippere (1976, 1977, 1979) found that many people try to cope with depression, behaviorally and cognitively, in commonsensical ways. For example, subjects reported attempting to see a friend or analyzing the reason for their depression.

Doerfler and Richards (1981) studied self-initiated attempts to cope with depression. They interviewed adult women who reported either having been successful at coping with a previous depression or not. Two differences emerged between the successful and nonsuccessful copers. First, the successful copers more often reported making a change in their social environment (e.g., moving). Second, successful copers believed the coping statements they made to them-
selves (e.g., "I'll feel better soon"). Although these data were based on retrospective self-reports from a small sample, they are suggestive of the utility of studying individual differences in regulating negative moods. In a similar vein, Burns, Shaw, and Croker (1987) reported that depressed women had lower expectancies that their attempts to cope with sadness would be helpful than nondepressed women did.

These findings suggest that a generalized expectancy for problem solving (Rotter, Chance, & Phares, 1972) is an important dimension of affective self-regulation. This expectancy is a subjectively held belief that behaviors in the individual's repertoire will successfully solve a problem as it is encountered in a variety of situations.

Franko, Powers, Zuroff, and Moskowitz (1985) defined a generalized expectancy for affective self-regulation as "an expectancy that some overt behavior or cognition will alleviate a negative state or induce a positive one" (p. 210). Through interviews, they found that children who were asked to describe situations in which they felt sad and angry also generated numerous solutions for these problems. This ability was taken as evidence of these children's generalized expectancies for affective self-regulation.

Following the definition of a generalized expectancy for affective self-regulation of Franko et al. (1985), the questionnaire described in this article was designed to measure generalized expectancies for the self-regulation of negative moods.

SOCIAL LEARNING THEORY AND GENERALIZED EXPECTANCIES FOR PROBLEM SOLVING

In social learning theory (Rotter, 1954, 1982; Rotter et al., 1972), generalized expectancies for problem solving combine with situational expectancies and reinforcement values in the prediction of behavior. The influence of generalized expectancy varies as a function of the novelty of the situation: The more novel a situation, the more a generalized expectancy contributes to behavior (Rotter, 1975). Generalized expectancies for problem solving can also determine behavior when the generalized belief defines or categorizes situations in a manner that implies or precludes certain behavioral choices. For example, people with an external locus of control (Rotter, 1966) may behave helplessly because they believe the world is unresponsive to their efforts to change it (Zuroff, 1980).

Another category of expectancy has been elaborated by Kirsch (1985). He defined response expectancy as the expectancy of the occurrence of a nonvolitional (e.g., autonomic, emotional, and hypnotic) response and summarized evidence indicating that these expectancies are self-confirming. Therefore, the expectancy that the successful execution of a given behavior will change a mood state is itself likely to influence that mood state. Thus, a generalized
expectancy for alleviating negative moods may be more precisely defined as a response expectancy that generalizes across situations in which negative mood states may be experienced. Assessing generalized expectancies for affective self-regulation should, therefore, predict successful attempts to cope with negative mood states.

These attempts at negative mood regulation are hypothesized to have short-term emotional consequences and long-term consequences for adjustment and health. If a person has a low expectancy for alleviating negative moods, attempts to alter such a mood will be feebler at best, and the negative mood state will continue or become worse. Failing to regulate these negative moods will serve to confirm expectations about the inability to do so. In contrast, positive expectancies should generate coping responses. These coping behaviors may or may not have intrinsic mood-altering properties; even if they do not, the belief that they will may lead to mood enhancement (Kirsch, 1985), thereby initiating a benign cycle.

The results of the interview studies of Rippere (1977) and Franko et al. (1985) were used to develop the Generalized Expectancy for Negative Mood Regulation (NMR) Scale, the self-report questionnaire described in this article. This questionnaire was expected to afford an economical alternative to interviews for data collection, thereby facilitating research on the construct. A 5-point Likert scale format was used. Initially, 50 items were written. Items consisted of expectancy statements about coping behaviors, all with the stem, “When I’m upset, I believe that…” Five types of items were included. General items referred to the possibility that negative moods could or could not be alleviated, rather than to specific strategies of alleviation. Cognitive items samples thoughts and cognitive strategies that might influence negative moods. Similarly, behavioral—alone and behavioral—social items sampled actions that would influence negative moods that one might perform alone or with other people, respectively. Finally, behavioral—unspecified items sampled actions with which one might affect one’s mood either alone or with others. The instructions are found in the Appendix.

In this article, we addressed three issues. First, we sought to establish the internal consistency of a set of items selected from an initial pool, their discriminant validity from social desirability (Crowne & Marlowe, 1964), and the temporal stability of the retained items. Second, we sought to demonstrate the discriminant validity of the new scale from locus of control (Rotter, 1966). Finally, we began to explore the relations among the NMR scale, measures of depression, and other variables relevant to mood and adjustment.

**SAMPLES AND PROCEDURES**

Five nonoverlapping samples of college students provided the data reported here. Descriptions of each, the testing procedures they experienced, and the measures they completed in addition to the NMR follow.
Sample 1

Subjects were 508 female and 281 male (N = 789) introductory psychology students at the University of Connecticut participating in a general testing procedure. Early in the semester, all introductory psychology students participated in a mass test, completing several questionnaires in a class hour. This sample completed a 50-item version of the NMR. Overlapping but different subsamples completed the Social Desirability Scale (SDS; Crowne & Marlowe, 1964), and Rotter’s (1966) Internal–External Locus of Control (I–E) Scale also. Questionnaires were interspersed among other inventories in a randomly determined order.

The SDS is a 33-item true–false inventory that measures the tendency of subjects to portray themselves in an acceptable light by admitting to behaviors that are socially desirable but statistically improbable or denying behaviors that are common but socially unacceptable. The I–E scale is a 23-item forced-choice inventory (plus 6 filler items) that requires subjects to endorse statements reflecting either the belief that reinforcements they receive are the result of their own behavior (internal control) or are caused by fate, chance, or powerful others (external control).

Sample 2

A sample of 80 female and 33 male students at the University of Connecticut completed the NMR twice over a 3- to 4-week interval. The first assessment was made during group testing sessions similar to those in Sample 1. The second assessment was also a group session for which subjects were recruited via telephone. The minimum time span between the two sessions was 24 days; the maximum was 30 days. Most subjects experienced at least a 4-week interval between sessions. Subjects received course credit for participating in the second session.

Sample 3

Subjects were 140 female and 65 male students at Illinois State University who had volunteered to participate in a two-session study for extra course credit. The two sessions were no fewer than 6 weeks apart and no more than 8 weeks apart.

Sample 4

The NMR was administered to a sample of 272 female and 174 male students at the University of Connecticut in a procedure similar to that used with Samples 1 and 2. Of these students, 37 men and 125 women were also administered the SDS and the short form of the Beck Depression Inventory (BDI–SF; Beck, Rial,
& Rickels, 1974). The Beck Depression Inventory (BDI; Beck, Rush, Shaw, & Emery, 1979) is a 21-item questionnaire that requires subjects to select statements descriptive of them during the past week from sets of four, which indicate increasingly severe depressive symptoms (e.g., sleep disturbance and loss of pleasure). The BDI–SF consists of 13 items selected from the more familiar BDI and was used with this sample because of time constraints imposed by the testing procedure. Beck et al. (1974) reported correlations of the BDI–SF with the regular BDI ranging from .89 to .97.

Sample 5

Subjects were 77 members of social fraternities at the University of Connecticut.1 They were recruited via their fraternities, and payment for participation was made to the organizations. These subjects completed the NMR, the regular version of the BDI, the Rotter Incomplete Sentences Blank (ISB; Rotter & Rafferty, 1950), and Mosher and White's (1982) revision of Izard's (1972) Differential Emotions Scale (DES) in two different sessions.

The ISB is a semiprojective instrument which requires that subjects write completions of 40 sentence stems (e.g., "A mother . . .") so as to reveal their true feelings. These are scored on a 7-point scale for level of conflict, with high scores indicating high levels of conflict. A randomly selected set of 20 protocols was scored independently;2 correlating these scores with those of the first author revealed good intrarater reliability, r(18) = .82, p < .001, and a t test for correlated samples revealed no systematic bias, t(18) = −1.27, ns. The scores of the first author were used in all analyses. The validity of the ISB as a broad measure of maladjustment in college students has been well established (Lah, 1989; Watson, 1978).

The DES measures the discrete emotions of interest, enjoyment, surprise, distress, anger, fear, guilt, contempt, and shame. Each emotion was represented by 6 adjectives; subjects indicated how intensely, on a 1 to 5 scale, they felt each emotion "right now," with higher scores indicative of greater emotional intensity. The validity of the DES as a measure of patterns of emotional states has generally been supported (e.g., Izard, 1972; Mosher & White, 1982).

The first session was a group testing3 at which subjects completed the ISB, the

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1Fraternity members were recruited to afford use of a peer nomination procedure which included a number of adjustment-related trait measures (e.g., happy vs. unhappy) and control variables (e.g., number of friends). The pattern of relations among the peer nominations indicated that subjects did not discriminate between the traits and that nominations may have been influenced by halo effects of popularity. Therefore, no results from this measure are presented here. An article addressing these and other measurement issues is in preparation.

2We are grateful to Ronald Anderson for scoring the 20 ISB protocols.

3For three groups, the first session took place at their fraternity house; the fourth group was tested at a meeting room on campus. No group differences were found on any of the measures.
NMR, and the BDI. The first author, one male assistant, and one female assistant monitored the session and ensured that subjects followed instructions.

The second session consisted of individual testing. This session usually took place within 2 weeks of the group session. The majority of individual testing sessions took place within 1 week of the group testing. Here, subjects completed the BDI and the DES in the presence of the first author, who was blind to their scores on measures from the first session.

SCALE DEVELOPMENT AND PSYCHOMETRIC PROPERTIES

Item Selection

These analyses proceeded with the initial goal of establishing the general psychometric properties of the NMR separately for men and women. Items were retained if they met the four following criteria: (a) a mean score that was within the range of 1.5 and 4.5 on the Likert scale; (b) a standard deviation near 1.0, indicating adequate dispersion of scores without too great a range; (c) a corrected item–total correlation between .30 and .60, indicating a balance between consistency with the rest of the scale and unique contribution to the total scale score; and (d) a correlation with social desirability lower than the corrected item–total correlation. Further, items were chosen to minimize sex differences in the items statistics, thereby creating a single scale with utility for both men and women.

Application of the item retention criteria led to the inclusion of 30 items in a single scale that appeared useful for both men and women. The average corrected item–total correlations were .40 for men and .42 for women (both \( p < .001 \)). Of the retained items, half were scored in the positive direction; for the remainder, the scoring was reversed. The 30 retained NMR items can be found in Table 1.

Descriptive statistics and alpha internal consistency coefficients for the 30-item scale obtained from all samples can be found in Table 2. Note that mean scores are generally consistent in this population, that there are no statistically significant sex differences in mean scores, and that the alpha coefficients are uniformly high.

As might be expected, given that the retained items were selected partially because of their low correlation with social desirability, the NMR correlated at a low level with the SDS. This correlation was significant for the women in Samples 1 who completed both measures, \( r(414) = .17, p < .05 \), but not the men, \( r(248) = .09, p > .05 \). However, the correlations for men and women are not significantly different from each other, \( p > .05 \).

Intercorrelations of subscales based on item content are presented in Table 3, using Sample 1 data. Reflecting the high internal consistency of the entire scale, the subscales correlated from a moderate to strong degree. These correlations
TABLE 1
NMR Scale Items

1. I can usually find a way to cheer myself up.
2. I can do something to feel better.
3. Wallowing in it is all I can do. (n)
4. I'll feel okay if I think about more pleasant times.
5. Being with other people will be a drag. (n)
6. I can feel better by treating myself to something I like.
7. I'll feel better when I understand why I feel bad.
8. I won't be able to get myself to do anything about it. (n)
9. I won't feel much better by trying to find some good in the situation. (n)
10. It won't be long before I can calm myself down. (n)
11. It will be hard to find someone who really understands. (n)
12. Telling myself it will pass will help me calm down.
13. Doing something nice for someone else will cheer me up.
14. I'll end up feeling really depressed. (n)
15. Planning how I'll deal with things will help.
16. I can forget about what's upsetting me pretty easily.
17. Catching up with my work will help me calm down.
18. The advice friends give me won't help me feel better. (n)
19. I won't be able to enjoy the things I usually enjoy. (n)
20. I can find a way to relax.
21. Trying to work the problem out in my head will only make it seem worse. (n)
22. Seeing a movie won't help me feel better. (n)
23. Going out to dinner with friends will help.
24. I'll be upset for a long time. (n)
25. I won't be able to put it out of my mind. (n)
26. I can feel better by doing something creative.
27. I'll start to feel really down about myself. (n)
28. Thinking that things will eventually be better won't help me feel any better. (n)
29. I can find some humor in the situation and feel better.
30. If I'm with a group of people, I'll feel "alone in a crowd." (n)

Note: All items have the same stem: "When I'm upset, I believe that..." Items were rated on a 5-point scale ranging from strong disagreement (1) to strong agreement (5). Negative items are denoted by (n); scoring is reversed prior to computation of statistics.

suggest that although different subscales may prove useful in the prediction of some criteria (e.g., using cognitive vs. behavioral mood regulation strategies), the 30 items measure a broad, unitary construct.4

Temporal Stability

One final question of initial scale development regards the temporal stability (test–retest reliability) of NMR scores. Because it is conceived as a measure of a

4A principal components factor analysis of Sample 1 data yielded a solution consistent with this interpretation. Because these results are redundant with those of the internal consistency analyses, they are not reported here. More information is available from the authors.
TABLE 2
Descriptive Statistics for the NMR Scale in Five Samples

<table>
<thead>
<tr>
<th>Sample</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
<th>(\alpha)</th>
</tr>
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<td>99.68</td>
<td>14.33</td>
<td>49–147</td>
<td>.87</td>
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<tr>
<td>Women</td>
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<td>99.14</td>
<td>14.33</td>
<td>58–141</td>
<td>.87</td>
</tr>
<tr>
<td>2 Time 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>33</td>
<td>98.55</td>
<td>17.62</td>
<td>62–133</td>
<td>.90</td>
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<tr>
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<td>102.26</td>
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<td>61–132</td>
<td>.87</td>
</tr>
<tr>
<td>Time 2</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>33</td>
<td>101.12</td>
<td>18.84</td>
<td>63–137</td>
<td>.91</td>
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<tr>
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<td>105.00</td>
<td>18.21</td>
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<td>.92</td>
</tr>
<tr>
<td>3 Time 1</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>65</td>
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<td>15.08</td>
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<td>.88</td>
</tr>
<tr>
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<td>104.96</td>
<td>14.10</td>
<td>62–143</td>
<td>.90</td>
</tr>
<tr>
<td>Time 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>65</td>
<td>106.83</td>
<td>15.27</td>
<td>72–135</td>
<td>.87</td>
</tr>
<tr>
<td>Women</td>
<td>140</td>
<td>105.60</td>
<td>14.34</td>
<td>69–136</td>
<td>.88</td>
</tr>
<tr>
<td>4 Men</td>
<td>174</td>
<td>103.66</td>
<td>17.20</td>
<td>54–148</td>
<td>.90</td>
</tr>
<tr>
<td>Women</td>
<td>272</td>
<td>102.99</td>
<td>16.69</td>
<td>51–143</td>
<td>.89</td>
</tr>
<tr>
<td>5 Men</td>
<td>77</td>
<td>107.40</td>
<td>14.98</td>
<td>67–141</td>
<td>.86</td>
</tr>
</tbody>
</table>

Note. High score = high expectancy.

TABLE 3
Intercorrelations of NMR Subscales in Sample 1

<table>
<thead>
<tr>
<th></th>
<th>General</th>
<th>Cognitive</th>
<th>Behavioral</th>
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<tr>
<td>Men*a</td>
<td></td>
<td>.68</td>
<td></td>
</tr>
<tr>
<td>General</td>
<td></td>
<td>.52</td>
<td>.53</td>
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<tr>
<td>Cognitive</td>
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<td>Behavioral</td>
<td></td>
<td>.54</td>
<td>.53</td>
</tr>
<tr>
<td>Women*b</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cognitive</td>
<td></td>
<td>.67</td>
<td></td>
</tr>
<tr>
<td>Behavioral</td>
<td></td>
<td>.54</td>
<td>.53</td>
</tr>
</tbody>
</table>

Note. All correlations are significant, \(p < .001\). General items are 1, 2, 3, 8, 10, 14, 19, 20, 24, and 27. Cognitive items are 4, 7, 9, 12, 15, 16, 21, 25, 28, and 29. Behavioral items are 5, 6, 11, 13, 17, 18, 22, 23, 26, and 30.

*a\(n = 281\). *b\(n = 508\).

set of generalized expectancies, we expect that NMR scores will prove to be stable over time, in the absence of experiences (like psychotherapy) that may provide a basis for changing these beliefs. The stability obtained from Sample 2 for NMR scores over a 3- to 4-week period for women was \(r(78) = .74;\) for men, \(r(31) = .76;\) for men in Sample 3, who were retested at a 6- to 8-week interval, \(r(63) = .67;\) for women, \(r(138) = .78,\) all \(p < .001.\)

Note that NMR scores tended to increase at Time 2 in both samples (see Table
2). Repeated measures analyses of variance (ANOVA) revealed that for Sample 2, this effect was significant, $F(1, 111) = 4.18, p < .05$; for Sample 3, the effect approached significance, $F(1, 203) = 3.74, p < .06$. No interactions with sex were found. Because the mean increases are small relative to the range of scores, it is unlikely that the statistical significance of these results indicates much practical significance. It is an open empirical question if these differences reflect reactivity to repeated testing or an actual increase in confidence among these young adults, predominantly freshman and sophomore college students, in their mood regulation abilities.

**RELATIONSHIP WITH INTERNAL–EXTERNAL CONTROL**

We expected that NMR items would exhibit discriminant validity from locus of control (Rotter, 1966) because locus of control pertains to external reinforcing events, whereas affective self-regulation pertains to one’s own emotional states. Still, some overlap between the constructs does exist; thus, significant, but moderate negative correlations between measures of the constructs were predicted, because higher I–E scores are indicative of endorsing more external items.

Data were available from 358 subjects (135 men and 223 women) from Sample 1. NMR scores were significantly correlated with I–E scores in the predicted direction for women, $r(221) = -.35, p < .001$, but not for men, $r(133) = -.09, p > .05$. These correlations are significantly different, $t = 2.49, p < .05$.

Although the original hypothesis did not take sex differences into account, this finding may reflect a previously observed tendency for the I–E scale to correlate with some measures of adjustment for women but not men (Phares, 1976; Warehime & Foulds, 1971). As such, the results are consistent with our conception of expectancies for negative mood regulation as one aspect of the adjustment process. Further, the low magnitudes of these correlations are evidence of the discriminant validity of the NMR from a measure of locus of control.

**RELATIONSHIPS WITH MEASURES OF DEPRESSION, ADJUSTMENT, AND AFFECT**

Because depression is associated with the duration as well as the occurrence of negative moods, generalized expectancies for negative mood regulation should be an important predictor of dysphoria and depression. Our purpose here was twofold: to establish the relationship of the NMR to self-reported depression
and to demonstrate the discriminant validity of the NMR from measures of depression or dysphoria.

The correlation matrices of the NMR scale with the BDI-SF and the SDS for subjects in Sample 4 who completed all three measures are presented in Table 4. Correlations of the NMR with the SDS followed the same pattern as was found for Sample 1. The correlations with the BDI-SF showed that subjects who reported a strong belief that they can alter negative moods are less depressed than those who do not hold this belief as strongly. This relation was particularly robust for men. However, for women, there appeared to be some shared response style variance due to social desirability among the scales, which might account for the high correlations.

We sought to rule out the hypothesis that, for women, the apparent relation between the NMR and the BDI-SF was, in fact, due to a shared tendency for both scales to elicit socially desirable responses. Therefore, we tested the contribution of the NMR to variance in the BDI-SF with social desirability statistically controlled in a hierarchical multiple regression. Results indicated that the NMR and BDI-SF shared variance independent of that shared with social desirability, F(1, 122) = 16.56, p < .001. The increment in R^2 was .11.

The correlation of the NMR with a measure of depression is a first step in establishing its validity as a measure of an important determinant of negative mood regulation, but it leaves open the question of discriminant validity. Demonstrating that the NMR has a different pattern of relationships than does the BDI with broader adjustment measures and various emotional states would be evidence that the NMR is not merely a proxy measure of depression. Thus, analyses of data from Sample 5 were designed to replicate and extend those from Sample 4 in the following ways: First, we correlated the NMR with two separate administrations of the regular 21-item version of the BDI; second, we correlated

<table>
<thead>
<tr>
<th></th>
<th>NMR</th>
<th>BDI-SF</th>
<th>SDS</th>
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<tbody>
<tr>
<td><strong>Men</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>NMR</td>
<td>−</td>
<td></td>
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<tr>
<td>BDI-SF</td>
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<tr>
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<td>−</td>
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<tr>
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</tr>
<tr>
<td>NMR</td>
<td>−</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BDI-SF</td>
<td>-.39**</td>
<td>−</td>
<td></td>
</tr>
<tr>
<td>SDS</td>
<td>.23*</td>
<td>−.29**</td>
<td>−</td>
</tr>
</tbody>
</table>

Note. NMR = Generalized Expectancy for Negative Mood Regulation Scale; BDI-SF = Beck Depression Inventory, Short Form; SDS = Marlowe-Crowne Social Desirability Scale.

*a*n = 37. *b*n = 125.

*p < .01. **p < .001.
both the NMR and BDI with the ISB; and third, we examined the relationships among the NMR, the two BDI assessments, and measures of emotional states taken at the second session.

We expected the NMR: (a) to predict depression scores at Time 2 and (b) to be related to negative emotions. In addition, we expected that the NMR and BDI would display different patterns of relations with affect and adjustment measures. We based this reasoning on two things: first, on evidence that depression is emotionally complex and includes the experience of negative emotions other than sadness, such as shame and guilt (Izard, 1972; Watson & Clark, 1984; Watson, Clark, & Tellegen, 1988). Indeed, the BDI includes items that specifically assess guilt, irritability, and self-accusation (Beck, Steer, & Garbin, 1988). On the other hand, the NMR items, although they refer to the general feeling of being “upset,” emphasize feelings of sadness more than other unpleasant emotions. We thought it unlikely, therefore, that the NMR would predict emotions such as guilt, shame, disgust, or contempt. We expected that the NMR would predict sadness measured at Time 2 and that the BDI would be related to sadness as well as a number of additional negative emotions, including guilt and shame, at Time 2.

Second, because the BDI elicits reports of specific symptoms of psychopathology, high BDI scores are indicative of poor adjustment. In contrast, NMR items do not elicit symptom reports; thus, we expected that the BDI, but not the NMR, would be correlated with the ISB.

Correlations among the NMR, ISB, and the two BDI administrations are presented in Table 5. Replicating and extending the results obtained with Sample 4, the NMR correlated significantly with both BDI scores. However, the NMR also correlated with a broad adjustment measure, the ISB. By using $T_2$ (Williams, 1959) to compare the correlation between the NMR and the ISB to the correlation between the BDI given at the same session and the ISB, we showed that these were significantly different, $T_2(73) = -4.74$, $p < .05$. This

<table>
<thead>
<tr>
<th></th>
<th>NMR</th>
<th>ISB</th>
<th>BDI-1</th>
<th>BDI-2</th>
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<tbody>
<tr>
<td>NMR</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>ISB</td>
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</tbody>
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Note. $N = 77$ men. NMR = Generalized Expectancy for Negative Mood Regulation Scale; ISB = Rotter Incomplete Sentences Blank; BDI-1 = Beck Depression Inventory, first administration; BDI-2 = Beck Depression Inventory, second administration.

*p < .05. **p < .001.
finding is consistent with our view that the NMR scale, although related to depression and other adjustment outcomes, is not a measure of adjustment.

The correlations of the NMR and each BDI score with DES scores are presented in Table 6. As hypothesized, the BDI was strongly related to a number of negative emotions; the NMR was only related to sadness.

In summary, the results of these analyses indicate that although the NMR is correlated with depression, it clearly has a different pattern of relations with related variables than the BDI does. These data also suggest that the NMR scale is not a proxy measure of negative affect (Watson et al., 1988) and provide evidence for the discriminant validity of the NMR from measures of depression.

GENERAL DISCUSSION

These studies were intended to examine the utility of a preliminary pool of theoretically derived items as a measure of generalized expectancies for negative mood regulation. The 30-item NMR scale has acceptable internal consistency, temporal stability, and discriminant validity from social desirability and locus of control. Generalized expectancies for negative mood regulation and depression are inversely related, but measures of these two constructs display different patterns of relations with a broad adjustment measure as well as measures of affective states, suggesting that they are distinct constructs.

More recent data lend further support to the NMR's discriminant validity from depression. Kirsch, Mearns, and Catanzaro (in press) found that stressful life events, a powerful predictor of depressive and physical symptoms, was not

<table>
<thead>
<tr>
<th>Emotion</th>
<th>NMR</th>
<th>BDI-1</th>
<th>BDI-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest</td>
<td>.19</td>
<td>.05</td>
<td>.01</td>
</tr>
<tr>
<td>Surprise</td>
<td>-.02</td>
<td>.11</td>
<td>.20</td>
</tr>
<tr>
<td>Joy</td>
<td>.15</td>
<td>-.01</td>
<td>-.05</td>
</tr>
<tr>
<td>Sadness</td>
<td>-.28*</td>
<td>.42***</td>
<td>.58***</td>
</tr>
<tr>
<td>Anger</td>
<td>-.01</td>
<td>.05</td>
<td>.20</td>
</tr>
<tr>
<td>Disgust</td>
<td>-.06</td>
<td>.18</td>
<td>.37***</td>
</tr>
<tr>
<td>Fear</td>
<td>-.10</td>
<td>.30**</td>
<td>.40***</td>
</tr>
<tr>
<td>Guilt</td>
<td>-.10</td>
<td>.38***</td>
<td>.55***</td>
</tr>
<tr>
<td>Contempt</td>
<td>-.14</td>
<td>.28*</td>
<td>.34**</td>
</tr>
<tr>
<td>Shame</td>
<td>-.21</td>
<td>.30**</td>
<td>.45***</td>
</tr>
</tbody>
</table>

Note. N = 77 men. NMR = Generalized Expectancy for Negative Mood Regulation Scale; BDI-1 = Beck Depression Inventory, first administration; BDI-2 = Beck Depression Inventory, second administration. Emotions are from the Differential Emotions Scale, which was administered with the second administration of the BDI.

*p < .05  **p < .01  ***P < .001.
correlated with the NMR at all. Mearns (1989) found that the NMR adds to the prediction of changes in depression over time even when controlling for initial levels of depression.

A number of theoretical, empirical, and practical issues remain. Before considering the implications of our results for further research, we wish to clarify the relation between negative mood regulation expectancies and three related constructs: negative affectivity (Watson & Clark, 1984), self-control (Rosenbaum, 1980), and anxiety sensitivity (Reiss, Peterson, Gursky, & McNally, 1986).

Negative affectivity (NA) is defined as the disposition to experience unpleasant mood states. Expectancies for negative mood regulation concern one's ability to terminate unpleasant mood states, rather than the tendency to experience them in the first place. Although we expect a modest empirical relation between measures of the two constructs, they lend themselves to different predictions. In future studies, we expect the NMR to predict attempts to terminate negative moods and the duration of negative moods following upsetting events that are likely to induce them in most people; in contrast, measures of NA should predict the onset and intensity of negative moods, but might not be related to attempts to terminate the negative moods or the efficacy of those attempts. Although our data do not address these issues, the finding that NMR scores predict sadness scores but not other aspects of NA is an initial indication that NMR scores are not trait NA scores.

The Self-Control Schedule (SCS) was developed by Rosenbaum (1980) to measure the behavioral construct of self-control. Both the SCS and the NMR spring from the notions: (a) that individuals can use a variety of cognitive and behavioral strategies to assert control over negative moods, and (b) that individuals are likely to vary in the degree to which they attempt to do so. However, in contrast to our focus on the assessment of the belief that one can effectively terminate an unpleasant mood, the SCS focuses on the frequency with which the person relies on various self-control strategies by means of inquiring about the strategies' descriptiveness of the respondent. Despite a few SCS items that indirectly assess expectancies similar to those assessed by the NMR scale (e.g., "Often by changing my way of thinking I am able to change my feelings about almost everything"), the SCS appears to give a picture of the individuals' style and level of coping behavior, rather than expectancies for mood regulation. In this respect, the SCS may be more similar to measures of coping behavior (cf. Moos, Cronkite, Billings, & Finney, 1983) than to the NMR scale. Furthermore, it is likely that the NMR will not predict a number of different criteria that the SCS does but will predict some criteria that the SCS does not. For example, SCS scores have been related to procrastination (Milgram, Sroloff, & Rosenbaum, 1988); however, expectancies for negative mood regulation should predict such criteria (i.e., criteria affected by planning, goal setting, and self-reinforcement) only when they are a function of the duration of a negative mood state. The NMR should prove more useful than the
NEGATIVE MOOD REGULATION

SCS in predicting the attempts to alleviate the adverse emotional effects of negative life events and the impact of affect-mediated consequences of these events.

Anxiety sensitivity is defined as the fear of fear: the belief that the experience of anxiety or fear will cause further anxiety, illness, or embarrassment. Reiss et al. (1986) developed the Anxiety Sensitivity Index (ASI) as a measure of these expectancies and demonstrated their role in the experience of anxiety. Although these expectancies are clearly related to generalized expectancies for negative mood regulation, an important distinction can be drawn. The ASI does not assess the person’s expectancy that anxious states can be effectively terminated; likewise, the NMR does not assess the expectancy that additional negative outcomes will follow negative moods. The ASI is most likely to prove useful as a predictor of the intensity and duration of anxious states; again, we emphasize that the NMR scale is intended to predict the number of attempts to terminate negative moods and the success of these mood regulation attempts. Because problems arising from the experience of anxious states are probably a function of both sensitivity and mood regulation expectancies, the NMR and the ASI will probably provide joint prediction of a number of criteria.

Implications for Research

Research on the construct we are measuring should contribute to an understanding of stress and coping. A specific hypothesis consistent with the cognitive–phenomenological framework of Lazarus and Folkman (1984) is that the NMR scale measures a variable influencing a person’s secondary appraisal of one’s coping resources when emotion-focused coping is possible or required.

Although we have focused on emotional outcomes, it is likely that generalized expectancies for negative mood regulation will also be related to somatic outcomes of stress. Because emotion-focused coping strategies can affect, for better or worse, patterns of physiological disturbance as well as the behavioral choices made to adapt to physiological disturbance (Lazarus & Folkman, 1984, pp. 214–219), beliefs concerning one’s ability to alleviate negative emotional states can play an important role in this process.

Consistent with these hypotheses, Kirsch et al. (in press) found that not only do NMR scores predict coping behavior, they have direct and indirect (through coping attempts) effects on self-reported coping outcomes of depression and physical symptoms. That is, the belief that one can regulate negative moods is in itself associated with more adaptive outcomes, in addition to its effects via coping behavior. Mearns (1989) found that the NMR and initial levels of depression interacted to predict changes in depression over time as subjects were recovering from the end of a romantic relationship. That is, prediction of emotional recovery from a significant loss was enhanced by inclusion of the NMR.
The NMR is related to self-report measures of depression and sadness. These might be termed broad outcomes of the mood regulation process. Research is also needed to examine the relation between expectancies for negative mood regulation and the aspects of the ongoing process of mood regulation itself. In particular, there may be "controlled" cognitive activities in which successful mood regulators engage that counteract apparently "automatic" cognitive effects of dysphoric mood states (cf. Blaney, 1986; Bower, 1981; Hasher & Zacks, 1979). Engaging in such activities should be at least partially a function of the expectancy of their success.

High and low NMR scorers may differ in the initial intensity of negative moods, the speed with which they recover from these, or both. It should be noted that, as with any broad measure of generalized expectancy, we expect the NMR to predict such criteria in conjunction with situational parameters. There are probably situations in which even the most confident mood regulator would be hard pressed to be successful and indeed may not expect or, possibly, want to be successful. One example of a situation that might preclude mood regulation attempts despite strong generalized expectancies for their success might be an experiment in which subjects are exposed to a strong and obvious negative mood induction procedure and are exhorted to continue to feel the negative mood (as is often done in research investigating effects of mood on cognitive processes). Thus, it is more appropriate to use nonobvious or ambiguous mood induction procedures, such as films and tape-recorded stories with positive and negative elements, to test hypotheses about the role of generalized expectancies in the mood regulation process. Examples of naturally occurring situations in which mood regulation efforts might not immediately be appropriate are likely to be found when individuals are grieving deaths and other losses or reacting to traumatic stress. High NMR scorers are not hypothesized to be immune to the slings and arrows of life's misfortunes; they are expected to eventually take cognitive and behavioral arms against such troubles and recover more quickly than low scorers, however.

Cognitive theories of personality, emotion, and therapeutic change are consistent with our view that what people think will happen when they experience negative emotions has important implications for their experience of those states and the development and treatment of a number of psychiatric and physical disorders. Developing a more thorough understanding of processes involved in negative mood regulation, individual differences in this process, and their treatment implications appear to be important and fruitful directions for further research.

ACKNOWLEDGMENTS

Portions of this article were presented at the annual convention of the American Psychological Association, August 1987.
We thank Kevin Corcoran, Laurie Pearlman, Elizabeth Portmann, Janis Phelps, J. Conrad Schwarz, and especially Julian B. Rotter and Irving Kirsch, for their helpful comments. We also thank Robin Coltey, Gregory Greenwood, Gene Herrmann, Jill Mattia, Leslie McGovern, Colleen Quinlan, and Michael Silverstein for their assistance with various phases of data collection.

REFERENCES

APPENDIX

Instructions for the NMR Scale

The Attitudes Toward Feelings Scale

This is a questionnaire to find out what people believe they can do 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 you can do, not about what you actually or usually do. Be sure to read each item carefully and show your beliefs by marking the appropriate number on your IBM answer sheet.

If you strongly disagree with an item, fill in the space numbered 1. Mark the space numbered 2 if you mildly disagree with the item. That is, mark the space numbered 2 if you think the item is more generally untrue than true according to your beliefs. Fill in the space numbered 3 if you feel the item is about equally true as untrue. Fill in the space numbered 4 if you mildly agree with the item. That is, mark number 4 if you think the item is more true than untrue. If you strongly agree with an item fill in the space numbered 5.

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

Please be sure to fill in the spaces completely and to erase completely any marks to be changed. Make no extra marks on either the answer sheet or the questionnaire.

Instructions for other reporting formats are available from S. J. Catanzaro (the first author).