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Responding to Negative Internal Experience: Relationships Between Acceptance and Change-Based Approaches and Psychological Adjustment

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Abstract The authors examined the relationships between change-based and acceptance-based strategies for responding to negative internal experience (thoughts and emotions) and levels of psychological symptoms and well-being. A large sample of undergraduate students completed measures of their general frequency of experiencing negative affect and intrusive thoughts, their typical ways of responding when these experiences occur, and their levels of psychological symptoms and well-being. Correlational analyses showed that most of the identified ways of responding to negative internal experiences were significantly related to psychological symptoms and well-being, even after accounting for the general frequency of experiencing unwanted thoughts and emotions. Regression analyses suggested that change-based ways of responding add little or no incremental variance over acceptance-based strategies in accounting for lower symptom levels and greater well-being.

Keywords Acceptance · Negative emotions · Intrusive thoughts · Regulation

The recent literature includes some disagreement about the extent to which negative internal experiences (thoughts and emotions) should be accepted as they are or should be modified or controlled in some way (Gratz and Roemer 2004). Recently developed therapeutic interventions based on acceptance and mindfulness suggest that acknowledging, understanding, and accepting the full range of internal experience (without attempts to change or reduce it) is key to symptom reduction and increased well-being (Hayes et al. 2004a). Well established Cognitive-Behavioral Therapy (CBT) approaches include monitoring and labeling of internal experience but build upon this internal awareness and understanding by teaching strategies to change or reduce unwanted thoughts and emotions (Goldfried and Davison 1994). The present study explored several specific ways of responding to negative thoughts and emotions that seem to exemplify either a change-based approach or an acceptance-based approach, and assessed their relationships with psychological symptoms and positive functioning.

Change-based strategies for responding to negative thoughts and emotions typically involve attempts to decrease or alter internal experience in some way. Some of these strategies appear to be adaptive and helpful. For example, reappraisal involves changing the content of thoughts in order to feel better about emotion-eliciting situations. Gross and John (2003) found that reinterpreting or challenging the validity of thoughts leads to reductions in the frequency and intensity of negative emotions and is associated with fewer symptoms of depression. Other change-based strategies that have been associated with symptom reduction include distraction (thinking of something else or engaging in pleasant activities to take one's mind off unwanted thoughts and emotions; Nolen-Hoeksema and Morrow 1993; Reynolds and Wells 1999) and mood repair (maintaining an optimistic outlook or thinking positively; Salovey et al. 1995). These change-based strategies appear consistent with much of the CBT tradition, which emphasizes the benefits of modifying distorted thoughts and engaging in positive self-talk and positive activities in improving mood.

Other change-based strategies for responding to negative internal experience appear to be maladaptive and have been linked to increases in psychological symptoms. For example,

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deliberately trying to conceal emotions from others has been associated with less adaptive functioning and reduced well-being (Gross and John 2003). Depressive rumination, which involves repeatedly thinking about one's symptoms in an attempt to develop insight and reduce depression, has been shown to have detrimental effects on mood, memory, concentration, and problem-solving (Lyubomirsky and Tkach 2004). Another change-based strategy is thought suppression, which involves deliberate attempts to reduce the frequency and intensity of unpleasant, emotion-inducing cognitions by pushing them out of awareness. Thought suppression can have paradoxical consequences known as rebound effects, in which the suppressed thoughts return with greater frequency or intensity (Abramowitz et al. 2001; Wegner et al. 1987). Thought suppression has been associated with depression, generalized anxiety disorder, obsessive compulsive disorder, and post-traumatic stress disorder (Purdon 1999). Several maladaptive behaviors, such as self-harm, substance abuse, and binge eating, also have been conceptualized as attempts to change or escape from unwanted cognitions and emotions (Hayes et al. 1996). Blackledge and Hayes (2001) also note that attempts to change or avoid negative thoughts and emotions may deplete scarce attentional resources that could have been used toward the pursuit of valued goals. This perspective is consistent with several acceptance and mindfulness-based therapies which emphasize acceptance rather than regulation of cognitions and emotions, including Mindfulness-Based Stress Reduction (MBSR; Kabat-Zinn 1982, 1990) Mindfulness-Based Cognitive Therapy (MBCT; Segal et al. 2002) and Acceptance and Commitment Therapy (ACT; Hayes et al. 1999).

Acceptance-based approaches often use mindfulness practices to encourage individuals to focus their attention on the experiences occurring in the present moment in a nonjudgmental and accepting way, without attempts to change or avoid them (Baer 2003). Specific skills include observing internal experiences as they occur and describing them with short words or phrases (such as "aching," "this is sadness," or "thoughts about tomorrow") and allowing these experiences to come and go as they are, without evaluating them or reacting to them in an impulse-driven, maladaptive manner (Baer et al. 2006). Several reviews of the literature support the utility of acceptance and mindfulness-based treatment approaches for a wide range of problems and disorders (Baer 2003; Grossman et al. 2004; Hayes et al. 2004b; Robins and Chapman 2004).

However, much of the existing research either does not directly compare acceptance-based with change-based strategies, or it relies on comparisons with change-based strategies that are clearly maladaptive. For example, evidence suggests that it is more adaptive to allow thoughts and emotions to come and go naturally instead of attempting to suppress them (Purdon 1999). Similarly, recent theoretical and empirical work on MBCT suggests that it is more adaptive to cultivate an accepting, nonreactive stance to internal experience than to ruminate about it (Segal et al. 2002; Teasdale et al. 2000). What remains unclear is how acceptance-based strategies compare to change-based strategies (reappraisal, positive self-talk, distraction) that have been shown to be helpful. The first goal of the current study, therefore, was to assess acceptance-based and change-based strategies for responding to negative internal experience that are all believed to be adaptive and to compare their relationships with psychological symptoms and well-being. It was predicted that both acceptance-based strategies (awareness, clarity of understanding, acceptance, nonreactivity) and change-based strategies (reappraisal, distraction, positive self-talk) would be negatively correlated with psychological symptoms and positively correlated with psychological well-being.

A second goal of the current study was to assess the relative importance of ways of responding to unwanted internal experience when compared to a general tendency to have such experiences. If *ways of responding* to negative internal experience are important to mental health, they should account for variance in mental health independently of the *frequency of experiencing* such thoughts and emotions. Therefore, it was predicted that ways of responding to unwanted internal experience would have incremental validity over frequency of such experiences in the prediction on psychological symptoms and well-being. This is an important question because it assesses a central tenet of both acceptance-based and change-based treatments: that psychological health depends less on the extent to which negative thoughts and emotions occur and more on how they are managed when they occur.

Finally, it seems likely that acceptance-based and change-based strategies should overlap to some extent; for instance, emotional awareness and clarity may be necessary prerequisites for reappraisal, distraction, and positive self-talk. Thus, a third goal of the current study was to investigate whether going beyond adopting an observant and accepting stance toward negative internal experience and engaging in change-based strategy adds any incremental variance in the prediction of psychological symptoms and well-being. Because these analyses were exploratory, no hypotheses were made.

Method

Participants and Procedures

Participants were 193 undergraduate students who volunteered for this study in exchange for research credit in their introductory psychology course. No other incentives were offered. Participants' mean age was 19.45 years and 73%

were women. The sample was 86% Caucasian and 8% African American, with 6% reporting another race. A power analysis (α=.01, n=193) revealed excellent power (β=.99, .83) to detect a medium effect size for correlation and regression analyses, respectively. All study procedures were approved by the university's Institutional Review Board (IRB). Participants used an online registration system to sign up for a 1-h session conducted in a university classroom with a group of approximately 25 students. After signing informed consent forms, they were provided with a questionnaire packet. Upon finishing all the questionnaires, they were given a written debriefing statement and credit slip and thanked for their participation.

Measures

Three types of variables were assessed: frequency of negative emotion and unwanted thoughts, ways of responding when these experiences occur, and general level of psychological symptoms and well-being. For ways of responding to internal experience, measures were chosen that have unidimensional scales or subscales with high internal consistencies that specifically ask how individuals respond when negative thoughts or emotions occur. All measures were administered in their entirety, although in several cases only selected subscales were included in analyses, for reasons described in the following paragraphs.

Frequency of Negative Affect and Unwanted Thoughts Frequency of negative affect was measured using the Positive and Negative Affect Schedule (PANAS; Watson et al. 1988). The PANAS consists of 20 words that describe either positive or negative affect (i.e. interested, distressed, excited, upset). Participants are asked to indicate how often they feel this way on a five-point Likert scale. Only negative affect was analyzed here. The PANAS allows ratings within several time frames. Participants were asked to rate how they generally feel. In the validation sample, internal consistency and test-retest reliability were high (α=.90; r=.71). Additionally, in the validation sample, the PANAS-NA was significantly correlated with the Hopkins Symptoms Checklist (Derogatis et al. 1974), which has been shown to measure general distress (r=.74). Internal consistency for the negative affect scale in the current sample was high (α=.90).

Frequency of negative or unwanted thoughts was measured with the White Bear Suppression Inventory–Intrusive Thoughts (WBSI-IT) subscale. Although the developers of the WBSI (Wegner and Zanakos 1994) designed it to be a unidimensional measure of thought suppression, several studies have reported that the items actually load on two factors: tendency to have intrusive thoughts and the tendency to suppress thoughts (Bloomberg 2000; Hoping and de Jong-Meyer 2003; Rassin 2003). For the WBSI-IT subscale, the six items shown by these authors to load on an intrusive thoughts factor in several independent samples were used. This factor assesses a general tendency to have unwanted thoughts and includes items such as "I have thoughts that I cannot stop" and "there are thoughts that keep jumping into my head." Participants were asked to rate the degree to which they agree with each item on a five-point Likert scale. The WBSI-IT is significantly positively related to depressive symptoms, as measured on the Brief Symptom Index (Derogatis 2000). Internal consistency for this subscale in the current sample was high (α=.87).

Acceptance-Based Responses to Negative Emotion The Difficulties in Emotion Regulation Scale (DERS; Gratz and Roemer 2004) includes six subscales, four of which, when reverse-scored, assess an acceptance-based or mindfulness-consistent way of responding when negative emotion occurs. Most items begin with, "When I'm upset." The four subscales used here include emotional awareness (attending to or noticing emotions), emotional clarity (being unconfused about the emotion one is feeling), acceptance of emotional responses (refraining from negative secondary emotions such as guilt or anger at oneself for being upset), and impulse control when upset (maintaining control of behavior), which is consistent with the mindfulness-based concept of nonreactivity to inner experience. Respondents indicate the degree to which each statement applies to them on a five-point Likert scale. In the validation sample, internal consistencies for each of the subscales were above .80. Additionally, each of the DERS subscales was significantly related to experiential avoidance, a construct that measures unwillingness to experience unpleasant stimuli (internal or external).

Acceptance-Based Responses to Unwanted Thoughts The Mindfulness Questionnaire (MQ; Chadwick et al. 2005, Responding mindfully to unpleasant thoughts and images: Reliability and validity of the mindfulness questionnaire. Unpublished manuscript) was selected because it specifically measures a nonjudgmental and nonreactive approach to distressing cognitions. All items begin with "Usually, when I have distressing thoughts or images" and continue with a mindfulness-related response, such as, "I am able to just notice them without reacting" and "I am able to accept the experience." Participants rate their agreement with each item on a seven-point Likert scale). In a large student sample, this measure has been shown to have good internal consistency (alpha=.85), significant positive correlations with other mindfulness questionnaires, and correlations in the expected directions with several other measures predicted to be related to mindfulness (Baer et al. 2006. In addition, it showed expected differences between meditating and nonmeditating individuals, and scores increased significantly from pre- to post-treatment in participants in a mindfulness-based stress reduction course

(Chadwick et al. 2005, Responding mindfully to unpleasant thoughts and images: Reliability and validity of the mindfulness questionnaire. Unpublished manuscript).

Change-Based Responses to Negative Emotion Three change-based strategies that previously have been shown to be adaptive were assessed: reappraisal, distraction, and coping self-statements. The reappraisal scale of the Emotion Regulation Questionnaire (ERQ; Gross and John 2003) was used to assess the tendency to change the content of one's thoughts to improve mood. Participants use a seven-point Likert scale to rate their agreement with items assessing reappraisal, such as, "When I want to feel less negative emotion, I change the way I'm thinking about the situation." In the validation sample, internal consistency and test-retest reliability for the reappraisal subscale were adequate (α=.79, r=.69). Additionally, in the validation sample, reappraisal was significantly negatively related to depressive symptoms and positively related to well-being. Distraction (engaging in pleasant or productive activities or thinking pleasant thoughts) and using coping self-statements (encouraging oneself to withstand the experience by being brave and carrying on) were assessed with two scales from the Coping Styles Questionnaire-Revised (CSQ-R; Riley and Robinson 1997). Because the CSQ-R was designed to assess responses to chronic physical pain, the items were reworded slightly to reflect coping with negative emotions. All items on the CSQ-R begin with "when I feel pain." We changed this to "when I'm upset." The remainder of most items required no modification (e.g., "I try to think of something pleasant"). The words "my emotions" were substituted for "the pain" in a few items (e.g. "I tell myself to be brave and carry on despite my emotions"). Respondents were asked to indicate the extent to which they engage in various coping strategies on a seven point Likert scale. Internal consistency in the current sample was adequate for both the distraction and coping self-statements (α=.81 and 76, respectively). Coping self-statements and distraction have been demonstrated to be positively associated with well-being and negatively associated with physical pain symptoms (Geisser et al. 1994; Santavirta et al. 2001).

Change-Based Responses to Unwanted Thoughts Two of the five subscales on the Thought Control Questionnaire (TCQ; Wells and Davies 1994) were used to assess specific strategies used to manage unpleasant and unwanted thoughts that have previously been shown to be to adaptive: distraction (thinking or doing something else) and reappraisal (challenging the validity of thoughts). Participants use a four point Likert-type scale to indicate how often they use each strategy whenever they experience an unpleasant or unwanted thought. Examples include "I do something that I enjoy" (distraction) and "I try to reinterpret the thought" (reappraisal). Wells and Davies (1994) and Reynolds and Wells (1999) reported adequate internal consistency for the distraction and reappraisal subscales (α=.78 and .66). Reynolds and Wells (1999) also found that distraction and reappraisal were associated with lower levels of depression.

Psychological Symptoms and Well-Being Global severity of psychological symptoms was measured with the Brief Symptom Inventory (BSI-18; Derogatis 2000), an 18-item scale assessing depression, anxiety, and somatic symptoms. Respondents indicate the extent to which they were distressed by each symptom within the last week on a five-point Likert scale. Derogatis (2000) reported high internal consistency and test-retest reliability for the total score (α=.96 and r=.90). General well-being was assessed using the Scales of Psychological Well-Being (PWB; Ryff 1989). Recent literature on acceptance and mindfulness (Hayes et al. 1999) as well as positive psychology (Snyder and Lopez 2002) suggests that while level of symptoms is an important component of psychological health, other elements of well-being are equally important. In a review of the theoretical literature on psychological health and positive functioning, Ryff (1989) identified six dimensions of psychological well-being: self-acceptance (positive or accepting attitude toward one's self and one's past, including good and bad qualities), positive relations with others (warm, satisfying relationships, concern for others), autonomy (independence, ability to resist social pressures), environmental mastery (competence in managing life's demands), purpose in life (goals and direction, sense of meaning in life), and personal growth (view of self as growing and developing). The PWB assesses these six dimensions and asks participants to rate their agreement with 54 items on a six-point Likert scale. In the validation sample, internal consistency was high, ranging from .86–.93 for the subscales. Test-retest reliability coefficients also were high, ranging from .81–.88 for the subscales. In the validation sample, significant relationships were seen between the PWB and existing measures of positive functioning (life satisfaction, affect balance, self-esteem, internal control and morale). Additionally, correlations with prior measures of negative functioning (chance control, depression) were negative and significant.

Results

Correlations Between Ways of Responding to Negative Internal Experience and Psychological Health

Correlational analyses were used to examine relationships between ways of responding to negative internal experience

and psychological symptoms and well-being. Subscales for the PWB were summed to create a total well-being score. Because responses to thoughts and feelings were assessed with separate measures, these variables were analyzed separately. Findings are shown in Table 1. As expected, frequency of negative affect (PANAS) and frequency of intrusive thoughts (WBSI-IT) were associated positively with symptoms and negatively with well-being. As noted earlier, all measured ways of responding to internal experience were chosen because previous research suggests that they are adaptive. Therefore, it was predicted that all ways of responding would be correlated negatively with symptoms and positively with well-being. Zero-order correlations were largely consistent with predictions. However, emotional awareness was unrelated to symptoms (though related as expected to well-being). Use of distraction and coping self-statements in response to negative emotion also were unrelated to symptoms. Reappraisal and distraction, when used in response to intrusive thoughts, were unrelated to both symptoms and well-being.

Partial correlations also were computed. For the emotion-based measures (DERS, ERQ, CSQ), these controlled for frequency of negative affect as measured by the PANAS. For the thought-based measures (MQ, TCQ), these controlled for frequency of unwanted thoughts as measured by the WBSI-IT. The purpose of these analyses was to examine whether responses to negative thoughts and emotions are related to psychological functioning independently of how often such thoughts and emotions occur. All correlations that were significant at the zero-order level remained significant when controlling for frequency of negative internal experiences.

Incremental Validity of Ways of Responding in Predicting Psychological Health

Two sets of hierarchical regression analyses were conducted to investigate the relative importance of frequency of negative internal experiences, acceptance-based strategies, and change-based strategies in predicting psychological symptoms and well-being. Analyses were conducted separately for negative emotions and for intrusive thoughts. In regression analysis, significant intercorrelations among the predictor variables can lead to problems with multicollinearity, in which regression coefficients are difficult to interpret (Cohen et al. 2003). Cohen et al. (2003) suggest combining intercorrelated predictor variables to create composite variables by transforming them to z scores and averaging them. Therefore, correlations amongst the predictor variables were examined. Most of the correlations between the subscales identified as acceptance-based strategies for negative emotions (emotional awareness,

Table 1 Negative affect, unwanted thoughts, and ways of responding correlated with symptoms and well-being

	Zero order correlations		Partial correlations[a]	
	symptoms (BSI)	well-being (PWB)	symptoms (BSI)	well-being (PWB)
Negative affect (PANAS)	.59*	−.57*	-	-
Unwanted thoughts (WBSI-IT)	.45*	−.47*	–	–
Acceptance of negative affect:				
Emotional awareness (DERS)	−.06	.39*	−.06	.43*
Emotional clarity (DERS)	−.30*	.50*	−.23*	.46*
Acceptance (DERS)	−.50*	.45*	−.32*	.27*
Impulse control (DERS)	−.55*	.48*	−.45*	.34*
Change of negative affect:				
Reappraisal (ERQ)	−.30*	.38*	−.21*	.30*
Distraction (CSQ)	−.04	.22*	−.04	.30*
Coping self statements (CSQ)	−.04	.36*	.12	.35*
Acceptance of unwanted thoughts				
Mindful observation (MQ)	−.44*	.57*	−.20*	.37*
Change of unwanted thoughts:				
Reappraisal (TCQ)	−.02	−.02	−.04	.03
Distraction (TCQ)	−.08	.15	−.06	.15

BSI Brief Symptom Inventory, *PWB* Scales of Psychological Well-Being, *PANAS* Positive and Negative Affect Schedule, *WBSI* White Bear Suppression Inventory, *DERS* Difficulties in Emotion Regulation Scale, *MQ* Mindfulness Questionnaire, *CSQ* Coping Styles Questionnaire, *ERQ* Emotion Regulation Questionnaire, *TCQ* Thought Control Questionnaire

[a] For emotion-based scales (DERS, ERQ, CSQ), partial correlations control for frequency of negative affect. For thought-based scales (MQ, TCQ) partial correlations control for frequency of unwanted thoughts

*$p<0.01$

clarity, acceptance, and impulse control) were significant at the .01 level (mean r=.35) and all of the correlations between the change-based strategies (reappraisal, coping self-statements, and distraction) were significant at the .01 level (mean r=.41). Not surprisingly, change-based strategies were significantly correlated with emotional awareness and clarity (which may be necessary to engage in change-based strategies); however, the mean correlation was .18, which is lower than relationships within change and acceptance strategies. Therefore, the following regression analyses were conducted with acceptance and change-based composite scores. Tolerance values for the variables included in the regression analyses ranged from .75 to .89, and variance inflation factors ranged from 1.12 to 1.34. These values are well within the limits suggested by Cohen et al. (2003) for avoiding problems with multicollinearity.

The first analysis examined frequency of negative emotion and ways of responding to it in predicting psychological symptoms. Frequency of negative emotions was entered in Step 1. The acceptance-based composite was entered in Step 2 based on the a priori assumption that before engaging in change-based strategies, individuals would first have to utilize acceptance-based skills (emotional awareness/clarity). The change-based composite was entered in Step 3. Results can be seen in Table 2. Frequency of negative affect accounted for a significant amount of variance in predicting psychological symptoms (32%). Acceptance-based strategies accounted for an additional 9% of the variance. Change-based strategies accounted for no additional variance beyond frequency of negative emotions and acceptance-based strategies. The above steps were repeated in a hierarchical regression predicting psychological well-being. Frequency of negative emotion (Step 1) accounted for 31% of the variance, while acceptance-based strategies (Step 2) accounted for an additional 20% and change-based strategies (Step 3) accounted for an additional 4% of the variance in predicting psychological well-being.

The next set of hierarchical regression analyses examined the relative importance of frequency of intrusive thoughts and acceptance-based strategies in predicting psychological symptoms and well-being (change-based strategies were not included in these analyses because they were not significantly related to psychological symptoms and well-being at the zero-order level). Frequency of intrusive thoughts was entered at Step 1 and the single measure of acceptance-based strategies for thoughts (MQ) was entered at Step 2. Results can be seen in Table 2. In predicting psychological symptoms, frequency of intrusive thoughts accounted for 21% of the variance, while acceptance-based strategies accounted for significant incremental variance (4%). In predicting psychological well-

Table 2 Hierarchical regressions predicting psychological symptoms and well-being

DV	Variable entered	B	SE	β	ΔR^2	p
Responding to negative emotions						
BSI						
Step 1	negative affect (PANAS)	1.19	.13	.57	.32	.000
Step 2	negative affect	.90	.13	.43	-	.000
	acceptance-based composite	−.37	.07	−.33	.09	.000
Step 3	negative affect	.89	.13	.43	-	.000
	acceptance-based composite	−.39	.07	−.35	-	.000
	change-based composite	.30	.31	.06	.003	.334
PWB						
Step1	negative affect (PANAS)	−3.30	.38	−.55	.31	.000
Step 2	negative affect	−2.02	.35	−.34	-	.000
	acceptance-based composite	1.54	.19	.49	.20	.000
Step 3	negative affect	−2.04	.34	−.34	-	.000
	acceptance-based composite	1.31	.19	.42	-	.000
	change-based composite	3.07	.77	.22	.04	.000
Responding to intrusive thoughts						
BSI						
Step 1	intrusive thoughts (WBSI)	1.21	.17	.46	.21	.000
Step 2	intrusive thoughts	.76	.23	.28	-	.002
	acceptance-based (MQ)	−.25	.09	−.25	.04	.006
PWB						
Step 1	intrusive thoughts (WBSI)	−3.34	.47	−.47	.22	.000
Step 2	intrusive thoughts	−.99	.62	−.14	-	.112
	acceptance-based (MQ)	1.25	.23	.47	.11	.000

being, frequency of intrusive thoughts accounted for 21% of the variance, while acceptance-based strategies accounted for an additional 11% of the variance. Further, in step two, when frequency of intrusive thoughts and acceptance-based strategies are included in the model simultaneously, frequency of intrusive thoughts is no longer a significant predictor of psychological well-being.

Discussion

This study addressed three main questions. First, relationships between acceptance and change-based ways of responding to negative internal experience and psychological symptoms and well-being were explored. Results suggest that the acceptance-based strategies for responding to negative emotions (emotional awareness, clarity, acceptance, and impulse control) were associated with lower symptoms levels and greater well-being (except that emotional awareness was unrelated to symptoms). Additionally, a mindful stance toward unwanted thoughts was also associated with lower symptoms and greater well-being. Of the change-based strategies for responding to negative emotions, reappraisal was associated with fewer symptoms and greater well-being while distracting and using coping statements were both positively associated with well-being, though unrelated to symptoms. Distraction and reappraisal in responding to unwanted thoughts (as measured by the TCQ) were unrelated to both symptoms and well-being. Wells and Davies (1994) found similar results in a nonclinical population, whereas Reynolds and Wells (1999) found significant positive relationships in a depressed sample. Perhaps the utility of these strategies differs across samples. Distraction and reappraisal may be less effective responses to unwanted thoughts than to negative emotions in nonclinical samples.

A second goal of the current study was to examine whether ways of responding to negative internal experience influence psychological symptoms and well-being when accounting for an individual's baseline tendency to experience such emotions. Partial correlation coefficients revealed that relationships between ways of responding to negative internal experience and psychological health remained significant after controlling for frequency of negative internal experience. These findings suggest that many ways of responding to negative internal experience (both acceptance-based and change-based) account for variance in symptoms and well-being beyond that accounted for by the general tendency to have such experiences. That is, psychological adjustment is not only a function of how often negative internal experience occurs, but is significantly influenced by how individuals respond to it when it occurs. These findings are important because they provide support for a central tenet of both acceptance and change-based treatment approaches: that psychological health depends less on the extent to which negative emotions occur and more on how these are managed when they occur.

A third goal of the current study was to investigate whether change-based strategies for responding to internal experience account for incremental variance over acceptance-based strategies in predicting psychological symptoms and well-being. This goal was based on the assumption that the ability to engage effectively in change-based strategies requires first using acceptance-based strategies. In other words, an individual must first be able to identify and understand that negative thoughts or emotions are occurring without acting impulsively to reduce them, before he/she can effectively engage in reappraisal, distraction, and coping statements. Hierarchical regression analyses showed that change-based strategies accounted for no additional variance in predicting psychological symptoms and very little additional variance in predicting psychological well-being after frequency of internal experience and acceptance-based strategies were accounted for. These results suggest that the significant correlational relationships between distraction and reappraisal for responding to negative emotions and psychological symptoms and well-being may have been influenced by their overlap with acceptance-based strategies. Another important finding is that acceptance-based strategies contributed a large proportion of additional variance, particularly in prediction of psychological well-being, after the contributions of frequency of negative internal experience had been accounted for.

These findings are consistent with the tenets of mindfulness-based approaches such as MBCT (Segal et al. 2002) and MBSR (Kabat-Zinn 1982, 1990), which emphasize accepting negative thoughts and emotions as they are rather than trying to change them. ACT also presents participants with the idea that reducing or changing unpleasant thoughts and feelings leads to further suffering and that accepting these phenomena while making overt behavior changes consistent with goals contributes to leading a more valued life. The current findings suggest that once an accepting stance toward thoughts and emotions is adopted, engaging in efforts to change these thoughts and emotions may offer little additional benefit in reducing symptoms and enhancing well-being.

Several methodological limitations must be considered when interpreting these findings. First, the current study employed a cross sectional design, which means that the data presented here do not entirely rule out the possibility that responses to negative emotions and intrusive thoughts are an outcome, and not a cause, of psychological symptoms and well-being. However, the temporal relation-

ships described in this study are consistent with several empirical and theoretical perspectives on mental health. For example, the general tendency to experience negative affect is often considered a stable personality trait (Costa and McCrae 1992). Linehan (1992) and Hayes et al. (1999) suggest that negative thoughts and feelings are an unavoidable aspect of life and that learning to experience them skillfully is essential for mental health. Segal et al. (2002) argued that responses to the mood shifts of daily life (rather than the moods themselves) have a significant impact on the occurrence of depressive episodes. Thus, these findings are consistent with these perspectives in showing that responding adaptively when negative thoughts and feelings occur is significantly related to mental health. Longitudinal designs would provide more conclusive data. Another methodological limitation is the reliance on self-report methods of assessment. Although instruments with good psychometric properties were used, self-report methods can be subject to biases. Thus, it is important that future research use more objective behavioral measures. Finally, it is possible that other variables, such as individual differences and the specific situations in which the negative internal experience occurs, may moderate the relationship between ways of responding to internal experience and psychological symptoms and well-being. The present study examined only general patterns. Future research should examine potential moderators.

Sampling limitations are also important to consider. Although the current study addresses questions about psychological symptoms, an entirely non-clinical sample was used, which likely did not capture the full range of symptoms and frequency of negative internal experience. However, although it is unlikely that this sample included many individuals with severe symptoms, distress levels can be substantial in student samples, and discussions of acceptance-based approaches have suggested that how one responds to such internal experience, regardless of how often it occurs, may be important in accounting for a wide range of symptom presentations (Gratz and Roemer 2004). Therefore the conclusions drawn from the current research are likely to apply to a range of samples, despite this limitation. The high proportion of women may also be a limitation. Although the sample of men was too small to support separate regression analyses by gender, significant differences in the zero-order correlations were found only for distraction and coping self-statements in response to negative emotion, which were significantly related to well-being only for women. Additionally, there was limited ethnic diversity in the current sample. Future research should include more ethnically diverse samples, particularly to examine relationships between ways of responding to negative internal experience and distinct facets of psychological well-being.

Despite these limitations, the current study is important for several reasons. First, the relative contributions of both frequency of negative internal experience and ways of responding to it in predicting general psychological health have received little or no previous empirical attention. The present findings suggest that how individuals respond to negative internal experience is important in predicting psychological symptoms, even after accounting for frequency of having such experience. This finding provides support for the utility of engaging in psychological interventions focused on responses to internal experience. A second important contribution of this work is its examination of the relative contribution of acceptance and change-based strategies for responding to negative internal experience. Results suggest that awareness, understanding, and acceptance of negative internal experience are related to psychological health, particularly well-being, and that individuals who adopt an accepting stance may derive little additional benefit from strategies designed to change the form or content of their thoughts and emotions. Finally, the current study serves as a starting point from which to base further experimental studies comparing acceptance and change-based strategies. Future research using experimental and longitudinal designs could contribute substantially to the understanding of how treatments designed to teach skills for responding to negative affect lead to improved mental health in a variety of populations.

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