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Initial Psychometric Properties of the Experiences Questionnaire: Validation of a Self-Report Measure of Decentering

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Decentering is defined as the ability to observe one's thoughts and feelings as temporary, objective events in the mind, as opposed to reflections of the self that are necessarily true. The Experiences Questionnaire (EQ) was designed to measure both decentering and rumination but has not been empirically validated. The current study investigated the factor structure of the EQ in both undergraduate and clinical populations. A single, unifactorial decentering construct emerged using 2 undergraduate samples. The convergent and discriminant validity of this decentering factor was demonstrated in negative relationships with measures of depression symptoms, depressive rumination, experiential avoidance, and emotion regulation. Finally, the factor structure of the EQ was replicated in a clinical sample of individuals in remission from depression, and the decentering factor evidenced a negative relationship to concurrent levels of depression symptoms. Findings from this series of studies offer initial support for the EQ as a measure of decentering.

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Safran and Segal (1990) define decentering as the ability to observe one's thoughts and feelings as temporary, objective events in the mind, as opposed to reflections of the self that are necessarily true. In a decentered perspective, "…the reality of the moment is not absolute, immutable, or unalterable…" (Safran & Segal, 1990, p. 117). For example, an individual engaged in decentering would say, "I am thinking that I feel depressed right now" instead of "I *am* depressed." Decentering is present-focused and involves taking a nonjudgmental and accepting stance regarding thoughts and feelings. Decentering, or the capacity to take a detached view of one's thoughts and emotions, is a concept that has held some importance early on within the cognitive-behavioral tradition. Ingram and Hollon (1986, p. 272) posit that "cognitive therapy relies on helping individuals switch to a controlled, effortful mode of processing that is metacognitive in nature and focuses on depression-related cognition" and that "the long-term effectiveness of cognitive therapy may lie in teaching patients to initiate this process in the face of future stress." Safran and Segal (1990) emphasize decentering as an effortful activity as well as an important potential mechanism of change in cognitive therapy, proposing that interpersonal processes in the course of psychotherapy provide the opportunity to experientially disconfirm dysfunctional interpersonal schema. By identifying how their beliefs influence their interactions with other people, clients recognize how they

actively shape their reality and therefore how their thoughts and feelings do not necessarily reflect objective reality.

Insofar as the ability to decenter is thought to be necessary for healthy cognitive, psychological, and social development, the lack of this ability is thought to be a general vulnerability factor for psychological and social dysfunction. Research into depression, in particular, has illustrated that depressed individuals are characterized by a bias for attending to their own experiences (Lyubormirsky & Nolen-Hoeksema, 1995; Lyubormirsky, Tucker, Caldwell, & Berg, 1999; Morrow & Nolen-Hoeksema, 1990). This egocentric preoccupation with their own experiences also seems to impair depressed individuals' ability to function socially (Evans, Williams, O'Loughlin, & Howells, 1992; Sidley,Whitaker, Calam, & Wells, 1997). Clinically, gains in decentering correspond with reductions in this bias in depressed individuals (Watkins, Teasdale, & Williams, 2000), suggesting that decentering is a concept of importance in maintaining mental health.

Initial efforts to reliably measure decentering arose within the assessment of a related construct, megacognitive awareness, which is operationalized as "the process of experiencing negative thoughts and feelings within a decentered perspective…" (Teasdale et al., 2002, p. 276). Metacognitive awareness is assessed using the Measure of Awareness and Coping in Autobiographical Memory (MACAM; Moore, Hayhurst, & Teasdale, 1996). In the MACAM, participants are presented with descriptions of eight mildly depressing situations via tape recording and asked to imagine themselves in these situations. Interviewers then utilize a semistructured interview to elicit specific memories that have been brought to mind by the taped vignette. The participant rates the feelings associated with each of the eight memories (one for each vignette) on a 0-to-100 scale, and the interviewer rates the degree of metacognitive awareness on a 1-to-5 scale. Teasdale et al. (2002) conducted a comprehensive study to establish the construct validity of this measure of metacognitive awareness by first comparing 40 patients in partial remission from major depression to 20 never-depressed healthy controls. The never-depressed group possessed higher metacognitive awareness (Cohen's (1988) $d = 1.08$), even after controlling for individual differences in levels of depressive symptoms.

Teasdale and his colleagues (2002) also evaluated the degree to which metacognitive awareness might mediate the reduction in relapse that results from Mindfulness-Based Cognitive Therapy for depression (MBCT; Segal et al., 2002). MBCT is group psychotherapy for the prevention of relapse in which formerly depressed patients are provided with specific training in mindfulness skills, which, in part "… teach individuals to become more aware of thoughts and feelings and to relate to them in a wider, decentered perspective…" (Teasdale et al., 2000, p. 618). In the Teasdale et al. (2002) study, 100 participants currently in remission or recovery from major depression were randomized to receive MBCT or treatment as usual (TAU). As predicted, MBCT training resulted in larger increases in decentering than TAU, highlighting its potential as a possible mediator. Previous findings have indicated that MBCT reduces risk of relapse or recurrence of major depressive disorder-particularly for patients with a history of depressive episodes (Ma & Teasdale, 2004; Teasdale et al., 2000). In the first study to evaluate the efficacy of MBCT (Teasdale et al., 2000), MBCT significantly reduced rates of relapse for participants who had experienced three or more prior episodes of depression (40% of patients relapsed in this group) when compared to TAU (66% relapse rate in this group). Ma and Teasdale (2004) replicated the finding that MBCT reduced rates of relapse for individuals with a history of depression when compared to TAU using an identical methodology (36% of patients relapsed in MBCT versus 78% relapse rate in a group receiving TAU).

Teasdale and colleagues (2002) also examined 158 patients from two treatment sites. All participants, who had recently suffered from major depression, were partially remitted following treatment with antidepressant medication and randomized to first receive antidepressant medication and clinical management alone or together with cognitive therapy for 20 weeks, and then receive follow-up continuation and maintenance medication for 48 weeks. Findings indicated that lower levels of baseline metacognitive awareness predicted earlier relapse across both treatment groups. There was also a larger increase in metacognitive awareness in the cognitive therapy group as compared to the clinical management group.

The measure of metacognitive awareness used by Teasdale et al. (2002) was specifically designed to assess decentering. However, it is time-consuming and requires participants to listen to eight taped vignettes and a trained individual to administer a semistructured interview to the participant. Despite the strengths of such a thorough methodology, it would be prohibitive to use such a measure in more practice-oriented settings. Thus, as an alternative to this more time-consuming assessment, the Experiences Questionnaire (EQ)

was developed by Teasdale as a means of operationalizing the changes assumed to occur during MBCT. One predicted change was the ability to adopt a decentered perspective, which, in turn, may be applicable to other psychological treatments of depression. Insofar as an important aspect of mindfulness training was believed to be teaching patients how to "decenter" from depressive thinking patterns, it would be important to have a measure of the extent to which patients actually did so. The EQ items were generated by Teasdale, in consultation with Segal and Williams, to assess, in a face-valid way, three facets of decentering (Z. V. Segal, personal communication, July 14, 2006). These facets are the ability to view one's self as not synonymous with one's thoughts (e.g., "I can separate myself from my thoughts and feelings"), the ability not to habitually react to one's negative experiences (e.g., "I can observe unpleasant feelings without being drawn into them"), and the capacity for self-compassion (e.g., "I am better able to accept myself as I am"). The full scale was constructed to have two subscales, one measuring the changes assumed to occur in MBCT, including decentering, and a second measuring rumination. The EQ rumination subscale was included as a control against response bias. The purpose of the current investigation was to study the factor structure of the EQ and refine its psychometric properties in a manner consistent with the theory that guided its creation.

In summary, decentering is a construct singled out early in the history of cognitive therapy as an active ingredient in producing lasting treatment effects, but which has gained greater currency in our field during the recent explosion of interest in mindfulness and acceptance. In this paper, we present the findings of three studies that aim to provide support for the initial psychometric properties and construct validity of the EQ, a self-report measure of decentering. Using exploratory and confirmatory factor analysis in two consecutive samples of college students, the first study sought to establish the factor structure of the EQ. Given that decentering is believed to be a capacity present in healthy individuals, a relatively healthy sample of college students was deemed a suitable starting point for scale construction. The second study sought to establish the concurrent and discriminant validity of the decentering measure derived from the EQ by examining its relationship to theoretically related constructs, such as depressive rumination, experiential avoidance, and emotion regulation, in a sample of college students who received extensive clinician assessment of their current and lifetime psychopathology. Finally, Study 3 sought to replicate and extend the findings of Study 1 by examining the factor structure of the EQ initially derived in the college student samples within a sample of patients with remitted major depressive disorder. Study 3 also sought to further examine the concurrent validity of the decentering factor in relation to measures of depression symptoms.

Study 1: Initial Factor Structure of the EQ

METHOD

Participants and Procedures. Data were obtained from two samples (Sample 1 and 2) of students enrolled in Introduction to Psychology courses at a large, midwestern United States university and involved in that university's mass testing procedure. All students received course credit in return for their participation. Sample 1 ($n = 1{,}150$) was composed of 765 females (66.5%) and 385 males (33.5%), with a mean age of 19.1 years ($SD = 4.1$). Sample 2 ($n = 519$) was composed of 335 females (64.5%) and 184 males (35.5%), with a mean age of 19.3 years ($SD = 2.4$).

Measure. The EQ is a 20-item self-report inventory designed to measure a decentering or *disidentification* with content of negative thinking, which is hypothesized to be a process of change in MBCT. Helping patients learn how to decenter, or take a step back from their negative thoughts, is one of the core goals of mindfulness-based clinical interventions, but can also occur following successful cognitive therapy. The EQ was originally designed to possess two rationally derived subscales: rumination (6 items) and wider perspective (14 items). Rumination items (e.g., "I think over and over again about what others have said to me") were included in the EQ to help rule out the possibility that any increases in wider perspective might be explained by an acquiescent response bias. Items are rated on a 5-point Likert scale (1 = *never,* 5 = *all the time*).

RESULTS

We first attempted to confirm the presence of the rationally derived factor structure initially proposed for the EQ. Confirmatory factor analysis (CFA) was utilized in Sample 1 with maximum likelihood (ML) estimation using the EQS 6.1 software (Bentler & Wu, 1995). ML estimation is the most widely used estimation method in CFA and provides robust results even in light of small violations of normality (Chou & Bentler, 1995; Hoyle & Panter, 1995). However, this rationally derived structure did not fit the data well, even

after modifications were made to improve fit based upon the LaGrange Multiplier Test: $\chi^2[166] = 1224.96$; $\chi^2/df = 7.38$; CFI = .76; RMSEA = .08; SRMR = .09. Therefore, exploratory factor analysis (EFA) using ML estimation and promax rotation was undertaken in this same sample to provide an initial evaluation of the factor structure for the 20 EQ items. EFA was also conducted using ML estimation and promax rotation using the PRELIS (Jöreskog & Sörbom, 1988) software package to obtain additional fit indices for these various models. Promax rotation was utilized for its ability to represent correlations between latent variables (Fabrigar et al., 1999). Although this method identified four factors with eigenvalues greater than 1, inspection of the scree plot revealed that two primary factors accounted for a significant portion of the total variance (35.87%), whereas the other two factors contributed relatively little (12.48%). In addition, the content of Factor 3 and 4 was uninterpretable. Factor 3 contained only 3 items that did not substantially cross-load onto other factors (4 items in total), and Factor 4 was not represented by any items. Floyd and Widaman (1995) argue that the use of eigenvalues greater than 1.0 as a criterion for factor retention tends to overestimate the number of factors and that inspection of the scree plot is a more valid method. The additional fit indices obtained using PRELIS indicated the superiority of a three- ($\chi^2[133] = 408.46$; $\chi^2/df = 3.07$; RMSEA = .05) or four-factor solution ($\chi^2[116] = 270.58$; $\chi^2/df = 2.33$; RMSEA = .04) to a two-factor model ($\chi^2[151] = 742.22$; $\chi^2/df = 4.92$; RMSEA = .06); however, the third and fourth factors suffered from the problems of low item representation and interpretability mentioned above. Therefore, the EFA was rerun, again using ML estimation and promax rotation, but with the additional constraint of only extracting two factors (see Table 1 for a listing of factor loadings). The content of the items essentially replicated the original, rationally derived two-factor structure, with the exception of Item 4, which loaded more highly onto Rumination than Decentering; Item 2, which did not load significantly on any factor (higher than .32; Comrey & Lee, 1992); and Item 20, which was a cross-loading item (loadings on both factors were greater than .32; Tabachnick & Fidell, 2001). The Decentering factor evidenced good internal consistency in Sample 1 ($\alpha = .83$). However, the Rumination factor was in the lower range of "adequate" in terms of its internal consistency ($\alpha = .70$; Hunsley & Mash, in press; Nunnally, 1967).

To confirm the presence of a two-factor solution, CFA was utilized in a second sample of college students (Sample 2) using EQS 6.1 (Bentler & Wu, 1995). ML estimation was again used; however, poor fit resulted when testing the two-factor solution obtained using EFA: $\chi^2[147] = 558.06$; $\chi^2/df = 3.80$; CFI = .81, RMSEA = .08; SRMR = .09. The LaGrange Multiplier Test, an atheoretical psychometric means of improving fit, indicated that allowing items to cross-load was the most effective way to improve fit (representing 6 of the 10 parameters which, if added, would improve fit the most). However, cross-loading items would make interpretation of the constructs measured by these factors difficult. Therefore, a unifactorial model was tested with all of the items from the two-factor model obtained from the EFA constrained on a single factor. By doing so, the problem of item cross-loadings might be addressed without having to delete items from the model. Unfortunately, this model also evidenced poor fit ($\chi^2[148] = 741.12$; $\chi^2/df = 5.01$; CFI = .73, RMSEA = .09; SRMR = .10), due primarily to poor loadings from items originally placed onto the Rumination factor (7 items had standardized loadings $< .40$). Therefore, the model was rerun using only the decentering items. The decentering factor that emerged was identical to the one identified in EFA with three exceptions: two items which the initial CFA indicated did not load significantly were omitted, and Item 20 was added as it was the single item determined theoretically to best represent the factor. Error terms from scale items theoretically determined to share substantial item content were allowed to intercorrelate, with the assumption that these items would share measurement error (Bollen, 1989; Rozeboom, 1966; Rubio & Gillespie, 1995). Items 3 ("I am better able to accept myself as I am") and 14 ("I can treat myself kindly"), 9 ("I notice that I don't take difficulties so personally") and 10 ("I can separate myself from my thoughts and feelings"), and 16 ("I have the sense that I am fully aware of what is going on around me and inside me") and 18 ("I am consciously aware of a sense of my body as a whole") were allowed to intercorrelate in the present study, owing to the similarity of their item content (these items were also allowed to intercorrelate in the two-factor solution). Research has shown that if correlated measurement error is not accounted for, biased estimators can result, and this bias can have both general and random effects (Biddle & Marlin, 1987; Bollen, 1989; MacCallum & Tucker, 1991). However, methodologists have also critiqued the use of atheoretical, statistically determined correlated measurement error (Cortina, 2002). The use of theoretically guided correlated measurement

Table 1
Experiences questionnaire item-factor and factor-scale loadings

Item	Study 1: Sample 1 (*N*=1,150)		Study 1: Sample 2 (*N*=519)		Study 3 (*N*=220)	
	Factor 1	Factor 2	Standardized	Unstandardized (*SE*)	Standardized	Unstandardized (*SE*)
Factor 1 (Decentering)						
EQ03 I am better able to accept myself as I am.	**.624**	.000	**.572**	**1.000 (.00)**	**.693**	**1.000 (.00)**
EQ15 I can observe unpleasant feelings without being drawn into them.	**.606**	−.006	**.626**	**1.063 (.11)**	**.623**	**.754 (.11)**
EQ09 I notice that I don't take difficulties so personally.	**.594**	−.222	**.512**	**.942 (.11)**	**.731**	**1.076 (.13)**
EQ14 I can treat myself kindly.	**.588**	.088	**.608**	**.978 (.09)**	**.758**	**.906 (.10)**
EQ10 I can separate myself from my thoughts and feelings.	**.587**	−.063	**.494**	**.907 (.11)**	**.699**	**.979 (.13)**
EQ16 I have the sense that I am fully aware of what is going on around me and inside me.	**.506**	.207	**.629**	**1.083 (.11)**	**.483**	**.673 (.12)**
EQ06 I can slow my thinking at times of stress.	**.496**	−.015	**.514**	**.958 (.11)**	**.733**	**1.052 (.13)**
EQ08 I am not so easily carried away by my thoughts and feelings.	**.483**	−.176	**NA**	**NA**	**NA**	**NA**
EQ17 I can actually see that I am not my thoughts.	**.452**	.140	**.529**	**.862 (.10)**	**.667**	**1.047 (.14)**
EQ18 I am consciously aware of a sense of my body as a whole.	**.432**	.214	**.560**	**.874 (.10)**	**.516**	**.879 (.15)**
EQ05 I am kinder to myself when things go wrong.	**.412**	−.133	**NA**	**NA**	**NA**	**NA**
EQ12 I can take time to respond to difficulties.	**.405**	.262	**.464**	**.699 (.09)**	**.691**	**.859 (.11)**
EQ20 I view things from a wider perspective.			**.544**	**.917 (.10)**	**.662**	**.843 (.11)**
Factor 2 (Rumination)						
EQ13 I think over and over again about what others have said to me.	−.298	**.616**				
EQ11 I analyze why things turn out the way they do.	−.005	**.614**				
EQ19 I think about the ways in which I am different from other people.	.003	**.556**				
EQ04 I notice all sorts of little things and details in the world around me.	.121	**.514**				
EQ01 I think about what will happen in the future.	.038	**.499**				
EQ07 I wonder what kind of person I really am.	−.283	**.431**				
Items not loading on a factor or double-loading						
EQ20 I view things from a wider perspective.	.355	.359				
EQ02 I remind myself that thoughts aren't facts.	.115	.179				

Note. Standardized factor loadings in **bold face** represent an item loading on that factor. "NA" indicates that an item was dropped and therefore was not included for analysis.

error in the current investigation attempts to address both of these concerns. The model indicated good fit ($\chi^2[41]=103.79$; $\chi^2/df=2.53$; CFI=.95, RMSEA=.06; SRMR=.04; see Table 1 for factor loadings and Table 2 for item-level descriptive statistics for Sample 2) and adequate internal consistency ($\alpha=.83$).

Multi-Group CFA (MGCFA) was utilized to determine if this model represented the data well in both males and females. We sought to evaluate if the loadings of the various items composing the decentering factor were equal across gender and possessed what is known as metric invariance (Bollen, 1989). Testing metric invariance involves first estimating a model where all factor loadings are constrained to be equal across the two groups being compared (in this case, males and females). This model is then compared to several alternative models where the factor loading of each item is unconstrained, and allowed to be freely estimated. Differences in goodness-of-fit between the constrained and the unconstrained models indicate a lack of metric invariance, or that the item-factor loadings are unequal across groups. Cheung and Rensvold (2002) suggest that a difference in CFI (ΔCFI) greater than .01 is indicative of an item not loading equally between groups. None of the values of ΔCFI exceeded this cutoff in our

Table 2
Experiences Questionnaire decentering items descriptive statistics by sample

Item	Mean (Standard Deviation)		
	Sample 1	Sample 2	Sample 3
EQ03	3.59 (1.10)	3.59 (1.11)	3.48 (.93)
EQ06	2.95 (1.14)	2.94 (1.18)	3.01 (.89)
EQ09	2.92 (1.14)	2.89 (1.16)	3.11 (1.00)
EQ10	3.04 (1.13)	2.98 (1.16)	3.03 (.90)
EQ12	3.47 (.96)	3.48 (.95)	3.47 (.82)
EQ14	4.02 (1.01)	4.03 (1.02)	3.34 (.78)
EQ15	3.35 (1.05)	3.27 (1.08)	3.20 (.70)
EQ16	3.67 (1.05)	3.66 (1.09)	3.49 (.94)
EQ17	3.17 (1.01)	3.12 (1.03)	3.22 (1.05)
EQ18	3.63 (.95)	3.65 (.99)	3.19 (1.12)
EQ20	3.88 (1.03)	3.90 (1.07)	3.44 (.83)

Note. EQ = Experiences Questionnaire.

MGCFA of gender, indicating that the unifactorial, decentering model fit both males and females equally well.

DISCUSSION

An initial attempt to replicate the rationally derived factor structure of the EQ proposed originally by Teasdale indicated that this model failed to fit the data in a sample of college students. A subsequent exploratory factor analysis revealed the presence of two factors that essentially mimicked the original, rationally derived structure. However, this two-factor model for the EQ was not found to fit the data when a confirmatory factor analysis was undertaken on a second sample of college students. Subsequent adjustments to the model indicated the presence of a unifactorial decentering construct that was found to fit the second college-student sample well. MGCFA also indicated that this construct fit both males and females in this sample equally well. Although this replication was encouraging, the fact that a convenience sample was used implies that additional work is needed to further replicate this factor structure in community and clinical samples to ensure broader generalizability. In addition, the small number of males and females calls into question the replicability and validity of the multigroup analyses. Another limitation of Study 1 was the lack of concurrent and discriminant validity measures by which to evaluate the derived decentering factor.

Study 2: Examining the Concurrent Validity of Decentering to Related Constructs

Study 2 sought to examine the concurrent and discriminant validity of the decentering scale in relation to four theoretically meaningful constructs in a nonpatient sample where participants also underwent clinician assessment for current and lifetime psychopathology. The four concurrent validity measures selected were depressive rumination, which emerges from the response styles theory (Nolen-Hoeksema, 1998); experiential avoidance, which emerges from Acceptance and Commitment Therapy (ACT; Hayes, Strosahl, & Wilson, 1999), a contemporary theoretical model within behavior therapy; and cognitive reappraisal and emotion suppression, which emerged from Gross' (1998a, 1998b,1999) model of emotion regulation.

As noted above, decentering is conceptually antithetical to depressive rumination, which Nolen--Hoeksema (1998; p. 216) defines as "focusing passively and repetitively on one's symptoms of distress and the meaning of those symptoms without taking action to correct the problems one identifies." Following recommendations of Treynor, Gonzalez, and Nolen-Hoeksema (2003) we assessed depressive rumination with the five-item brooding factor.

A central tenet of the ACT model of psychopathology is that much human suffering can be accounted for by experiential avoidance, which is defined as the tendency to attempt to suppress or inhibit the frequency or severity of emotions, thoughts, and memories (Hayes et al., 1999). ACT, as a therapy approach, strives to lessen individuals' efforts at escaping or avoiding this painful psychological content in favor of engaging in activities likely to promote positive reinforcement and purposeful outcomes. Given this conceptual relevance, the present study sought to examine the association of decentering to experiential avoidance, which is assessed with the Acceptance and Action Questionnaire (Hayes et al., 2004).

Decentering also shows some conceptual relationship to the model of emotion regulation posited by Gross and colleagues (Gross, 1998a,1998b, 1999; Gross & Muñoz, 1995). Gross and John (2003) have developed and validated a self-report measure called the Emotion Regulation Questionnaire (ERQ), which consists of reappraisal and suppression subscales. Reappraisal involves cognitively transforming a situation so as to alter its emotional impact, and has shown to help individuals attenuate negative emotion experiences (Gross, 1998a). Emotional suppression refers to attempts to suppress overt emotional responses, a response that has been linked to greater cardiovascular reactivity to emotional stimuli (Gross & Levenson, 1993). Relative to these constructs, decentering would be expected to be positively associated with cognitive reappraisal and negatively associated with emotion suppression.

HYPOTHESES

The primary goal of Study 2 was to examine the relationship of decentering to depressive rumination, experiential avoidance, reappraisal, and emotion suppression. A secondary goal of the study was to examine the association of decentering to current or lifetime major depressive disorder. The first hypothesis (Hypothesis 1) was that decentering would demonstrate a significant positive correlation with cognitive reappraisal, and significant negative correlations with depressive rumination, experiential avoidance, emotion suppression, and concurrent levels of depression symptoms. The second hypothesis (Hypothesis 2) was that a history of major depressive disorder would be associated with lower levels of decentering as compared to no history of psychopathology.

METHOD

Participants. Participants were 61 college students (34 women) who were primarily Caucasian (88%); the remaining participants were African American (7%), Hispanic (3%), or Native American (2%). The participants had an average age of 19.81 years ($SD = 2.87$). Participants received partial course credit for participating in the study.

Measures. Experiences Questionnaire—Decentering factor. This study utilized the 11-item decentering factor that was derived in Study 1. Scores on this factor can range from 11 to 55, with higher scores indicating greater decentering. Also, despite the complexity of the concept described by the decentering factor, the reading level for the items evidenced a Flesch-Kincaid grade level of 4.3, which compares favorably to the 6th grade level of the items in the Minnesota Multiphasic Personality Inventory-2 (Graham, 2005).

Acceptance and Action Questionnaire (AAQ; Hayes et al., 2004). The AAQ is a 16-item self-report measure of experiential avoidance. Participants rate each statement on Likert-type scales ranging from 1 (*never true*) to 7 (*always true*), with higher scores reflecting an increasing degree of experiential avoidance. Sample items include "I am able to take action on a problem even if I am uncertain what is the right thing to do" (reverse scored) and "If I could magically remove all the painful experiences I've had in my life, I would do so." The 16-item version of the AAQ was obtained from its authors prior to their settling on the 9-item version. Still, preliminary analyses support the reliability and validity of the 16-item version as well as the final 9-item version. The two versions are highly correlated with one another ($r = .89$; Hayes et al., 2004) and assess experiential avoidance and control, negative evaluations of internal experience, psychological acceptance, and the tendency to act regardless of emotional distress. In the current study, the AAQ demonstrated acceptable internal consistency ($\alpha = .72$).

Ruminative Responses Subscale of the Response Styles Questionnaire (RSQ; Nolen-Hoeksema & Morrow, 1991). The RSQ, a 22-item self-report instrument, is designed to assess an individual's characteristic tendency to engage in ruminative behavior when feeling depressed. In the current study, a 25-item version was utilized consisting of the original 22-item RRS items plus the 3 additional expanded rumination items used by Treynor et al. (2003) to derive their brooding and pondering solution. In the current study, reliability for the five-item brooding rumination subscale was good ($\alpha = .78$).

Emotion Regulation Questionnaire (ERQ; Gross & John, 2003). The ERQ is a 10-item rationally derived measure of two aspects of emotion regulation: reappraisal and suppression. The reappraisal subscale, consisting of 6 items, assesses the ability to modify or change the emotions one experiences (e.g., "I control my emotions by changing the way I think about the situation I'm in"). The suppression subscale, consisting of 4 items, assesses the ability to avoid or prevent the expression of emotions (e.g., "I control my emotions by not expressing them"). In this sample, the internal consistency was good for both the reappraisal subscale ($\alpha = .84$) and the suppression subscale ($\alpha = .82$).

Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown, 1996). The BDI-II is a 21-item self-report measure that assesses the severity of depressive symptomatology, including the affective, cognitive, behavioral, somatic, and motivational components of depression as well as suicidal wishes. Items are rated on a 0-to-3 scale and reflect a 2-week time period. The BDI-II has strong internal consistency in both student and clinical samples (Beck et al., 1996), and excellent test-retest reliability (Sprinkle et al., 2002). In the current study, the BDI-II achieved strong internal consistency ($\alpha = .90$).

Mood and Anxiety Symptom Questionnaire-Short Form (MASQ; Watson & Clark, 1991). The MASQ is a 62-item instrument designed to assess symptoms commonly occurring in the mood and anxiety disorders. Items are rated on a 1 (*not at all*) to 5 (*extremely*) Likert-type scale. These 62 items are subdivided into four subscales: General Distress Anxious Symptoms (GDA), General Distress Depressive Symptoms (GDD), Anxious Arousal (AA), and Anhedonic Depression (AD). The GDA subscale is comprised of 11 items indicative of

anxious mood, but provides little discrimination from depressed mood (e.g., "Felt nervous"; "Had an upset stomach"). The GDD subscale is comprised of 12 items indicative of depressed mood, but provides little discrimination from anxious mood (e.g., "Felt sad"; "Felt like crying"). The AA subscale contains 17 items detailing symptoms of somatic tension and hyperarousal (e.g., "Startled easily"; "Was trembling or shaking"). The AD subscale contains 8 items specifically assessing symptoms related to depression such as a loss of interest in pleasurable activities and low energy (e.g., "Felt like nothing was very enjoyable") and 14 reverse-coded items assessing positive emotional experiences (e.g., "Felt cheerful"). In the present sample, reliability for these subscales was good to excellent (GDA: $\alpha = .82$; GDD: $\alpha = .90$; AA: $\alpha = .85$; AD: $\alpha = .84$).

Structured Clinical Interview for DSM-IV-TR, Research Version (SCID; First, Spitzer, Gibbon, & Williams, 2002). The SCID is a widely used semistructured interview that allows for current and lifetime diagnoses of Axis I disorders. For the *DSM-IV* version of the SCID, Ventura et al. (1998) reported high interrater agreement (kappas) for current diagnosis, with an overall weighted kappa of .82 and a range between .71 and .90 for specific diagnoses. In the current study, the SCID mood, anxiety, eating disorder, and substance abuse/dependence modules were administered by four doctoral students trained in the SCID as part of their programmatic clinical training. Doctoral students receive formal training in the SCID prior to the start of their second year of graduate school and then receive weekly SCID supervision by the first author as they serve as intake interviewers in the department's training clinic.

Procedure. After providing informed consent, participants completed a battery of self-report measures that assessed decentering, experiential avoidance, emotion regulation strategies, depression and anxiety symptoms, as well as measures not relevant to the current study. Participants also underwent a SCID conducted by a graduate research assistant.

RESULTS

Rates of current/lifetime major depression. Findings from the SCID interviews revealed that 7 participants met diagnostic criteria for current major depressive disorder (MDD) and an additional 7 participants met criteria for past MDD, as well as other current diagnoses (e.g., generalized anxiety disorder, social phobia, posttraumatic stress disorder, alcohol abuse). The remaining 47 participants had no current or lifetime history of psychopathology.

Association of decentering to experiential avoidance, emotion regulation, and depression and anxiety symptoms. Table 3 presents sample means, standard deviations, and zero-order correlations among study measures. Consistent with Hypothesis 1, decentering evidenced a significant positive correlation with cognitive reappraisal and significant negative correlations with experiential avoidance, brooding rumination, emotion suppression, and self-report measures of current depression and anxiety symptoms.

Association of decentering to current/lifetime history of depression. To evaluate Hypothesis 2, the 14 participants with current or lifetime MDD were grouped together and compared to the 47 participants with no current or lifetime psychopathology. Consistent with Hypothesis 2, participants with current or lifetime MDD ($M = 3.09$; $SD = 0.57$) endorsed significantly lower levels of decentering, $F(1, 59) = 5.77$, $p = .02$, $d = 0.68$, as compared to the

Table 3
Means, (standard deviations), and zero-order correlations among decentering, experiential avoidance, brooding rumination, emotion regulation, and depression and anxiety symptoms

Measure	1	2	3	4	5	6	7	8
Decentering		−.49*	−.46*	.25*	−.31*	−.40*	−.39*	−.21
Experiential Avoidance			.53*	−.02	.27*	.47*	.46*	.25*
Brooding				.14	.31*	.64*	.37*	.34
Reappraisal					.08	.14	.08	.04
Suppression						.39*	.43*	.19
BDI-II							.60*	.43*
MASQ-AD								.38*
MASQ-AA								
Mean	3.45	3.78	9.44	4.49	3.27	7.59	55.39	24.63
(Standard Deviation)	(0.49)	(0.61)	(3.16)	(1.18)	(1.45)	(6.61)	(9.58)	(9.06)

Note. Experiential Avoidance = Acceptance and Action Questionnaire total score; Brooding = Response Styles Questionnaire Brooding Subscale; Reappraisal = Emotion Regulation Questionnaire (ERQ) Reappraisal subscale; Suppression = ERQ Suppression subscale; BDI-II = Beck Depression Inventory-II; MASQ-AD = Mood and Anxiety Symptom Questionnaire Anhedonic Depression subscale; MASQ-AA = Mood and Anxiety Symptom Questionnaire Anxious Arousal subscale; *Correlation significantly different from zero ($p < .05$).

participants with no current or lifetime psychopathology ($M = 3.44$; $SD = 0.44$). This difference exceeded conventions for a medium effect size.

DISCUSSION

Consistent with expectations, the EQ decentering factor was found to correlate positively and significantly with cognitive reappraisal and significantly and negatively with depressive rumination, experiential avoidance, emotion suppression, and symptoms of depression. In addition, individuals with no lifetime history of psychopathology were found to endorse significantly higher mean levels of decentering than individuals with MDD. In sum, these findings add confidence to the assertion that the factor derived in Study 1 from the EQ measures decentering. However, Studies 1 and 2 both utilized samples of college students, and further replication in a treatment-seeking sample is still necessary, a shortcoming that is addressed in Study 3.

Study 3: Confirmatory Factor Analysis of the Experiences Questionnaire in a Clinical Sample

Study 3 sought to replicate and extend previous findings by evaluating both the factor structure and the clinical validity of the EQ in a sample of patients with remitted MDD. The factor solution derived following CFA in the second student sample was evaluated in a sample of patients with remitted MDD who were participants in, but had not yet commenced, a trial of MBCT. The clinical validity of the factor solution in the patient sample was assessed in two ways. First, levels of decentering in the remitted-MDD patients were compared to levels of decentering in a sample of healthy control participants. Hypothesis 1 posited that remitted MDD patients would endorse lower levels of decentering as compared to healthy control participants. Second, the relationship of decentering to concurrent levels of self-report and clinician-assessed depression symptoms was evaluated. Hypothesis 2 posited a significant and negative relationship between decentering and the two measures of concurrent depression symptoms.

METHOD

Participants. Participants consisted of two clinical subsamples recruited to evaluate the efficacy of MBCT. Pre-MBCT data from 145 depressed participants in remission or recovery at the time of assessment were obtained from Teasdale et al. (2000). The participants were recruited from media advertisements and community health care facilities at three sites: one in Cambridge, England, and sampled from its surrounding rural towns and villages; one in a rural area of north Wales, centered on Bangor; and one in the metropolitan area of Toronto, Ontario, Canada. These data were combined with pre-MBCT data from 75 previously depressed participants who participated in an MBCT trial conducted by Ma and Teasdale (2004) in Cambridge, England. In total, the remitted MDD sample ($n = 220$) was composed of 165 females (75.0%) and 55 males (25.0%), with a mean age of 43.7 years ($SD = 9.6$). In addition, Ma and Teasdale (2004) also obtained data from 50 healthy controls recruited from a volunteer panel and who received TAU both prior to and during the period of data collection. These control participants were similar in age ($M = 44.5$, $SD = 8.9$) and gender (37 women, 74%) to the total clinical sample. In addition, MGCFA was utilized to determine the metric invariance of the decentering factor structure in the two clinical samples and the suitability of aggregating them. Results indicated that all items loaded equally well onto the decentering factor in both samples (all values of $\Delta CFI < .01$, average $\Delta CFI = .002$).

Measures. Experiences Questionnaire-Decentering factor. This study utilized the 11-item decentering factor that was derived in Study 1.

Hamilton Rating Scale for Depression (HRSD; Hamilton, 1960). The HRSD is a 17-item interview-administered measure of the severity of symptoms of depression. It covers a range of affective, behavioral, and somatic symptoms and has acceptable psychometric properties (Rabkin & Klein, 1987). Scores can range from 0 to 52, with higher scores indicating a larger number of symptoms of depression. Only participants in Sample 3 completed the HRSD.

Beck Depression Inventory (BDI; Beck, Rush, Shaw, & Emery, 1979). A 21-item self-report measure of the severity of affective, cognitive, behavioral, and somatic symptoms of depression, BDI item scores can range from 0 to 3, and total scores can range from 0 to 63, with higher scores indicating a larger number of symptoms of depression. It has been shown to possess adequate reliability and validity in both psychiatric and undergraduate populations (Beck, Steer, & Garbin, 1988). Only participants in Sample 3 completed the BDI.

RESULTS

Confirmatory Factor Analysis in a Patient Sample. To both extend the generalizability of the unifactorial model to a patient sample and improve confidence in its reliability, CFA was used again in Sample 3. ML estimation was again used with EQS 6.1 software. The model fit the data reasonably well

($\chi^2[41] = 61.87$; $\chi^2/df = 1.51$; CFI = .97, RMSEA = .06; SRMR = .05; see Table 1 for factor loadings and Table 2 for item-level descriptive statistics) and possessed good internal consistency (Sample 3: $\alpha = .90$).

Clinical Validity. Hypothesis 1 posited that remitted MDD patients would endorse lower levels of decentering as compared to healthy controls. In support of Hypothesis 1, remitted MDD patients ($M = 1.81$, $SD = 0.54$) scored significantly lower than the healthy control participants ($M = 2.47$, $SD = 0.42$), with an effect size exceeding conventions for a large effect: $F(1, 117) = 50.32$, $p < .0001$, $d = 1.31$. In support of Hypothesis 2, levels of decentering among remitted MDD patients were significantly and negatively correlated with concurrent self-report ($r = -.46$) and clinician-assessed ($r = -.31$) levels of depression symptoms.

DISCUSSION

The results of Study 3 provide further support for the unifactorial decentering solution of the EQ. CFA in a treatment-seeking sample indicated acceptable fit of the decentering factor. As expected, participants with remitted MDD endorsed lower levels of decentering than healthy control participants and decentering was significantly and negatively correlated with self-report and clinician-assessed measures of depression symptoms.

GENERAL DISCUSSION

The results of the present set of studies indicate that the EQ measures a unifactorial construct that performs in a manner that would be consistent with the construct of decentering in relation to theoretically meaningful concurrent validity measures. This one-factor model, thought to represent the construct of decentering, was extracted from both a student as well as a composite, multinational, clinical sample, illustrating the generalizability of the model. This decentering factor possessed adequate to good internal consistency in both undergraduate and clinical samples. The EQ was conceived as a measure of decentering that would generalize across gender, race, and ethnicity. Although the current study provides preliminary evidence for generalizability across males and females, further research will need to be done to illustrate that the decentering factor found here is robust across differences in both race and ethnicity. In addition, preliminary convergent and discriminant validity was established in the theoretically consistent correlations found between decentering and measures of depressive rumination, experiential avoidance, and emotion regulation in an undergraduate sample. Similarly, decentering evidenced theoretically meaningful patterns of correlation with concurrent measures of depression in both undergraduate and patient samples. Taken together, findings from this series of studies provide initial confidence that the EQ is a reliable and valid measure of decentering. However, future research is needed before this claim can be made more definitively.

Within the cognitive-behavioral tradition, decentering has long been regarded as a possible mechanism of change in the context of cognitive therapy of depression (Beck et al., 1979; Ingram & Hollon, 1986; Safran & Segal, 1990) and predates the recent and extensive interest in the integration of mindfulness and acceptance approaches within psychology (cf. Hayes et al., 1999; Segal et al., 2002; Teasdale et al., 2002). Still, one of the motivations for generating the initial items of the EQ, and submitting them to psychometric scrutiny, was to capture a hypothesized mechanism of change in the context of MBCT, a cognitive-behavioral treatment for the prevention of relapse in depression that is enriched with mindfulness exercises. Drawing on developmental psychology, one would expect the capacity for decentering to increase over the lifespan (Inhelder & Piaget, 1958). However, individuals suffering from emotional disorders evidence deficits in the capacity for metacognition. Accordingly, we view decentering as an individual difference variable that is naturally malleable, that is likely to be impaired in individuals suffering from emotional disorders, and which may represent the mark of a durable treatment response when individuals evidence gains in decentering (cf. Fresco, Segal, Buis, & Kennedy, in press; Teasdale et al., 2002). However, our measure of decentering was never intended to be synonymous with mindfulness. Bishop and colleagues (2004), following a consensus conference, arrived at a two-faceted operational definition of mindfulness. The first facet of this definition of mindfulness is the capacity for the sustained self-regulation of attention so that an individual can remain engaged in the present moment. The second facet of the consensus definition of mindfulness is the capacity to maintain an acceptance and curiosity regarding all of one's thoughts, feelings, and sensations. Our definition of decentering is certainly complementary to Bishop et al.'s definition of mindfulness, but it is in no way synonymous with it. Interestingly, Bishop et al. (p. 235) describe decentering and mindfulness as falling within a "general domain of constructs that describe the ability to observe the temporal stream of thoughts and feelings."

Our decentering scale joins a burgeoning field of self-report indices with relevance to mindfulness

and acceptance. Findings from the current study provide an initial glimpse into how the EQ relates to one already established construct in this field. Specifically, decentering evidenced a strong negative correlation with experiential avoidance, which emerges from the acceptance-based treatment approach (cf. Hayes et al., 1999). However, an important area for future research is to evaluate the relationship of the EQ to other measures of mindfulness (cf. Baer, Smith, & Allen, 2004; Brown & Ryan, 2003; Feldman, Hayes, Kumar, & Greeson, 2003) as well as to general measures of quality of life and well-being (cf. Frisch, 1994; Frisch, Cornell, Villanueva, & Retzlaff, 1992).

Although the findings from the current set of studies support the factor structure of the EQ and present some initial concurrent validity data, the relationship of decentering to the process of protecting against relapse of major depression has not yet been assessed. However, Fresco et al. (submitted for publication) provide some initial evidence for the role of decentering, as assessed by the EQ, in the course of acute treatment of major depression. Findings revealed that CBT patients treated to remission evidenced increases in decentering whereas patients treated to remission with antidepressant medication did not. The difference between CBT and antidepressant medication in decentering gains corresponded to a medium effect size ($d = .58$). The second major finding of this study was that high posttreatment decentering was associated with a more durable treatment response in the subsequent 18 months, especially for CBT patients.

In conclusion, findings from the current series of studies offer initial enthusiasm for the EQ as a measure that assesses a construct corresponding to a protective or resilience factor. The decentering scale of the EQ shows significant negative relationships with concurrent levels of depression and anxiety symptoms and theoretically meaningful associations with constructs including depressive rumination, experiential avoidance, and emotion regulation. Greater confidence in proclaiming that the EQ assesses decentering awaits further investigations with a broader selection of measures within the mindfulness and acceptance field. However, the findings to this point warrant sufficient interest in the EQ to pursue these important issues of concurrent validity.

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