Mindfulness Process Questionnaire: Assessing the Process Rather Than the Outcome of Mindfulness

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Introduction

Mindfulness and acceptance-based interventions are continuing to gain empirical support as effective treatments for a range of psychological disorders, as well as the alleviation of chronic pain and stress (Baer, 2003). As researchers continue to evaluate these treatments, it is increasingly important to have an accurate assessment of mindfulness. Although a number of mindfulness measures exist, current measures assess mindfulness as an outcome, rather than as a process. This type of mindfulness assessment does not address the paradoxical effect of engagement in mindfulness practice, which is the realization of how often one is *not* mindful (Germer, 2005). The emphasis in teaching mindfulness is perhaps more accurately thought of as cultivating the ability to repeatedly redirect attention back to an open, curious awareness of the present moment, knowing that a constant state of mindfulness is not attainable. Therefore, we developed the Mindfulness Process Questionnaire (MPQ) in order to assess how often mindfulness is intentionally employed, and the frequency with which mindlessness is noticed and mindfulness is practiced in response to that observation.

In this study, we examined the relationship between the MPQ and an established mindfulness measure (Mindful Attention Awareness Scale; MAAS), as well as the incremental ability of the new measure to predict outcomes of interest, including psychological symptoms, emotional responding and regulation, and well-being.

Method

Participants (N = 483) at an urban commuter college completed questionnaire packets as part of a larger study. The sample consisted of 159 men, 247 women, and 1 intersex individual, while 3 participants did not respond to this item. Participants ranged in age from 18 to 65 (M = 23.59, SD = 7.54). In response to a racial identity question on which participants could endorse more than one category, 1% selected Alaskan Native/American Indian, 16.3% selected Asian, 17.6% selected Black, 6.6% selected Latino/nonwhite, 48% selected White, 5.1% selected Multiracial and 7.1% selected Other.

Measures

The *Mindfulness Process Questionnaire* (MPQ; see Table) is an 8-item self-report measure developed for this study that assesses the extent to which mindfulness is intentionally practiced/attempted and the ability to bring compassionate awareness to the present moment after noticing attention is elsewhere or that one's awareness had a judgmental quality. Items include "I intentionally try to be accepting of my thoughts and feelings as they occur" and "When I notice that I'm not engaged in the present moment, I can gently bring myself back."

The *Mindful Attention Awareness Scale* (MAAS; Brown & Ryan, 2003) is a 15-item self-report measure of present moment attention and awareness. Items reflect inattention across several domains (e.g., cognitive, emotional, physical, general), such as "I find it difficult to stay focused on what's happening in the present" or "I rush through activities without being really attentive to them." Participants are asked to endorse how frequently they have the experience described in each item on a 6-point Likert-type scale, with 6 indicating "almost never" and 1 indicating "almost always," so that high scores reflect higher levels of present moment attention. Items are averaged for an

overall score. Internal consistency in the present sample was good (α = .88).

The *Depression Anxiety Stress Scales* (DASS-21; Lovibond & Lovibond, 1995) is composed of three scales: depression, anxiety (i.e., hyperarousal), and stress (e.g., tension, irritability). Each scale consists of seven items, which are rated on a four-point Likert-type scale. Internal consistency in the present sample for the depression, anxiety, and stress scales was good (α = .88, .81, and .80, respectively).

The *Difficulties in Emotion Regulation Scale* (DERS; Gratz & Roemer, 2004) assesses six facets of difficulties in regulating emotion: nonacceptance of emotional responses, difficulties engaging in goal-directed behavior (when upset), impulse control difficulties (when upset), lack of emotional awareness, limited access to effective emotion regulation strategies, and lack of emotional clarity. The scale consists of 36 items, with preliminary findings indicating good reliability and validity (Gratz & Roemer, 2004). In the present sample, the DERS demonstrated excellent internal consistency (α = .93).

The *Affective Control Scale* (ACS; Williams, Chambless, & Ahrens, 1997) measures distress about emotions, such as concern about losing control of internal experiences or behavioral reactions to emotional experiences. The ACS consists of 42 items that are rated on a 7-point scale, assessing four domain of distress about emotion: fear of anger, positive emotion, depression, and anxiety. The ACS demonstrated excellent internal consistency in the present sample, α = .95.

The *Quality of Life Inventory* (QOLI; Frisch, Cornell, Villanueva, & Retzlaff, 1992) is a 32-item measure used to assess life satisfaction by incorporating importance and satisfaction across 16 life domains, such as work, money, health, and love. Importance is rated from 0 (not at all important) to 2 (extremely important), and satisfaction is rated from -3 (very dissatisfied) to 3 (very satisfied). Scores are calculated by multiplying the importance and satisfaction reported in each domain and dropping domains deemed unimportant by the participant. Internal consistency was good in the present sample as well (α = .86).

The *Subjective Happiness Scale* (SHS; Lyubomirsky & Lepper, 1999) is a 4-item scale that measures subjective well-being. The scale includes items that directly inquire about the participants' perception of their happiness in general and in comparison to others, on a scale from 1 to 7. Internal consistency was good in the present sample (α = .82).

Results

All data were screened for skewness and kurtosis in order to test assumptions of normality (Tabachnick & Fidell, 2000). Two variables were positively skewed (the depression and anxiety scales of the DASS) and were corrected by a square root transformation. One variable was negatively skewed (QOLI-total), and was subsequently reflected and transformed using square root transformation, which corrected the skew. Data were not kurtotic.

Cronbach's alpha was .69 for the 8-item MPQ. Upon further examination of the individual items, one of the two reverse-scored items (item 7, "I don't intentionally try to be aware of the present moment") was removed based on poor item-total correlations. The 7-item version was used in all subsequent analyses (α = .71). Internal consistency was also examined within racial groups, demonstrating similar alpha levels among Asian (α = .70.) and Latino (White and non-White; α = .70) participants, while the internal consistency was slightly lower among individuals who identified as Black (α = .67).

Zero-order correlation results indicated that MPQ scores were significantly, but moderately, correlated with MAAS scores (r = .39, p < .01), suggesting the two measures assess related, but distinct constructs. A series of multiple regressions were conducted in order to assess whether the MPQ predicted unique

variance in outcomes beyond variance accounted for by the MAAS. In the first series of regressions, the full models predicting depression (Depression Anxiety Stress Scales; DASS-depression), anxiety (DASS-anxiety), and stress (DASS-stress) were all significant, with the MPQ significantly improving the model beyond the MAAS alone and both the MAAS and MPQ emerging as significant independent predictors. We found similar results when we examined aspects of emotional responding. The full models significantly predicted distress about emotions (as measured by the Affective Control Scale) and difficulties in emotion regulation (measured by the Difficulties in Emotion Regulation Scale). The MPQ significantly improved the model in the second step, and both the MAAS and MPQ emerged as significant independent predictors in the final step. We conducted two final regressions to examine well-being (measured by the Quality of Life Inventory and the Subjective Happiness Scale), in which the full models were significant, the MPQ significantly improved the model in the second step, and both the MAAS and MPQ emerged as significant independent predictors in the final step.

Discussion

These preliminary findings support our hypotheses; namely, that the MPQ uniquely and significantly predicted psychological symptoms, emotional responding, and psychological health, over and above an outcome-oriented mindfulness measure. This suggests that the MPQ assesses an aspect of mindfulness that is not yet captured in the literature. Limitations of this study include the correlational (rather than causal) design, and the use of self-report assessments, which might be particularly limiting when attempting to measure awareness-related constructs. Overall, these findings suggest that the MPQ captures a unique facet of mindfulness that has important clinical correlates, which might be particularly useful in evaluating the process and outcomes of mindfulness-based therapies.

References

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Intercorrelations Between Study Variables (n = 410)

	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. MPQ	--	.39*	-.38*	-.26*	-.31*	-.43*	-.49*	-.29*	.43*
2. MAAS		--	-.52*	-.44*	-.52*	-.51*	-.53*	-.27*	.36*
3. DASS-DEP			--	.61*	.72*	.56*	.61*	.38*	-.56*
4. DASS-ANX				--	.62*	.51*	.50*	.14*	-.32*
5. DASS-STRESS					--	.52*	.56*	.27*	-.43*
6. ACS						--	.76*	.27*	-.46*
7. DERS							--	.25*	-.50*
8. QOLI[a]								--	-.53*
9. SHS									--

Note. MPQ = Mindfulness Process Questionnaire; MAAS = Mindful Attention and Awareness Scale; DASS-DEP = Depression Anxiety Stress Scales – Depression Subscale; DASS-ANX = Depression Anxiety Stress Scales – Anxiety Subscale; DASS-STRESS = Depression Anxiety Stress Scales – Stress Subscale; ACS = Affective Control Scale; DERS = Difficulties in Emotion Regulation Scale; QOLI = Quality of Life Inventory; SHS = Subjective Happiness Scale.
[a]Transformed (reflected), so that high scores reflect low quality of life.
*$p < .01$.

Regressions Predicting Symptoms

Predictors	DASS-DEP		DASS-ANX		DASS-STRESS	
	$R^2\Delta$	Beta	$R^2\Delta$	Beta	$R^2\Delta$	Beta
Step 1 MAAS	.27***	-.52***	.20***	-.44***	.27***	-.52***
Step 2	.04***		.01*		.01**	
MAAS		-.44***		-.41***		-.47***
MPQ		-.21***		-.10*		-.12**

Note. DASS-Dep = Depression Anxiety Stress Scales – Depression Subscale; DASS-ANX = Depression Anxiety Stress Scales – Anxiety Subscale; DASS-STRESS = Depression Anxiety Stress Scales – Anxiety Subscale; MAAS = Mindfulness Attention Awareness Scale; MPQ = Mindfulness Process Questionnaire.
*$p < .05$. **$p < .01$. ***$p < .001$.

Regressions Predicting Emotional Responding and Regulation

Predictors	ACS		DERS	
	$R^2\Delta$	Beta	$R^2\Delta$	Beta
Step 1 MAAS	.26***	-.51***	.28***	-.53***
Step 2	.07***		.10***	
MAAS		-.40***		-.40***
MPQ		-.28***		-.34***

Note. ACS = Affective Control Scale; DERS = Difficulties in Emotion Regulation Scale; MAAS = Mindfulness Attention Awareness Scale; MPQ = Mindfulness Process Questionnaire.
*$p < .05$. **$p < .01$. ***$p < .001$.

Regressions Predicting Well-Being

Predictors	QOLI[a]		SHS	
	$R^2\Delta$	Beta	$R^2\Delta$	Beta
Step 1 MAAS	.07***	-.27***	.13***	.36***
Step 2	.04***		.10***	
MAAS		-.18***		.23***
MPQ		-.22***		.34***

Note. QOLI = Quality of Life Inventory; SHS = Subjective Happiness Scale; MAAS = Mindfulness Attention Awareness Scale; MPQ = Mindfulness Process Questionnaire.
[a]Transformed (reflected), so that high scores reflect low quality of life.
**p < .05. **p < .01. ***p < .001.*

Mindfulness Process Questionnaire

You will find below a series of statements that describe how people may react to the uncertainties of life. Please use the scale below to describe to what extent each item is characteristic of you (please write the number that describes you best in the space before each item).

1	**2**	**3**	**4**	**5**
not at all characteristic of me	a little characteristic of me	somewhat characteristic of me	very characteristic of me	entirely characteristic of me

1. ____ When I feel myself getting caught up in my thoughts or feelings, I am able to bring my mind back to what's happening right now.
2. ____ I don't consciously try to be accepting of whatever thoughts and feelings I have.
3. ____ I try to be open to whatever happens, as it's happening, instead of having my mind wander to other things.
4. ____ I intentionally try to be accepting of my thoughts and feelings as they occur.
5. ____ When I notice that I'm not engaged in the present moment I can gently bring myself back.
6. ____ If I notice that I'm being hard on myself for the thoughts and feelings I'm experiencing, I try to be kind to myself instead.
[a]7. ____ I don't intentionally try to be aware of the present moment.
8. ____ If I notice that I'm being critical of my thoughts or feelings, I try to be more accepting of them instead.

[a]This item was dropped to improve internal consistency, resulting in a 7-item measure.
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