

# Relationship Between Post-Intervention Frequency of Mindfulness Practice, Symptoms of Anxiety and Worry, and Quality of Life in an Acceptance-Based Behavior Therapy for GAD



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## Introduction

Generalized Anxiety Disorder (GAD) is one of the least successfully treated of the anxiety disorders. An acceptance-based behavior therapy (ABBT) designed to treat clients with a principal diagnosis of GAD has shown promising results in a randomized controlled trial (Roemer, Orsillo, & Salters-Pednault, 2008). ABBT focuses on helping clients develop a more accepting relationship with their unwanted internal experiences, increase engagement in valued life actions, and develop mindfulness skills to help facilitate these processes and decrease experiential avoidance. Development of mindfulness skills is seen as a way to provide clients with tools that might lead to longer lasting gains after treatment ends; clients are given flexibility in the type and duration of practice they engage in. Little is known about how the frequency of home mindfulness practice relates to changes in outcome variables and the maintenance of treatment gains in this approach. This study examined the relationships between the frequency of mindfulness practice and GAD severity, worry, and quality of life 3 and 9 months after the completion of treatment.

## Method

After receiving 16 sessions of ABBT, eighteen participants completed 3-month follow-up assessments and 15 participants completed 9-month follow-up assessments (see Table 1 for demographic information). All participants began treatment with a principal diagnosis of GAD and

Self-identified Racial Groups	
White	18 (100%)
Gender	
Female	11 (61%)
Male	7 (39%)
Age	
Mean	38.3 years
Standard Deviation	13.5 years

a range of comorbid presenting problems. Outcome measures included the clinician severity (CSR) rating of GAD from the Anxiety Disorders Interview Schedule for the *DSM-IV*-Lifetime Version (DiNardo, Brown, & Barlow 1994), the Penn State Worry Questionnaire (PSWQ; Meyer, Miller, Metzger, & Borkovec, 1990), with Cronbach's  $\alpha$ 's of .879 at 3 months and .918 at 9 months in the current sample, and an abbreviated version of the Quality of Life Inventory (QOLI; Frisch, Cornwell, Villanueva, & Retzlaff, 1992), a measure of life satisfaction across a number of important domains, which demonstrated good internal consistency with Cronbach's  $\alpha$ 's of .85 at 3 months and .79 at 9 months in the current study.

*Mindfulness Practice Measure:* At 3 and 9 month after treatment, participants reported their frequency of engagement in any type of mindfulness activity. Five questions asked participants how often they practiced focusing on their breath, formal mindfulness meditation, informal mindfulness meditation, yoga, and any other mindfulness practice, since the last assessment time point. Response choices for each of the five questions were three- or five-item Likert scales ranging from "never" to "three times a week or more" or "several times a day". Responses on each of these items were averaged to compute a variable to estimate an overall frequency of mindfulness practice for each individual. For the current sample, the combined practice measure demonstrated adequate internal consistency with Cronbach's alphas of .61 at 3 months and .70 at 9 months.

## Results

Residualized gain scores were calculated for all outcome variables to control for pre-treatment scores. Correlations were calculated between frequency of mindfulness practice and residualized gain scores for GAD severity (CSR), worry (PSWQ), and quality of life (QOLI) scores at both 3 and 9 month post-treatment time points (Table 2).

**Table 2. Correlations Between Mindfulness Practice and Outcomes at 3 and 9 Months**

	CSR	PSWQ	QOLI
3 Months	-.50*	-.52*	.36
9 Months	-.50	-.71*	-.58*

Note: CSR = GAD Clinician Severity Ratings from the Anxiety Disorders Interview Schedule ; PSWQ = Penn State Worry Questionnaire ; QOLI = Quality of Life Inventory; \*  $p < .05$

## Discussion

This study examined the relationship between post intervention frequency of home mindfulness practice and severity of anxiety, worry, and quality of life in a sample of individuals receiving an acceptance-based behavior therapy. As predicted, mindfulness practice was significantly negatively correlated with current GAD severity and worry at 3-month follow-up. Frequency of mindfulness practice was also positively correlated with quality of life with a large effect size, however, this association did not reach statistical significance. At 9-month follow-up, frequency of mindfulness practice was significantly negatively associated with worry and was negatively associated with GAD severity, just outside of statistical significance. Additionally, as expected, at 9-month follow-up, frequency of mindfulness practice was significantly positively correlated with quality of life.

Development of successful methods and practices for helping people with GAD maintain treatment gains after termination of therapy is essential for promoting their long term mental health. Very few studies have identified such practices. The findings from this study suggest that, for people with GAD, regardless of pre-treatment levels of anxiety severity, worry, and quality of life, maintenance of gains in these variables at 3 and 9 months post-treatment may be related to frequency of mindfulness practice during these periods. There are, however, several methodological limitations with the current study that should be addressed in future research. The sample is small and racially homogeneous, increasing the risk of making Type II errors and precluding generalizations to more diverse populations. Importantly, these findings are correlational, and studies are needed to determine whether increased mindfulness practice reduces anxiety or whether changes in anxiety influences frequency of mindfulness practice, or if some other variable affects both constructs. In conclusion, the results of the current study highlight the need for further exploration of the utility of mindfulness practices as beneficial for continued improvement or maintenance of gains following treatment for GAD. Longitudinal studies with multiple assessment points over longer periods of time could help clarify the directionality of the relationship between mindfulness practice and outcome variables. Additionally, future studies with more comprehensive measurements of mindfulness practice are needed to distinguish between the potential differential effects of formal vs. informal practice on treatment gains.

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