

# The Meaning in Life Questionnaire: Psychometric Properties With Individuals With Serious Mental Illness in an Inpatient Setting

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**Objectives:** This study examined the psychometric properties of the Meaning in Life Questionnaire (MLQ) with individuals with serious mental illness (SMI) in an inpatient setting ( $N = 96$ ). The 10-item MLQ comprises Presence (perceived meaning) and Search (motivation to discover meaning) scales. **Design:** This study focused on the reliability and validity of the MLQ, reporting a range of data, including correlations and regression (predicting scores on a measure of psychopathology, the Brief Symptom Inventory). **Results:** Both MLQ scales yielded reliable scores. The current sample tended to report greater Presence, whereas Search means tended to be similar to those reported in other studies. The association between Presence and the Brief Symptom Inventory was not statistically significant. As for Search, people reporting greater motivation to discover meaning tended to report greater degrees of symptoms. The Presence and Search scales correlated at  $r = .12$ , which was unexpected given that most studies note an inverse relationship. However, this finding is considered in light of an interaction effect between Presence and Search when predicting psychological distress. **Conclusions:** The current findings are supportive of the MLQ's utility with individuals with SMI. Limitations and directions for research are offered. © 2011 Wiley Periodicals, Inc. *J Clin Psychol* 67:1210–1219, 2011.

**Keywords:** Brief symptom inventory; Meaning in life questionnaire; Purpose; Serious mental illness

## Introduction

The Meaning in Life Questionnaire (MLQ) is a 10-item self-report inventory designed to measure perceived life meaning and search for meaning (Steger, Frazier, Oishi, & Kaler, 2006). Respondents rate their degree of agreement on a 7-point scale, ranging from 1 (*absolutely untrue*) to 7 (*absolutely true*). The MLQ comprises two scales, Presence and Search. Presence (items 1, 4, 5, 6, and 9) assesses the degree to which life is perceived as meaningful (e.g., “I understand my life’s meaning”), while Search (items 2, 3, 7, 8, and 10) assesses motivation to discover meaning in life (e.g., “I am searching for meaning in my life”). Steger and colleagues (2006) documented negative correlations between the scales with college-student data collected at multiple time periods (correlations ranging from  $-.19$  to  $-.30$ ). One interpretation of such correlations is that perceived meaning is associated with less of a need to discover additional meaning.

The MLQ has become a popular research tool. Means, standard deviations, and reliability coefficients from notable investigations are presented in Table 1. Scores range from 5 to 35 on each scale. In samples of college students, mean scores are typically in the low to mid 20’s on Presence and Search (Duffy & Raque-Bogdan, in press; Kashdan & Breen, 2007; Schulenberg, Schnetzer, & Buchanan, in press; Steger et al., 2006). Presence means for adult respondents (e.g., respondents recruited online, smoking cessation patients) tend to range from the mid to high 20’s (Park, Park, & Peterson, 2010; Steger, Mann, Michels, & Cooper, 2009; Whittington & Scher, 2010), while Search means in similar samples tend to range from the low to mid 20’s

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(Park et al., 2010; Steger et al., 2009). Presence and Search means for international samples tend to be lower (e.g., Steger, Frazier, & Zaccanini, 2008; Steger, Kawabata, Shimai, & Otake, 2008).

MLQ scores demonstrate good internal consistency (Table 1) by interpretive standards (e.g., DeVellis, 2003), with coefficient alphas typically ranging from the low .80s to the low .90s for Presence and the low .80s to the low .90s for Search (Duffy & Raque-Bogdan, in press; Kashdan & Breen, 2007; Park et al., 2010; Schulenberg et al., in press; Steger et al., 2006; Steger & Kashdan, 2007; Steger et al., 2009; Whittington & Scher, 2010). MLQ scores also have good test-retest reliability for a 1-month period and moderate stability over a 13-month period (Dik, Sargent, & Steger, 2008; Steger et al., 2006; Steger & Kashdan, 2007).

Validity support is evident by the MLQ's relationship to the Purpose in Life test and the Life Regard Index (alternative measures of perceived meaning), as well as correlations in the expected directions with a variety of constructs (Dik et al., 2008; Kashdan & Breen, 2007; Steger et al., 2006; Steger, Pickering, Shin, & Dik, 2010). For example, perceived presence of meaning is positively related to life satisfaction, happiness, gratitude, self-esteem, and positive life change, and negatively related to depression, anxiety, posttraumatic stress, materialism, and experiential avoidance (Duffy & Raque-Bogdan, in press; Kashdan & Breen, 2007; Park et al., 2010; Steger et al., 2009; Steger et al., 2010; Whittington & Scher, 2010).

In the case of search for meaning, correlations with variables tend to be in the opposite direction, i.e., positively associated with depression, anxiety, sadness, and fear (Duffy & Raque-Bogdan, in press; Park et al., 2010; Steger et al., 2009) and negatively associated with the presence of meaning (Park et al., 2010; Schulenberg et al., in press; Steger et al., 2009). However, the relationship between presence of meaning and search for meaning appears to be more complicated than previously thought. For instance, search for meaning is positively associated with well-being in those cases where respondents perceive *significant* life meaning (higher life satisfaction, greater happiness, less depression; Park et al., 2010). Along these lines, Steger et al. (2009) reported that in a group of smoking cessation patients, those people with higher Search scores tended to describe greater degrees of anxiety and poorer health, although those with higher Search scores who also had higher Presence scores did not demonstrate this association. Thus, the interaction and systematic study of presence and search for meaning is a worthwhile empirical endeavor (Park et al., 2010; Steger & Kashdan, 2007; Steger et al., 2009; Steger, Kashdan, Sullivan, & Lorentz, 2008; Steger, Kawabata, et al., 2008).

Although the MLQ has gathered impressive psychometric support since its development, most studies have focused on American college student samples. Research with the measure is expanding to include greater diversity in terms of age (e.g., smoking cessation group patients, Steger et al., 2009) and nationality (Spanish college students, Steger, Frazier, et al., 2008; Japanese young adults, Steger, Kawabata, et al., 2008). Although MLQ research continues to proliferate, studies are needed with clinical populations given the importance of the meaning construct to those experiencing various forms of mental health problems (Schulenberg, Hutzell, Nassif, & Rogina, 2008). For instance, the MLQ has yet to be examined with individuals with serious mental illness (SMI). People with SMI are described as having a diagnosable psychiatric disorder (e.g., schizophrenia-spectrum, major depression, or bipolar disorders) that results in impairment in functioning, such as hospitalization, with an illness duration of at least a year (Hansson, 2006; Schinnar, Rothbard, Kanter, & Jung, 1990). Although it is not an area that has been studied in depth, the available literature does suggest that meaning is of importance to the mental health of individuals with SMI. Individuals with SMI diagnoses such as schizophrenia tend to report lower degrees of meaning (obtained via alternative measures of perceived meaning) than individuals without such diagnoses, and therefore meaning warrants empirical focus in this context (e.g., Chaudhary & Sharma, 1976; Gonsalvez & Gon, 1983; McCann & Clark, 2004; Strack & Schulenberg, 2009; Turner et al., 2007). Perceived meaning appears to be an important component of a comprehensive treatment program (e.g., Schulenberg et al., 2008; Strack & Schulenberg, 2009).

Given the importance of perceived meaning to the well-being of individuals with SMI, the goal of this investigation was to provide psychometric data on the MLQ in a sample of people with SMI in an inpatient setting and compare these data to those in the published literature. It was hypothesized that scores would be reliable, that Presence scores would be significantly

**Table 1**  
*Comparison Statistics for the Meaning in Life Questionnaire Presence and Search Scales: Present Data Related to the Literature*

Research study	Sample	Presence subscale			Search subscale			Cohen's <i>d</i> : Comparison of data with literature		Correlation between Presence and Search	<i>r</i> difference between data and correlations in literature
		<i>M</i>	<i>SD</i>	<i>α</i>	<i>M</i>	<i>SD</i>	<i>α</i>	Presence	Search		
Present study	Inpatients with SMI ( <i>N</i> = 96)	28.16	6.93	0.81	26.6	8.03	0.9	NA	NA	<i>r</i> = .12	NA
Duffy & Raque-Bogdan (in press)	College students ( <i>N</i> = 225)	23.21	5.61	0.89	24.91	5.75	0.9	.82 <sup>e</sup>	0.26	<i>r</i> = .07	<i>p</i> = .68
Schulenberg et al. (in press)	College students ( <i>N</i> = 298)	25.97	5.9	0.88	23.92	6.97	0.88	.36 <sup>e</sup>	.37 <sup>e</sup>	<i>r</i> = -.25	<i>p</i> < .001
Park et al. (2010)	Adults recruited online ( <i>N</i> = 731)	25.1	7.8	0.93	24.1	8.3	0.91	.40 <sup>e</sup>	0.3	<i>r</i> = -.35	<i>p</i> < .001
Whittington & Scher (2010)	Adults recruited online ( <i>N</i> = 430)	27.78	5.69	0.87	NR <sup>a</sup>	NR <sup>a</sup>	NR <sup>a</sup>	0.06	NA <sup>a</sup>	NR <sup>a</sup>	NA <sup>a</sup>
Steger et al. (2009)	Smoking cessation patients ( <i>N</i> = 99)	25.9	7	0.88	22.3	8.6	0.93	.33 <sup>e</sup>	.52 <sup>e</sup>	<i>r</i> = -.20	<i>p</i> = .03
Steger, Frazier, et al. (2008)	Spanish college students ( <i>N</i> = 46) <sup>b</sup>	21.15	6.05	0.81	17.95	6.95	0.9	1.06 <sup>e</sup>	1.13 <sup>e</sup>	<i>r</i> = -.01	<i>p</i> = .48
Steger, Kawabata, et al. (2008)	American college students ( <i>N</i> = 1183); Japanese college students ( <i>N</i> = 982) <sup>c</sup>	24.1 (U.S.); 19.7 (Japan)	6.7 (U.S.); 6.4 (Japan)	.81-.86 <sup>d</sup> (U.S.); .79-.86 (Japan)	24.5 (U.S.); 25.8 (Japan)	6.6 (U.S.); 6.1 (Japan)	.84-.85 <sup>d</sup> (U.S.); .82-.88 (Japan)	.60 <sup>e</sup> (U.S.); 1.31 <sup>e</sup> (Japan)	0.31 (U.S.); 0.13 (Japan)	American sample <i>r</i> = -.20 (based on subset of 339); Japanese sample <i>r</i> = .24	American sample <i>p</i> < .01; Japanese sample <i>p</i> = .26

Table 1  
Continued

Steger, Kashdan, et al. (2008)	Study 1 College students ( $N = 122$ )	Study 1	Study 1	Study 1	Study 1	Study 1	Study 1	Study 1	Study 1	Study 1	Study 1	Study 1
	Study 2 College students ( $N = 149$ )	Study 2	Study 2	Study 2	Study 2	Study 2	Study 2	Study 2	Study 2	Study 2	Study 2	Study 2
Dogra, Basu, & Das (2008)	Study 3 College students ( $N = 275$ )	Study 3	Study 3	Study 3	Study 3	Study 3	Study 3	Study 3	Study 3	Study 3	Study 3	Study 3
	College students, India ( $N = 320$ )	26.13	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Kashdan & Breen (2007)	College students ( $N = 144$ )	25.61	6.21	0.9	NR <sup>a</sup>	NR <sup>a</sup>	NR <sup>a</sup>	NR <sup>a</sup>	NR <sup>a</sup>	NR <sup>a</sup>	NR <sup>a</sup>	NR <sup>a</sup>
	College students ( $N = 82$ ): interval	Time	Time	Time	Time	Time	Time	Time	Time	Time	Time	Time
Steger & Kashdan (2007)	College students ( $M = 13$ months)	1 = 23.3;	1 = 5.0;	1 = .83;	1 = 24.1;	1 = 6.2;	1 = .84;	1 = .80 <sup>e</sup> ;	1 = .35;	1 = .25 (Time 1);	1 = .35;	1 = .01 (Time 1);
	College students ( $M = 13$ months)	2 = 24.2	2 = 5.7	2 = .88	2 = 23.0	2 = 7.3	2 = .83	2 = .62 <sup>e</sup>	2 = .47 <sup>e</sup>	2 = .22 (Time 2)	2 = .47 <sup>e</sup>	2 = .02 (Time 2)

Note.  $M$  = mean;  $SD$  = standard deviation; NA = not applicable. NR = not reported.

<sup>a</sup>Search was not included in the study.

<sup>b</sup>Spanish translation.

<sup>c</sup>Japanese translation.

<sup>d</sup>Range of coefficients reported for subgroups.

<sup>e</sup>Significant difference from serious mental illness participant means, corrected to  $p < .002$ .

lower than nonclinical populations, and that Search scores would be significantly higher than nonclinical populations (suggesting less perceived meaning and a greater perceived need to search for meaning). Hypotheses were based on meaning-based conceptualizations and research, specifically the idea that the more perceived meaning one reports, the less of a need to discover additional meaning (e.g., Crumbaugh, 1977; Melton & Schulenberg, 2008; Schulenberg et al., 2008).

MLQ scores were also examined in comparison to the Brief Symptom Inventory (Derogatis & Melisaratos, 1983), a measure of psychological functioning. It was hypothesized that Presence scores would be significantly and negatively related to Brief Symptom Inventory scores, whereas Search scores would be significantly and positively related to Brief Symptom Inventory scores.

The relationship between Presence and Search was also examined. It was hypothesized that these scores would be significantly and negatively related as noted in a number of research studies (see Table 1), which would suggest that perceived meaning is associated with less of a need to discover additional meaning. However, given recent research findings, an interaction effect was anticipated.

## Materials and Methods

### *Participants*

Ninety-six participants (53.1% men, 46.9% women; mean [*M*] age = 44.2, standard deviation [*SD*] age = 12.2, age range = 18-69; 58.3% African American, 39.6% Caucasian) were recruited from two inpatient mental health facilities located in the southern United States. Participants were mostly single (49%), divorced (24%), or married (17.7%), nonworking (90.6%), and making less than \$10,000 a year (80.2%). Eligibility for participation was based on a *Diagnostic and Statistical Manual of Mental Disorders Fourth Edition, Text Revision* (American Psychiatric Association, 2000) diagnosis of schizophrenia (50%), schizoaffective disorder (27%), major depressive disorder (20%), or bipolar disorder (3%), with an illness duration of at least one year.

### *Instruments*

Data were collected as part of a larger investigation (see Strack & Schulenberg, 2009). The Meaning in Life Questionnaire, described previously, was administered in a packet along with other measures, including a demographics form and the Brief Symptom Inventory.

*Brief Symptom Inventory.* The 53-item Brief Symptom Inventory measures a range of psychological symptoms, such as depression and anxiety, using a five-point response format, ranging from 0 (*not at all*) to 4 (*extremely*). The Global Severity Index is the overall score and is interpreted as a T score, with 50 representing the mean and 70 representing two standard deviations above the mean. Higher scores suggest greater psychological distress. Cronbach's alphas for Global Severity Index scores often exceed .90 and scores correlate as expected with measures of psychological distress (Schulenberg, Flegle, Foote, Buchanan, & Deal, 2011). The internal consistency reliability coefficient was calculated to be .95 ( $M = 47.33$ ,  $SD = 8.52$ ; see Strack & Schulenberg, 2009).

### *Procedure*

Respondents were at various treatment stages and they were taking prescribed medication at the time data were collected. Mental health staff members of each facility aided in participant recruitment as well as provided each participant's diagnosis. Before data collection, each facility was given the criteria for participant eligibility. Each facility selected patients that met these eligibility requirements and provided the names of possible participants. Upon arrival at each facility, the study was explained to all possible participants. Participants interested in completing the study then received explanations of confidentiality and informed consent.

Informed consent forms were explained orally and written copies were provided to each participant for signatures. Once the informed consent forms were obtained, data collection began. Each participant received a packet containing the questionnaires, which were counterbalanced to account for order effects. Before beginning each survey, the participants were asked to read the directions aloud. Any questions regarding the instruments were answered. The surveys were completed in a quiet room with minimal distractions.

## Results

Data were analyzed for assumptions of linear regression and found to be normally distributed, homoscedastic, and linearly related. The coefficient alpha for Presence was .81, while the coefficient alpha for Search was .90. These data are comparable to those reported in Table 1 across a range of samples. The means (standard deviations) for Presence and Search were 28.16 ( $SD = 6.93$ ) and 26.60 ( $SD = 8.03$ ), respectively. We used a 3 X 2 mixed factorial analysis of variance to examine the differences in Presence and Search scores on the MLQ across diagnoses (excluding bipolar disorder because of low sample size). No interaction between diagnosis and scale was detected,  $F < 1$ ,  $p = .64$ , indicating that our sample of SMI patients had the same average scale scores on Presence and Search in relation to diagnosis.

We compared our sample data with other reported samples with Cohen's  $d$ , using this measure to show effect size variations across different populations measured in the literature. As noted in Table 1, our Presence means range from traditional small effect sizes or small mean differences (.06; compared with Whittington and Scher, 2010 data with adult respondents recruited online) to very large mean differences across populations ( $> 1.00$ ; compared with the two Steger et al. 2008 studies with Spanish and Japanese undergraduate data with respective language translations of the MLQ). We used independent  $t$  tests with a Sidak-Bonferroni correction to examine the difference between our study means and other samples of the MLQ. Significant effects are noted on Table 1. Means calculated in the present study tended to be much larger than both foreign and undergraduate samples, which indicated that in general this inpatient sample of individuals with SMI reported significantly greater meaning than samples without such difficulties (exact  $t$  values available on request).

Fewer large mean differences were noted regarding Search means. These comparison data ranged from small (.13; compared with Steger, Kawabata, et al., 2008 data with Japanese undergraduates using a Japanese MLQ translation) to medium mean differences (.52; compared with Steger et al., 2009 data with smoking cessation patients) for the most part, with one large effect size ( $> 1$ ; compared with Steger, Frazier, et al.'s, 2008 data with Spanish undergraduates using a Spanish MLQ translation). In general, our Search means tended to be similar to those reported in other studies, the international Spanish sample being an exception.

As for correlations, no significant association was found between Presence and the Brief Symptom Inventory ( $r = -.16$ ,  $p = .07$ ). With respect to Search, scores were significantly related to the Brief Symptom Inventory ( $r = .31$ ,  $p < .01$ ), as expected. People reporting greater perceived need for meaning tended to report higher levels of symptoms. No significant correlation was demonstrated between Presence and Search ( $r = .12$ ). Table 1 also contains a compilation of the correlations between Presence and Search from a range of studies. Our correlation was surprisingly positive, and not significantly different from other reported positive correlations (e.g., Duffy & Raque-Bogdan, in press). However, our documented correlation between Presence and Search was significantly different from the majority of studies, which reported negative correlations. Our correlation is qualified by studies that have demonstrated an interaction between Presence and Search.

Recent research (e.g., Park et al., 2010) has shown that there is an interaction between scores on the Presence and Search scales when predicting life satisfaction. We sought to see if this interaction still existed in our dataset predicting Brief Symptom Inventory scores with a multiple hierarchical linear regression. Instead of using a correlational analysis, we used a regression to examine if an interaction truly existed, followed by a simple slopes analysis to show how high and low scoring participants would differ in slope predicting Brief Symptom Inventory scores (see Cohen, Cohen, West, & Aiken, 2003 for examples of simple slopes

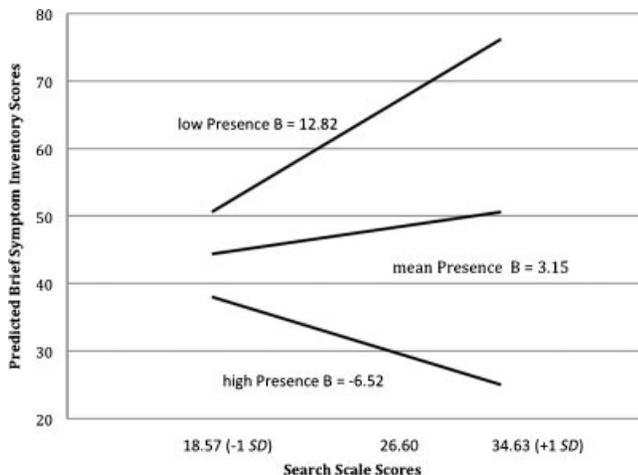


Figure 1. The interaction for low, mean, and high Presence scores and Search scores predicting Brief Symptom Inventory scores. Note. The high Presence group is one standard deviation above the mean. The low Presence group is one standard deviation below the mean. The scores are plotted against the mean and one standard deviation above and below Search scores to portray the interaction effect.

analyses). First, Presence and Search scores were centered, and an interaction term was created. Both Presence and Search were used to predict Brief Symptom Inventory scores, which accounted for a significant portion of the variance,  $R^2 = .13$ ,  $F(2, 93) = 7.16$ ,  $p < .01$ , and indicated that both Presence and Search have main effects individually on the Brief Symptom Inventory symptoms. As Presence scores increase, the number of symptoms on the Brief Symptom Inventory decrease,  $B = -1.70$ ,  $t(95) = -2.05$ ,  $p = .04$ , and as Search scores increase, the number of symptoms on the Brief Symptom Inventory increase,  $B = 2.82$ ,  $t(95) = 3.40$ ,  $p < .01$ .

In the second step of the hierarchical regression, the interaction between Presence and Search was included, which added a significant portion of variance in predicting Brief Symptom Inventory scores,  $\Delta R^2 = .18$ ,  $F(1,92) = 5.69$ ,  $p = .02$ . For a mean Presence scoring group, a positive relationship existed between Search for meaning and symptoms, such that as Search scores increased, so did Brief Symptom Inventory scores,  $B = 3.15$ ,  $t(95) = 3.84$ ,  $p < .01$ . To follow up this significant interaction, we recoded Presence scores to examine high (+1 SD) and low (-1 SD) Presence slopes for meaning predicting Brief Symptom Inventory scores. See Figure 1 for the slopes for high, low, and mean groups. The high Presence scoring participants did not have a significant Search slope predicting Brief Symptom Inventory scores, simple  $B = -6.52$ ,  $t(95) = -1.63$ ,  $p = .11$ . Participants with low Presence scores showed a significant positive relationship of Search predicting Brief Symptom Inventory scores; as symptoms increased, so did Search for meaning, simple  $B = 12.82$ ,  $t(95) = 3.00$ ,  $p < .01$ .

## Discussion

This study's goal was to add to the psychometric literature of the MLQ given it has yet to be studied with an inpatient sample of individuals with SMI. Perceived meaning is a significant contributor to the well-being of this population (Schulenberg et al., 2008; Strack & Schulenberg, 2009). Analyses began with the calculation of means, standard deviations, and reliability coefficients. Presence and Search scores were reliable in this sample based on interpretive standards (e.g., DeVellis, 2003) and comparable to the findings of other studies.

Mean data were compared with the published MLQ literature. For Presence, comparison data ranged from a small effect to a very large effect. For the most part, our sample reported greater perceived meaning than found in other studies focusing on young adult, adult, and international samples. As for Search means, fewer mean differences were noted, with

comparison data generally ranging from small to medium effects (with the effect of  $> 1.00$  in relation to the Spanish undergraduate sample possibly because of cultural differences).

In general, the findings regarding Presence and Search means were not expected as meaninglessness and greater motivation to discover meaning are typically associated with various forms of psychopathology (e.g., Melton & Schulenberg, 2008; Schulenberg et al., 2008). Thus, we expected lower Presence scores and greater Search scores given the clinical sample and the inpatient treatment context. One possibility for these findings lies in the interpretation of the Brief Symptom Inventory score, which was not suggestive of impairment in functioning (i.e., while individuals were receiving inpatient treatment at the time data were collected, they reported functioning fairly well as evidenced by their responses to this measure).

With regard to correlations, the association between Presence and the Brief Symptom Inventory was not significant ( $r = -.16, p = .07$ ), although it was in the expected direction (i.e., greater perceived meaning related to less distress). As for Search, the scale was significantly and positively related to Brief Symptom Inventory scores ( $r = .31, p < .01$ ), suggesting that the perceived need to search for meaning is associated with greater reports of psychological distress. These relationships are consistent with the proposed hypotheses, as well as conceptualizations and research (e.g., Crumbaugh, 1977; Frankl, 1959/2006; Schulenberg et al., 2008).

An unexpected finding was the nonsignificant correlation (.12) between Presence and Search. Correlations between these scales are typically negative and in the low  $-.20$ s to mid  $-.30$ s (Park et al., 2010; Schulenberg et al., in press; Steger & Kashdan, 2007; Steger et al., 2009). In this respect, our data differed significantly from the majority of studies employing both scales, but was consistent with the recent findings of Duffy and Raque-Bogdan (in press). The lack of significance in our case might be explained by the interaction between Presence and Search in predicting symptom reports. We found that people who reported high Presence do not have a significant relationship between meaning and symptom reports, while there was a positive relationship between meaning and low reports of Presence. As Presence reports decreased from high to mean to low, there was an increasingly positive relationship between meaning and report of symptoms. Therefore, decreasing Presence was related to increasing Search for meaning and increasing reports of symptoms on the Brief Symptom Inventory. This interpretation is consistent with available theory and research with alternative measures of meaning (e.g., Crumbaugh, 1977; Frankl, 1959/2006; Schulenberg et al., 2008). These findings support the continued consideration of interaction effects when studying the relationship between presence of meaning and search for meaning.

As for research directions, one area of focus would be differences in reported symptoms of psychological distress. Although we relied on staff from mental health facilities to select potential participants for the study, and staff were instructed to list all people meeting eligibility requirements regardless of their symptom presentation, it is possible that some staff were likely to refer higher functioning individuals to participate than lower functioning individuals (this is one explanation for why the mean score on the Brief Symptom Inventory for the current sample was not suggestive of impairment in functioning, as was noted in the larger study). It is possible that the sample might represent patients with serious mental illness who have been stabilized in treatment. From an empirical standpoint, it would be useful to study Presence and Search in relation to samples reporting clinically significant degrees of psychological distress, as evidenced by reports on the Brief Symptom Inventory or other measures of psychopathology. As an extension of studying Presence and Search in relation to impairment in functioning, we also note the importance of studying these constructs by SMI diagnosis. Do patients with different diagnoses respond similarly? Do different diagnoses affect Presence and Search in different ways? This did not appear to be the case in the present study; however, these are important empirical questions that should be kept in mind with respect to future research.

Another direction for research would be to examine the Presence and Search scales' ability to measure change over time. Given that meaning is related to greater reports of empowerment and fewer reports of psychological symptoms in individuals with SMI (Strack & Schulenberg, 2009), meaning, and, therefore, meaning-based assessment and interventions, appear to be

particularly important to individuals with SMI. Meaning-based interventions should not only enhance perceived meaning, but should result in decreases in the reporting of symptoms and/or an improved ability to cope with symptoms (Schulenberg et al., 2008; Strack & Schulenberg, 2009). If meaning-based interventions were to be employed in inpatient mental health settings with individuals with SMI, then combining the Presence and Search scales along with measures of psychopathology (such as the Brief Symptom Inventory) might be very useful with regard to better understanding their psychometric properties and to what degree meaning-based interventions lessen the impact of symptoms and enhance important positive variables, such as empowerment (Strack & Schulenberg, 2009), resilience, and treatment compliance. These variables should be the focus of empirical inquiry at the stage of being admitted, at intervals throughout treatment, and post discharge (data were collected for the present study at one point in time).

Given the MLQ's growing promise, researchers might find the measure to be of use in an array of studies of meaning's relevance to individuals with SMI. Although the empirical study of meaning continues to be of interest to researchers, given the interaction effect noted in the literature and replicated in the current study, we assert the importance of studying these constructs in relation to one another (e.g., Park et al., 2010; Steger, Kashdan, et al., 2008).

### References

- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text revision). Washington, DC: Author.
- Chaudhary, P.N., & Sharma, U. (1976). Existential frustration and mental illness: A comparative study of purpose in life in psychiatric patients and normals. *Indian Journal of Clinical Psychology*, 3, 171–174.
- Cohen, J., Cohen, P., West, S.G., & Aiken, L.S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd ed.). Mahwah, NJ: Erlbaum.
- Crumbaugh, J.C. (1977). The Seeking of Noetic Goals test (SONG): A complementary scale to the Purpose in Life test (PIL). *Journal of Clinical Psychology*, 33, 900–907.
- Derogatis, L.R., & Melisaratos, N. (1983). The Brief Symptom Inventory: An introductory report. *Psychological Medicine: A Journal of Research in Psychiatry and the Allied Sciences*, 13, 595–605.
- DeVellis, R.F. (2003). *Scale development: Theory and applications* (2nd ed.). Thousand Oaks, CA: Sage.
- Dik, B.J., Sargent, A.M., & Steger, M.F. (2008). Career development strivings: Assessing goals and motivation in career decision-making and planning. *Journal of Career Development*, 35, 23–41.
- Dogra, A.K., Basu, S., & Das, S. (2008). The roles of personality, stressful life events, meaning in life, reasons for living on suicidal ideation: A study in college students. *Journal of Projective Psychology & Mental Health*, 15, 52–57.
- Duffy, R.D., & Raque-Bogdan, T.L. (in press). The motivation to serve others: Exploring relations to career development. *Journal of Career Assessment*.
- Frankl, V.E. (1959/2006). *Man's search for meaning*. Boston, MA: Beacon Press.
- Gonsalvez, G., & Gon, M. (1983). A comparative study of purpose-in-life in psychopathological and normal groups. *Indian Journal of Clinical Psychology*, 10, 211–218.
- Hansson, L. (2006). Determinants of quality of life in people with severe mental illness. *Acta Psychiatrica Scandinavica*, 113, 46–50.
- Kashdan, T.B., & Breen, W.E. (2007). Materialism and diminished well-being: Experiential avoidance as a mediating mechanism. *Journal of Social and Clinical Psychology*, 26, 521–539.
- McCann, T.V., & Clark, E. (2004). Embodiment of severe and enduring mental illness: Finding meaning in schizophrenia. *Issues in Mental Health Nursing*, 25, 783–798.
- Melton, A.M.A., & Schulenberg, S. E. (2008). On the measurement of meaning: Logotherapy's empirical contributions to Humanistic psychology. *The Humanistic Psychologist*, 36, 1–14.
- Park, N., Park, M., & Peterson, C. (2010). When is the search for meaning related to life satisfaction? *Applied Psychology: Health and Well-Being*, 2, 1–13.
- Schinnar, A.P., Rothbard, A.B., Kanter, R., & Jung, Y.S. (1990). An empirical literature review of definitions of severe and persistent mental illness. *American Journal of Psychiatry*, 147, 1602–1608.
- Schulenberg, S.E., Hutzell, R.R., Nassif, C., & Rogina, J.M. (2008). Logotherapy for clinical practice. *Psychotherapy: Theory, Research, Practice, Training*, 45, 447–463.

- Schulenberg, S.E., Flegle, L.B., Foote, H.L., Buchanan, E.M., & Deal, W.P. (in press). Perceived psychological coercion and distress from involuntary commitment: A preliminary study of serious mental illness in inpatient settings. Manuscript submitted for publication.
- Schulenberg, S.E., Schnetzer, L.W., & Buchanan, E.M. (in press). The Purpose in Life test-Short Form (PIL-SF): Development and psychometric support. *Journal of Happiness Studies*.
- Steger, M.F., Frazier, P., Oishi, S., & Kaler, M. (2006). The Meaning in Life Questionnaire: Assessing the presence of and search for meaning in life. *Journal of Counseling Psychology*, 53, 80–93.
- Steger, M.F., Frazier, P.A., & Zacchanini, J.L. (2008). Terrorism in two cultures: Stress and growth following September 11 and the Madrid train bombings. *Journal of Loss and Trauma*, 13, 511–527.
- Steger, M.F., & Kashdan, T.B. (2007). Stability and specificity of meaning in life and life satisfaction over one year. *Journal of Happiness Studies*, 8, 161–179.
- Steger, M.F., Kashdan, T.B., Sullivan, B.A., & Lorentz, D. (2008). Understanding the search for meaning in life: Personality, cognitive style, and the dynamic between seeking and experiencing meaning. *Journal of Personality*, 76, 199–228.
- Steger, M.F., Kawabata, Y., Shimai, S., & Otake, K. (2008). The meaningful life in Japan and the United States: Levels and correlates of meaning in life. *Journal of Research in Personality*, 42, 660–678.
- Steger, M.F., Mann, J.R., Michels, P., & Cooper, T.C. (2009). Meaning in life, anxiety, depression, and general health among smoking cessation patients. *Journal of Psychosomatic Research*, 67, 353–358.
- Steger, M.F., Pickering, N.K., Shin, J.Y., & Dik, B.J. (2010). Calling in work: Secular or sacred? *Journal of Career Assessment*, 18, 82–96.
- Strack, K.M., & Schulenberg, S.E. (2009). Understanding empowerment, meaning, and perceived coercion in individuals with serious mental illness. *Journal of Clinical Psychology*, 65, 1137–1148.
- Turner, N., Jackson, D., Renwick, L., Sutton, M., Foley, S., McWilliams, S., Kinsella, A., & O'Callaghan, E. (2007). What influences purpose in life in first-episode psychosis? *British Journal of Occupational Therapy*, 70, 401–406.
- Whittington, B.L., & Scher, S.J. (2010). Prayer and subjective well-being: An examination of six different types of prayer. *The International Journal for the Psychology of Religion*, 20, 59–68.

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