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THE LIFE PURPOSE QUESTIONNAIRE: A FACTOR-ANALYTIC INVESTIGATION

A Thesis  
presented in partial fulfillment of requirements  
for the degree of Master of Arts  
in the Department of Psychology  
The University of Mississippi

by

Stephanie W. Campbell

August 2012

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## ABSTRACT

Meaning in life has been a popular topic of philosophy and study, and the perceived presence of meaning in one's life has been associated with many positive psychological variables (e.g., life satisfaction), while the perceived absence of meaning has been associated with negative variables (e.g., depression). The Purpose in Life test (PIL) was developed in order to assess the amount of perceived meaning in a person's life. Despite good psychometric support, there have been questions about the structural validity of the measure (i.e., only one model has been replicated, consisting of two factors that reflect exciting life and purpose in life) as well as assertions that it is difficult to understand. The Life Purpose Questionnaire (LPQ) was derived from the PIL and addresses its shortcomings. Although it is easier to understand, there have been no previous investigations as to its factor structure. A final sample of 908 students at the University of Mississippi completed the LPQ, and its factorial structure was examined. Analyses revealed two distinct factors that seem to reflect similar concepts as those of the PIL (i.e., exciting life and purpose in life). Factor loadings ranged from .34 to .87, and the internal consistency coefficient ranged from acceptable to excellent (.79 for the total measure, .84 for factor one, .92 for factor two). Despite similarity in concepts, the factors were not comprised of the same items, although there was some overlap in items that loaded onto each factor for the PIL and the LPQ. Limitations of research include a homogeneous sample and speculation regarding what the LPQ factors actually measure. Future research will include replication of the factor structure as well as investigating associations between the factors and other constructs in order to better determine what each factor assesses.

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## I. INTRODUCTION

### A. *Meaning in life*

A philosophical question that has been present throughout history focuses on whether life has meaning. Although the word “meaning” can be interpreted in many different ways, several philosophies, theories, and therapies have evolved to address this concept. One such viewpoint, developed by Viktor Frankl, a medical doctor and scholar, is logotherapy. Logotherapy stems from the principle that life must be meaningful (i.e., the person must have purpose) for it to be worthwhile (Frankl, 1959/1985). There are two distinct levels of meaning, *ultimate meaning* and *meaning of the moment* (Fabry, 1988; Frankl, 1978/1985). *Ultimate meaning* is the awareness that there is an order of the universe of which one is a part. According to the logotherapy theory, it is not a set endpoint that can be tangibly reached or achieved. Instead, it is something to strive toward and to use as a guide for decisions one makes and for paths one takes in life. *Meaning of the moment* refers to the stipulation that each moment in life offers a situation in which a person can discover meaning and act in a meaningful way. This meaning can be achieved via actions, experiences, or choices. For example, the attitude one takes in situations is emphasized in logotherapy because it allows the person to maintain some control in any situation or tragedy (Fabry, 1988; Frankl, 1959/1985).

Within the framework of logotherapy, which accentuates this ever-present possibility of meaning and choice, there are several basic assumptions: 1) *Freedom of Will* – a person always has the freedom to choose how he or she responds to a situation, 2) *Will to Meaning* – humans’ primary motivation is to discover meaning and live a meaningful life, and 3) *Meaning of Life* –

meaning can be found under all circumstances, no matter how dire (Frankl, 1978/1985; Schulenberg, Hutzell, Nassif, & Rogina, 2008). Although this is a basic overview of several tenets of logotherapy, Frankl's elaboration of these ideas is far reaching. He authored more than 30 books and published over 700 articles, and while he originally wrote in German, his work has been translated into at least 32 languages (Melton & Schulenberg, 2008).

*B. Discovering meaning within the context of logotherapy*

According to Frankl, and consistent with logotherapy theory, is the idea that with the unique human nature of each individual comes a self-transcendent quality in which a person is able to reach beyond himself or herself (Frankl, 1967; Schulenberg et al., 2008). This self-transcendence implies that humans are not driven merely by instincts and conditioning, but by their motivation to discover purpose and meaning. This meaning occupies a central place in human functioning (Frankl, 1967; Guttman, 1996). Finding such meaning relies on exploration of values, which are referred to as *Experiential Values*, *Creative Values*, and *Attitudinal Values* (Schulenberg, Schnetzer, Winters, & Hutzell, 2010). *Experiential Values* are derived from meaningful experiences with the environment, such as forming a close personal relationship with another person. *Creative Values* are defined and garnered by contributing something to the environment or the world at large, such as pursuing meaningful work. Finally, *Attitudinal Values* reflect the ability of individuals to recognize that choices always exist and that one can choose his or her attitude, no matter the situation. The process of finding meaning relies on the congruence of an individual's values and behaviors (Schulenberg et al., 2008; Schulenberg et al., 2010). While logotherapy asserts that humans have freedom of choice in all circumstances, they are also responsible for the consequences of these choices. By acting in accordance with a

person's own values, and by finding one's own meaning and purpose, happiness and self-actualization naturally occur (Melton & Schulenberg, 2008).

Along with the accentuation of the idea that humans have the capacity to choose their outlook, logotherapy also emphasizes that humans can inspire change within themselves, even if they cannot change their circumstances. Understandably, this idea has resonated with diverse populations, particularly those who have been marginalized or those who are often viewed as "lost causes". For example, Fabry (1968) mentioned a speech given by Frankl in a California prison. Several prisoners expressed gratitude and hope at the idea that Frankl provided insight into the things they could still accomplish, even while confined in one of the nation's toughest prisons. In another example, Fabry related a conversation between Frankl and an obese woman suffering from an incurable glandular disease. Frankl encouraged the woman to accept her medical situation as unchangeable but to also accept it as a challenge to discover the valuable assets that remained in her life (Fabry, 1968). Examples of taking positive attitudinal stances in the face of unchangeable circumstances are common throughout the logotherapy literature.

### *C. Meaning and research*

A proliferation of research regarding the concept of meaning has been established in logotherapy and other movements, such as positive psychology. The growing movement of positive psychology and positive psychotherapy places emphasis not necessarily on the troubles, symptoms, or negative aspects experienced by people, but instead studies and attends to the positive aspects of human existence (i.e., choice, faith, hope, love, meaning, life satisfaction, etc). In fact, Martin Seligman, often credited with the explosion of positive psychology following the publication of his seminal article (McNulty & Fincham, 2011; see Seligman & Csikszentmihalyi, 2000), specifically proposed in his theory of "happiness" that one of the three



components of a happy life is a meaningful life, or one that involves utilizing one's strengths to serve something bigger than oneself (Seligman, Rashid, & Parks, 2006). This is consistent with the logotherapy concept of self-transcendence. James Crumbaugh (1988), a prominent logotherapist, expounded on this idea by stating that humans have a need to be Somebody, someone with "a personal identity, a meaning for existence, a place in life, a worthwhile cause" (p. ix). The research movement of positive psychology encompasses many concepts (e.g., life satisfaction, resilience, spirituality), the importance of which have long been emphasized via the logotherapeutic view of meaning (e.g., Gerwood, 1994; Lukas, 1995; Schulenberg et al., 2008).

Many studies, including but not limited to the concept of meaning as it relates to logotherapy, have shown that the presence of perceived meaning in life is related to many positive variables, such as happiness, self-esteem, satisfaction with life, and physical well-being (Melton & Schulenberg, 2008; Schulenberg et al., 2008). For example, Robak and Griffin (2000) found a strong association between perceived meaning in life and reported levels of happiness. Studies have also shown that higher reported meaning is also associated with greater self-esteem (Debats, 1996) and psychological well-being (Zika & Chamberlain, 1992). These results were further supported when Halama and Dědová (2007) found that perceived meaning in life could predict both greater life satisfaction and higher self-esteem. Using several measures of perceived meaning, Schulenberg (2004) demonstrated that higher levels of perceived meaning are associated with less psychological distress. In an investigation of patients who had experienced a spinal cord injury, de Roon-Cassini, de St. Aubin, Valvano, Hastings, and Horn (2009) found that higher levels of perceived meaning were associated with less perceived physical loss and greater adaptation following the injury, and perceived meaning has been significantly and

positively associated with empowerment among individuals with serious mental illness being treated in an inpatient psychiatric setting (Strack & Schulenberg, 2009).

Conversely, the absence of perceived meaning is related to many negative variables, such as anxiety, depression, and post-traumatic symptoms, among others. As such, meaning is a concept central to the human condition and an important area of empirical inquiry (Melton & Schulenberg, 2008; Schulenberg et al., 2008). For example, a longitudinal study found that baseline levels of meaning could predict depression over time, where lower levels of perceived meaning indicated greater depression (Mascaro & Rosen, 2008). Similarly, Owens, Steger, Whitesell and Herrera (2009) found that lower levels of perceived meaning in life predicted higher levels of posttraumatic stress symptomology, and Ishida and Okada (2006) found that less perceived purpose in life was associated with higher anxiety and physical symptoms, such as increased heart rate and greater autonomic response. Meaninglessness, or a lack of perceived meaning in life, is associated with substance use (Marsh, Smith, Piek, & Saunders, 2003), and lower levels of meaning in life are associated with greater degrees of boredom proneness (Melton & Schulenberg, 2007). Greater perceived need for meaning is associated with greater reports of psychological distress among inpatient-psychiatric patients (Schulenberg, Strack, & Buchanan, 2011). Finally, in a sample of elderly adults, Heisel and Flett (2008) showed that lower levels of perceived meaning in life were associated with increased suicidal ideation. The abundance of studies documenting relationships between meaning and other variables, both positive and negative, demonstrate its clear significance to the human condition.

#### *D. Measurement of meaning in life*

Perceived meaning in life is an important area of empirical study as it relates to a wide range of variables important to quality of life. A variety of scales have been developed to

quantify the concept and provide empirical support to this area of research. The most well-known of these measures is the Purpose in Life test (PIL; Crumbaugh & Maholick, 1964). The PIL is of particular interest to the current study since the Life Purpose Questionnaire (LPQ) was developed based on the PIL. The PIL was developed as a way to explore perceived meaning in life. Although there are three sections of the original, 20-item PIL, only Part A consists of quantifiable information, as Parts B and C consist of sentence completion and paragraph writing, respectively. Because of the quantifiable nature of Part A, it is therefore the focus of most empirical studies (Crumbaugh & Henrion, 1988; Schulenberg, 2004). For this reason, Part A will be the focus of subsequent PIL discussion.

With regard to the development of the PIL, 20 items were adopted (after a pilot test containing 25 items developed by the author), which were designed to assess the degree of meaning experienced by an individual. For example, one item reads, “My personal existence is...” with anchors ranging from “utterly meaningless, without purpose” (scored as a one) to “purposeful and meaningful” (scored as seven). Each item is rated by participants on a Likert-type response format, and the sum of each item rating comprises the total score, with greater scores indicating a greater presence of perceived meaning in life. A total of 225 participants from different backgrounds (e.g., graduate students, outpatients, people with alcoholism in an inpatient facility) completed the PIL, among other measures (Crumbaugh & Maholick, 1964/1969). Analysis revealed that the reliability coefficient of the total PIL score was .81 (Spearman-Brown corrected to .90), and all items correlated with the total PIL score at .40 or above. The measure was also able to distinguish between patients and nonpatients, where patients scored lower than did nonpatients (Crumbaugh & Maholick, 1964). With regard to validity, the PIL significantly correlated at .68 with the Frankl Questionnaire (a set of questions developed informally by

Viktor Frankl designed to determine whether participants felt their lives had purpose). A relationship did not emerge between the PIL and the Allport-Vernon-Lindzey Scale of Values (a measure of common values people have; Allport, Vernon, & Lindzey, 1951), indicating that the presence of meaning is not simply another name for the presence of values. Finally, there was a significant relationship between the PIL and one of the scales on the Minnesota Multiphasic Personality Inventory (a common inventory of personality traits and emotional functioning; McKinley & Hathaway, 1943). The PIL was related to the Depression scale with a correlation of  $-.30$ . This correlation is in the expected direction, as those with greater symptoms of depression would be less likely to perceive life as meaningful (Crumbaugh & Maholick, 1964).

Many other studies have added to the psychometric support for the PIL, a range of which are highlighted in Table 1. For instance, Crumbaugh (1968) furthered his previous findings in a cross-validation study. Analyses revealed a split-half reliability coefficient of  $.85$  (corrected to  $.92$ ) and an inverse relationship between total PIL scores and low psychological functioning. In more recent studies, Schulenberg (2004) reported an internal consistency coefficient alpha (Cronbach, 1951) to be  $.91$ , and Melton and Schulenberg (2007) reported an alpha coefficient of  $.90$ . With regards to validity, Zika and Chamberlain (1992) found PIL scores to be significantly and positively correlated with measures of life satisfaction, psychological well-being, and positive affect, while scores were significantly and negatively correlated with psychological distress and negative affect. French and Joseph (1999) reported significant positive correlations among PIL scores and happiness.

Although the psychometric properties of the PIL are well-supported, some concerns about the measure have been noted. Hablas and Hutzell (1982) reported that very few elderly

Table 1

<i>Sample of studies using the PIL</i>			
Study	Sample	Reliability	Validity
Crumbaugh & Maholick (1964)	Patients and nonpatients ( $N=225$ )	Split-half correlation of .81	Negatively correlated with the D scale on the MMPI (-.30)
Crumbaugh (1968)	Control group ( $N=805$ ); psychiatric patients ( $N=346$ )	Split-half correlation from a subset of participants of .85	Control group scored significantly higher than group of psychiatric patients
Meier & Edwards (1974)	Church-going Canadians ( $N=200$ )	Test-retest reliability of .83	Correlated with the Frankl Questionnaire (.56)
Reker (1977)	Male inmates ( $N=48$ )	Split-half correlation of .85; test-retest reliability of .68	Significantly associated with attitudes toward life at present (.45), and in the future (.54); correlated with self-concept (.61)
Reker & Cousins (1979)	Undergraduate students ( $N=248$ )	Split-half correlation of .77; test-retest reliability of .79	Negatively correlated with the Seeking of Noetic Goals test (-.33); positively correlated with attitudes toward life at present (.65) and in the future (.41)
Harlow, Newcomb, & Bentler (1986)	Young adults ( $N=722$ )	Not reported	Negatively correlated with suicidal ideation (-.55) and depression (-.65)
Shek, Hong, & Cheung (1987)	Chinese adults ( $N=480$ )	Coefficient alpha of .88; split-half reliability of .86	Not reported
Shek (1988)	Chinese secondary school students ( $N=2140$ )	Coefficient of .84; split-half reliability of .82	Not reported
Zika & Chamberlain (1992)	Adult women ( $N=194$ ); Elderly adults ( $N=150$ )	For women, coefficient alpha of .91; for elderly, coefficient alpha of .90	For both samples, correlated with life satisfaction (.71, .79); and with psychological well-being (.74, .74); negatively correlated with psychological distress (-.65, -.63)

Sink, van Keppel, & Purcell (1998)	Adolescents living in rural areas ( $N=198$ ) and metropolitan areas ( $N=659$ )	Coefficient alphas of .88 and .86; test-retest reliability estimates of .66 and .78	Not reported
French & Joseph (1999)	Undergraduate students ( $N=101$ )	Coefficient alpha of .90	Positively correlated with happiness (.63)
Schulenberg (2004)	Undergraduate students ( $N=341$ )	Coefficient alpha of .91	Positively correlated with the LPQ (.80), negatively correlated with the Outcome Questionnaire-45.2 (-.69)
Melton & Schulenberg (2007)	Undergraduate students ( $N=279$ )	Coefficient alpha of .90	Negatively correlated with a measure of boredom (-.71)
Konkolöy-Thege, Bachner, Martos, & Kushnir (2009)	Hungarian adults ( $N=341$ )	Coefficient alpha of .90	Negatively correlated with depression (-.59); greater perceived meaning indicated lower likelihood of being a smoker
Eakman, Carlson, & Clark (2010)	Elderly adults ( $N=154$ )	Coefficient alpha of .89	Negatively correlated with depression(-.45); positively correlated with satisfaction with life (.58)
Schulenberg, Schnetzer, & Buchanan (2011)	Undergraduate students ( $N=298$ )	Coefficient alpha of .86	Correlated with the LPQ (.72); correlated with a measure of presence of meaning (.64); and with life satisfaction (.67)

neuropsychiatric patients were able to respond validly to the PIL because of confusing instructions and misunderstanding of the anchor definitions for the items (each PIL item contains different anchors). Oral administration did not seem to improve the response rate. Hutzell and Peterson (1986) argued that the time it takes for respondents to understand and complete the PIL, in addition to the cumbersome scoring procedure, makes the measure difficult to use in a time-sensitive evaluation session.

In addition to these concerns, several studies have questioned the factor structure of the PIL, specifically with regard to whether the measure is unidimensional or whether it is composed of independent subscales (Schulenberg & Melton, 2010). In an in-depth investigation of numerous factor-analytic models produced by various independent studies over the years, Schulenberg and Melton (2010) showed that there was a significant discrepancy between the number of factors extracted. Although some models extracted multiple factors (e.g., Reker & Cousins, 1979), the authors argued that one- and two-factor models are more parsimonious, reliable, and easier to interpret. Using their own data, Schulenberg and Melton (2010) used confirmatory factor analysis (CFA) to test numerous one- and two-factor models that had been proposed in order to examine the factor structure of the PIL. There was little consistency among item loadings for each factor across the various models. In addition, fit indices tended to either be too high (for those indices where low values are desirable) or too low (for those indices where high values are desirable) when compared to widely accepted criteria (Schulenberg & Melton, 2010). Table 2, reproduced with permission from the authors, contains the replicated CFAs and shows the high degree of inconsistency among models and the less than acceptable fit indices in most cases.

Table 2

*Confirmatory factor analyses of one- and two-factor Purpose in Life test models (N = 620)*

Study	Sample	Factors	Items	$\chi^2/df$	RMSR	GFI	AGFI	CFI	RMSEA	TLI	NFI
Crumbaugh & Maholick (1964, 1969)	Two non-clinical; three clinical samples (N=225)	1	1-20	4.41	.08	.88	.85	.88	.07	.87	.85
Marsh et al. (2003)	Social drinkers (N=357); treatment drinkers (N=137)	1	1-6, 8-13, 16-20	7.57	.13	.83	.78	.83	.10	.81	.81
Steger (2006)	College students (N=148)	1	1-6, 8-13, 16-17, 19-20	5.78	.8	.88	.84	.89	.09	.87	.87
Walters & Klein (1980) <sup>a</sup>	High school students (Ns=349, 404)	1	1, 3-4, 6, 8-9, 11-12, 20	6.11	.07	.90	.86	.90	.09	.88	.88
		2	2, 5, 17-19								
Dufton & Perlman (1986)	College students (N=232)	1	1-2, 5-6, 9-10, 19	10.31	.28	.87	.82	.83	.12	.80	.82
		2	3-4, 8, 11-12, 17, 20								
Molcar & Stuempfig (1988)	College students (N=201)	1	3-4, 7-9, 11, 13, 17, 20	4.50	.08	.90	.87	.90	.08	.89	.88
		2	1-2, 5, 10, 12,								



			14, 18-19									
Shek (1988)	Secondary school students (N=2140)	1	1-2, 5-6, 8-9, 11-12, 16, 19	5.16	.08	.89	.86	.90	.08	.88	.88	
		2	3-4, 13, 17-18, 20									
McGregor & Little (1998) <sup>b</sup>	University students (N=146)	1	1-2, 5, 8-9, 19	7.60	.07	.93	.87	.93	.10	.90	.92	
		2	3, 17, 20									
Waisberg & Starr (1999)	Substance abusers (N=146)	1	3-4, 6, 8-13, 16-17, 20	4.47	.08	.90	.87	.91	.08	.90	.89	
		2	1-2, 5, 9, 18-19									
Morgan & Farsides (2009) <sup>c</sup>	University and community sample (N=200)	1	2, 5, 7, 10, 17-19	4.23	.06	.96	.93	.95	.07	.93	.93	
		2	3, 8, 20									

*Note.* *RMSR* root mean square residual, *GFI* goodness of fit index, *AGFI* adjusted goodness of fit index, *CFI* comparative fit index, *RMSEA* root mean square error of approximation, *TLI* Tucker-Lewis Index, *NFI* normed fit index

<sup>a</sup>Items 7, 10, and 13-16 were not included in the original model because they were deemed inappropriate for large groups of adolescents.

<sup>b</sup>Items 13-15 were not included in the original analysis due to low item-total correlations

<sup>c</sup>Items 13-16 were not included in the original model because of low item-total correlations

Table reproduced with permission of the authors.

As shown in Table 2, the strongest replicated model was that proposed by Morgan and Farsides (2009), which is a ten-item, two-factor model reflecting exciting life (items 2, 5, 7, 10, 17-19) and purposeful life (items 3, 8, 20; Schulenberg & Melton, 2010). The authors went on to calculate reliability of each factor in their sample, which resulted in acceptable internal consistency coefficient alphas of .79 for factor one and .75 for factor two. With regard to validity, each factor significantly and positively correlated with another measure of meaning, and significantly and negatively correlated with a measure of symptom distress and with a measure of boredom proneness (Schulenberg & Melton, 2010). Upon closer examination of the purposeful life factor, the authors tested a model in which an additional item (item 4) was added, one which specifically addresses meaning. The addition of this item increased the purposeful life factor reliability to .81 and improved the fit of the model to the data (Schulenberg & Melton, 2010).

A subsequent study isolated the purposeful life factor, with the additional item added, and contributed to the support of the factor as yielding reliable and valid scores. Schulenberg, Schnetzer, and Buchanan (2011) administered the four items independently and within the larger context of the PIL, and the administration of these forms were counterbalanced with additional measures in between. The four items in isolation comprise a short form of the PIL (PIL-SF). The internal consistency reliability coefficient was .84 for the independently-administered factor, and the factor was significantly and positively correlated with the PIL as a whole (.75) and significantly and negatively correlated with a measure of symptom distress (-.67). Further, the fit indices of the factor in isolation were extremely similar to those reported in Schulenberg and Melton (2010), and the descriptive statistics of the isolated factor and the factor items embedded in the total PIL were almost identical (Schulenberg, Schnetzer, & Buchanan, 2011). In sum,

psychometrically the PIL-SF items seemed to function equally well whether administered independently or as a part of the 20-item PIL.

The work of Schulenberg and Melton (2010) is important because it is the only study to date that systematically and successfully replicated a psychometrically-sound factor structure of the PIL. Schulenberg, Schnetzer, and Buchanan (2011) extended support for this structure in that they found additional psychometric support for the purposeful life factor, with the inclusion of the additional item, terming this structure the PIL-SF.

#### *E. The Life Purpose Questionnaire*

Although the PIL is the most researched measure related to meaning in life, there are several other scales with established psychometric properties as well. One of these is the Life Purpose Questionnaire (LPQ; Hablas & Hutzell, 1982), which was developed as a measure of meaning to be used in populations that find difficulty with the somewhat complicated instructions, response format, and vocabulary of the PIL. The PIL uses words that many people do not use in everyday language, such as “exuberant,” and each item contains different words as anchors. The LPQ is easy to understand, administered quickly, and straightforward to score (Hutzell & Peterson, 1986). With regard to content, the individual items of the LPQ correspond to the same numbered items of the PIL. A key difference between the LPQ and the PIL is the use of a dichotomous (Agree/Disagree) format in the LPQ in place of the Likert-type scale employed by the PIL (Schulenberg, 2004). Responses that indicate the presence of perceived meaning for each item are given a score of 1. The items are then summed, where higher scores are reflective of greater perceived meaning (Hutzell & Peterson, 1986).

Development of the LPQ began with 52 sentences that were established by the authors and based off of PIL items. These sentences could be answered dichotomously (e.g., agree or

disagree) and were designed to tap the same concepts assessed by the PIL. Twenty-four male geriatric patients in a Veterans Administration Medical Center completed the original measure. After one week, the sentences were then re-administered to these participants along with 55 additional participants. The entire sample then completed the sentences a final time in the third week. After analyzing test-retest reliability, distribution of “agree” and “disagree” answers, correlations with PIL item scores, and correlations of possible items with PIL total scores, 20 items were selected to form the LPQ. Five items were added as a validity check during development to ensure that participants were not randomly responding (Habras & Hutzell, 1982).

Cross validation occurred with additional samples of participants from the same hospital, consisting of mostly older participants with a range of diagnoses (e.g., schizophrenia, dementia, organic brain dysfunction). For two of the cross-validation groups, the LPQ and the PIL were administered in random order and re-administered one week later. For a third group, the LPQ and PIL were only administered once (Habras & Hutzell, 1982).

Analyses revealed initial support regarding the reliability and validity of LPQ scores. Test-retest reliability was .90 (test interval of two weeks) for the initial group who completed the measures twice. The number of participants who could respond in a valid manner to only the LPQ was 50% greater than those who could respond in a valid manner to both the LPQ and the PIL. Construct validity of the LPQ was supported via a correlation between total LPQ scores and total PIL scores. Correlations of each cross-validation group ranged from .60 to .75, all of which were significant. The authors also analyzed the ability of the LPQ to predict a participant’s future PIL score. The correlation of the LPQ at time one and the PIL at time two was significantly correlated at .71, while the correlation of the PIL at time one and two was .75, suggesting that the

LPQ was as efficient at predicting a PIL score at a later time as was the PIL itself (Hablas & Hutzell, 1982).

Because of its understandability and ease of administration, the LPQ has been used in several other populations, including adolescents (e.g., Hutzell & Finck, 1994), people with alcoholism (e.g., Hutzell & Peterson, 1986), and with international populations (e.g., Asagba, Alarape, & Chovwen, 2009). Table 3 shows a comprehensive list of studies that have used the LPQ as a measure of meaning, along with reported support for reliability and validity of scores.

Although there has been research published that has revealed good support for the psychometric properties of LPQ scores, the LPQ has not been as thoroughly researched as the PIL. The available data do suggest that the LPQ exhibits significant correlations with the PIL in every study in which this relationship was examined. In addition, several studies have supported the idea that the LPQ is preferable to the PIL in that it is easier for respondents to use and understand (Hablas & Hutzell, 1982; Schulenberg, 2004).

Despite the psychometric support for the LPQ across various studies, research is needed to understand the LPQ's underlying structure. Because of the major questions regarding the structural validity of the PIL that have been posed over the years, it stands to reason that similar questions should be aimed at the LPQ. At present, there are no known published empirical investigations regarding the underlying structure of the LPQ. Structural validity has long been regarded as critical to the integrity of a measure, and has been highly linked with construct validity (Nunnally & Bernstein, 1994). This aspect of validity is important because it assures users of the measure that scores can be interpreted to be accurately reflective of the construct of interest, that the measure can be generalized and replicated, and that scores represent the theorized organization of the measure (Steger, 2006). Structural validity also helps to ensure

Table 3

<i>Studies using the LPQ</i>			
Study	Sample	Reliability	Validity
Hablas & Hutzell (1982)	Geriatric neuropsychiatric patients ( $N_s=36, 27, \text{ and } 29$ )	Test-retest correlation of .90	.78 correlation with the PIL; 50% more participants were able to respond to LPQ than PIL; LPQ as able to predict PIL scores as the PIL itself
Hutzell & Peterson (1986)	Patients in an alcohol dependency program ( $N_s=97, 96, 27$ )	Not reported	Correlation with total PIL ranged from .73 - .84; 18 of 20 individual LPQ items significantly correlated with total PIL scores
Kish & Moody (1989)	48 males in an alcohol dependency program ( $N=48$ )	Not reported	Negative correlations with the Existential Depression Scale and several MMPI scales (D, Pd, Pa, Sc, Si); positively correlated with a measure of ego strength
Little & Robinson (1989)	Males in prison for a DUI offense ( $N=115$ )	Not reported	Changes in LPQ scores at pre- and post-test did not correlate with recidivism of DUI offenses
Hutzell & Finck (1994)	Adolescents (control; $N=100$ ); Adolescents in a support group ( $N=100$ )	Not reported	Adolescents in support group had significantly lower LPQ scores than the control group; item correlations with total LPQ scores ranged from .23 - .62 for control group; .21 - .55 for support group
Burnette, Swan, Robinson, Lester, & Little (2003)	Male felony offenders in a prison-based therapeutic community ( $N=88$ )	Not reported	Significantly greater LPQ scores after completing treatment
Schulenberg (2004)	Undergraduate students ( $N=341$ )	Coefficient alpha of .82	Correlated with PIL (.80); Negatively correlated with the Outcome Questionnaire 45.2 (-.66); negatively

			correlated with the Seeking of Noetic Goals test (-.55); correlated with the Meaning in Suffering Test (.33)
Asagba & Ajayi (2005)	Nigerian asthma patients (pilot study, $N=30$ ; additional study, $N=160$ )	In the pilot study, split-half reliability of .53, Spearman-Brown coefficient of .54; Not reported in additional study	Correlation (.20) between LPQ scores and treatment compliance
Garner, Bhatia, Dean, & Byars (2007)	Elderly adults ( $N=30$ )	Not reported	Correlated (.47) with Life Satisfaction Index-A; negatively correlated (-.73) with the Beck Depression Inventory – II
Asagba, Alarape, & Chovwen (2009)	Nigerian undergraduate students ( $N=240$ )	Split-half reliability of .63; Spearman-Brown coefficient of .59	Correlated with PIL (.46)
Garner, Byars, & Garner (2009)	Elderly Native Americans living on a reservation ( $N=19$ ); comparison group of non-Native American elderly adults ( $N=30$ )	Not reported, as focus of the study was to examine ethnicity, gender, and age differences	Not reported, as focus of the study was to examine ethnicity, gender, and age differences
Strack & Schulenberg (2009)	Inpatients diagnosed with serious mental illness ( $N=96$ )	Coefficient alpha of .67	Correlated with the Empowerment Scale (.46); negatively correlated with the Brief Symptom Inventory (-.55)
Schulenberg, Schnetzer, & Buchanan (2011)	Undergraduate students ( $N=298$ )	Coefficient alpha of .79	Correlated with the PIL (.72)

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that the measure functions as intended (DeVellis, 2012). Support for the LPQ as a structurally-sound measure is an important component in establishing scores of the measure as being psychometrically sound.

#### *F. Current study*

The current study seeks to investigate the factor structure of the LPQ and contribute to the literature with regards to the psychometric properties of the measure. It involves the use of previously collected data at the University of Mississippi. A detailed explanation of procedures is noted in the Method section.

The primary underlying structure of the PIL consists of two distinct factors, as only one proposed structural model has been replicated (Morgan & Farsides, 2009; Melton & Schulenberg, 2010). As noted in numerous publications (e.g., Hablas & Hutzell, 1982; Schulenberg 2004), the LPQ was based off of, and taps, the same construct as the PIL, and the content of each item on both measures is highly similar (some wording modifications were made to LPQ items for congruence with the agree/disagree response format). For these reasons, it was expected that the LPQ would have two underlying, distinct factors similar to the underlying factor structure of the PIL. Because the questions on the LPQ were adapted directly from the PIL and each question is meant to assess the same idea as the corresponding question of the PIL, specific items were hypothesized to comprise each factor of the LPQ. Because of the similarity in item content, the same items that comprise each factor of the PIL should make up each factor of the LPQ. Examination of the factor structure would be useful with regard to better understanding how the LPQ should be scored and interpreted. In addition, knowledge of the factor structure could contribute to the possible development of a shortened version of the LPQ in the future.



Moreover, this study reports comprehensive normative data from a large aggregate sample composed of three separate smaller samples (described below). In addition to providing further data on the reliability of the LPQ total scores, reliability will also be reported for the individual, hypothesized factors. Although LPQ scores have demonstrated good reliability in a variety of studies, it could be argued that support is limited when compared to measures such as the PIL.

Based on a review of the literature, the following hypotheses were offered:

1. Factor analysis would reveal that the LPQ is comprised of two distinct factors.
2. Factor one would be comprised of items 2, 5, 7, 10, 17-19 and would be suggestive of exciting life (similar to the PIL).
3. Factor two would be comprised of items 3, 4, 8, 20 and would be suggestive of purposeful life (similar to the PIL).
4. Individual factors, in addition to the LPQ as a whole, would demonstrate acceptable internal consistency reliability.

## II. METHOD

### A. *Participants*

Participants in the present study included an aggregate of 908 students from three separate data sets ( $N = 341$ , Schulenberg, 2004;  $N = 298$ , Schulenberg, Schnetzer, & Buchanan, 2011;  $N = 269$ , Schnetzer, Schulenberg, & Buchanan, in press). The first two data sets access previously reported LPQ results, in this case to answer a research question that is unrelated to the present study. The third set reflects data that were collected as part of a separate study of perceived meaning and alcohol use. The LPQ data in this third set have not been previously reported.

Participants in each data set were enrolled in psychology courses at The University of Mississippi and participation in the study was offered as either course credit or extra credit. Of the 900 students who reported their sex, 287 were male (31.6%) and 613 were female (67.5%). Among the 900 participants who reported their age, age ranged from 18 to 48 years, with a mean age of 19.45 years ( $SD = 1.98$ ). Of the 900 students who reported their race/ethnicity, 698 (76.9%) identified as Caucasian, 155 (17.1%) identified as African American, 18 (2.0%) identified as Hispanic American, 13 (1.4%) were Asian American, 1 (0.1%) was Native American, and 15 (1.7%) identified as Other.

### B. *Measures*

For each of the three data sets, a form was developed by the authors to gather demographic information from participants such as age, sex, and race/ethnicity.

The Life Purpose Questionnaire (LPQ; Hablas & Hutzell, 1982) was administered to participants. The LPQ includes 20 items which are answered dichotomously (e.g., “Agree” or “Disagree”). Responses that indicate the presence of perceived meaning for each item are given a score of 1. Item scores are then summed, with greater scores indicating greater perceived meaning. The highest possible score is 20, and the lowest possible score for this measure is zero (Hablas & Hutzell, 1982).

Descriptive statistics of the LPQ in two of the current individual samples have been reported in previous publications. Schulenberg (2004) reported a mean LPQ total score of 15.97 ( $N = 341$ ,  $SD = 3.58$ ) with an internal consistency reliability coefficient of .82. In the second sample, Schulenberg, Schnetzer, and Buchanan (2011) reported a mean total score of 15.54 ( $N = 298$ ,  $SD = 3.46$ ) and a reliability coefficient of .79. The final data set ( $N = 269$ ) contains LPQ data that have not been previously reported. This manuscript is currently in press and relates to a separate project (Schnetzer, Schulenberg, & Buchanan, in press). For this sample, the LPQ total score was 16.00 ( $SD = 3.17$ ) with a reliability coefficient of .79.

### *C. Procedures*

The measure used in the present study was part of three larger studies related to various aspects of perceived meaning in life, as well as other variables associated with measurement in positive psychology or psychopathology. Data were collected in classrooms at the University of Mississippi via group format. Each data collection session lasted approximately one hour, and participants earned one hour toward course credit or extra credit. Informed consent was obtained from each participant prior to their beginning any part of the study, and they were advised that they could withdraw from the study at any time without penalty, consistent with the policies set forth by the Institutional Review Board at The University of Mississippi.

Data were entered into SPSS and demographic data were obtained (see above Participants section). Before analyzing the hypotheses, descriptive data are presented.

Exploratory factor analysis via tetrachoric correlations were utilized with unweighted least squares estimation and an oblique rotation (DeVellis, 2012; Nunnally & Benstein, 1994). Tetrachoric correlations are appropriate when dichotomous responses are used to assess a continuous latent variable (Misley, 1986; Muthen & Hofacker, 1988). A scree test (Cattell, 1966; DeVellis, 2012), parallel analysis (DeVellis, 2012; Hayton, Allen, & Scarpetto, 2004), and factor loadings of at least .3 were considered for identification of a factor (Gibbons, Clarke, Cavanaugh, & Davis, 1985; Nunnally & Bernstein 1994).

Additionally, two fit indices were used to further examine the fit of the data. The goodness of fit index (GFI; Jöreskog & Sörbom, 1981), for which larger values are more desirable, was used. Generally, .90 is seen as the lower-bound threshold for satisfactory fit for GFI, though others advocate a more stringent threshold of .95 (Brown, 2006; Bryant & Yarnold, 1995; Hair, Black, Babin, Anderson, & Tatham, 2006; Heene, Hilbert, Draxler, Ziegler, & Bühner, 2011; Hoyle, 2000; Kline, 2005; Jackson, Gillaspay, & Pruc-Stephenson, 2009; Thompson, 2004). A second fit index, for which lower values are desired, was the root mean square residual (RMSR; Jöreskog & Sörbom, 1981). For this index, upper thresholds of .06 are suggestive of good fit (Brown, 2006; Browne & Cudeck, 1993; Bryant & Yarnold, 1995; Heene et al., 2011; Thompson, 2004).

### III. RESULTS

#### A. *Descriptive analyses*

Means, standard deviations, and internal consistency reliability coefficients were calculated for the LPQ. A total of 908 participants completed the measure, and total scores ranged from three to 20. The overall mean score was 15.84 ( $SD = 3.43$ ) with a reliability score of .79. This reliability score is noted to be good by most interpretive standards (e.g., DeVellis, 2003; Nunnally & Bernstein, 1994; Wasserman & Bracken, 2003).

#### B. *Hypothesis testing*

The first hypothesis was that the LPQ would be made up of two distinct factors. Exploratory factor analysis via unweighted least squares estimation and oblique rotation revealed that the data supported this hypothesis. A scree plot and parallel analyses suggested two factors. Table 4 shows the factor loadings after removing items that loaded significantly onto both factors and those that did not load onto any factor. Significant factor loadings, which were designated a priori and which were .3 and above (e.g., Gibbons, Clarke, Cavanaugh, & Davis, 1985; Nunnally & Bernstein 1994), ranged from .34 to .87. Regarding goodness of fit, the GFI for this model was .99 and the RMSR was .05, both indicating good model fit (e.g., Bryant & Yarnold, 1995; Thompson, 2004).

Hypotheses two and three specified the questions that would load onto each factor (see Table 4). While the data clearly support a two-factor model, the individual items that load onto each factor do not correspond directly to those that load onto each factor of the PIL. With regards to the LPQ, factor one was composed of items 1, 5, 6, and 19. The content of these items appears

Table 4

*Factor loadings for individual items on the LPQ after nonsignificant (<.3) or duplicative item loadings were removed (N = 908)*

Item Number	Factor one	Factor two
1	<b>.63</b>	.12
3	.03	<b>.55</b>
4	.01	<b>.87</b>
5	<b>.85</b>	-.02
6	<b>.34</b>	.28
10	.21	<b>.51</b>
11	.15	<b>.70</b>
12	.04	<b>.72</b>
13	-.12	<b>.55</b>
14	.04	<b>.39</b>
16	-.07	<b>.85</b>
17	-.12	<b>.64</b>
18	-.07	<b>.57</b>
19	<b>.79</b>	-.01
20	.04	<b>.70</b>

*Note.* Values in bold indicate a significant loading for that factor (i.e., unique loadings above .3).

*Note.* GFI: .99; RMSR: .05

to reflect the concept of boredom, which one could argue is closely related to the concept of an exciting life as suggested by factor one of the PIL. Factor two was composed of items 3, 4, 10-14, 16-18, and 20. These items seem to address the idea of a meaningful life, although not using the same items or in as a cohesive manner as factor two of the PIL (purposeful life). Thus, hypotheses two and three were only partially supported.

Finally, hypothesis four proposed that both the LPQ as a whole and the individual factors that comprise the measure would be reliable. This hypothesis was supported. As previously stated, the overall internal consistency reliability score was .79. With regard to each factor, analyses showed that after nonsignificant items or items that loaded onto both factors were removed, factor one had a coefficient alpha of .84, while factor two had a calculated coefficient alpha of .92. Each of these reliability scores is regarded as good or excellent by interpretive standards. The correlation between factors one and two was significant ( $r = .47, p < .01$ ). While there are two distinct factors that comprise the LPQ, the construct they assess is highly related.

## IV. DISCUSSION

### A. Hypotheses

The current study examined the factor structure of the LPQ and hypothesized that the measure would be comprised of two distinct factors, similar to the structure of the PIL which has been reported in recent research (Schulenberg & Melton, 2010; Schulenberg, Schnetzer & Buchanan, 2011). Additional hypotheses indicated that the items on each factor would be identical to the item-factor loadings of these recent PIL studies, and that the scale as a whole, as well as discrete factors, would show good internal consistency reliability. Hypothesis one was supported. However, the items patterned differently in this case when compared to the related PIL research (i.e., hypotheses two and three were partially supported). The fourth hypothesis was supported in that the overall measure and the individual factors had acceptable to excellent reliability coefficients. It is interesting to note that the individual factor reliabilities are higher than the reliability score for the overall scale. Finally, with regard to reporting overall norm data for the measure with the largest sample to date in the available literature, the measure had a mean of 15.84 ( $SD = 3.43$ ) and a reliability score of .79. These data are helpful with regard to better understanding the psychometrics of the LPQ in samples of college students.

With regard to hypothesis one, the data supported a two-factor structure of the LPQ with fit indices indicating a good fit of the data ( $GFI = .99$ ;  $RMSR = .05$ ) after items that did not load onto any factor and items that loaded onto both factors were removed from the model. Specifically, items 1, 5, 6, and 19 comprised factor one, while items 3, 4, 10-14, 16-18, and 20



made up factor two. Items 2 and 9 were removed from the model because they loaded onto both factors, while items 7, 8, and 15 were removed from the model because the item did not load significantly onto either factor. Significant factor loadings ranged from .34 to .87 and the factors were significantly and positively correlated ( $r = .47, p < .001$ ).

While the data clearly revealed a two-factor structure, supporting hypothesis one, hypotheses two and three were only partially supported. The specific items that were hypothesized to comprise each factor were not entirely consistent with the items that loaded onto the two PIL factors. As stated, items 1, 5, 6, and 19 comprised factor one on the LPQ. This factor shares two items with the exciting life item loadings of the PIL, which is made up of items 2, 5, 7, 10, 17, 18, and 19 (Schulenberg & Melton, 2010). The second factor of the LPQ in this study consists of items 3, 4, 10-14, 16-18, and 20, which is similar to items 3, 4, 8, and 20 that make up the second factor of the PIL, indicating presence of meaning (Schulenberg & Melton, 2010). Although factor two of the LPQ is comprised of more items, three of the four items from the second factor of the PIL are represented in this factor on the LPQ. Despite some differences in item loadings, the structures of the PIL and LPQ are similar in that they both clearly reflect a two-factor structure where items on each factor seem to reflect a cohesive concept.

Although it appears that the factors are cohesive, it is not possible to definitely assert what each factor ultimately measures. While one can examine the content of each question and compare it to that of the extensively-researched PIL, there has been a dearth of research using the LPQ, particularly as it relates to other measures and constructs. Thus, each factor should be the subject of further research in order to more positively identify what each one assesses.

Finally, hypothesis four, regarding the internal consistency reliability of the LPQ and its factors, was supported. Both the LPQ total scores as well as the individual factor scores were

reliable. Cronbach's alpha for the LPQ as a whole was .79, which is considered good by interpretive standards. The individual factor scores exhibited even better internal consistency reliability, where factor one had a reliability coefficient of .84 and factor two had a reliability coefficient of .92.

### *B. Implications*

Although item factor loadings are not identical, the concepts reflected by each factor appear to be similar. Factor one of the PIL reflects an exciting life, and in the case of the LPQ, factor one seems to reflect a different but highly related concept, boredom in life. Factor two of each measure appears to reflect the presence of meaning in one's life. As previously mentioned, the constructs that each factor on the LPQ actually assesses is currently speculation. Because this study exclusively examined factor structure, no other measures of other constructs were included, which would have allowed for comparisons and correlations with the LPQ. While there is considerable research using the PIL that seems to definitively indicate what each factor measures, more is needed in order to make a similar declarative statement regarding the LPQ. It is possible, however, to hypothesize that the factors of the LPQ are reflecting boredom in life and presence of meaning in life based on the content of the items, similarity in factor structure to the PIL, and research using the PIL.

The inconsistency in the items that load onto each factor may be explained by the wording changes made in the development of the LPQ. Some changes were necessary to the phrasing of questions on the LPQ in order to make them conducive to a dichotomous format and to increase the readability for respondents who may be impaired (Hablas & Hutzell, 1982). Subtle changes in the wording of an item have been shown to affect responses and outcomes with regard to a variety of variables, including global warming (Schuldt, Konrath, & Schwarz,

2011), the number of headaches reported (Larsen, Mascharka, & Toronski, 1987), reports of social networks (Straits, 2000), and scores of psychopathology (Goodman, Iervolino, Collishaw, Pickles, & Maughan, 2007), among others. It thus stands to reason that the slight wording changes on the LPQ affected responses to the items and/or the way the items loaded onto factors.

Another possible explanation for these differential results could be the change in response format (i.e., from a Likert-type scale to an Agree/Disagree format). Changing the response format can have an effect on responses. When using a dichotomous format, participants are essentially forced to fully endorse or fully reject a statement. In a Likert-type format, participants are allowed more variability and may partially endorse or reject a statement. Similar changes in response format have been shown to result in structural and interpretive changes in several studies (e.g., Mullins, Polson, Lanch, & Kehoe, 2007; Velicer, Govia, Cherico, & Corriveau, 1985).

An examination of item content and factor loadings is helpful. In this sample, items 7 and 15 were removed from the model, as they did not load significantly onto any factor. Both of these questions are future-oriented and ask about retirement and death. It is possible that these items are inappropriate for this age group of respondents and thus were not reliably associated with either factor. Also, item 14, while significant for factor two, had one of the lowest factor loadings at .39. The wording of this item is the only one on the LPQ that does not use first-person language (i.e., it refers to “people” instead of “I”). As stated, this change in wording might have had a significant effect on the way that the item loaded onto factor two. It is also interesting to look at the two items that did not load significantly onto either factor, items 2 and 9. Item 2 seems to be directly associated with what seems to be the boredom factor, as it refers to the respondent’s life as dull. Item 9, while not as explicit, seems to also be related in some ways

to both the boredom factor but also possibly to the purposeful life factor, as it refers to life being empty. Thus, while both factors seem to reflect a cohesive concept, an analysis of item content seems to reflect some unexpected results. More research is needed to determine if this factor structure holds true across other samples, particularly samples that differ in age.

With regard to implications for interpretation, the clear two-factor structure indicates that, when using the LPQ, researchers and clinicians should be cautious not to interpret the score as a unified concept. While interpreting the LPQ as a uni-factor measure is not advised, the clinical utility of the individual factors is also called into question. Although analyses revealed two distinct factors, which clearly indicates that the LPQ has a two-factor structure, factor one is made up of only four items. These four items seem to reflect a cohesive concept reflecting boredom. Despite this unified concept, a four-item factor on a dichotomous measure only has a range of 0-4, which introduces the question of clinical utility. Clinical utility or significance refers to the practical value of an effect or outcome, which in this case is the two-factor structure and the use of each factor (Kazdin, 1999). The practical question in this instance regards the usefulness of a five-point range when used to compare two different scores. In other words, there may not be much difference between a score of 2 or 4 on the factor that appears to reflect boredom, particularly when there is only a possibility of a score between 0 and 4. Similarly, when comparing change scores within a person, how much change does an increase of one integer reflect when it is only possible to increase by four integers? Factor two, which seems to reflect presence of meaning in one's life, has a greater range (i.e., 0-11), but these concerns remain present with regard to utility and interpretation of scores on this factor. While establishing structural validity of a measure is important (Steger, 2006) and has been supported in this case, range restriction is a threat to predictive validity and may result in spuriously low

correlations, as relevant differences between respondents are reduced to a very small number (Nunnally & Bernstein, 1994).

### *C. Limitations*

As is true of all research studies, this study was not without limitations. First, the sample, although large, was highly homogeneous. Most participants were female, Caucasian, and between the ages of 17 and 22. A more heterogeneous sample would provide more inclusive and exhaustive information regarding how the LPQ performs in samples of people with different ages and ethnicities. Although it would be preferable to have a more diverse sample, this large sample contributes to the literature of studies using the LPQ and towards further establishing support for the sound psychometrics of the measure.

The study is also limited in that any interpretation of what each factor actually measures is speculative. While one can look at the content of each item and compare it to the similarly-structured PIL, no definitive statement can be made as to the true construct that each factor reflects. Including other measures with strong psychometric properties in the study would allow for correlations between the two factors and these measures. Correlations in the expected directions (e.g., the factor that seems to reflect presence of meaning would be expected to be negatively correlated with a measure of depression) would allow for tentative interpretation of the latent construct of each factor and would allow for more conclusive statements to be made regarding what each factor assesses.

### *D. Future research*

While this study contributed to the literature regarding psychometric support and factor structure of the LPQ, more research is needed to establish the LPQ as a useful measure. Additional factor analyses should be conducted in similar samples in order to replicate these

results. Further, studies should be conducted with samples that are more heterogeneous, to verify that the factor structure determined in this study holds true across more diverse samples.

Once there is increased support for the structure of the LPQ, more research is needed in order to determine what each factor is measuring. This will help to inform both interpretation of the LPQ and its individual factors as well as the clinical utility of the measure and the factors. Correlations between individual factors of the LPQ and measures of other well-established constructs will help to more definitively answer this question. Correlations in the expected directions (e.g., the factor that seemingly reflects boredom should correlate negatively with an established measure of boredom proneness), will provide support as to the construct and content validity of each factor.

After obtaining support for what each factor assesses, another important direction of research will help to clarify whether either of the two factors is clinically useful. Analyses with measures of other constructs (e.g., depression, anxiety, stress, etc.) will help to reveal how the factors may possibly be used in clinical practice or in future research. For example, it stands to reason that factor two, seemingly reflective of a meaningful life, will negatively correlate with these constructs, and should be examined. Then, if in a hierarchical regression, the factor that seems to reflect boredom (factor one) explains significantly more variance than meaning alone, it would be reasonable to keep this factor in the larger measure. If it does not contribute significantly to accounting for additional variance, it may make more psychometric and clinical sense to remove these items from the measure.

As noted, the use and interpretation of individual factors calls into question the idea of the clinical utility of each factor. Clinical utility, and methods of measuring it, has received increased attention in recent years (Kazdin, 1999). Some researchers have proposed looking at

both empirical degree of change (e.g., a significance test of difference scores on the same measure over time) as well as participants' perceived degree of change (e.g., Jacobson, Roberts, Berns, & McGlinchey, 1999; Kazdin, 1999) as a useful way determining clinical significance. Thus, while scores on the LPQ, or more likely, scores on individual factors, may not show statistically significant change, it is possible that participants or therapy clients may themselves perceive change in the level of meaning or boredom in their lives. It would be interesting to see whether changes on LPQ or factor scores, or lack thereof, correlate with participants' perceived meaning and/or boredom. In other words, although individual LPQ factor scores may not significantly change, respondents may indicate that they feel that the level of boredom and/or meaning in their lives may have changed.

A final direction of future research could involve expanding each factor. This would increase the range of scores of the factor, thus increasing predictive validity and permitting a greater possibility of significant correlations by allowing relevant differences between respondents to be reflected to a greater degree (Nunnally & Bernstein, 1994). It would also likely increase clinical utility. Developing additional questions, regarding excitement in life, boredom in life, etc. may increase the use of the measure in the literature as well as its usefulness to practitioners.

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## VITA

### Education

- August 2006-present     **Graduate student in clinical psychology training program (APA approved)**  
University of Mississippi, Oxford, MS  
GPA as of May 2012: 4.0
- May 2005     **Bachelor of Arts in Psychology, Magna cum Laude**  
University of Arkansas, Fayetteville, AR  
Honors: Phi Beta Kappa, Golden Key

### Clinical Training

- July 2009-present     **Manager and Coordinator, Psychological Assessment Clinic, University of Mississippi**  
Oxford, MS  
Responsibilities include supervising all graduate students providing assessments, supervising all graduate students working at the Office of Student Disability Services, negotiating contracts, presentations to undergraduate and graduate classes, scheduling all assessments, monitoring budget, ordering all materials, providing awareness of newly available tests or materials, liaison between community members and clinic
- Oct. 2010- present     **Assistant to the Columns Editor, International Forum for Logotherapy, Oxford MS**  
Responsibilities include assignment of topics, editing columns, submission of columns
- Nov. 2010-June 2012     **Site Liaison, BP Behavioral Health Grant, Oxford, MS**  
Responsibilities include coordinating data collection, data management, and communication between Mississippi Department of Mental Health, the University of Mississippi, and 19-grant-funded agencies
- June 2011-present     **Contract Assessor for Licensed Clinician in Private Practice, Batesville, MS**  
Responsibilities include administering and scoring cognitive and achievement testing to individuals applying for Social Security Disability Determination

- July 2008-June 2009      **Graduate Therapist; North Mississippi Medical Center, Behavioral Health Center**  
Tupelo, MS  
Responsibilities included providing therapy in inpatient, outpatient, and group settings
- June 2008-June 2009      **Verification Specialist; Office of Student Disability Services, University of Mississippi**  
Oxford, MS  
Responsibilities included reviewing reports and data to determine whether students meet criteria to receive accommodations based on the presence of a disorder, such as learning disorders, ADHD, psychiatric disorders, physical impairments, etc.
- July 2007-June 2008      **Behavior Specialist; DeSoto County School District**  
DeSoto County School District, DeSoto County, MS  
Responsibilities included functional behavioral assessments, psychological consultations, administration of assessments/rating scales (e.g. Vineland Adaptive Behavior Scale, Asperger's Symptom Diagnostic Scale, among others), monthly meetings with children with spectrum disorders and their families.
- May 2004-  
February 2006      **Psychometric Technician; Mindworks Neuropsychology Associates**  
Fayetteville, AR  
Responsibilities included all neuropsychological, cognitive, and personality assessment and scoring for a private neuropsychology practice. Ages of patients ranged from 3 to 80+ years, and were evaluated for ADHD, dementia, brain damage/memory loss, learning disorders, and bariatric surgery, among other symptoms.

### **Selected Publications**

- Campbell, S. W., & Baczwaski, B. J. (2011). Recent publications of interest to logotherapists. *International Forum for Logotherapy, 34*, 58-63.
- Campbell, S. W., Schnetzer, L. W., & Gentry, J. A. (2010). Recent publications of interest to logotherapists. *International Forum for Logotherapy, 33*, 122-127
- Wood, S. & Luchkiw, T. K. (2009). Recent publications of interest to logotherapists. *International Forum for Logotherapy, 32*, 58-63.
- Wood, S. & Luchkiw, T. K. (2008). Recent publications of interest to logotherapists. *International Forum for Logotherapy, 31*, 121-125.
- Schulenberg, S. E. & Wood, S. (2007). Meaningful Cinema: Logotherapy and Superman Returns. *PsycCRITIQUES, 52*, no pagination specified.

### **Presentations and Posters**

- Campbell, S. W., Buchanan, E. M., & Schulenberg, S. E. (2012, August). The Life Purpose Questionnaire: A factor-analytic investigation. Poster presented at the 120th annual meeting of the American Psychological Association, Orlando, FL.
- Hadden, B. W., Smith, C. V., Campbell, S. W., & Schulenberg, S.E. (2012, January). A preliminary look at the social support, perceived meaning, and relationship status in survivors of the BP Gulf Oil Spill. Poster to be presented at the 13<sup>th</sup> Annual Meeting of the Society for Personality and Social Psychology, San Diego, California.
- Campbell, S. W., Walters, A. B., Baczwaski, B. J., Schulenberg, S. E., Drescher, C. F., & Smith, C. V. (2011). Disaster-related research and consultation: Lessons learned from two events. Poster presented at the 119th annual meeting of the American Psychological Association, Washington, D.C.
- Young, J. C., Rueff, W., Campbell, S.W., & Gross, A.M. (2010, August). Detection of response bias in adult Attention-Deficit/Hyperactivity Disorder. Poster presented at the 118th annual meeting of the American Psychological Association, San Diego, California.
- Campbell, S. W. (2010, November) The MMPI-2: Uses, applications, and interpretation. Presentation given to Masters of Social Work students at the University of Mississippi, Oxford, MS.
- Hirschel, M. J., Wood, S., & Anderson, C. (2009, June). Working with diverse populations: Multicultural issues in mental healthcare. Presentation given at the Medical Ethics Committee meeting at North Mississippi Medical Center, Tupelo, MS.
- Wood, S., & Anderson, C. (2009, May). Emotional eating. Presentation given at Endocrinology Consultants, Tupelo, MS.
- Anderson, C., & Wood, S. (2009, January). Adjusting to life after a stroke. Presentation given at the Stroke Support Group meeting at North Mississippi Medical Center, Tupelo, MS.
- Hirschel, M. J., Wood, S., & Schulenberg, S. E. (2007, November). Hurricane Katrina and the Mississippi Gulf Coast: Preliminary analyses examining the relationship between PTSD symptoms and general self-efficacy. Poster presented at the Office of Research and Sponsored Programs' Faculty Research Program symposium, Oxford, MS.