A Psychometric Investigation of Logotherapy Measures and the Outcome Questionnaire (OQ-45.2).

Article *in* North American Journal of Psychology · January 2004

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The purpose of this study was to expand the psychometric properties of four Logotherapy measures, namely the *Purpose-in-Life* test (PIL), the *Life Purpose Questionnaire* (LPQ), the *Seeking of Noetic Goals* test (SONG), and the *Meaning in Suffering Test* (MIST) in order to better understand how they relate to one another and to a measure of psychological distress (the *Outcome Questionnaire*-OQ-45.2). The sample was composed of 341 undergraduate students from a medium-sized university located in the southern United States of America. The total scores of the measures were found to be internally consistent. Two subscales of the MIST were found to have questionable reliability. The PIL and the LPQ, both general measures of meaning, appear to have comparable psychometric properties. The PIL and the LPQ share 64% common variance and are similarly correlated with the remaining measures of meaning and the OQ-45.2. However, the LPQ tended to be preferred by respondents in many respects.

Viktor Frankl's Logotherapy is a humanistic-existential approach to treating a variety of mental health issues. It may be of particular use in situations where an important concern is the discovery or maintenance of a sense of meaning. Logotherapy's basic principles are outlined in a number of sources (e.g., Frankl, 1985; Guttmann, 1996; Lukas & Hirsch, 2002), and include the following: (a) human life involves meaning (the Meaning of Life tenet); (b) the primary motivation is a pull toward finding meaning (the Will to Meaning tenet), to live a life that is worthwhile and filled with purpose; and (c) meaning may be found under all circumstances (the Freedom of Will tenet), including those that involve unavoidable suffering. Logotherapy's principles assert that a lack of meaning results in a feeling of emptiness (existential vacuum) which can either result in motivation to discover meaning or can open the door to existential neuroses (particularly aggression, addiction, and depression).

There is a growing empirical basis underlying Logotherapy (Schulenberg, 2003), and the approach has yielded a number of

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North American Journal of Psychology, 2004, Vol. 6, No. 3, 477-492.

measures. Examples include the *Purpose in Life* test (PIL; Crumbaugh & Maholick, 1964), the *Life Purpose Questionnaire* (LPQ; Hablas & Hutzell, 1982; Hutzell, 1989), the *Seeking of Noetic Goals* test (SONG; Crumbaugh, 1977a, 1977b), and the *Meaning in Suffering Test* (MIST; Starck, 1983, 1985). The PIL and LPQ are purported to measure the amount of meaning in life that a person has discovered. The SONG and the MIST are narrower in focus, reportedly assessing peoples' motivation to find meaning and the amount of meaning they have discovered in unavoidable suffering experiences, respectively.

The development of Logotherapy instruments has prompted a number of empirical investigations over the years; however, these measures are often studied individually, not in conjunction with one another. The primary purpose of this study was to collect psychometric data on measures of Logotherapy, examining how they relate to one another and how they relate to a measure of psychological distress (the *Outcome Questionnaire*, OQ-45.2). It is important to have reliable and valid measures of meaning, and to understand meaning's relationship to psychopathology, because meaning may aid people in navigating life stressors with greater effectiveness.

Previous literature has reported that correlations between the LPQ and PIL tend to range from the .60s to the .80s (e.g., Hablas, Hutzell, & Bolin, 1980; Hutzell, 1989). Therefore, it was hypothesized that the two measures would be significantly and positively correlated with one another. A secondary purpose of this investigation was to assess the preference of respondents for either the PIL (Part A) or the LPQ. For example, which measure is easier to read, or more interesting? It was hypothesized that respondents would tend to prefer the LPQ over the PIL given the LPQ's emphasis on simplicity of administration.

Given that Logotherapy supports the position that a lack of meaning in life is related to a broad spectrum of mental health problems (Hablas, Hutzell, & Bolin, 1980; Kish & Moody, 1989), that there appears to be a strong association between well-being and meaning (e.g., Zika & Chamberlain, 1992), and that people with greater direction in life generally are more responsible, goal-directed, better adjusted, and relationship-oriented (Burnette, Swan, Robinson, Lester, & Little, 2003; Ebersole & DeVogler-Ebersole, 1985), it was hypothesized that there would be a strong relationship between these measures of meaning with the OQ-45.2 such that the greater the meaning reported the less psychopathology reported, and the greater the reported motivation to find meaning the greater the amount of distress reported on the OQ-45.2. The OQ-45.2 was selected given its ease of administration, low cost, and growing empirical foundation.

METHOD

Participants

Three hundred and forty one students enrolled in undergraduate psychology courses at a medium-sized university located in the southern United States participated. Data were collected in a number of group administration sessions over the Spring 2003 and Fall 2003 semesters. Respondents were recruited from psychology courses and received extra credit for their participation.

One hundred and fifteen participants (34%) were men and 225 (66%) were women. One person did not provide this information. The average age was 19.5 years (SD = 1.60) with a range of 11 years (18 to 29). Two hundred and eighty-five participants (84%) self-reported their race/ethnicity as Caucasian, while 48 (14%) were African American, 3 (1%) were Asian American, 2 (1%) were Hispanic American, and 3 (1%) were self-described as other.

Measures

The order of questionnaires was as follows: 1) a demographics form, 2) the *Purpose in Life* test, 3) the *Life Purpose Questionnaire*, 4) the *Preference Questionnaire*, 5) the *Seeking of Noetic Goals* test, 6) the *Meaning in Suffering Test*, and 7) the *Outcome Questionnaire*.

Demographics form. The demographics form was developed for this study. It is a brief, 8-item form with items requesting such information as gender, age, race/ethnicity, religious identification, and current GPA.

Purpose in Life test (PIL; Crumbaugh & Maholick, 1964, 1969/1981). The PIL is probably the most thoroughly researched Logotherapy measure (Guttmann, 1996; Hutzell, 1989), with encouraging psychometric properties across a range of studies (Reker, 2000). The PIL was developed to measure how much meaning a person has discovered (Crumbaugh & Maholick, 1964, 1969/1981). The PIL is composed of 3 parts. Part A is comprised of 20 items using a Likert-type response format ranging from 1 to 7. Individual items are summed for a total score that ranges from 20 to 140. Higher scores are suggestive of greater purpose in life. Based on the original norms (N = 1,151), scores of 113 and above suggest definite purpose in life, scores between 92 and 112 are indeterminate, while scores 91 and below suggest a lack of life purpose (Crumbaugh & Maholick, 1964; Guttmann, 1996). Part B is composed of 13 incomplete sentences and Part C requests the respondent to compose a paragraph. When the PIL is studied empirically, the focus tends to be on Part A given that the scoring is straightforward. Data from this section is easily quantified and easier to study psychometrically. Therefore, the remainder of this review centers on Part A.

The PIL has been investigated in many studies over the decades, and it appears to be reliable (see Crumbaugh & Henrion, 1988 and Hutzell, 1988 for reviews). It is not uncommon for reliability coefficients for the PIL to exceed .80 and .90 (e.g., Crumbaugh, 1968). By way of a more recent sample, Sink, van Keppel, and Purcell (1998) reported initial coefficient alphas of .88 and .86 in samples of rural (N = 198) and metropolitan-area (N = 659) high school students, with 8-week test-retest reliabilities of .66 and .78, respectively.

There is also evidence of the PIL's validity (Chamberlain & Zika, 1988; Crumbaugh, 1968; Crumbaugh & Henrion, 1988; Hutzell, 1988). For example, the PIL is associated empirically with a number of variables in the positive direction (e.g., extroversion, emotional stability, happiness) and a number of variables in the negative direction (e.g., depression, anxiety) (Hutzell, 1988, 1989; Robak & Griffin, 2000) as would be expected given that it purports to measure meaning in life.

Empirical needs. Dyck (1987) questioned the validity of the PIL, suggesting that it is more of an indirect measure of depression. Such a criticism warrants further examination. Harlow, Newcomb, and Bentler (1987) criticized the PIL for lacking a respondent-friendly format. Each PIL item uses different words or phrases as anchors and this may be confusing to some people. This latter criticism was a major reason that Hutzell developed the *Life Purpose Questionnaire* (Hablas & Hutzell, 1982; Hutzell, 1989).

Life Purpose Questionnaire (LPQ; Hablas & Hutzell, 1982; Hutzell, 1989). The LPQ was designed to be an easily administered measure of purpose in life, comparable to the PIL (Hablas & Hutzell, 1982; Hutzell, 1989). It was developed out of a recognized need for an easily understood measure of meaning, and was initially designed for use with elderly neuropsychiatric patients (Hablas & Hutzell, 1982; Hutzell, 1989). The LPQ is comprised of 20 statements that were selected based on high positive correlations with the PIL (Hablas & Hutzell, 1982; Hutzell, 1989). A major difference between the LPQ and the PIL is its use of an Agree/Disagree response format. LPQ items are scored 0 or 1, with 1 being the direction of life purpose. Higher scores are suggestive of greater meaning in life. Scoring guidelines for different samples are presented in Table 1.

A one-week test-retest correlation of .90 was found with the initial cross-validation sample of 36 elderly neuropsychiatric patients (Hablas & Hutzell, 1982). Hutzell (1989) reported a moderate negative correlation with depression, and high positive correlations between the LPQ and measures of life satisfaction.

With regard to validity, moderate to high positive correlations between the PIL and the LPQ have been found (Kish & Moody, 1989).

Moreover, Burnette, Swan, Robinson, Lester, and Little (2003) reported statistically significant improvement in LPQ scores as a result of involvement in a prison-based program that included focus on improving life purpose.

Empirical needs. The LPQ is not as thoroughly researched as the PIL. Additional studies of the measure's psychometric properties are needed (Kish & Moody, 1989; Reker, 2000); however, the LPQ may be useful with certain populations (e.g., the elderly, people with schizophrenia, hospice patients) or in group situations where a measure of meaning that is easily and quickly administered and scored is desired (Hablas, Hutzell, & Bolin, 1980; Hutzell, 1989; Hutzell & Peterson, 1986).

TABLE 1 Interpretation of LPQ Scores by Sample

Sample (Study)	Lack of Life Meaning (Below Average for Adolescents)	Indeterminate (Average for Adolescents)	Definite Sense of Life Meaning (Above Average for Adolescents)
Geriatric neuropsychiatric inpatients (Hablas & Hutzell, 1982)	0-11	12-16	17-20
Adult alcoholism (Hutzell & Peterson, 1986)	0-9	10-16	17-20
Adolescents (Hutzell & Finck, 1994)	0-9	10-15	16-18*

Note. *18 is the highest score on this form given that the form is shortened by two items for adolescents.

Preference Questionnaire (PQ). The Preference Questionnaire is a brief, 8-item measure developed for this study. The PQ requests respondents to choose between Part A of the PIL and the LPQ. A 7-point Likert-type response format is used. Items request respondent preference such as which form was easier to read, which form was easier to understand, which response format was preferred, and which form was more interesting. The PQ appears to be internally consistent, with the coefficient alpha for the current sample being .88.

The Seeking of Noetic Goals test (SONG; Crumbaugh, 1977a, 1977b). The SONG was designed to work hand-in-hand with the PIL (Crumbaugh, 1977a). The PIL was designed to measure how much purpose in life a person has, while the SONG was developed to assess the degree to which a person is motivated to find additional purpose in life (Crumbaugh, 1977a). From Crumbaugh's view, motivation to find meaning is important to assess because psychological problems diminish one's perceived sense of life purpose and increase the importance of discovering it (Bailey-Richardson, 1985).

The SONG is comprised of 20 items and uses a 7-point Likert-type response format. It is scored by summing the individual items. The total score ranges from 20 to 140. The cutting score is 79, between the means of non-patient (M = 73, SD = 14) and patient (M = 85, SD = 15) samples (Crumbaugh, 1977a). Higher scores are interpreted to mean that the person has a stronger motivation to find purpose in life.

The SONG appears to be reliable. For instance, Crumbaugh (1977a) reported the Pearson product-moment reliability to be .83 (Spearman-Brown corrected). Sink, van Keppel, and Purcell (1998) reported initial coefficient alphas of the SONG to be .83 and .81 in samples of rural (N = 198) and metropolitan-area (N = 659) high school students, with 8-week test-retest reliabilities of .71 and .66, respectively.

From a validity standpoint, Crumbaugh (1977a) reported that correlations with the PIL range from -.27 to -.52, consistently and as predicted. Reker and Cousins (1979) found a correlation between the PIL and the SONG to be statistically significant at -.33. They found convincing support for the factorial validity of both the SONG and the PIL in their factor analytic investigation of both measures.

Empirical needs. There is limited normative/empirical data on the SONG beyond the initial articles documenting its construction (Bailey-Richardson, 1985; Moreland, 1985). Some have questioned whether the SONG measures its purported construct (see Dyck, 1987 and Moreland, 1985 for reviews). Hutzell (1987) and others (e.g., Crumbaugh, 1977a; Guttmann, 1996) noted that one of the primary reasons that the SONG and the PIL were developed was to aid in screening candidates who may benefit from meaning-based therapies such as Logotherapy. However, Hutzell noted that more research on the psychometric properties of the SONG and PIL are necessary prior to using them in such a fashion.

The Meaning in Suffering Test (MIST; Starck, 1983, 1985). The MIST was developed to quantify the degree that a person has discovered meaning in unavoidable suffering experiences (Starck, 1983, 1985). The

MIST has two parts. Part 1 is composed of 20 items using a Likert-type response format ranging from 1 to 7. Items are summed to arrive at a total score that ranges from 20 to 140. Part 2 contains 17 statements that query respondents to choose one or more choices from a range of potential responses. For instance, how they respond when undergoing a suffering experience. Part 1 is easier to quantify and compare across samples, while Part 2 is thought to gather information potentially useful in therapy (Guttmann, 1996; Starck, 1985). Part 1 is of greater interest to researchers and therefore it is the focus of this discussion.

In a study involving 99 patients ranging in age from 26 to 86 (*M* age = 58.86, 66% male) from multiple hospitals with varying diagnoses, Starck (1983) reported that Part 1 scores spanned 61 to 140 (*M* = 101.48, *SD* = 16.72). This information is also contained in the MIST guidelines (Starck, 1985), along with data obtained from 58 nursing students (split-half reliability of .82, *M* = 105.43, *SD* = 14.17). Reliability for the MIST was similar across samples of nursing students and hospitalized clients.

Validity of the MIST was established through a review by leading Logotherapists: Viktor Frankl, Joseph Fabry, and James C. Crumbaugh (Guttmann, 1996; Starck, 1985), resulting in three MIST subscales: A (subjective characteristics of suffering, items 5, 11, 12, 16, 18, 19), B (personal responses to suffering, items 1, 3, 4, 8, 10, 13, 15, 20), and C (meaning of suffering, items 2, 6, 7, 9, 14, 17).

Empirical needs. Despite the initial sources (Starck, 1983, 1985), the MIST has not been subsequently critiqued or studied psychometrically with any degree of consistency in the literature (Guttmann, 1996; Reker, 2000), and it does not appear that the MIST's subscale structure has been examined in the published literature with regard to reliability or validity.

Outcome Questionnaire (OQ-45.2; Lambert, Hansen, Umpress, Lunnen, Okiishi, Burlingame, & Reisinger, 1996). As described in the administration and scoring manual, the *Outcome Questionnaire* (OQ-45.2) is a 45-item questionnaire designed to assess psychological distress and to track therapy progress on a session-by-session basis. The measure uses a 5-point Likert-type response format (Never, Rarely, Sometimes, Frequently, Almost Always). It contains items that assess a variety of mental health problems, and is further divided into subscales that tap symptomatic functioning (SD, anxiety, depression, substance abuse), interpersonal problems (IR, quality of interpersonal relationships), and social role adjustment (SR, problems with family, work, and leisure). The total score range is 0-180, with 63 being the cutoff for community (non-college student) and clinical samples. The ranges (cutoffs) for the subscales (SD, IR, SR) are 0-100 (36), 0-44 (15), and 0-36 (12), respectively.

The measure appears to be consistent. The manual reports test-retest reliabilities for the total and subscale scores in a student sample (*N* = 157) that range from .78 (SD) to .84 (total), with internal consistencies ranging from .70 (SR) to .93 (total) with students (*N* = 157) and .71 (SR) to .93 (total) with patients (samples ranging from 289 to 298 people).

The *Outcome Questionnaire* also has support for validity. For example, Doerfler, Addis, and Moran (2002) found evidence of the measure's convergent and discriminant validity with the *Behavior and Symptom Identification Scale* (BASIS-32) in a sample of adult, psychiatric inpatients. In a comparison of clinical outpatients, Nebeker, Lambert, and Huefner (1995) cited a negative association between Global Assessment of Functioning scores at intake and OQ total scores as evidence of concurrent, criterion-related validity. Support for the psychometric properties of the measure as a means of assessing psychological distress are described in a growing number of sources (e.g., Lambert & Finch, 1999).

RESULTS

Descriptive statistics and internal consistency

The means, standard deviations, minimum and maximum values, and internal consistency coefficients for the PIL, LPQ, SONG, MIST total and subscale scores, and OQ-45.2 total and subscale scores are presented in Table 2. Wasserman and Bracken (2003) noted in their guiding principles for acceptable internal consistency that median reliabilities for screening are .80 and greater, and for important individual decisions (such as diagnosis) are .90 and greater. Vogt (1999) notes that coefficient alphas above .70 are consistent with the suggestion that items are measuring the same construct. Subscales with questionable reliability are subscales A and B of the MIST (.52 and .53, respectively) and the SR subscale of the OQ-45.2 (.68).

Preference of respondents:The PIL or LPQ

Results of the PQ (individual item means, standard deviations, and percentages) are reported in Table 3. Scores of –2 or –3 suggest a strong preference for the PIL, while scores of 2 or 3 indicate a strong preference for the LPQ. Scores of 0, -1, or 1 are in the neutral range. An examination of Table 3 suggests that the majority of the respondents either favored the LPQ or were relatively neutral in many respects. However, many people felt that the PIL was more interesting and more relevant to their life circumstances.

TABLE 2 Descriptive Statistics and Reliability of the PIL, LPQ, SONG, MIST Total and Subscale Scores, and OQ-45.2 Total and Subscale Scores ($N = 341$)

	M	*SD*	Minimum	Maximum	Alpha
PIL Total	107.83	15.42	43	137	.91
LPQ Total	15.97	3.58	3	20	.82
SONG Total	78.41	14.45	33	131	.84
MIST Total	101.01	14.44	39	137	.83
MIST A	30.84	5.27	11	42	.52
MIST B	38.52	5.71	12	56	.53
MIST C	31.65	5.60	16	42	.74
OQ-45.2 Total	55.18	24.00	6	128	.95
OQ-45.2 SD	30.36	14.46	3	82	.93
OQ-45.2 IR	12.55	6.71	0	32	.81
OQ-45.2 SR	12.27	4.60	0	27	.68

Note. PIL = *Purpose in Life* test, LPQ = *Life Purpose Questionnaire*, SONG = *Seeking of Noetic Goals* test, MIST = *Meaning in Suffering Test*, OQ-45.2 = *Outcome Questionnaire*, SD = *symptomatic functioning* subscale, IR = *interpersonal problems* subscale, SR = *social role adjustment* subscale.

Correlation matrix

Table 4 presents the correlations between the PIL, LPQ, SONG, and MIST total scores, and the OQ-45.2 total and subscale scores. Correlations were significant at the .01 level except for the correlation between MIST and SONG total scores. Additional correlations were calculated between MIST subscales and the other measures. Correlations between MIST subscales A, B, and C and the PIL ranged from .28 (subscale A) to .44 (subscale C), while correlations with the LPQ ranged from .23 (subscale A) to .34 (subscale C). MIST subscales were Minimally correlated with SONG, ranging from -.05 (subscale B) to -11 (subscale A, and had comparable relationships with the OQ-45.2 total and subscale scores (all correlations ranged from -.25 to -.31.

Correlations among the MIST subscales ranged from a low of .57 (subscales A & B) to a high of .71 (subscales B and C). MIST subscale correlations were statistically significant at .01 in each case except for correlations with the SONG, where subscale A was statistically significant at .05.

TABLE 3 Descriptive Statistics for *Preference Questionnaire* (PQ) Items ($N = 341$)

Item	*M*	*SD*	%Favoring PIL*	%Neutral**	%Favoring LPQ***
PQ1	1.14	1.99	15	30	56
PQ2	.92	1.89	13	42	45
PQ3	.69	2.36	26	24	50
PQ4	.81	2.40	27	19	54
PQ5	-.37	2.03	35	43	22
PQ6	.32	1.93	21	46	32
PQ7	-.21	1.97	31	47	22
PQ8	.43	2.17	25	34	41

PQ1 Which measure was easier to read?
PQ2 Which measure was easier to understand?
PQ3 Which response format did you prefer, the 7-point response format of the PIL-Part A or the Agree/Disagree response format of the LPQ?
PQ4 If in the future you were asked to fill out only one of these questionnaires, which one would you prefer?
PQ5 Which of the two measures was more interesting?
PQ6 Which of the two measures was more enjoyable?
PQ7 Which of the two measures do you feel was most applicable to you and your life circumstances?
PQ8 Which of the two measures were you able to focus on the most?

Note. *respondents endorsing –2 or -3. **respondents endorsing –1, 1, or 1. ***respondents endorsing 2 or 3.

Regression: Interpreting LPQ scores

To add to the research literature on the LPQ, regression using SPSS 9.0 was performed with PIL and LPQ scores in order to better understand the interpretive value of LPQ scores in this sample (the PIL and LPQ were strongly correlated at $r = .80$). This resulted in a regression equation of $Y = .186X + (-4.117)$, where Y equals LPQ scores and X equals PIL scores. Original LPQ cutoffs in Hablas and Hutzell (1982) are based on PIL scores below 92 suggesting a lack of meaning, scores 92 through 112 being indeterminate, and scores above 112 suggesting definite meaning and purpose in life (Crumbaugh & Maholick, 1969/1981). Using these PIL values, LPQ scores 17 and above approximate clear life meaning/purpose, values between 13 and 16 approximate indeterminate life meaning/purpose, and scores between 0 and 12 approximate a definite lack of meaning. These scores are comparable to LPQ interpretive values derived for a variety of different samples (Table 1).

DISCUSSION

The purpose of this study was to explore the psychometric properties of the PIL, LPQ, SONG, and MIST, evaluating how these measures relate to each other and to a reliable and valid measure of psychological distress (the OQ-45.2). Table 4 reveals statistically significant correlations between these measures of meaning and the OQ-45.2. Correlations are in the expected direction as predicted and almost all of the correlations are statistically significant at $p < .01$. Although thee correlations do not imply causality, they are further evidence that self-reports of meaning are substantially related to self-reports of well-being.

TABLE 4 Correlations Between the PIL, LPQ, SONG, and MIST Total Scores, and OQ-45.2 Total and Subscale Scores ($N = 341$)

	1	2	3	4	5	6	7	8
1) PIL Total	--	.80**	-.44**	.42**	-.69**	-.70**	-.63**	-.51**
2) LPQ Total		--	-.55**	.33**	-.66**	-.67**	-.58**	-.50**
3) SONG Total			--	-.09	.53**	.53**	.49**	.40**
4) MIST Total				--	-.34**	-.32**	-.34**	-.31**
5) OQ-45.2 Total					--	.97**	.90**	.85**
6) OQ-45.2 SD						--	.80**	.77**
7) OQ-45.2 IR							--	.70**
8) OQ-45.2 SR								--

Note. PIL = *Purpose in Life* test, LPQ = *Life Purpose Questionnaire,* SONG = *Seeking of Noetic Goals* test, MIST = *Meaning in SufferingTest,* OQ-45.2 = *Outcome Questionnaire,* SD = *symptomatic functioning* subscale, IR = *interpersonal problems* subscale, SR = *social role adjustment* subscale. $^{**}p$ is significant at .01 (2-tailed).

The descriptive statistics and internal consistency in Table 2 further add to the norms of these measures of meaning. The total scores of the PIL, LPQ, SONG, and MIST have good internal consistency reliability. Two of the three MIST subscales (A and B) have unacceptable internal consistency reliabilities. When using the MIST in research it may be most useful to use the total score. Internal consistency reliabilities for the OQ-45.2 ranged from a low of .68 (SR) to a high of .95 (total).

Hypotheses were also offered about the relationship between the LPQ and the PIL. The LPQ was originally designed to be an easily administered version of the PIL for use with geriatric, neuropsychiatric patients. The PIL and the LPQ share 64% common variance and are similarly correlated with the remaining measures of meaning and the OQ-45.2. These findings speak well for the convergent validity of these measures. It was hypothesized that participants would tend to prefer the LPQ due to ease of readability. Respondents tended to favor the LPQ, except with regard to two areas. In general, respondents found the PIL to be more applicable and more interesting. Overall, given the larger empirical base of the PIL, the higher reliability of the PIL, and that the validity of the PIL and LPQ seem comparable, the PIL appears to be the preferred instrument. These findings should be replicated and further investigated with different samples. If the two measures are comparable psychometrically, then preference of the examinee becomes increasingly important. Other factors to consider are how the instrument is used (e.g., the time factor is significant when the instrument is administered and scored within the context of a therapy or training session) and with what population (e.g., people with cognitive impairments may have trouble understanding the PIL). In these latter instances the LPQ may have greater utility than the PIL. Finally, given the abundance of research on the PIL, it was used as an anchor to better understand the interpretive value of LPQ scores. LPQ interpretive guidelines calculated for this sample are comparable to previous studies with different samples (e.g., Hablas & Hutzell, 1982; Hutzell & Peterson, 1986).

One of the criticisms of the PIL is that it is an indirect measure of depression. In this study the correlation between OQ-45.2 SD scores and the PIL is -.70, while the correlation between OQ-45.2 SD scores and the LPQ is -.67. The SD scale assesses symptomatic problems relating to anxiety, depression, and substance abuse. These correlations are nearly as strong as the relationship between the PIL and LPQ (r = .80) and necessitate further exploration. Factor analytic investigations of measures of meaning and psychopathology may be particularly helpful in this respect.

Factor analytic investigations are also necessary to determine the unitary or multidimensional nature of the meaning construct (Reker, 2000; Reker & Chamberlain, 2000). There are examples of such studies available in the literature (e.g., Chamberlain & Zika, 1988; Reker & Cousins, 1979; Waisberg & Starr, 1999); however, more remains to be done. For instance, the results of this study question the utility of the MIST subscale structure. Future factor analytic studies of the MIST are needed to determine if it has a sound, multidimensional internal structure.

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Author's Note: Stefan E. Schulenberg, Ph.D. is an Assistant Professor in the Department of Psychology at The University of Mississippi. The author would like to acknowledge the assistance of the members of his research team with data collection and data entry. He would also like to extend his appreciation for project support from Rosemary Henrion, MSN, M.Ed., RN and Dr. Robert C. Barnes of the Viktor Frankl Institute of Logotherapy. He is also grateful to Robert R. Hutzell, Ph.D. and James C. Crumbaugh, Ph.D. for helpful comments and suggestions on this manuscript.