

FACTOR STRUCTURE, CONSTRUCT VALIDITY AND
RELIABILITY OF THE SEEKING OF NOETIC GOALS (SONG)
AND PURPOSE IN LIFE (PIL) TESTS

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Examined the factor structure, construct validity, and reliability of the SONG and the PIL in a sample of 248 introductory psychology students. Ten interpretable independent dimensions of satisfaction with life were extracted, with 6 factors that loaded on the PIL and 4 that loaded on the SONG. These data support Crumbaugh's (1977) assertion that the SONG is a complementary scale to the PIL contributing factors that deal with the strength of motivation to find meaning and purpose in life. In addition, the SONG and the PIL were shown to be highly reliable and valid instruments. Further research that uses SONG-PIL factor scores and profile analysis is recommended.

Victor Frankl's (1955) concepts of the will to meaning and existential vacuum have been the subject of a number of investigations in recent years, primarily in connection with the research of Crumbaugh (1968) and Crumbaugh and Maholick (1969). The development and application of the Purpose in Life (PIL) test, an attitude scale designed to measure the *degree* to which an individual experiences a sense of meaning and purpose in life, has been central to the research of Crumbaugh and others for over a decade (Crumbaugh, 1968; Meier & Edwards, 1974; Pearson & Sheffield, 1974; Reker, 1977; Sharpe & Viney, 1973). Studies that report on the reliability and validity of the PIL (Crumbaugh & Maholick, 1969; Meier & Edwards, 1974; Reker, 1977) have shown it to be a psychometrically sound instrument.

Recently, Crumbaugh (1977a) developed the Seeking of Noetic Goals (SONG) test, an attitude scale designed to measure the *strength* of the motivation to find meaning and purpose in life. The SONG was constructed to complement the PIL. Crumbaugh (1977b) postulated that, according to the theory of logotherapy, if an individual has found meaning and purpose in life he would have little motivation to search for more; whereas if he has not, he would be highly motivated to fulfill this need.

Crumbaugh (1977b) argued that a moderate negative correlation between the SONG and the PIL would provide evidence for the complementary nature of the SONG. In support of his hypothesis, Crumbaugh cites correlations that range from $-.27$ to $-.52$ between the SONG and the PIL for normal and abnormal samples. However, a closer look at the items and the scoring system for the SONG and the PIL suggests that a negative correlation could be an artifact of scoring SONG items in opposite direction to the PIL. For example, the PIL item "In life I have very clear goals and aims" is assigned the highest score of 7; the SONG item, "I feel that some element which I can't define is constantly missing from my life" also is scored 7. In effect, then, the moderate negative correlation obtained between the composite scores of the SONG and the PIL does not provide sufficient evidence for the complementarity of the SONG. Much stronger evidence could be obtained by examining the factor structure of the combined SONG and PIL items. If the SONG truly complements the PIL, then at least two independent factors should emerge: a Purpose in Life factor and a Seeking of Noetic Goals factor. On the other hand, if the SONG is merely an attitude scale scored in the reverse direction to the PIL, then one large general factor of negative and positive loadings should account for a sizeable proportion of the variability.

In a recent empirical investigation of validity and reliability, Reker (1977) found significant correlations between the PIL and semantic differential ratings on the concepts Life at Present and Life in the Future with a tendency for the PIL to be related inversely to Present-Future Life discrepancy scores. For the present sample of university students, it is predicted that clearer meaning and purpose in

life will be related significantly to a satisfactory present life situation and to future expectations. In addition, Present-Future Life discrepancy scores, indicative of an unsatisfactory life, will be related inversely to meaning and purpose in life. On the other hand, strong motivation to find meaning and purpose will bear an inverse relationship to Life at Present and Life in the Future. Large Present-Future Life discrepancy scores, however, should induce strong motivation to find meaning and purpose. Such an outcome will be evidenced by a direct positive correlation between the SONG and Present-Future Life discrepancy scores. While the reliability of the PIL has been well established, little information is available on the SONG, particularly as it pertains to test-retest stability. It is expected that the SONG and the PIL will show high internal consistency and stability.

The purpose of the present study was fourfold: (a) to examine the factor structure of the combined SONG and PIL items; (b) to investigate the relationship between the SONG and the PIL, Life at Present, Life in Future, and Present-Future Life discrepancy scores; (c) to assess the internal consistency and stability of the SONG and the PIL; and (d) to provide normative data on the SONG and the PIL for male and female university students.

METHOD

Subjects

The Ss were 248 students, median age 19.39 years, who were taking a course in introductory psychology at Trent University. Of these, 189 were females, 57 were males, and 2 failed to indicate their sex.

Materials

Three measures were used: the PIL, the SONG, and the Life Areas Survey (LAS). The PIL consists of 20 statements rated on a 7-point scale with a high score (6 to 7) indicative of clear meaning and purpose, an intermediate score (3 to 5) indicative of indecision, and a low score (1 to 2) indicative of lack of clear meaning and purpose in life. The PIL indicates the *degree* to which meaning and purpose in life have been found. The SONG is a 20-item, 7-point attitude scale designed to measure the *strength of motivation* to find meaning in life. High (6 to 7) and low (1 to 2) scores reflect a strong and a weak motive to find meaning, respectively. The LAS is an attitude scale presented in the form of the semantic differential (Osgood, Suci, & Tannenbaum, 1957). The S is instructed to rate the concepts My Life at Present and My Life in the Future on 14 5-point bipolar adjectives (e.g., successful-unsuccessful). The scale positions are assigned a value from 1 to 5 (negative to positive, respectively).

Procedure

The materials were arranged in counterbalanced order and collated to form a booklet. An equal number of booklets from each of the six possible orders were administered to a day and an evening class of introductory psychology students. After a 6-week period, the same materials were re-administered via an inter-office mailing system to a randomly (random numbers table) selected subset of 60 students. Of 33 (55%) returns, 31 were suitable for further analysis.

The SONG and the PIL were scored by summing the scale values across all items, which resulted in scores that ranged from 20 to 140. The scale values of the LAS were summed for the concepts My Life at Present and My Life in the Future. Present-Future Life Discrepancy scores were obtained by summing difference scores across the 14 bipolar scales.

The SONG and PIL raw scores were subjected to a principal components factor analysis with varimax rotation to simple structure using the SPSS computer program package. Eigenvalues greater than unity were used to determine the best alignment of the items. The traditional cut-off correlation of .300 was used to determine the inclusion of items on each factor. Other correlational procedures were used to assess the construct validity, internal consistency, and stability of the SONG and PIL.

RESULTS

Factor Structure

The factor structure, factor labels, and factor loadings of the combined SONG and PIL items are presented in Table 1. Ten interpretable independent dimensions of meaning and purpose in life emerged, which accounted for 60.9% of the total

TABLE 1
FACTORS, FACTOR LOADINGS AND ITEMS OF THE PIL AND SONG

Item	PIL (P) or SONG (S)	Items	Loading
Factor I: Purpose in Life			
1	P	I am usually exuberant, enthusiastic.	.772
2	P	Life to me seems always exciting.	.772
9	P	My life is running over with exciting good things.	.748
5	P	Every day is constantly new and different.	.661
19	P	Facing my daily tasks is a source of pleasure and satisfaction.	.540
10	P	If I should die today, I would feel that my life has been worthwhile.	.442
6	P	If I could choose, I would like nine more lives just like this one.	.421
8	P	In achieving life goals I have progressed to complete fulfillment.	.400
13	S	I feel myself in need of a "new lease on life."	-.378
5	S	I am restless.	-.332
4	P	My personal existence is very purposeful and meaningful.	.315
20	P	I have discovered clear-cut goals and a satisfying life purpose.	.303
Factor II: Goal Seeking			
1	S	I think about the ultimate meaning of life.	.697
2	S	I have experienced the feeling that while I am destined to accomplish something important, I cannot quite put my finger on just what it is.	.661
12	S	The mystery of life puzzles and disturbs me.	.560
18	S	I have been aware of an all-powerful and consuming purpose toward which my life has been directed.	.512
17	P	I regard my ability to find a meaning, purpose, or mission in life as very great.	.462
16	S	Over my lifetime I have felt a strong urge to find myself.	.422
20	S	I have felt a determination to achieve something far beyond the ordinary.	.376
Factor III: Goal Achievement			
3	P	In life I have very clear goals and aims.	.781
20	P	I have discovered clear-cut goals and a satisfying life purpose.	.730
11	S	I seem to change my main objective in life.	-.424
8	P	In achieving life goals I have progressed to complete fulfillment.	.401
19	S	I have sensed a lack of a worthwhile job to do in life.	-.400
17	P	I regard my ability to find a meaning, purpose, or mission in life as very great.	.351
4	P	My personal existence is very purposeful and meaningful.	.340
Factor IV: Contentedness with Life			
11	P	In thinking of my life, I always see a reason for my being here.	.666
16	P	With regard to suicide, I never have given it a second thought.	.626
6	P	If I could choose, I would like nine more lives just like this one.	.600
4	P	My personal existence is very purposeful and meaningful.	.531
12	P	As I view the world in relation to my life, the world fits meaningfully with my life.	.508
10	P	If I should die today, I would feel that my life has been very worthwhile.	.388
14	P	Concerning man's freedom to make his own choices, I believe man is absolutely free to make all life choices.	.337
17	P	I regard my ability to find a meaning, purpose, or mission in life as very great.	.330
20	P	I have discovered clear-cut goals and a satisfying life purpose.	.310

(CONTINUED ON NEXT PAGE)

TABLE 1 (Continued)

FACTORS, FACTOR LOADINGS AND ITEMS OF THE PIL AND SONG

Item	PIL (P) or SONG (S)	Items	Loading
Factor V: Existential Vacuum			
9	S	I feel the lack of and a need to find a real meaning and purpose in my life.	.741
4	S	I feel that some element which I can't quite define is missing from my life.	.669
13	S	I feel myself in need of a "new lease on life."	.615
19	S	I have sensed a lack of a worthwhile job to do in life.	.540
8	S	I daydream of finding a new place for my life and a new identity.	.530
16	S	Over my lifetime I have felt a strong urge to find myself.	.513
11	S	I seem to change my main objective in life.	.367
11	P	In thinking of my life, I always see a reason for my being here.	-.342
10	P	If I should die today, I would feel that my life has been very worthwhile.	-.325
12	P	As I view the world in relation to my life, the world fits meaningfully with my life.	-.321
17	S	On occasion I have thought that I had found what I was looking for in life, only to have it vanish later.	.300
Factor VI: Search for Adventure			
15	S	I feel the need for adventure and "new worlds to conquer."	.694
14	S	Before I achieve one goal, I start out towards a different one.	.654
5	S	I am restless.	.558
10	S	I think of achieving something new and different.	.484
20	S	I have felt a determination to achieve something far beyond the ordinary.	.360
12	S	The mystery of life puzzles and disturbs me.	.347
18	S	I have been aware of all-powerful and consuming purposes toward which my life has been directed.	-.342
Factor VII: Futuristic Aspirations			
7	S	I hope for something exciting in the future.	.740
6	S	I feel that the greatest fulfillment of my life lies yet in the future.	.719
10	S	I think of achieving something new and different.	.440
8	S	I daydream of finding a new place for my life and a new identity.	.413
7	P	After retiring, I would do some of the exciting things I have always wanted to do.	.303
19	P	Facing my daily tasks is a source of pleasure and satisfaction.	-.300
Factor VIII: Internal-External Locus of Control			
17	S	On occasion I have thought that I had found what I was looking for in life, only to have it vanish later.	.644
18	P	My life is in my hands and I am in control of it.	-.579
14	P	Concerning man's freedom to make his own choices, I believe man is absolutely free to make all life choices.	-.474
3	S	I try new activities or areas of interest, and then these soon lose their attractiveness.	.451
Factor IX: Self-fulfillment			
13	P	I am a very responsible person.	.836
7	P	After retiring, I would do some of the exciting things I have always wanted to do.	.435
3	S	I try new activities or areas of interest, and then these soon lose their attractiveness.	-.341
8	P	In achieving life goals I have progressed to complete fulfillment.	.301
Factor X: Life View			
15	P	With regard to death, I am prepared and unafraid.	.688
14	P	Concerning man's freedom to make his own choices, I believe man is absolutely free to make all life choices.	.392
12	P	As I view the world in relation to my life, the world fits meaningfully with my life.	.365

variance. Factor I, which accounted for 21.8% of the variance, appeared to be tapping a general Purpose in Life dimension with significant positive loadings on 10 PIL items and two significant negative loadings on the SONG. Factor II, the second most important dimension, accounted for 11.4% of the variance and appeared to be measuring a Goal Seeking component. Six SONG items and 1 PIL item defined this factor. Factor III tapped Goal Achievement (4.9% of the variance); 5 PIL items loaded positively, 2 SONG items loaded negatively on this factor. Factor IV accounted for 4.4% of the variance and was labelled Contentedness with Life. Nine PIL items contributed to this factor. Factor V appeared to be measuring a lack of clear meaning and purpose in life, which we labelled Existential Vacuum. Eight SONG items and 3 PIL items contributed to this factor, which accounted for 3.7% of the total variance. Factor VI was defined by 7 SONG items (3.4% of the variance) that measure achievement motivation. We labelled this factor Search for Adventure. Factor VII tapped a Futuristic Aspirations dimension (3.1% of the variance). Four SONG and 2 PIL items loaded significantly on Factor VII. Factor VIII (2.8% of the variance) was defined by 2 positively loaded items from the SONG and 2 negatively loaded items from the PIL. These items seem to reflect a loss of personal control, and the item cluster was labelled Internal-External Locus of Control. Factor IX seemed to be measuring a self-evaluation component of the self-actualization type. We labelled it Self-fulfillment (2.8% of the variance). Three PIL items and 1 SONG item contributed to the Self-fulfillment factor. Finally, Factor X was labelled Life View. Three PIL items that measured general aspects of life and death defined this factor and accounted for 2.6% of the variability.

Independent factor analyses of the SONG and PIL revealed two highly similar factor structures. The SONG contributed four significant factors, which accounted for 52.8% of the variance. These factors were: Existential Vacuum (29.5%), Goal Seeking (9.8%), Search for Adventure (7.1%), and Futuristic Aspirations (6.4%). The PIL contributed six factors, which accounted for 61.1% of the variability. These were: Purpose in Life (31.2%), Contentedness with Life (7.9%), Goal Achievement (6.6%), Self-fulfillment (5.6%), Internal-External Locus of Control (5.2%), and Life View (5.0%).

Validity

The correlation matrix of the validity measures is presented in Table 2. A significant but moderate negative correlation was found between the SONG and the PIL ($r = -.33, p < .001$). Significant positive correlations were found between the PIL and attitudes toward Life at Present ($r = .65, p < .001$) and Life in the

TABLE 2
INTERCORRELATIONS OF THE VALIDITY MEASURES

Variable	N	Correlations			
		2	3	4	5
1. PIL	248	-.33*	.65*	.41*	-.44*
2. SONG	248		-.30*	-.05	.34*
3. Present Life	239			.61*	-.46*
4. Future Life	239				-.02
5. Present-Future Discrepancy	239				

* $p < .001$.

Future ($r = .41, p < .001$). Present-Future Life discrepancy scores were related inversely to PIL scores ($r = -.44, p < .001$). The SONG correlated negatively with Life at Present ($r = -.30, p < .001$) and positively with Present-Future Life discrepancy scores ($r = .34, p < .001$). The correlation between the SONG and the concept My Life in the Future was not significant ($r = -.05, ns$). The remaining

correlations in Table 2 attest to the validity of the criterion measures; the concept My Life at Present was related positively and significantly to the concept My Life in the Future ($r = .61, p < .001$) and related inversely to Present-Future Life discrepancy ($r = -.46, p < .001$).

Reliability

The split-half correlation for the SONG yielded an internal consistency coefficient of .76, corrected by the Spearman-Brown formula to .87. An identical coefficient was found for the PIL; namely, .77 corrected to .87. The test-retest correlations for 31 introductory psychology students over a 6-week period yielded stability coefficients of .78 and .79 for the SONG and the PIL, respectively.

Norms

The means and standard deviations of the SONG and the PIL are presented in Table 3. The overall means for the SONG and the PIL were 73.11 and 105.46, respectively. Sex differences on the SONG [$t(244) = -1.77, ns$] and on the PIL [$t(244) = 1.37, ns$] failed to reach significance. There was a tendency, however,

TABLE 3
MEANS AND STANDARD DEVIATIONS FOR THE SONG AND THE PIL

Variable	Males ($N = 57$)	Females ($N = 189$)	Overall ($N = 248$)
SONG			
\bar{X}	76.35	72.31	73.11
SD	16.61	14.65	15.24
PIL			
\bar{X}	103.37	106.17	105.46
SD	15.59	12.80	13.48

for females to have a higher level of meaning and purpose in life and a corresponding lower level of motivation to find meaning and purpose. Age did not correlate significantly with the SONG ($r = -.03, ns$) or the PIL ($r = .11, ns$), although there was a tendency for older females to have higher purpose and meaning in life ($r = .13, p > .078$).

DISCUSSION

It is apparent from the factor structure that the SONG is indeed a complementary instrument to the PIL. The hypothesis that the moderate negative correlation between the SONG and the PIL merely reflects an item scoring artifact is not supported. The SONG clearly contributes at least four independent dimensions to the meaning and purpose in life construct. Furthermore, the items align themselves nicely into two broad clusters: items that measure the *degree* to which meaning and purpose in life have been found (i.e., general purpose in life, goal achievement, contentedness with life, self-fulfillment, internal-external locus of control, and life view) and items that measure the *motivation* to find meaning and purpose in life (i.e., goal seeking, existential vacuum, search for adventure, and futuristic aspiration). These data provide strong evidence for the factorial validity of both instruments.

Additional support for the construct validity of the SONG and the PIL is provided by the semantic differential data on the concepts Life at Present and Life in the Future. As predicted, greater incongruity in attitudes between present and future life is related significantly to a lack of meaning and purpose in life and to a strong desire to search for meaning and purpose. Meaning and purpose in life in the here and now also are associated strongly with satisfactory life experiences

and positive future expectations. If present life events are satisfactory, then expectations for the future are also very positive. High motivation to find meaning and purpose is associated with a dissatisfied present life situation, but motivation or lack of it to find meaning and purpose in life does not seem to influence future expectations.

The split-half and test-retest reliability estimates of the SONG and the PIL obtained in this study meet the required level of acceptability for attitude scales. Internal consistency coefficients for the SONG and the PIL as high or higher have been reported in the literature (Crumbaugh, 1977b; Crumbaugh & Maholick, 1969; Reker, 1977). The 6-week stability coefficient of .79 for the PIL compares favorably with a 1-week stability coefficient of .83 reported by Meier and Edwards (1974) and a 12-week test-retest coefficient of .68 reported by Reker (1977). The almost identical stability coefficient for the SONG of .78, the first to be reported in the literature, is very encouraging.

The SONG and PIL norms for the overall sample closely match those reported by Crumbaugh (1977b) and Crumbaugh and Maholick (1969). Crumbaugh and Maholick (1969) reported an overall PIL mean of 106.47 and an *SD* of 18.94 for 1,151 normal cases. Crumbaugh (1977b) reported SONG means (standard deviations) for three non-patient samples that ranged from 73.22 (14.31) for female college students to 74.85 (16.35) for seminary students. Sex differences for the SONG and the PIL were not found in the present study, a finding consistent with results reported by Crumbaugh and Maholick (1969) and Meier and Edwards (1974). Also, age did not correlate significantly with the PIL or the SONG. Meier and Edwards (1974), Pearson and Sheffield (1975), and Reker (1977) all reported significant age with PIL score correlations. Our nonsignificant findings may be due to the marked restriction in the ages of the present sample.

Overall, the findings of the present study, particularly as they pertain to the factor structure, have a number of practical implications for the clinical psychologist. It would be useful, indeed highly desirable, to combine the SONG and the PIL for assessment purposes. Factor scores could be computed for each of the 10 dimensions, and satisfaction with life profiles could be generated for each client. Normative data would need to be collected for each factor with significant deviations noted at the individual level. Appropriate therapy, of whatever orientation, then could be initiated and focused on the specific life problem of major concern. Research of this nature with penitentiary inmates, parolees, and suicidal adolescents is now in the planning stage.

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