

The Seeking Of Noetic Goals Revisited Among Spanish Young People

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Abstract

This study examined the factor structure and psychometric properties of the *Seeking Of Noetic Goals* (SONG) scale and analyzed the correlations with the *Purpose in Life* (PIL) scale and the gender-related differences. A cross-sectional method design was used. Participants were 349 Spanish undergraduates (225 women, 64.5%, and 124 men, 35.5%), with ages ranging between 18 and 26 years, $M = 20.85$, $SD = 2.16$. Spanish versions of both the SONG and PIL were used. A two-factor model (Need for Meaning and Expectations) with eight items (SONG-8), which showed a good fit and internal consistency, as well as a negative correlation with the PIL, was obtained. Men had higher scores than women on the scale and in both factors, and differences were significant for the total score of the SONG-8. A valid, robust, and parsimonious model for the SONG was obtained. The SONG and the PIL are complementary scales.

Keywords

search for meaning, meaning in life, seeking of noetic goals, construct validity, reliability

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Introduction

Meaning in life (MiL) has come to be an important area of focus of psychological research and available studies suggest that it has robust associations with health and well-being (e.g., Kleftras & Psarra, 2012). The rise of interest in MiL has been accompanied by the development of psychometric instruments. One of the earliest and most widely used is the Purpose in Life Test (PIL; Crumbaugh & Maholick, 1969). The PIL was expressly designed to assess MiL based on Frankl's conceptualization of it as a primary motivational principle. A few years later, Crumbaugh (1977) developed the Seeking Of Noetic Goals (SONG) test. The motivation for devising the SONG was based on Crumbaugh's reasoning that the PIL provides a measurement of acquired MiL but does not assess the extent to which a person may be actively searching for meaning. The SONG was constructed to be a complementary measure to the PIL and early research by Crumbaugh showed that the two measures were inversely associated. Both the PIL and SONG were developed based on logotherapy assumptions (Frankl, 1963/2007), which emphasize that the experience of meaning and purpose in life is the primary motivational principle of human beings.

Reker and Cousins (1979) stated that the SONG and the PIL are complementary scales: Just as the PIL assesses the degree to which a person has found a purpose for his or her life, the SONG assesses the degree to which a person is actively searching for a purpose for his or her life. If a person experiences the presence of meaning and purpose, he or she will experience low motivation to search for additional sources of MiL (search for meaning). By contrast, a person who experiences no presence of meaning and purpose will be strongly motivated to satisfy this need (i.e., to search for meaning). As Steger, Kashdan, Sullivan, and Lorentz (2008, p. 202) posited, "the search for meaning must be understood in relation to the presence of meaning." Thus, using the PIL and SONG scales together might identify those individuals who can benefit from meaning-focused interventions (Guttman, 1996).

The SONG is a 20-item scale with a 7-point Likert-type format (1 = *never*, 7 = *constantly*) developed to assess the degree to which a person is actively searching for purpose in his or her life. The total SONG score ranges from 20 to 140: the higher the score, the stronger the motivation to find MiL. The general item content of the SONG is the following (Schulenberg, Baczwaski, & Buchanan, 2014): (1) ultimate life meaning, (2) uncertainty about future accomplishments, (3) sustained interest in activities, (4) something missing in life, (5) restlessness, (6) future fulfillment in life, (7) future excitement, (8) seeking a new sense of self, (9) lack of meaning/purpose, (10) achievement orientation, (11) indecisive ambitions, (12) bothered by the uncertainty of

life, (13) need for a new life perspective, (14) lack of goal commitment/completion, (15) adventurous nature, (16) motivation to discover the self, (17) impermanence of life direction, (18) ultimate life direction, (19) unfulfilled duty, and (20) motivation to accomplish the extraordinary.

According to Crumbaugh (1977), the SONG is a single-factor scale, and moderate negative correlations were found between the SONG and the PIL in several student and patient samples. However, as Hutzell (1987) noted, the SONG's primary use should be for research purposes, primarily due to concerns about the SONG's validity in clinical populations. Moreover, Benedict et al. (2004) stated that additional research on the SONG's reliability and validity should be conducted with diverse populations before its true utility can be determined. In this regard, several studies have reported different factorial structures for the SONG using exploratory or/and confirmatory factor-analytic procedures.

Since the development of the SONG, several studies have aimed at examining its psychometric properties and construct validity. Though Crumbaugh's (1977) work suggests that the SONG was conceptualized as measuring a single construct (i.e., search for meaning), a review of the available research shows that the test has not tended to conform to a one-factor structure. What its exact structure is, however, has not been established. On the other hand, a negative, significant correlation between the PIL and the SONG have been reported (see Table 1 for a summary of the main research findings).

As there is value for psychological science in having a well-constructed and validated measure of meaning seeking, it seems important that further work be done to ascertain the extent to which the SONG may be useful for research. Accordingly, the primary purpose of the present study is to examine the psychometric properties of the SONG with primary attention to testing viable factor models based on Crumbaugh's (1977) theorizing and the extant empirical research. Embedded within this research aim is a second goal, namely, to ascertain whether the SONG demonstrates adequate psychometric properties when translated and used with a non-English-speaking (Spanish) sample. For the past several decades, there has been a growing recognition that psychological concepts and research findings may not be generalized beyond the cultural and linguistic environments in which they were initially studied (e.g., Henrich, Heine, & Norenzayan, 2010). Resultingly, it is important that efforts be made to establish the robustness of psychological measures beyond their culture of origin.

Based on the available literature, it was hypothesized that the SONG would show a multidimensional factor structure and would demonstrate reasonably adequate reliability. It was expected that the SONG would show poor fit to a one-factor model and somewhat stronger fit to a multifactor model. Exactly

Table 1. Main Results of the Studies That Analyzed the SONG's Factor Structure, Reliability, and Correlation With the PIL.

Study	Sample	Language	Factor analysis	Main findings on SONG's factor structure		Reliability coefficients	Correlation SONG-PIL
				None	None		
Yarnell (19720)	Normal Ss: 40 men ($M_{age} = 28$, $SD = 7$) and 25 women ($M_{age} = 27$, $SD = 6$); schizophrenic Ss: 40 men inpatients ($M_{age} = 44$, $SD = 9$)	English	None	None	n.r.	Normal men: $r = -.51$, $p < .01$; Normal women: $r = -.50$, $p < .01$; schizophrenic men: $r = -.33$, $p < .05$	
Crumbaugh (1977)	Logotherapy patients, alcoholic patients, methadone patients ($N = 420$; $M_{age} = n.r.$, $SD = n.r.$); students ($N = 206$; $M_{age} = n.r.$, $SD = n.r.$)	English	None	None; author assumed that the SONG is a one-factor scale	Pearson product-moment = $.71 \pm .04$; Spearman-Brown corrected = $.83$	Patient samples: from $-.38 \pm .08$ to $-.52 \pm .17$; student samples: from $-.27 \pm .17$ to $-.36 \pm .12$	
Reker and Cousins (1979)	248 Undergraduates (189 women, 57 men, 2 missing; $M_{age} = 19.39$, $SD = n.r.$)	English	PCA, Varimax	Four second-order factors (the SONG was analyzed jointly with the PIL)	$\alpha = .76$; Spearman-Brown corrected = $.87$; Test-retest = $.78$	$r = -.33$, $p < .001$	

(continued)

Table 1. (continued)

Study	Sample	Language	Factor analysis	Main findings on SONG's factor structure	Reliability coefficients	Correlation SONG-PIL
Sink, Purcell, and van Keppel (1997)	Russian (N = 334, 47.3% women; $M_{age} = 15.2$, $SD = 1.1$), Swiss (N = 328, 47.6 women; $M_{age} = 16.5$, $SD = 1.6$), and American (N = 659, 51.3% women; $M_{age} = 16.1$, $SD = 1.2$) adolescents	Russian German; English	PCA, Varimax	Two-factor and three-factor models	Russian sample: $\alpha = .67$; Swiss sample: $\alpha = .83$; test-retest = .79; American sample: n.r.	American sample: $r = -.16$, $p < .01$; Russian sample: $r = -.26$, $p < .01$; Swiss sample, n.r.
Schulenberg and Gohm (2009)	Undergraduates (N = 341; 66% women; $M_{age} = 19.5$, $SD = 1.6$)	English	PAF, Varimax	Two-factor model	$\alpha = .84$	Subscale A: $r = -.62$, $p < .01$; Subscale B: $r = .08$, n.s.
Brunelli et al. (2012)	Italian cancer patients (N = 264, 74% women; $M_{age} = 54$, $SD = 12$)	Italian	PCA, Oblimax	The Crumbaugh's (1977) one-factor model could be maintained	$\alpha = .90$; ICC = .81	$r = -.47$, $p < .01$
Schulenberg et al. (2014)	Undergraduates (N = 908, 67.5% women; $M_{age} = 19.45$, $SD = 1.98$)	English	ML, Direct Oblimin, CFA	Two-factor model	$\alpha = .81$	Factor 1: $r = -.57$, $p < .01$; Factor 2: $r = .20$, $p < .01$

Note. SONG = Seeking Of Noetic Goals; PIL = Purpose in Life; PCA = principal component analysis; PAF = principal axis factoring; ML = maximum likelihood; CFA = confirmatory factor analysis; ICC = interclass correlation coefficient; n.r. = not reported; n.s. = nonsignificant.

which multifactor model would produce the best fit was not hypothesized a priori because the published literature did not provide a sufficient basis to generate specific research expectation. Whether found to be a unitary factor or multiple factors, we expected the SONG to produce significant negative correlations with the PIL. Additionally, differences by gender were calculated.

As far as we know, this is an original and worthy contribution, since there are not studies that have analyzed the factor structure and psychometric properties of the SONG among Spanish population. With regard to that, the current study can provide data that contribute to a better knowledge of the SONG psychometric properties, especially interesting from a cross-cultural point of view.

Method

Participants

Participants were 349 Spanish undergraduates (225 women, 64.5%, and 124 men, 35.5%), with ages ranging between 18 and 26 years, $M = 20.85$, $SD = 2.16$. Sampling was incidental. Most of the participants were unmarried (98.3%) and not working (51.9%), followed by those with temporary jobs (25.2%), weekend jobs (9.5%), helping in their parents' business (5.4%), working every day for others (6.6%), and self-employed (1.4%).

Instruments

Seeking Of Noetic Goals (SONG; Crumbaugh, 1977). As noted above, the SONG is a 20-item Likert-type scale (1 = *never*; 7 = *continually*) to assess the motivational intensity of finding MiL. The total score is the sum of the scores on the 20 items, ranging between 20 and 140. A high score indicates a high motivation to search for MiL. A Spanish translation of the SONG published in Fabry (2006) was revised and compared with the original English version and accepted (Crumbaugh, 1977) by an expert translator (Hambleton, 2005).

Purpose in Life Test–10 Items (PIL-10; García-Alandete, Rosa, & Sellés, 2013). This scale is a Spanish adaptation of the original *Purpose in Life Test* by Crumbaugh and Maholick (1969). The PIL-10 is a 10-item Likert-type scale (from 1 to 7) that assesses perceived MiL. The total score ranges from 10 to 70: A higher total score indicates greater MiL. The PIL-10 has a two-factor structure: Satisfaction and Meaning in Life (SML), related to the general perception of MiL, and Goals and Purposes in Life (GPL), related to specific life goals. In the present study, the scale, the SML factor, and the

GPL factor showed an internal consistency between acceptable and high, $\alpha = .89$, $\alpha = .86$, and $\alpha = .74$, respectively.

Procedure and Statistical Analyses

Participants completed the measures in large classroom settings. They filled out both the SONG and PIL-10 under the supervision of the authors of this study, who briefly explained its nature and objectives, but without emphasizing aspects that could bias the responses. All doubts about the process were clarified, anonymity and confidentiality were guaranteed, and the sincerity of the answers was emphasized, to maximize the validity of the data. Participants collaborated voluntarily and received no compensation. Informed consent was obtained from all participants and authors received ethics approval from their institution to gather data for their project.

A confirmatory factor analysis (CFA) of the main models proposed for the SONG (Brunelli et al., 2012; Crumbaugh, 1977; Schulenberg et al., 2014; Schulenberg & Gohm, 2009; Sink et al., 1997) was carried out. Given that these models showed an inadequate adjustment, an exploratory factor analysis (EFA) of the SONG was carried out. Then, the obtained model was examined with a CFA. Descriptive statistics, estimation of internal consistency, correlation between the scales of the PIL-10 and the SONG, and analysis of differences in SONG by gender were carried out with the obtained model. The Kolmogorov–Smirnov test with Lilliefors correction showed the not normally distribution of the data and, therefore, the Principal Axis factoring rotation method for the EFA and nonparametric statistics for the correlational and comparative analyses were used. The SPSS 17.0 program for Windows was used for the EFA, the analysis of descriptive statistics, the correlational and comparative analysis, and the estimation of internal consistency (Cronbach's alpha) of the scales.

For the CFA, the EQS 6.1 program for Windows was used. The Mardia's normalized coefficient (Thompson, 2004) suggested the use of robust estimation, and the following indices were taken into consideration: chi-square, nonnormed fit index, comparative fit index, and root mean square error of approximation (e.g., Hair, Anderson, Tatham, & Black, 2006).

Results

None of the main models proposed for the SONG showed an adequate adjustment (Table 2). Therefore, an EFA with Principal Axis factoring and Oblimin rotation method with Kaiser normalization was carried out. Table 3 shows the means and standard deviations of the SONG items, as well as the corrected item–total correlations.

Table 2. Confirmatory Factor Analysis of the Main Models Proposed for the SONG.

Model	Factor: items	Mardia ^a	SB χ^2 (df)	p	NNFI	CFI	RMSEA [90% CI]
Sink et al. (1997) ^b	1: 1-2, 4, 8, 10-11, 14, 16-17; 2: 6, 12, 15, 18, 20; 3: 3, 5, 9, 13	15.63	1762.33 (135)	.000	.47	.53	.127 [.119, .135]
Sink et al. (1997) ^c	1: 1-2, 6-8, 10, 12, 14-16, 18, 20; 2: 3-5, 9, 11, 13, 17, 19	18.50	738.65 (170)	.000	.66	.69	.098 [.091, .105]
Sink et al. (1997) ^d	1: 3-5, 9, 11-13, 16-17, 19; 2: 1-2, 6-8, 10, 14-15, 18	17.80	674.69 (152)	.000	.66	.69	.099 [.092, .107]
Schulenberg and Gohm (2009)	1: 2-5, 8-9, 11-14, 17, 19; 2: 1, 6-7, 10, 15-16, 18, 20	18.50	2039.46 (170)	.000	.68	.71	.095 [.087, .102]
Crumbaugh (1977) and Brunelli et al. (2012)	1: 1-20	18.50	751.89 (170)	.000	.65	.69	.099 [.092, .106]
Schulenberg et al. (2014)	1: 3-5, 8-9, 11-14, 17, 19; 2: 1, 6-7, 10, 15, 18, 20	16.62	449.84	.000	.77	.80	.082 [.073, .090]

Note. SONG = Seeking Of Noetic Goals; SB χ^2 = Satorra-Bentler chi-square; NNFI = nonnormed fit index; CFI = comparative fit index; RMSEA = root mean square error of approximation; df = degrees of freedom.
^aNormalized estimation. ^bRussian model. ^cSwiss model. ^dAmerican model.

In addition to the Kaiser–Meyer–Olkin test, the Bartlett sphericity test, and an eigenvalue greater than 1, the following criteria were taken into account: (1) the load values had to be equal to or greater than .40, (2) the items had to load in a single factor, (3) the factors had to include at less three items, and (4) factors had to present an internal consistency (Cronbach's alpha) equal to or greater than .70. The EFA steps are shown in Table 4. In all steps, the statistical Kaiser–Meyer–Olkin and Bartlett's tests indicated that the factor analysis could be applied.

An eight-item two-factor scale with a high internal consistency was obtained, $\alpha = .80$ (Table 5). This scale was called *Seeking Of Noetic Goals–8 Items* (SONG-8). Factor 1 (Items 4, 8, 9, 13, and 16; $\alpha = .83$) was called Need for Meaning. Factor 2 (Items 6, 7, and 10; $\alpha = .71$) was called Expectations. The factors were significantly correlated with an intermediate size effect (Cohen, 1988), $r_s = .28$, $p < .001$.

The correlation between the factors of the SONG-8 suggested two models: a model with two correlated factors, and a model with a second-order factor. Thus, these two models for the SONG-8 were specified: a model with two correlated latent variables (Need for Meaning and Expectations; Model 1), and a hierarchical model with two first-order latent variables (Need for Meaning and Expectations) and a second-order latent variable (Search for Meaning; Model 2). Both models showed a good fit, although the Model 2 showed a lower $SB\chi^2$ score and slightly higher nonnormed fit and comparative fit indexes than the Model 1 (Table 6).

The scaled difference chi-square test (Satorra & Bentler, 2001) was significant, $D = 4.66 > \chi^2_{(\alpha = .05; df = 1)} = 3.84$, and suggested that the Model 2, which had a lower chi-square value than the Model 1, could be better. Figure 1 shows the standardized solution for this model.

Mean scores were obtained in intermediate ranges for the SONG-8 scale, $M = 31.49$, $SD = 8.19$, and the Need for Meaning factor, $M = 16.33$, $SD = 6.55$, while in the Expectations factor the mean scores were rather high, $M = 15.16$, $SD = 3.37$.

Table 7 shows the correlations between the SONG-8 and the PIL-10 (Cohen, 1988). Correlations were (1) significant and negative between the SONG-8, the PIL-10, and the SML factor; (2) significant and negative between the Need for Meaning factor and the PIL-10, SML factor, and GPL factor; and (3) significant and positive between the Expectations factor of the SONG-8, the PIL-10, and the GPL factor.

With regard to the gender-related differences, men showed higher mean ranks on the scale and on both factors of the SONG-8 than women, but differences were not significant (Table 8).

Table 3. Descriptive Statistics of the SONG Items, and Item–Total Correlations.

Item		M	SD	Corrected $r_{s(\text{item-total})}$
1	<i>I think about the ultimate meaning of life/ Pienso acerca del sentido último de la vida</i>	3.66	1.58	.29**
2	<i>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/He experimentado el sentimiento de que estoy destinado a hacer algo importante, pero no puedo puntualizar qué es exactamente</i>	4.03	1.65	.29**
3	<i>I try new activities or areas of interest, and then these soon lose their attractiveness/ Experimento nuevas actividades o áreas de interés, pero pronto pierden su atractivo</i>	3.25	1.33	.12*
4	<i>I feel that some element which I can't quite define is missing from my life/Siento que está faltando en mi vida algún elemento que no puedo definir muy bien</i>	3.61	1.68	.33**
5	<i>I am restless/Me impaciento</i>	4.44	1.52	-.21**
6	<i>I feel that the greatest fulfillment of my life lies yet in the future/Siento que el logro más importante de mi vida está en el futuro</i>	4.89	1.55	-.13*
7	<i>I hope for something exciting in the future/ Espero algo muy emocionante para el futuro</i>	5.28	1.36	-.02 (n.s.)
8	<i>I daydream of finding a new place for my life and a new identity/Tengo la ilusión de encontrar un nuevo lugar para mi vida y una nueva identidad</i>	3.30	1.82	.33**
9	<i>I feel the lack of and a need to find a real meaning and purpose in my life/Siento la falta de, y la necesidad de encontrar, un sentido real y un propósito en mi vida</i>	2.89	1.64	.25**
10	<i>I think of achieving something new and different/Pienso en lograr alguna cosa nueva e interesante</i>	4.99	1.30	.11*
11	<i>I seem to change my main objective in life/ Me parece que cambio los principales objetivos en mi vida</i>	2.68	1.36	.36**

(continued)

Table 3. (continued)

Item		M	SD	Corrected $r_{s(\text{item-total})}$
12	<i>The mystery of life puzzles and disturbs me/El misterio de la vida me inquieta</i>	3.78	1.78	-.02 (n.s.)
13	<i>I feel myself in need of a "new lease on life"/Siento la necesidad de "empezar una nueva vida"</i>	2.75	1.67	.19**
14	<i>Before I achieve one goal, I start out toward a different one/Antes de haber alcanzado una meta, empiezo a buscar otra distinta</i>	3.24	1.58	.39**
15	<i>I feel the need for adventure and "new worlds to conquer"/Siento la necesidad de aventura y de "nuevos mundos por conquistar"</i>	4.70	1.48	-.11*
16	<i>Over my lifetime I have felt a strong urge to find myself/A lo largo de mi vida he experimentado una gran urgencia por encontrarme a mí mismo</i>	3.78	1.66	.36**
17	<i>On occasion I have thought that I had found what I was looking for in life, only to have it vanish later/En ocasiones he creído encontrar lo que he estado buscando en mi vida, sólo para ver que todo se desvanece más tarde</i>	2.91	1.59	.40**
18	<i>I have been aware of all-powerful and consuming purposes toward which my life has been directed/Me he dado cuenta de que hay un propósito poderoso hacia el cual he estado dirigiendo mi vida</i>	4.03	1.77	-.08 (n.s.)
19	<i>I have sensed a lack of a worthwhile job to do in life/He percibido la falta de un empleo que valga la pena desempeñar en mi vida</i>	3.04	1.67	.36**
20	<i>I have felt a determination to achieve something far beyond the ordinary/He percibido una determinación por alcanzar algo más allá de lo ordinario</i>	4.13	1.711	.01 (n.s.)

Note. SONG = Seeking Of Noetic Goals; (n.s.) = nonsignificant.

* $p < .05$. ** $p < .01$.

Table 4. First Step and Final Solution of the Performed Exploratory Factor Analysis.

Item	First step					Second step			End solution	
	Factor					Factor			Factor	
	1	2	3	4	5	1	2	3	1	2
SONG8	.744	.211	.080	.000	-.083	.677	.158	-.007	.665	.157
SONG13	.721	-.060	-.156	-.012	.060	.812	-.077	.001	.814	-.087
SONG9	.720	-.054	-.075	.078	.093	.799	-.051	.035	.819	-.050
SONG16	.472	.002	-.240	.169	-.197	.458	.056	.210	.573	.037
SONG4	.458	.034	-.169	.033	.322	.672	.024	-.051	.653	.004
SONG17	.399	.006	.098	.360	-.008					
SONG11	.380	-.031	.038	.356	.205					
SONG7	-.038	.833	-.019	-.109	.088				-.124	.878
SONG6	.105	.689	.078	-.029	.071				.041	.695
SONG10	-.006	.501	-.123	.098	-.040	.013	.496	.180	.094	.477
SONG18	-.053	.320	-.291	.189	-.262					
SONG15	.116	.297	-.175	.104	-.212					
SONG1	.108	-.151	-.769	-.020	.008					
SONG2	-.064	.146	-.634	.038	.023					
SONG12	.218	.125	-.352	-.026	.060					
SONG19	.085	-.153	.007	.553	.008	.070	-.187	.633		
SONG20	-.060	.270	-.166	.535	-.184	-.044	.295	.575		
SONG14	.063	.079	-.014	.407	.060	.137	.037	.350		
SONG3	-.038	-.017	-.174	.460	.489					
SONG5	.110	.217	.038	.030	.331					

Note. SONG = Seeking Of Noetic Goals. The loadings higher than .40 are in bold.

Discussion

The main aim of the present study was to analyze the factor structure, internal consistency, and correlations with the PIL of the SONG. Additionally, differences in search for meaning based on gender were calculated.

Exploratory Factor Analysis of the SONG: A Proposal for a Reduced Two-Factor Model

None of the main models proposed for the SONG (Brunelli et al., 2012; Crumbaugh, 1977; Schulenberg et al., 2014; Schulenberg & Gohm, 2009; Sink et al., 1997) showed an adequate adjustment. Therefore, an EFA with Principal Axis extraction method and Oblimin rotation method obtained a

Table 5. Final Solution for the SONG.^a

Items of the SONG-8	Factor	
	1	2
9 <i>I feel the lack of and a need to find a real meaning and purpose in my life/Siento la falta de, y la necesidad de encontrar, un sentido real y un propósito en mi vida</i>	.819	-.050
13 <i>I feel myself in need of a “new lease on life”/Siento la necesidad de “empezar una nueva vida”</i>	.814	-.087
8 <i>I daydream of finding a new place for my life and a new identity/Tengo la ilusión de encontrar un nuevo lugar para mi vida y una nueva identidad</i>	.665	.157
4 <i>I feel that some element which I can’t quite define is missing from my life/Siento que está faltando en mi vida algún elemento que no puedo definir muy bien</i>	.653	.004
16 <i>Over my lifetime I have felt a strong urge to find myself/A lo largo de mi vida he experimentado una gran urgencia por encontrarme a mí mismo</i>	.573	.037
7 <i>I hope for something exciting in the future/Espero algo muy emocionante para el futuro</i>	-.124	.878
6 <i>I feel that the greatest fulfillment of my life lies yet in the future/Siento que el logro más importante de mi vida está en el futuro</i>	.041	.695
10 <i>I think of achieving something new and different/Pienso en lograr alguna cosa nueva e interesante</i>	.094	.477

Note. SONG = Seeking Of Noetic Goals. Extraction method: principal axis. Rotation method: oblimin with Kaiser normalization. The numbering of the items of the original version was preserved. In italics, the Crumbaugh’s (1977) original items. In normal, the Spanish translation published in Fabry (2006).

^aRotation converged in four iterations.

Table 6. Confirmatory Factor Analysis of the Two Models Proposed for the SONG-8.

Model	Mardia’s coefficient ^a	SB χ^2 (df)	p	NNFI	CFI	RMSEA [90% CI]
1	9.43	39.86 (19)	.003	.959	.972	.056 [.031, .081]
2	9.43	37.36 (18)	.005	.960	.974	.056 [.030, .081]

Note. SONG = Seeking Of Noetic Goals; SB χ^2 = Satorra–Bentler chi-square; NNFI = nonnormed fit index; CFI = comparative fit index; RMSEA = root mean square error of approximation; 1 = two latent variables correlated model; 2 = two latent variables of first-order and second-order latent variable model.

^aNormalized estimation.

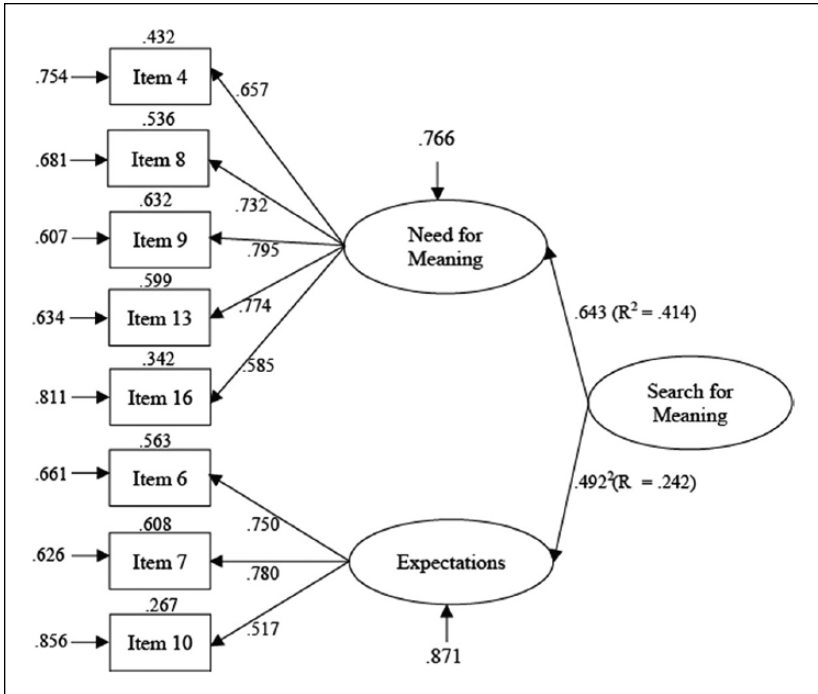


Figure 1. Standardized solution for the hierarchical model.

scale with two first-order factors (Need for Meaning and Expectations) that were positively and significantly correlated, and an internal consistency between good and very good. Similar results were obtained in previous studies. For example, Schulenberg et al. (2014) obtained a bifactorial structure, Will to Find Meaning and Existential Vacuum, equivalent to the Expectations and Need for Meaning factors, respectively, in which the factors showed a weak significant correlation and a high internal consistency. The resulting scale in this research was called SONG-8. A CFA showed that the best model for the SONG-8 is a hierarchical one, with two second-order factors (Need for Meaning and Expectations) and a first-order factor (Search for Meaning).

As noted above, the construct validity of the SONG (Crumbaugh, 1977) has been revised in previous studies using diverse methodological approaches and with varying results (e.g., Reker & Cousins, 1979; Schulenberg et al., 2014; Yarnell, 1972). Schulenberg et al. (2014) reported that none of

Table 7. Correlations Between the SONG-8 and the PIL-10.^a

		SONG-8	NfM	Ex
PIL-10	<i>rs</i>	-.24**	-.36**	.12*
	<i>p</i>	.000	.000	.021
SML	<i>rs</i>	-.30**	-.39**	.05
	<i>p</i>	.000	.000	.371
GPL	<i>rs</i>	-.09	-.24**	.25**
	<i>p</i>	.091	.000	.000

Note. N = 349. PIL-10 = Purpose in Life Test–10 Items; SML = Satisfaction and Meaning in Life; GPL = Goals and Purposes in Life; SONG-8 = Seeking Of Noetic Goals–8 Items; NfM = Need for Meaning; Ex = Expectations.

^aSpearman’s rho.

p* < .05 (two-tailed). *p* < .01 (two-tailed).

Table 8. Mean Ranks in the SONG-8 According to Gender, and Mann–Whitney’s Test for the Differences.

	Gender	Mean rank	Sum of ranks	<i>U</i>	<i>p</i>
SONG-8	Men	189.77	23531.50	12118.50	.042
	Women	166.86	37543.50		
NfM	Men	188.69	23398.00	12252.00	.060
	Women	167.45	37677.00		
Ex	Men	182.69	22653.00	12997.00	.289
	Women	170.76	38422.00		

Note. N = 349; SONG-8 = Seeking Of Noetic Goals–8 Items; NfM = Need for Meaning; Ex = Expectations. Grouping variable: Gender.

the previous studies that analyzed the construct validity of the SONG found evidence to support the original one-dimensional model proposed by Crumbaugh (1977).

The factor structure obtained in the present study has some similarities with other studies. In short, the Need for Meaning factor of our model for the SONG would correspond to the Existential Vacuum factor defined by Reker and Cousins (1979), and the Expectations factor of our model for the SONG would correspond to the Futuristic Aspirations factor defined by these authors. The factor Current Existential Confusion or Possible Existential Vacuum defined by Schulenberg and Gohm (2009) would be similar to what has been called Need for Meaning in this study, and the Future-Oriented

Determination to Find Meaning factor defined by these authors would be similar to what we called Expectations.

The Existential Vacuum factor defined by Schulenberg et al. (2014) would be similar to Need for Meaning, and the Will to Find Meaning would be similar to Expectations. In fact, the items making up the Need for Meaning factor formed part, along with other items (3, 5, 12, 14, and 19), of the Existential Vacuum factor, and the items in the Expectations factor were included, along with other items (1, 15, 18, and 20), in the Will to Find Meaning factor.

In short, the eight-item model for the SONG obtained in this study coincides with other two-factor versions of the SONG. It measures two dimensions of Search for Meaning: Need for Meaning and Expectations, which are close to the defined in other studies. Our results reinforce the bidimensional structure of the SONG obtained in previous studies. On the other hand, the EFA satisfied the Preacher and MacCallum (2003) recommendations about the requirements to be met in the analysis of a model's construct validity: replicability, parsimony (one or two factors), easy interpretation (no items loading in more than one factor), safety, and factors that provide useful psychometric contributions. These characteristics make the obtained model valid, robust, and parsimonious.

Internal Consistency of the Obtained Model for the SONG

Regarding the internal consistency of the SONG-8, it obtained a Cronbach's alpha of .81, indicating high reliability. This result is consistent with other studies that used the 20-item original version (Crumbaugh, 1977), which showed coefficients indicating high internal consistency, with values above .80 (e.g., Baczwaski, 2011; Schulenberg, 2004). The reduction of the scale to eight items in the present study did not produce a loss of reliability.

Correlation Between the Obtained Model for the SONG and the PIL-10

Negative correlations were found between the PIL-10 and the SML factor, the SONG-8 and the Need for Meaning factor. Positive correlations were obtained between the PIL-10, the SML factor, the GPL factor, and the Expectations factor of the SONG-8. The correlation between the GPL factor and the SONG-8, as well as the correlation between the SML factor and the Expectations factor were nonsignificant. In this regard, Schulenberg et al. (2014), using the Schulenberg and Gohm (2009) version of the SONG, obtained a negative correlation between both the total score and the Existential Vacuum factor and total scores on two versions of the PIL (Crumbaugh &

Maholick, 1969). By contrast, Schulenberg et al. (2014) found positive correlations between the SONG's factor Will to Find Meaning and these versions of the PIL. Other studies obtained negative and statistically significant correlations between the PIL and the SONG, using different samples (Brunelli et al., 2012; Reker & Cousins, 1979; Scrignaro et al., 2014; Yarnell, 1972).

As noted above, the relationship between the presence of MiL and search for meaning is inverse: the higher the scores on the PIL-10, the lower the scores on the SONG, and vice versa. In other words, when a person has managed to find meaning in his or her life, there is no motivation to seek it: it already lives "in the sense," not in its absence and need. The results, as well as studies cited above, confirm this point.

The relationship between the Will to Find Meaning factor (Schulenberg & Gohm, 2009) and the Expectations factor was direct. This result might be due to the fact that these two SONG factors measure different constructs. In fact, though the correlation between the two factors of the version obtained in this study was statistically significant at .01, the statistical value was intermediate, $r_s = .28$ (Cohen, 1988). This result coincides with Schulenberg et al. (2014). Need for Meaning factor would come to be conceptually equivalent to Existential Vacuum, whereas Expectations factor would be quite different from this construct. In that sense, its negative relationship with MiL seems logical. However, from a conceptual point of view, what is the nature of the Expectations factor? What exactly could it be measuring? We think this factor measures the positive, personal orientation toward achieving life goals; that is, it is related to a prospective, futuristic dimension of MiL. However, it is not a closed construct and much less equivalent to the GPL factor of the PIL-10 (though a statistically significant positive correlation was obtained between the two constructs, the value of the statistical correlation was weak, $r_s = .25$), but perhaps some particular aspect or dimension of MiL. A factorial analysis considering the items of the PIL-10 and SONG-8 together might clarify this matter. It should be kept in mind that Reker and Cousins (1979) obtained a multifactorial model that included in the Futuristic Aspirations factor the items that make up the Expectations factor (Items 6, 7, and 10 of the SONG-8), Item 7 of the PIL by Crumbaugh and Maholick (1969; included in the GPL factor of PIL-10), and Item 8 of the SONG scale (included in the Need for Meaning factor in the version obtained in this investigation). It would be interesting, therefore, to perform a factorial analysis along the lines of what was suggested above, in order to check the relationships between the items in the Expectations factor and the PIL-10.

The negative correlation between the PIL-10 and the SONG-8 shows their good convergent validity. The data obtained support Crumbaugh's (1977) idea that the PIL and the SONG are complementary scales. The SONG

contributes to the measure of MiL, but in the opposite direction to the PIL. Therefore, the SONG is a scale that should be taken into consideration in the measurement of MiL. This could be particularly important in the case of a clinical population; thus, Crumbaugh (1977) emphasized the importance of using the PIL and the SONG scales together.

Differences in the Search for Meaning According to Gender

Men's mean ranks on the SONG-8, the Need for Meaning factor, and the Expectations factor were higher than women's, with significant differences on the total score of the scale. Few studies have explored the differences in the SONG according to gender. In fact, only Reker and Cousins (1979), using the original version of the SONG scale (Crumbaugh, 1977), found a higher score for men, $t(244) = -1.77$, though the differences were nonsignificant. These authors concluded that there is a tendency for women to have higher meaning and purpose in life and a corresponding lower level of motivation to search for MiL. A high motivation to search for MiL is associated with unsatisfactory current life circumstances, whereas the motivation to search for MiL does not seem to change the personal expectations (taking into account what was stated above about the low correlation between the factors of the SONG). However, the explanation of the gender differences in the search for meaning requires further specific research.

Limitations and Suggestions for Future Research

The results of the present study should be interpreted taking into account certain limitations that are outlined below, along with suggestions for future research. The sampling method and the composition of the sample limit the generalizability of the results. Moreover, the age range, between 18 and 26 years, did not allow us to perform comparative analyses to test the effect of age on the variables under study and, consequently, discuss differences at varying stages of the developmental cycle. Likewise, the size of the women's group, $n = 225$, was significantly larger than the men's, $n = 124$. Future studies should use randomized, size-balanced samples, as well as more heterogeneous, to ensure the statistical goodness of the comparisons and the generalizability of the results.

It would be interesting to further examine the construct validity of the SONG-8 in different populations (such as people with disabilities, caregivers of dependents, people with chronic or terminal illnesses, people with mental disorders, elderly people in precarious circumstances, etc.).

It might be important to increase the knowledge about the role that gender plays in the presence/search for MiL, as there is a shortage of studies on this matter in the literature. In this regard, it would be important to find out whether there are psychosocial and cultural variables that could mediate the relationship between gender and the presence/search for MiL, and if so, which ones.

Finally, it would be advisable to conduct longitudinal and cross-cultural studies related to each of the variables investigated and the relationships between them (Wong & Wong, 2006), especially because such studies have a little presence in the current literature.

The current study is the only one that has analyzed the factor structure of the SONG among Spanish population, to our knowledge. With regard to that, the current study is original and might raise future research on this scale as well as encourage cross-cultural studies about search for meaning.

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