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The Purpose-in-Life Scale (PILS): Internal consistency reliability, concurrent validity and
construct validity among Catholic priests in Italy

Leslie J Francis*

University of Warwick, Coventry, UK

Giuseppe Crea

Salesian Pontifical University, Rome, Italy

Ursula McKenna

University of Warwick, Coventry, UK

Author note:

*Corresponding author:

Leslie J Francis

Warwick Religions & Education Research Unit

Centre for Education Studies

The University of Warwick

Coventry CV4 7AL United Kingdom

Tel: +44 (0)24 7652 2539

Fax: +44 (0)24 7657 2638

Email: leslie.francis@warwick.ac.uk

Abstract

The Purpose in Life Scale was designed to provide a 12-item unidimensional measure of purpose in life employing a five-point Likert rating for each item. The present study supports the psychometric properties of the Italian translation of this instrument among 155 Catholic priests (mean age = 46 years, SD = 12.16). Internal consistency reliability generated an alpha coefficient of .90. The first factor generated by principal component analysis accounted for 49.5% of variance. Concurrent validity against the Purpose in Life Test was supported by a correlation of .63. Construct validity was supported by a correlation of .54 with the Satisfaction in Ministry Scale and by a correlation of -.51 with the Scale of Emotional Exhaustion in Ministry. These properties commend the scale for future use among Catholic priests.

Keywords: Purpose in Life Scale, factor structure, reliability, construct validity, concurrent validity, Catholic priests.

Introduction

Purpose in life and Logotherapy

Interest in conceptualising and measuring the construct 'Purpose in Life' has been largely rooted in the field of Logotherapy, as stimulated by the pioneering work of Victor Frankl (1955, 1958, 1959, 1966, 1967, 1969, 1978, 1992, 2010) and as subsequently developed by others (see Guttman, 1996; Lukas, 2000; Lukas & Hirsch, 2002). Logotherapy focuses on the meaning of human existence as well as on man's search for such a meaning. According to Frankl:

Man's search for meaning is the primary motivation in his life and not a 'secondary rationalization' of instinctual drives. This meaning is unique and specific in that it must and can be fulfilled by him alone; only then does it achieve a significance which will satisfy his own *will* to meaning. (Frankl, 1992, p. 105)

Logotherapy is an explicit philosophy of life. More specifically, it is based on three fundamental assumptions which form a chain of interconnected links described and defined by Frankl as: Freedom of Will, Will to Meaning, and Meaning to Life (Frankl, 1978, pp. 13-14). In contrast, failing to find meaning in life and the experience of a total lack, or loss, of an ultimate meaning to one's existence that would make life worthwhile has been termed by Frankl (2010, p. 49) 'the existential vacuum'.

The Purpose in Life Test

Working within the theoretical framework proposed by logotherapy, the Purpose in Life Test was proposed and developed by Crumbaugh and Maholick (1964, 1969). This instrument comprises three parts: Part A is composed of 20 items, each of which is rooted within a 7-point semantic space; Part B is composed of 13 incomplete sentences; and Part C requests the respondent to compose a paragraph. Within quantitatively-framed studies, Part A has gained widespread use, and has been translated into a number of languages, including

Chinese (Shek, 1988), Italian (Brunelli, Bianchi, Murru, Monformoso, Bosisio, Gangeri, Miccinesi, Scignaro, Ripamonti, & Borreani, 2012), Japanese (Ishida & Okada, 2006), Polish (Wnuk, Marcinkowski, & Fobair, 2012), Slovak and Hungarian (Halama, Martos, & Adamovová, 2010), Spanish (Gallego-Perez, Garcia-Alandete, & Perez-Delgado, 2007; Garcia-Alandete, Martínez & Nohales, 2013a, 2013b), and Swedish (Jonsén, Fagerström, Lundman, Nygren, Vähäkangas, & Strandberg, 2010). The Purpose in Life Test has been developed in short form by Schulenberg, Schnetzer, and Buchanan (2011) and this has been translated into Chinese by Wang, Koenig, Ma, and Al Shohaib (2016). A revised version has been developed by Harlow, Newcomb, and Bentler (1987) and this has been translated into Persian by Aghababaei, Sohrabi, Eskandari, Borjali, Farrokhi, and Chen (2016).

The Purpose in Life Test continues to be widely used. The PILT has been used among a range of different populations including school and college students (Wang, Koenig, Ma, & Al Shohaib, 2016; Halama, Martos, & Adamovová, 2010; DeWitz, Woolsey, & Walsh, 2009); adults within the general population (Crea, 2016; Jonsén, Fagerström, Lundman, Nygren, Vähäkangas, & Strandberg, 2010); and the elderly (Gerwood, LeBlanc, & Piazza, 1998). The PILT has been used frequently within medical and health care contexts, including, for example, persons with AIDS (Lewis, Erlen, Dabbs, Breneman, & Cook, 2006; Litwinczuk & Groh, 2007); cancer patients (Wnuk, Marcinkowski, & Fobair, 2012); mental health (Dezutter, Soenens, & Hutsebaut, 2006); general anxiety (Ishida & Okada, 2006); death anxiety (Aghababaei, Sohrabi, Eskandari, Borjali, Farrokhi, & Chen, 2016); eating disorder (García-Alandete, Ros, Salvador, & Rodríguez, 2018); suicidal ideation (Marco, Cañabate, Pérez, & Llorca, 2017); substance abuse (Wnuk, 2015); and patients with amyotrophic lateral sclerosis (Garcia, Morey, Kasarskis, & Segerstrom, 2017).

A number of studies and reviews provide general support for the reliability and validity of the Purpose in Life Test. It has generally demonstrated good convergent validity

with measures of wellbeing and distress and good internal consistency reliability (Crumbaugh & Maholick, 1964; Reker & Cousins, 1979; Shek, 1988; Hutzell, 1988; Zika & Camberlain, 1992; Reker, 2000; Litwinczuk & Groh, 2007; Jonsén, Fagerström, Lundman, Nygren, Vähäkangas & Strandberg, 2010; Schulenberg & Melton, 2010). Nonetheless, there remain significant problems with the measure, both conceptual and empirical.

The main conceptual problem with the Purpose in Life Test concerns the broad nature of the construct as operationalised. At face value the 20 items combine some that are very directly concerned with purpose (e.g. My personal existence is: utterly meaningless without purpose...very purposeful and meaningful) alongside others that embrace the far-reaching implications of Frankl's theory, including the need for excitement (Life to me seems: completely routine...always exciting), continuing change (Every day is: exactly the same...constantly new and different), and freedom (concerning man's freedom to make his own choices, I believe man is: completely bound by limitations of heredity and environment...absolutely free to make all life choices). Conceptually such a broad construct may be more effectively accessed by a series of measures concentrating on the component parts (see for example, Dyck, 1987).

The main conceptual problem is reflected in the main empirical problem that concerns the factor structure of the Purpose in Life Test. A range of studies has demonstrated an inconsistent factor structure, with no agreement on how many factors should be extracted (see Schulenberg & Melton, 2010, p. 97). Various factor solutions have been proposed, ranging from two factors (Morgan & Farsides, 2009) to as many as six factors (Reker & Cousins, 1979). Undertaking factor analysis of a Chinese translation of the Purpose in Life Test Shek (1988) found support for both a five-factor solution and a two-factor solution. Some studies have drawn attention to and interrogated the individual items that confuse the factor structure. For example, Jonsén *et al* (2010, p. 47) identified three items that did not load on any factor.

Two of these items were, 'I am a: very irresponsible person – very responsible person' and 'With regard to suicide, I have: thought of it seriously as a way out – never given it a second thought'. Jonsén *et al* (2010) argue these questions are hard to answer either because the respondent feels compelled to produce a socially desirable response or because the topic is sensitive. Other recent commentators have taken a more positive view of the factor structure of the Purpose in Life Test. For example, Schulenberg and Melton (2010) used confirmatory factor analysis to compare ten published factor-analytic models of the 20-item Purpose in Life Test to identify the one that provided the best fit to the data. This study found support for the two-factor model reported by Morgan and Farsides (2007), distinguishing between the 'exciting life' subscale and the 'purposeful life' subscale.

A further problem has been raised in connection with the typographic design of the Purpose in Life Test. For example, Harlow, Newcomb, and Bentler (1987) argue that the format of the purpose in life test is somewhat awkward and bulky especially when a large number of tests are administered. Each of the 20 items has its own separate response scale with different labels for the endpoints. This may be confusing to the test-taker and may make it difficult to display the test compactly.

Over a number of years the Purpose in Life Test has played an important role within the empirical psychology of religion with a number of studies exploring the connection between different aspects of religion and purpose in life, including work reported by Crandall and Rasmussen (1975), Pearson and Sheffield (1975), Bolt (1975), Paloutzian, Jackson, and Crandall (1978), Gladdings, Lewis, and Adkins (1981), Paloutzian and Ellison (1982), Chamberlain and Zika (1988), Jackson and Coursey (1988), Richards (1991), Carroll (1993), Weinstein and Cleanthous (1996), Gerwood, LeBlanc, and Piazza (1998), French and Stephen (1999), Janssen, Bänziger, Dezutter, and Hutsebaut (2005), Dezutter, Soenens, and Hutsebaut (2006), Byrd, Hagemann, and Isle (2007), Gallego-Perez, García-Alandete, and

Pérez-Delgado (2007), Piedmont, Ciarrocchi, Dy-Liacco, and Williams (2009), Dy-Liacco, Piedmont, Murray-Swank, Rodgeron, and Sherman (2009), Halama, Martos, and Adamovová (2010), Williams, Francis, and Robbins (2011), Blazek and Besta (2012), García-Alandete, Martínez, and Nohales (2013a), Wnuk (2015), Aghababaei, Sohrabi, Eskandari, Borjali, Farrokhi, and Chen (2016), Francis and Crea (2016), Wang, Koenig, Ma, and Al Shohaib (2016), and Turton, Nauta, Wesselmann, McIntyre, & Graziano (2018).

The Purpose in Life Scale

Robbins and Francis (2000) introduced the Purpose in Life Scale as an alternative measure of purpose in life. This instrument differs from the Purpose in Life Test in two important ways. First, the new instrument was designed to assess a much more tightly focused notion of purpose in life. Second, the new instrument comprised 12 Likert-type items rated on the conventional five-point scale, ranging from agree strongly, through not certain, to disagree strongly. In the foundation study, conducted among 517 first-year undergraduate students, Robbins and Francis (2000) reported an alpha coefficient (Cronbach, 1951) of .90 with the correlations between each item and the sum of the other items varying between .41 and .76, demonstrating good internal consistency reliability.

In this foundation paper construct validity was explored by locating purpose in life scores within the three dimensional psychological space proposed by the Revised Eysenck Personality Questionnaire (Eysenck, Eysenck, & Barrett, 1985). The Eysenckian dimensional model of personality proposes three orthogonal factors characterised by the high scoring poles of extraversion, neuroticism and psychoticism. Within this dimensional model of personality, neurotic and psychotic disorders are conceptualised as continuous with individual differences in normal personality. Thus the neuroticism scale is understood to progress from emotional stability through emotional lability to neurotic disorder, and the psychoticism scale is understood to progress from tendermindedness through

toughmindedness to psychotic disorder. On this account, if purpose in life is conceptualised as indicative of normal healthy human functioning, the construct would be hypothesised as negatively associated with both psychoticism scores and neuroticism scores. Additionally, the third dimension of the Eysenckian model is understood to progress from introversion through ambiversion to extraversion. The distinctive Eysenckian conceptualisation of extraversion is associated with healthy social functioning. On this account, if purpose in life is conceptualised as indicative of healthy social functioning, the construct would be hypothesised as positively associated with extraversion scores. Robbins and Francis' (2000) data supported all three hypotheses: purpose in life was positively correlated with extraversion ($r = .23, p < .001$), negatively correlated with neuroticism ($r = -.35, p < .001$), and negatively correlated with psychoticism ($r = -.12, p < .01$).

Robbins and Francis' (2000) study was based on 517 first-year undergraduate students, of whom 70% were under the age of 20, 12% were aged 20 or 21, and 18% were aged 22 or over. In a complementary study, Francis, Jewell, and Robbins (2010) conducted a study among 407 older Methodists, among whom 36% were in their sixties, 44% were in their seventies, and 20% were aged eighty or over. In this study internal consistency reliability for the Purpose in Life Scale was supported by an alpha coefficient of .92; construct validity was supported by a positive correlation with extraversion ($r = .23, p < .001$), and a negative correlation with neuroticism ($r = -.26, p < .001$), although the correlation with psychoticism was not significant ($r = .04, ns$).

Further evidence for the reliability and validity of the Purpose in Life Scale is provided by the following five studies. In a study conducted among 342 psychology students (mean age = 21.3 years, $SD = 5.7$), Sillick and Cathcart (2014) reported good internal consistency reliability with an alpha coefficient of .91, and good construct validity in terms of a positive correlation with happiness ($r = .70, p < .001$) as assessed by the Oxford Happiness

Questionnaire (Hills & Argyle, 2002). In a study conducted among 146 high school students (mean age = 16.0 years, SD = 1.3), Poteat *et al* (2015) reported an alpha coefficient of .92 and a good construct validity in terms of a positive correlation with self-esteem ($r = .72, p < .001$) and a negative correlation with victimisation ($r = -.18, p < .05$). In a study employing the Italian translation of the Purpose in Life Scale among 934 participants (mean age = 30 years, SD = 15.9), Crea (2016) reported good internal consistency reliability with an alpha coefficient of .90, and convergent reliability in terms of a correlation of .67 between scores recorded on the Purpose in Life Scale and on the Purpose in Life Test (Crumbaugh & Maholick, 1969). In a study employing a modified version of the Purpose in Life Scale (using 10 items) among 501 university students in Canada (mean age = 21.4 years, SD = 4.9), Chow (2017) reported an alpha coefficient of .92 and construct validity in terms of lower levels of death anxiety ($\beta = -.17, p < .001$). In a study employing the Purpose in Life Scale among 150 students aged between 16 and 18 years Francis, Village, and Parker (2017) reported an alpha coefficient of .92.

Research question

Against this background the aim of the present study is to explore the psychometric properties of the Italian translation of the Purpose in Life Scale among Catholic priests in Italy. Specifically four research questions are addressed concerning: the internal consistency reliability as assessed by the alpha coefficients (Cronbach, 1951), and the correlations between the individual items and the sum of the remaining items; the proportion of variance accounted for by the first factor proposed by principal component analysis, and the loadings of the individual items on that factor; the concurrent validity as assessed by the Purpose in Life Test (Crumbaugh & Maholick, 1969); and the construct validity as assessed against the measures of positive affect and negative affect proposed by the Francis Burnout Inventory (Francis, Kaldor, Robbins, & Castle, 2005).

Method

Procedure

In the context of programmes operated in Rome for Catholic priests on the topic of personality and spirituality, participants were invited to complete a questionnaire covering issues relevant to the programme. Participation in the programme was voluntary and responses to the questionnaire were confidential and anonymous. Full data were provided by 155 priests.

Participants

Three fifths of the participants were Italians (63%) and the remaining 37% were from a number of other countries; 56% were diocesan priests, and 44% were religious priests. Participants' age ranged from 24 to 76 years with an average age of 46 years ($SD = 12.16$); 8% of the participants were in their twenties, 29% in their thirties, 30% in their forties, 21% in their fifties, 6% in their sixties, and 7% in their seventies.

Measures

The *Purpose in Life Scale* (PILS), developed by Robbins and Francis (2000), is a 12-item instrument. Each item is rated on a five-point Likert scale: agree strongly, agree, not certain, disagree, disagree strongly. The foundation paper reported an alpha coefficient of .90.

The *Purpose in Life Test* (PILT), developed by Crumbaugh and Maholick (1969), is a 20-item instrument. Each item is rated on a seven-point semantic differential grid. The foundation paper reported split-half reliability coefficients ranging from .81 to .90.

The *Francis Burnout Inventory* (FBI), developed by Francis, Kaldor, Robbins, and Castle (2005), proposes two 11-item measures: Satisfaction in Ministry Scale (SIMS, concerned with positive affect) and Scale of Emotional Exhaustion in Ministry (SEEM, concerned with negative affect). Each item is rated on a five-point Likert scale: agree

strongly, agree, not certain, disagree, disagree strongly. The foundation paper reported alpha coefficients of .84 for SIMS and .84 for SEEM.

Data analysis

The data were analysed by the SPSS statistical package using the frequency, reliability, factor and correlation routines.

Results

-insert table 1 about here-

The first step assessing the psychometric properties of the Purpose in Life Scale involved exploring the factor structure, testing the internal consistency reliability of the measure and reporting the item endorsement. These data are presented in Table 1. The loadings on the first unrotated factor extracted by principal components analysis confirm that this 12-item instrument generates a strong single factor scale. The first principal component accounts for 49.5% of the variance, and all items load at least .3 on the first factor. The alpha coefficient (Cronbach, 1951) of .89 confirms the homogeneity and internal consistency reliability of the scale, and the correlations between each individual item and the sum of the other items demonstrate that one item (There are things that I still want to achieve in life) functions less strongly than the others.

- insert table 2 about here -

The second step involved examining the psychometric properties of the three instruments against which concurrent validity and construct validity may be assessed. The data presented in Table 2 demonstrate that all three measures (the Purpose in Life Test, the Scale of Emotional Exhaustion in Ministry, and the Satisfaction in Ministry Scale) all record alpha coefficients well above the threshold of acceptability proposed by DeVellis (2003).

- insert table 3 about here -

The third and final step involved examining the correlations between the Purpose in

Life Scale and the other three measures. The data presented in Table 3 demonstrate good concurrent validity between the Purpose in Life Scale and the well-established Purpose in Life Test ($r = .63, p < .001$), and good construct validity between the Purpose in Life Scale and the two measures proposed by the Francis Burnout Inventory: a strong positive correlation with the Satisfaction in Ministry Scale ($r = .54, p < .001$) and a strong negative correlation with the Scale of Emotional Exhaustion in Ministry ($r = -.51, p < .001$).

Conclusion

The Purpose in Life Scale (Robbins & Francis, 2000) was designed as a research instrument appropriate for assessing individual differences in purpose in life, with particular relevance within the broad field of the empirical psychology of religion, in a way that avoided the conceptual and empirical problems associated with the longer-established Purpose in Life Test proposed by Crumbaugh and Maholick (1969). The present paper set out to explore four aspects of the psychometric properties of this Italian translation of the 12-item Purpose in Life Scale.

The first aspect concerned the internal consistency reliability. Both the alpha coefficient of .90 and the high correlation between the individual items and the sum of the remaining 11 items confirmed good properties of internal consistency reliability.

The second aspect concerned the factor structure as uncovered by unrotated principal component analysis. A strong first factor that accounted for 49.5% of the variance and the high loadings of all 12 items on this principal factor confirmed the single factor interpretation of these items.

The third aspect concerned the concurrent validity of the scale against the Purpose in Life Test developed by Crumbaugh and Maholick (1969). The correlation of .63 is strong enough to demonstrate that the two measures share considerable variance in common but that they are not measuring identical constructs. This finding is consistent with the view that the

Purpose in Life Test may be assessing a broader and less focused construct than that assessed by the Purpose in Life Scale, an observation confirmed by an examination of the scale items.

The fourth aspect concerned the construct validity of the scale against measures of positive affect and negative affect. Theory suggests that a sense of purpose in life enhances positive affect and depresses negative affect, as conceived within the field of logotherapy (see Frankl, 1955, 1958, 1959, 1967, 1969, 1978, 1992, 2000). In the present study among priests, negative affect was operationalised as emotional exhaustion in ministry and positive affect was operationalised as satisfaction in ministry (Francis, Kaldor, Robbins, & Castle, 2005). The correlations of .54 with positive affect and of -.51 with negative affect locate the construct assessed by the Purpose in Life Scale within the domain hypothesised by logotherapy.

Taken together these four findings support the psychometric properties of the Italian translation of the Purpose in Life Scale and commend this instrument for use in further studies and among Italian speakers, particularly among Catholic priests, and for further studies concerned with empirical testing of the hypotheses proposed by logotherapy and by related theoretical frameworks.

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Table 1

Purpose in Life Scale

	<i>f</i>	<i>r</i>
My life seems most worthwhile	.45	.38
I feel my life has a sense of meaning	.79	.72
My personal existence is full of purpose	.81	.74
There are things I still want to achieve in my life	.32	.27
My personal existence is full of direction	.71	.64
There is no purpose in what I am doing*	.67	.60
I feel my life has a sense of direction	.68	.56
I feel my life is going nowhere*	.71	.64
I feel my life has a sense of purpose	.86	.80
There is no meaning to my life*	.58	.50
My personal existence is full of meaning	.85	.80
My life has clear goals and aims	.79	.71
% variance/alpha	49.5	.89

Note: *r* = item correlation with sum of the other items

* These items were reverse coded

f = loading on the first principal component

Table 2

Scale Properties

	N Items	alpha	Mean	SD
Purpose in Life Scale	12	.89	52.7	5.6
Purpose in Life Test	20	.89	109.8	14.9
Satisfaction in Ministry Scale	11	.79	42.6	5.1
Scale of Emotional Exhaustion in Ministry	11	.81	25.5	6.9

Table 3

Correlation matrix

	PILS	SIMS	SEEM
Purpose in Life Test	.63***	.54***	-.51***
Scale of Emotional Exhaustion in Ministry	-.44***	-.51***	
Satisfaction in Ministry Scale	.58**		

Note: PILS = Purpose in Life Scale