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16/02/201016/02/2010

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10   The development of the Meaning in Life Index (MILI)

and its relationship with personality and religious behaviours and beliefs

among UK undergraduate students

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Abstract

The scales available for assessing meaning in life appear to be confounded with several

5   related constructs, including purpose in life, satisfaction with life, and goal directed

behaviour. The Meaning in Life Index (MILI), a new instrument devised as a specific

measure of meaning in life, was developed from responses to a pool of 22 items rated by a

sample of 501 undergraduate students in Wales. The nine-item scale demonstrated sufficient

face validity, internal consistency and scale reliability to commend the instrument for future

10   use. With respect to personality, the MILI scores were most strongly predicted by neuroticism

(negatively), and less strongly by extraversion (positively) and psychoticism (negatively).

With respect to several religious behavioural variables, those who attended church at least

weekly returned significantly higher MILI scores than those who attended church less

frequently. Intrinsic religiosity was the only orientation to be significantly associated with the

15   MILI scale scores although the magnitude of the association was smaller than anticipated.

These results suggest that meaning in life is associated more strongly with individual

differences in personality than with specific religious behaviours and attitudes. The

implications of these results are discussed in terms of individual's personal values and

attitudes that might underlie their experience of a meaning in life.

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The development of the Meaning in Life Index (MILI) and its relationship with

personal and religious behaviours and beliefs among UK undergraduate students

The twin constructs of 'purpose in life' and 'meaning in life' are of considerable potential

significance in the developing field of positive psychology (Aspinwall & Staudinger, 2003;
Linley & Joseph, 2004; Seligman & Csikszentmihalyi, 2000; Snyder and Lopez (2001).
Theoretical considerations from different traditions suggest that an individual sense of
direction or purpose in life is associated with positive psychological functioning and
subjective well-being. Maslow (1954) proposed that the sole purpose in life was ultimate
'self-actualisation', which was attained through the sequential satisfaction of a hierarchy of
more basic human needs, for example food, shelter and companionship, each of which must
be satisfied in turn before the individual can experience full self-actualisation. Frankl (1955)
proposed that human nature is dominated by the 'will to meaning' and that when an
individual fails to find meaning in life, the resultant 'existential vacuum' leads to noögenic
neurosis in those who are neurotically pre-disposed. He characterised this condition as the
collective neurosis of contemporary life and estimated that half of the population is affected
by existential vacuum to some degree and that this accounts for some 20% of those who seek
treatment for clinical depression. Treatment involves guiding the individual towards the
acquisition of meaningful values that will provide purposive goals and facilitate the
experience of the satisfactions that can be obtained by achieving them. However the term
'meaningful life' has no clear definition; most writers assume the existence of an intrinsic
meaning in life which stems from man (Fromm, 1947), from human existence itself
(Bugental, 1965), from the objective world (Fabry, 1968) or from religion (Soderstorm &
Wright, 1977).

Several instruments have been devised empirically to assess the extent to which individuals
experience their lives as meaningful and possess a sense of direction or purpose in their lives.
These include the Purpose in Life Test (PIL, Crumbaugh & Maholick, 1964), the Personal
Orientation Inventory (POI, Shostrom, 1965) and the Life Regard Index (LRI, Battista &
Almond, 1973) of which the PIL is most widely used. Doubts have been expressed about the
clarity with which the purpose in life construct is operationalised in the PIL, as distinct from a
more general view of psychological well-being. For example, Battista and Almond (1973)
noted that of the scale's 20 items, nine measure satisfaction with life, five measure the ability
of an individual to see life within some framework, and another measures both
simultaneously. Dufton and Perlman (1986) concluded that among religious undergraduates,

the PIL consisted of two factors, one reflecting life purpose and another stronger factor reflecting life satisfaction. Similarly, Molcar and Stümpfig (1988) observed that among undergraduate and graduate students in the USA, the instrument comprised two factors: satisfaction with life and 'excitement in day-to-day living'. In a study among a large sample of students in secondary schools in Hong Kong, Shek (1988) found that a Chinese version of the scale comprised five factors of which the two greatest were concerned with quality of life and the meaning of existence expressed in terms of attitudes towards goals and the individual's ability to find meaning in them. A minor factor involved the extent to which individuals believed they could exercise choice in their future existence. Ebersole and Quiring (1989) reported that PIL scores were modestly confounded by individuals' feelings of social desirability.

Notwithstanding these doubts, the research literature has begun to document some of the key predictors of individual differences in levels of purpose or meaning in life. Attention has been given to three kinds of predictor variables of PIL scores: individual characteristics such as gender and age; personality factors; and measures of religiosity or spirituality.

First, with respect to individual characteristics, Crumbaugh and Maholick (1969) concluded that no consistent relationships had been reported for gender, age, education or intelligence (see further Meier & Edwards, 1974).

Second, associations have been reported with the personality variables of extraversion, neuroticism, and the lie-scale as measured by the Eysenck Personality Inventory (EPI: Eysenck & Eysenck, 1964) among outpatient neurotics of mixed diagnoses (Pearson & Sheffield, 1974). Scores related positively to extraversion, negatively to neuroticism, and positively to the lie scale, especially for women. Otherwise there were few gender differences. These results suggest that those with higher scores are more emotionally stable and more socially outgoing. In a later study using the Eysenck Personality Questionnaire (EPQ, Eysenck & Eysenck, 1975) among young female nurses, Pearson and Sheffield (1989) additionally found that PIL was most strongly negatively associated with psychoticism, but not with the lie scale. That is, greater purpose in life tends to be associated with tender-mindedness rather than tough-mindedness.

Third, because the PIL is designed to measure the degree to which individual life has purpose and meaning, discussions of its properties are sometimes conducted in terms of human spirituality, so it is not surprising that the scale has been used to examine the relationship between purpose in life and aspects of religious practice and belief. Paloutzian, Jackson and Crandall (1978) reported that among both adults and students, Christians

reported higher scores than non-Christians. Gerwood, LeBlanc and Piazza (1998) found that scores were not significantly different for elderly Catholics and Protestants, and that those who scored high on an index of spirituality also scored high on the PIL. Dufton and Perlman (1986) found that among undergraduates, the highest PIL scores were associated with those

5   who held conservative religious beliefs rather than with those who held non-conservative religious views or none. Bolt (1975) found that undergraduates with an intrinsic religious orientation or who were indiscriminately pro-religious returned greater purpose in life scores than those with an extrinsic orientation. Weinstein and Cleanthous (1996) found that for a mixed sample of ministers and parishioners, meaning in life and an intrinsic orientation were

10   positively related, and that ministers scored higher on the PIL than did parishioners.

Against this background, the intention of the present study is to extend empirically-based knowledge of purpose or meaning in life in three ways.

The first aim is to devise an index of meaning in life that uniquely measures the extent to which individuals believe their lives have meaning, rather than their quality of or satisfaction

15   with life. This new instrument will be termed the Meaning in Life Index (MILI) in order to distinguish it from the broader and more diffuse domain assessed by the longer established PIL.

The second aim is to establish any associations between MILI and the Eysenckian personality factors of extraversion, neuroticism, psychoticism and social conformity in a large

20   cross-sectional sample of undergraduates. These data will help to locate the new measure of meaning in life within a coherent model of personality.

The third aim is to establish any associations between MILI and some religious variables, in particular, church membership (whether or not respondents considered themselves to be members of any religious denomination), the frequency of church attendance and personal

25   prayer, and religious orientation (extrinsic, intrinsic and quest), and to determine if any significant associations are mediated by individual differences in personality. These data will help to define meaning in life as operationalised by the new measure in terms of affinity with religious behaviours and beliefs.

30   METHOD

Participants

Undergraduate students ($N = 501$, 130 men, 371 women) attending a church-related, university-sector college specialising in teacher education and liberal arts subjects in Wales were invited to complete questionnaires during their first year of study. Ages ranged from 18

to over 40 years; 82% were aged between 18 and 21 years and the majority (89%) were

single. Fields of study were BA (47%), BEd (42%) and BSc (11%). Just over one quarter

(27%) of the participants claimed no religious affiliation, and the remainder (73%) claimed

membership of Christian denominations or sects. The largest denominational groups were

5   Anglicans (27%) closely followed by Roman Catholics (14%); 20% attended church weekly

and 16% prayed daily.

Measures

In addition to demographic data, participants were asked to provide information on their

church affiliation, frequency of church attendance and frequency of personal prayer, and to

10   complete the following three sections.

The first section comprised a pool of 22 items generated from a detailed analysis of the

Purpose in Life Test proposed by Crumbaugh and Maholick (1964), relating to individuals'

beliefs that their lives were meaningful, for example, '*My personal life is full of meaning*', not

meaningful, for example '*I feel my life is going nowhere*', or influenced by a suicidal ideation,

15   for example '*I have sometimes considered taking my own life*'. Each item was to be rated on

a five-point Likert scale ranging from 'strongly agree' through 'agree', 'not certain',

'disagree' to 'disagree strongly'. These items were intended to form the basis of the Meaning

in Life Index (MILI).

The second section comprised the Abbreviated Revised Eysenck Personality Questionnaire

20   (Francis, Brown & Phillipchalk, 1992) which proposes six-item measures of extraversion,

neuroticism, psychoticism and the lie scale. Each item was to be rated on a two point yes/no

scale.

The third section comprised the short form version of the New Index of Religious

Orientations (NIRO, Francis, 2007) which consists of three sets of six items relating to

25   extrinsic, intrinsic and quest religiosity respectively. Each item was to be rated on a five-

point Likert scale ranging from 'agree strongly', through 'agree', 'not certain', 'disagree', to

'disagree strongly'.

RESULTS

30   Principal components analysis of the pool of 22 items identified two factors, one

comprising nine items that clearly related to the experience of positive meaning in life, and

the other comprising eight items that clearly related to the absence of meaning in life. The

remaining five items loaded more or less equally on both factors. The nine items that related

positively and unambiguously to meaning in life were selected as the basis of the MILI. The

nine-item scale had a reliability (Cronbach α) of .88, and the items and their scale properties
are presented in Table 1. Principal components analysis of the nine item scale extracted only
one factor, which accounted for 54.4% of the total variance. Inter-item correlations ranged
from .18 to .70 with a mean of .47, so despite the apparent semantic similarity of several of
5   the items, no two items are statistical duplicates. Individual MILI scores ranged from 11 to
45, $M = 35.16$, S.D. $= 5.88$.

Table 2 presents the results of an hierarchical linear regression of gender and age and the
personality variables on the meaning in life scores. These variables together account for 16%
of the total variance present in the meaning in life scores. Gender, age, and the lie-scale scores
10   were not significant predictors. The principal predictor of meaning in life ($p \leq .001$) was
neuroticism, which accounted for some 55% of the explained variance. The negative sign of
the corresponding regression coefficient indicates that greater levels of meaning in life are
reported by those who are emotionally stable. The next greatest (positive) predictor was
extraversion ($p \leq .001$). Psychoticism is also a significant but small negative predictor, which
15   suggests that meaning in life is more likely to be experienced by those who are tender-minded
and/or socially conforming.

Table 3 reports a series of independent t-tests conducted to explore the differences in
meaning in life scores associated with church membership and the self-reported frequency of
church attendance and private prayer. The only difference to achieve significance ($p < .05$)
20   was between those who attended church weekly and those who attended less frequently, with
the former reporting marginally greater meaning in life. The correlations between the meaning
in life scores and the scores for extrinsic, intrinsic and quest religiosity are presented in Table
4. The only association to achieve significance was between meaning in life and intrinsic
religiosity, and this was small in magnitude, $r = .08$. An aim of the present study was to
25   establish if any relationships between meaning in life and religious orientation were mediated
by individual differences in personality. To this end, Table 4 includes the corresponding
partial correlations controlling for the effects of extraversion, neuroticism, psychoticism and
the lie scale. The similarity of the coefficients indicates that the admittedly small associations
between meaning in life and the religious orientations were not mediated by individual
30   differences in personality.

DISCUSSION

It is far from easy to ascribe a specific position or function to the construct of meaning in
life in the wider question of what constitutes a well-lived life. According to Aristotle (*The*

Nicomachean Ethics) the ultimate goal or 'good' in life was to achieve a state of 'eudaimonia', usually translated as happiness. Epicurus (*Letter to Menoeceus*), on the other hand, adopted the position of ethical hedonism, considering the ultimate goal of life to be the experience of pleasure coupled with freedom from pain. In practical terms, however, there

5   were few differences in the withdrawn life styles that both philosophers recommended for the conduct of the well-lived life. If these goals, whether eudaimonic or hedonic, are well-nigh universal, it is reasonable to suggest that individuals will seek to achieve them, and that their attainment provides their dominant purpose in life. However, it is not self-evident that purpose in life and meaning in life are synonymous, although it could be proposed that any

10   purpose is necessarily under-pinned by a primary set of values and that in any individual case these values constitute each individual's meaning in life. These values could be acquired either or both by inculcation, particularly in early life, or more directly by experience and personal attempts to interpret them in later life. With the proposal that meaning in life can best be represented as sub-sets of acquired values that may differ from person to person, it

15   becomes more possible to explain the diversity of evidence on the <u>meaning</u> of meaning in life and allows a clearer distinction between meaning and purpose to be made, about which there appears to be some lack of clarity in the literature.

Against this background, the first aim of the present study was to devise a specific instrument for the measurement of meaning in life. Factor analysis of participants' responses

20   to a varied selection of notionally relevant items allowed the isolation of a set of items all of which appeared to be semantically related only to meaning in life and which together formed a coherent measure, the Meaning in Life Index (MILI), with satisfactory psychometric properties. The fact that the factor analysis so clearly distinguished between items of positive and negative valency is worthy of comment for two reasons. First, the finding is consistent

25   with Bradburn's (1969) classic analysis of psychological wellbeing and balanced affect, which understands positive and negative affect as orthogonal constructs rather than opposite poles of a single continuum. On this account there is conceptual clarity in measuring meaning in life as an indicator of positive affect in isolation from items of negative valency. Second, there remains the danger that tests comprised entirely of uni-directional items may be

30   particularly subject to socially-desirable response-setting. The absence of a significant correlation in the present study between MILI scores and lie scale scores suggests that this danger may not be great.

The second aim of the study was to use the MILI to examine any associations between the extent to which individuals considered that their lives had meaning and the Eysenckian

personality variables. Neuroticism was the strongest (negative) predictor which suggests that meaning in life is most likely to be acknowledged by those who are more emotionally stable and, conversely, that those with an anxious disposition are more likely to hold the view that their lives are meaningless. Extraversion and psychoticism are weaker predictors. The positive

5   relationship with extraversion suggests that meaning in life is more likely to be experienced by those who are outward rather than inward looking and who are socially active and socially aware. If it is accepted that the meaning in life is an expression of an individual's personal values, then this relationship would imply that those values are socially rather than individually determined. Consistent with this interpretation is the observation that

10 psychoticism (tough-mindedness) is also a negative predictor, suggesting that the experience of meaning in life is greater for those who are tender-minded, which would imply that meaning in life is more likely to be acknowledged by those who are less self-oriented. The lie scale scores, which are often considered to measure social conformity, did not significantly predict meaning in life.

15   The third aim of the study was to discover the extent to which individual differences in meaning in life were associated with religiosity, as assessed by indices of church membership, behaviour and orientation. Among these variables, measures of religious orientation are generally regarded as providing the most sophisticated measurement of individual differences in religiosity, by distinguishing among the three conceptually distinct orientations of extrinsic,

20 intrinsic and quest. The data demonstrated that there were no associations with extrinsic or quest religiosity and a significant but weak relationship between the MILI scores and the intrinsic orientation. By definition, an intrinsic orientation indicates those for whom religion is a master motive that is internalised and followed fully, even to the extent that "other needs, strong as they may be, are regarded of less ultimate significance, and … are, so far as

25 possible, brought into harmony with … religious beliefs and prescriptions" (Allport & Ross, 1967, p. 434). This being so, a significant association between meaning of life and an intrinsic orientation was to be expected, but given the strength of motivation that is implicit in the definition of the intrinsic orientation, a stronger association between intrinsic religiosity and meaning in life was anticipated. There was no evidence that the association between the MILI

30 scores and intrinsic religiosity was mediated by individual differences in personality.

Self-report measures of church membership are generally considered to be a poor indicator of religiosity and this study found no relationship between the MILI scores and church membership. The data demonstrated that there was a relationship between the MILI scores and frequency of church attendance, with those who attended at least once a week returning

significantly greater scores than those who attended less frequently, but there was no
significant association between MILI and the frequency of private prayer. The significant
relationship with church attendance may point to the importance of the social aspect of
religion in contributing to meaning in life.

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CONCLUSION

Two main conclusions emerge from this study. The first is that the Meaning in Life Index
(MILI) demonstrates sufficient face validity, internal consistency and scale reliability to
commend the instrument for future use. The second conclusion is that individual differences
10   in personality account for a significant proportion of the total variance in the MILI scores,
whereas individual differences in religiosity account for a relatively smaller and marginal
amount. In other words, the extent to which we experience a sense of meaning in life is much
more heavily dependent on who we are, rather than what we think or do about it. Further work
is needed to examine the construct validity of the MILI. It has been proposed above that
15   meaning in life might reflect a range of individual values and attitudes derived both
personally and socially. Such theory now needs to be tested empirically.

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Table 1. Scale properties of the Meaning in Life Index (MILI)

Item	mean	S. D.	Corrected item/ total correlation	Alpha if item deleted
My personal existence is full of meaning	3.82	0.90	.76	.865
My personal existence is full of purpose	3.79	0.88	.75	.867
I feel my life has a sense of purpose	3.96	0.85	.74	.868
My personal existence is full of direction	3.75	0.91	.71	.870
I feel my life has a sense of meaning	3.87	0.88	.70	.871
My life has clear goals and aims	3.71	0.96	.67	.874
I feel my life has a sense of direction	3.87	0.91	.63	.877
There are things I still want to achieve	4.56	0.67	.47	.888
My life seems most worthwhile	3.83	1.03	.39	.899

Table 2. Hierarchical multiple regression of

5   *demographic and personality variables,*

on *MILI scores*

Variable	R^2	ΔR^2	β
Gender	.001	.001	-.007
Age	.007	.005	.063
Extraversion	.054	.047	.146***
Neuroticism	144	.091	-.322***
Psychoticism	.160	.016	-.128**
Lie scale	.160	.000	.015

** $p \leq .01$, *** $p \leq .001$

Table 3. Independent t-tests for religious behavioural variables with respect to MILI scores

	N	M	S.D.	t
Church affiliation				
yes	367	34.98	5.82	1.178
no	134	35.67	5.87	
Church attendance				
at least weekly	94	36.48	5.71	2.437*
< weekly	407	34.86	5.83	
Frequency of prayer				
a = daily	80	35.86	6.12	1.17
b < daily	421	35.03	5.77	

* $p \leq .05$

5   *Table 4. Pearson correlations between MILI scores and extrinsic, intrinsic and quest religiosity, and partial correlations controlling for personality variables*

Variable	r	pr
Religious orientation		
Extrinsic	-.01	.04
Intrinsic	.08*	.09*
Quest	-.02	.04

* $p \leq .05$

10