

Validity, Reliability and Factor Structure of The Life Attitude Profile-Revised (LAP-R)

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Abstract

Introduction: Considering the importance of meaning of life and its role in mental health, the purpose of the current study is to examine the psychometric properties of LAP-R, an instrument that measures the meaning of life on the extensive components.

Method: 500 students from different levels of education of Shahed University of Tehran were selected by proportional sampling method and after translating and retranslating of LAP-R, responded to LAP-R with the Spirituality Assessment Inventory (SAI), the Self-Esteem Rating Scale- Short Form (SERS-SF) and the Positive Affect and Negative Affect Scale (PANAS). After performing the questionnaires, the results of validity and reliability of LAP-R were analyzed by statistical analysis.

Result: As the results of current study showed, there was a high correlation between many subscales of LAP-R with SAI, SERS-SF and PANAS. Also, the Cronbach's alpha coefficient and the correlation between the test-retest of LAP-R was appropriate ($P < 0.01$). The correlation of the test-retest of this scale ranged from 0.61 to 0.81 ($P < 0.01$). Also, Cronbach's alpha coefficients of the subscales and the overall score of this scale ranged from 0.65 to 0.86.

Conclusion: Considering the appropriate correlation of LAP-R with other scales as well as the results of test-retest correlation and Cronbach's alpha, it can be said that this questionnaire has appropriate validity and reliability.

Declaration of Interest: None

Keywords: Meaning, Validity, Reliability, Life Attitude Profile.

Introduction

According to Frankl's view (1), there is "a tendency for meaning" in every person and this is considered a primary stimulus. This view opposes the theory that the experience of pleasure and avoidance of pain is considered as the first motivation. Frankl (1) believes that "the main concern of each person is not the acquisition of pleasure and the avoidance of pain, but a meaningful search for life". According to Frankl's Logotherapy theory, the pursuit of meaning for one's life is considered an essence of life for individuals (2). On the other hand, Yalom (3) believes that individuals must create meaning of life and then commit themselves to created meaningfulness. Perhaps because of this view that he reduces the sense of being to the idea that seeking for pleasure is the highest goal in life (3). Meaning in life is a highly individual perception, understanding or belief about one's own life and activities and the value and importance ascribed to them. Meaning and purpose are related to terms like order, fairness, coherence, values, faith and belonging (4). Some researchers consider the love in God and moving toward him the underlying factor in meaningfulness of life and sees death as the essential part of life and as the main factor of spiritual evolution (5).

Important dimensions of meaning of life have been mentioned in various theories and research. The first significant dimension relates to the degree to which individuals notice meaningfulness for their lives that is considered to be in the form of presence of meaning in life (6). The second significant dimension relates to the degree to which individuals are searching for meaning of life(6). The component of presence of meaning in life refers to a sense of meaningfulness and purpose in life that goes beyond the concerns of everyday life(6).

This component is considered an important component in many theories of psychological well-being and many studies have shown the connection between this component with a wide range of indicators of well-being(6). For example, the study of Andersen et al. (6), which sought to investigate the meaning of life in patients referring to mental health centers, found that people who are suffering from severe psychiatric disorders, consider the meaning of life as an aspect of process of their recovery. In their view, the meaning of life is derived from work, social communication, spirituality, the search for goals, and also through the process of recovery(6).

Also, the study of Pan et al., (7) which examined the impact of meaning of life and the stressors of the new culture on the positive emotions of Chinese international students who were studied at Australian and Hong Kong universities, showed that meaning of life has a positive and powerful role in predicting positive emotions and the stresses of the new culture have a negative impact on positive emotions. In addition, the results of that study showed that social interactions act as a potentially negative predictor for students' positive emotions. It was also found that meaning of life is the mediator of the relationship between the stresses of new culture and positive emotions in students. The study of King et al. (8) also showed that meaning of life is associated with many aspects of positive function in life, such as positive emotion and experience of coherence in life. Also, the results of Alimujiang's study (9) showed that life purpose was significantly associated with all-cause mortality in the Health and Retirement Study HRS (hazard ratio, 2.43; 95%CI, 1.57-3.75, comparing those in the lowest life purpose category with those in the highest life purpose category). Some significant cause-specific mortality associations with life purpose were also

observed (heart, circulatory, and blood conditions: hazard ratio, 2.66; 95%CI, 1.62-4.38). The results of Ghafouri et al.'s (10) study showed that spiritual psychotherapy based on forgiveness method significantly increases forgiveness and as a result marital satisfaction and significantly reduces couples' conflicts in the post-test phase ($P < 0.001$), but, the changes in the follow-up period were not significant ($P = 0.10$ and $P = 0.20$, respectively). Also, The results of Pirmoradi et al. (11) showed that basic psychological needs, human values and psychological capital can be a good predictor of the meaning of nurses' lives. Also, A'azami et al (2017) showed that there was a significant relationship between personality traits and meaning of life ($p < 0.05$). There was a significant negative relationship between neuroticism and meaning of life ($p < 0.05$), and there were significant positive relationships between the meaning of life with extraversion, openness, agreeableness, and conscientiousness ($p < 0.05$). There was also a significant positive relationship between religious attitude and meaning of life ($p < 0.05$) (12). It should be noted that any planning in the area of flourishing and development of positive emotions, finding meaning, relationships and progress would initially require an understanding of the current status of flourishing (13).

Considering the recent interest in the field of health psychology, the focus on meaning of life studies is rising. Over the past three decades, many empirical studies have shown that meaning of life is an important variable in maintaining and promoting physical and mental health. Many of these studies have used a variety of tools, have found a meaningful correlation with other variables, have studied the moderating role of meaningfulness, or have considered to the role of age or gender differences in meaningfulness (14).

In this regard, a lot of research has been done and questionnaires have been presented. schnell (15) designed a questionnaire that has 16 semantic sources and is classified into four dimensions: self-transcendence, self-fulfillment, religion, and well-being. In a study entitled the meaning of life scale and the development of a concise version, Macdonald et al (16) examined the background of life and then defined the meaning of life from the perspective of psychologists, and then developed a five-factor system for meaning of Life.

Jim et al. (17) designed a questionnaire called Meaning In Life Scale (MILS), which measures the meaning of life after cancer treatment and includes the following aspects: adaptation and peace, goals and objectives of life, confusion and impaired meaning and benefits spirituality. This questionnaire has internal consistency as well as convergent and differential validity and exploratory and confirmatory factor analysis has been performed on it. Steger et al. (18) developed a questionnaire called Meaning in Life Questionnaire (MLQ) that has ten items with two five-item subscales of meaning Presence (MLQ-P) and meaning Search (MLQ-S). The presence subscale measures the existence of meaning, and the meaning search subscale measures the amount of meaning in life. This tool first had 44 items, which was reduced to ten items using exploratory factor analysis and then confirmatory factor analysis (18).

Mascaro et al. (19) designed a spiritual semantic questionnaire called SMS, which has fourteen items. They considered the spiritual meaning as the breadth of the soul; In such a way that everyone believes that life has a purpose. Wong (20) created a 50-item questionnaire called PMP. First he asked people questions and by analyzing them, he came up with a list of 2 items. Then, using Cronbach's alpha, a 50-item

questionnaire was obtained. The PMP model was developed to examine a wide range of positive and negative health structures. Crumbaugh et al. (21) developed a 20-item questionnaire called PIL, inspired by Frankel Semantics, which determines what meanings each person has reached in their life. This test is in search of epistemological goals and life attitude characteristics(21).

The remarkable point is that the empirical validity of Frankl's concepts has not been verified correctly. This situation arises mainly due to initial problems in conceptualizing and operating the concept of the meaning of life. Converting concepts of meaningfulness to testable hypotheses can only be achieved when valid tools are built from these concepts (22,23). According to the searches conducted in Iran, the validity and reliability of the meaning of life questionnaires have not been carefully studied. For example, in the study of Khayat Farahani (24), the validity and reliability of the Life Attitude Profile-Revised (LAP-R) have not been carefully examined and in fact, there are some vacuums regarding the method of that research. Therefore, due to the importance of the role of the meaning of life and its relationship with mental health and lack of a valid instrument for its measurement and on the other hand, due to the lack of proper examination of the psychometric properties of LAP-R which measures the broad dimension of meaning of life, the purpose of the current study is to examine the psychometric properties of LAP-R.

Method

The design of present study is an evaluation plan. The statistical population of the present study consists of all students of different educational levels of Shahed University. According to similar studies as well as the variables in the current research, 500 students from Shahed University were

selected by proportional sampling method. First, the current research questionnaire was translated by two English-speaking psychologists. After finalizing it, a translator was given the opportunity to translate the text into English. Then, this version was compared with the original version and the defects of the translated text were fixed. After finalizing the translated version, according to similar studies and variables in the current study, 500 students of the Shahed university were selected from the statistical population using stratified sampling. In this way, the percentage of students who were selected from each college, was equal to the percentage of students in that college in the target community. After determining the percentage and number of students from each faculty, research questionnaires were distributed to students who were willing to participate. In current study, to gain reliability, LAP-R was performed twice and at intervals of two weeks on several students and to gain validity, the concurrent validity of LAP-R was evaluated. The method of current study is that after translating and retranslating of LAP-R, students responded to LAP-R, SAI, SERS-SF and PANAS.

In addition to descriptive statistics of demographic and research variables (mean and standard deviation), Pearson correlation and Cronbach's alpha were used to examine the validity and reliability of LAP-R in this study. To obtain these analyzes, SPSS-21 software was used. Also, to verify the confirmatory factor analysis, the LISREL 8.80 software was used.

Measurements

-The Life Attitude Profile-Revised (LAP-R) (25): LAP-R is designed to measure the meaning of life with 48 items that are scored based on the 7- point Likert scale and consists of 6 factors which are: Purpose (PU), Coherence(Co), Choice/Responsibility (C /R), Death

Acceptance (DA), Existential Vacuum (EV), and Goal Seeking (GS). The internal consistency indexes of LAP-R have been reported to be satisfactory and their range obtained from 0.77 to 0.87. The reliability range which is related to the double implementation of LAP-R, is from 0.77 to 0.87. The studies of the validity of LAP-R have suggested an appropriate convergence of it (25).

- **The Spirituality Assessment Inventory (SAI)** (26): SAI is used to examine the effect of spiritual orientation and is composed of six subscales: Awareness (A), Realistic Acceptance (RA), Disappointment (D), Grandiosity (G), Instability (I) and Impression Management (IM). All items are graded based on a 5-point Likert scale of "not at all true" to "very true". The high score in each attribute indicates the highness of the same attribute. In the first and second run, the alpha coefficients of SAI are obtained 0.64-0.96 and 0.70-0.96, respectively. Also, the correlation coefficients of the test-retest of SAI are obtained 0.71-0.92. The content validity results of SAI have been reported to be acceptable. Furthermore, it has been found that there is a positive and significant correlation between the subscales of SAI with religious bias, defense styles, quality of life and Beck depression (27).

- **The Self-Esteem Rating Scale- Short Form (SERS-SF)**: SERS-SF is a 20-item scale (10 positive items and 10 negative items), which is a short form of the Self-Esteem Rating Scale (SERS). The study by Lecotme et al. (28) resulted in a short form of SERS which the Cronbach alpha of the positive and negative subscales of it obtained 0.91 and 0.89, respectively. Also, the test-retest reliability coefficient of SERS-SF showed a good stability (0.91 and 0.91 for positive and negative scales, respectively). In addition, both scales had a high correlation with the total score of

Rosenberg Self-esteem Scale (RSS) (0.72 and 0.79 for positive and negative scales, respectively), which shows the proper validity of SERS. In Iran, in the study of Shaeiri et al. (29), Cronbach's alpha of negative and positive self-image factors has been reported 0.91 and 0.90, respectively. The coefficient of test-retest for these factors has been obtained 0.72 and 0.77, respectively. Also, the structure validity of SERS is confirmed by various scales.

- **Positive Affect and Negative Affect Scale (PANAS)**: PANAS is a 20-item self-measurement tool that designed to measure two dimensions of the mood: "Positive Affect" and "Negative Affect" (30). Each subscale has 10 items. Items are ranked on a five-point scale (1 = very low to 5 = very high) by the subject (31). The reliability of PANAS for positive and negative affects has been reported based on Cronbach's alpha, 0.88 and 0.87, respectively and based on the correlation of test-retest, 0.68 and 0.71, respectively (30). Bakhshi Poor and Dejkam (31), using the confirmatory factor analysis and structural equation modeling, examined the construct validity and reliability of PANAS for students with anxiety and depression disorders. The results show that the two-factor pattern is the most graceful pattern. In terms of validity, with the help of PANAS, it can be properly separated the anxious patients from the depressed patients. Also, reliability of these two subscales obtained 0.87.

Results

The average age of the participants were 20.68 years old (SD = 41.3). Female subjects formed the largest number of subjects (55%). Single individuals formed the largest sample size (81.4%). The students of the humanities were the largest sample (31.4%) and the students of the arts were the lowest sample size (4.3) and the undergraduates formed the largest sample

(73.6%) and the Ph.D. students formed the lowest sample size (14.5%).

Table 1. shows the mean and standard deviation of the subscales of LAP-R. Table 2. shows the alpha coefficients of the subscales of LAP-R. Based on the results of this table, the alpha coefficients vary

between 0.83 (purpose) and 0.65 (goal seeking) in six subscales of LAP-R in the main implementation. The lowest correlation between the two halves is related to the goal seeking ($r = 0.35$) and the highest correlation between the two halves is related to the choice / responsibility ($r = 0.71$).

Table 1. The descriptive results of LAP-R

	Mean	Std. Deviation
Purpose	36.3	6.8
Coherence	40.88	7.36
Choice/Responsibility	46.78	7.77
Death Acceptance	33.6	8.91
Existential Vacuum	33.83	7.24
Goal Seeking	42.19	6.12

Table 2. Alpha coefficients of subscales and total score of LAP-R

	Total Alpha	Two half Alpha		Correlation between two halves	Spearman Brown
		First half	Second half		
Purpose	0.833	0.792	0.673	0.633	0.775
Coherence	0.809	0.576	0.794	0.657	0.793
Choice/Responsibility	0.819	0.663	0.718	0.714	0.833
Death Acceptance	0.803	0.776	0.557	0.637	0.778
Existential Vacuum	0.681	0.653	0.420	0.445	0.616
Goal Seeking	0.657	0.432	0.679	0.359	0.528
Total	0.863	0.714	0.814	0.689	0.816

Table 3 shows the correlation between the subscales of LAP-R. As can be seen, the highest correlation (0.72) is between the purpose and choice / responsibility and the lowest correlation (0.10) is between the

purpose and death acceptance. Table 4 shows the correlation between the test-retest of LAP-R. As can be seen, the results of the test-retest shows a positive and significant correlation between subscales.

Table 3. Intercorrelation between the subscales of LAP-R

	Purpose	Coherence	Choice/Responsibility	Death Acceptance	Existential Vacuum	Goal Seeking
Purpose	1					
Coherence	0.806**	1				
Choice/Responsibility	0.722**	0.714**	1			
Death Acceptance	0.102*	0.125**	0.195**	1		
Existential Vacuum	-0.311**	-0.292**	-0.223**	0.135**	1	
Goal Seeking	0.380**	0.390**	0.365**	0.089	0.235**	1

**. Correlation is significant at the 0.01 level (2-tailed).

Table 4. Test-retest correlation of LAP-R

	Test-retest correlation
Purpose	0.812**
Coherence	0.643**
Choice/Responsibility	0.616**
Death Acceptance	0.713**
Existential Vacuum	0.699**
Goal Seeking	0.366**

** . Correlation is significant at the 0.01 level (2-tailed).

Table 5. shows the results of the concurrent validity of LAP-R. As can be seen, many subscales of SAI, PANAS and SERS-SF show a positive and significant correlation with LAP-R. The highest correlation between LAP-R and SAI subscales is seen between the purpose and awareness ($r = 0.40$). There is a positive and significant correlation between the positive affect and subscales of LAP-R (other than the existential vacuum) which the highest is 0.55 that is seen between the positive affect and purpose. There is also a negative and

significant correlation between the negative affect and some subscales of LAP-R that the highest is 0.38. There is a positive and significant correlation between the positive self-esteem and subscales of LAP-R (with the exception of the existential vacuum), the highest of which is 0.40 that is seen between the positive self-esteem and purpose. Also, there is a negative and significant correlation between the negative self-esteem and subscales of LAP-R, the highest of which is 0.45 that can be seen between the negative self-esteem and existential vacuum.

Table 5- The results of correlation of LAP-R with SAI, PANAS and SERS-SF

Scales	Subscales	Purpose	Coherence	Choice/Responsibility	Death Acceptance	Existential Vacuum	Goal Seeking
SAI	Awareness	0.408**	0.393**	0.349**	-0.095*	-0.250**	0.226**
	Realistic Acceptance	0.138**	0.139**	0.069	0.013	0.248**	0.149**
	Disappointment	-0.286**	-0.284**	-0.231**	0.009	0.360**	0.013
	Grandiosity	0.235**	0.221**	0.190**	0.080	0.088	0.127**
	Instability	-0.200**	-0.222**	-0.239**	-0.062	0.278**	0.059
	Impression Management	0.363**	0.351**	0.340**	0.026	-0.226**	0.080
PANAS	Positive affect	0.556**	0.516**	0.536**	0.160**	-0.253**	0.272**
	Negative affect	-0.317**	-0.326**	-0.371**	-0.038	0.380**	0.035
SERS-SF	Positive self-esteem	0.405**	0.389**	0.401**	0.111*	-0.316**	0.276**
	Negative self-esteem	-0.425**	-0.421**	-0.436**	-0.068	0.456**	-0.114*

** . Correlation is significant at the 0.01 level (2-tailed).

Table 6. The results of the indicators of good fitness of LAP-R

indicators of good fitness	data
χ^2/df	2.68
NFI	0.70
GFI	0.77
AGFI	0.74
CFI	0.78
IFI	0.78
RFI	0.67
RMSEA	0.061

Table 6 shows the fitness indicators of the confirmatory factor analysis of LAP-R. As can be seen, in general, fitness indicators show the fitness of LAP-R factors. Thus, according to the results of the above tables, it can be said that LAP-R has an appropriate validity and reliability in Iranian society.

Discussion

As the results of current study showed, there was a high correlation between many subscales of LAP-R and regarding the concurrent validity, there was a significant correlation between LAP-R and subscales of positive affect (positive correlation) and negative affect (negative correlation). In addition, there was a positive and significant correlation between subscales of LAP-R and SAI. Regarding the relationship between LAP-R and positive and negative self-esteem, there was a positive and negative significant correlation, respectively. Thus, it can be said that LAP-R has a good validity. Also, considering the Cronbach's alpha coefficient of LAP-R and the proper correlation between the test-retest of LAP-R, it can be said that LAP-R has an appropriate reliability.

In line with current research, the results of Heidari et al.'s (32) study, which was conducted to construct, validate and reliability the meaning of life test based on Islamic sources, showed that by conducting factor analysis on a sample of 440 students

of Qom Islamic Azad University, three factors with the titles of "significance", "value", "epistemological meaning" and "meaninglessness of life" were obtained. The reliability of the test was evaluated and confirmed by three methods: "internal consistency" (with 94% Cronbach's alpha), "double halving" and "retest". Its reliability was evaluated and confirmed by three methods of criterion reliability (convergent, divergent, expert opinion polls) and structural reliability (performing factor analysis) on the whole sample.

Also, the results of Cheraghi et al. (33) study which was performed on a sample group of 250 students (125 males and 125 females) of Isfahan University to evaluate the validity, reliability, factor analysis and standardization of the objective questionnaire in the life of Krambaf and Maholikh, showed that its Cronbach's alpha coefficient was 92%. To evaluate the validity of this questionnaire, the correlation of its scores with the scores of life satisfaction, vitality, Positive and Negative Affect Scale (PANAS-X) was calculated. There was a significant positive relationship between the scores of the goal in life questionnaire and the scores of life satisfaction and vitality scales. In vitality and positive emotion, the positive emotion subscales all showed a positive correlation with the scores of the goal in life questionnaire, and the negative emotion subscales all showed a negative correlation with the scores of the goal in life questionnaire. Factor analysis of the questionnaire showed that the theoretical structure of the questionnaire consists of one factor. Raw scores of 121 and 71 were also determined as cutting points of 90% and 10%.

As the results indicated, LAP-R showed a significant relationship with positive affect (positive relationship) and negative affect

(negative relationship). In line with the current research, previous research has shown that there is a strong relationship between meaning of life and the positive dimensions of psychological well-being (34).

Although there is limited research in this area, the results of current study show that achieving meaning of life has positive implications for mental health, such as positive affect and satisfaction in life. Chamberlain and Zika (35) examined the three variables of the locus of control, assertiveness and meaning of life in relation to psychological well-being in students and concluded that meaning of life is the strongest predictor of positive affect. Also, they concluded that three scales of meaning of life- such as the Life Regard Scale (LRS), Purpose in Life Test (PLT), Sense of Coherence Scale (SCS)- have a positive relationship with positive affect.

It has also been proven that the meaning of life modifies to some extent the relationship between the perceived stress and life satisfaction. These findings indicate that meaning of life is a key component of positive affect and plays an important role in making happier and more satisfying life (36). King et al. (37) also showed that there is a strong relationship between positive affect and meaningful experience in life.

In addition, the results of the present study indicate a significant relationship between LAP-R and spirituality. In general, the "meaningfulness" category has a prominent place in the definition of spirituality and its review has great importance. Some scholars emphasized the role of spirituality and spiritual needs in creating meaning of life. It seems that spirituality is considered as part of coherence, meaning and purpose in life (38). In two studies, it has also been proven the mediating role of religious commitment in the relationship between positive affect and meaning of life. In a study, religion was

a mediator of the relationship between natural positive affect and meaning of life and in the second study, religion similarly influenced the effect of mood on the meaning of life (39). Also, the results of Oishi et al. (40) showed that residents who lived in poor areas than those who lived in rich areas, had a high level of meaning of life, and in this regard, they reached the mediating role of religion in making meaning of life by controlling the variables of education, birth rate and individuality.

Moreover, there was a significant relationship between LAP-R and self-esteem. It seems that a meaningful sense of life has a prominent role in maintaining self-esteem. Individual meaningfulness is related to some of the components of physical and psychological well-being and is considered a powerful resource for enhancing self-esteem, life satisfaction and individual development when to deal with disabilities and lack of life (41). The results of the study by Steger (42) and Reker (41), also consistent with the results of the current study, showed that there is a significant relationship between meaning of life and self-esteem. In addition, the results of the study by Flora and Stalikas (43) showed that there was a significant increase in factors such as self-efficacy, perceived social support and positive and significant emotions in life, while with a increase in meaning of life, factors such as problem recognition, ambivalence, depression and stress decreased significantly.

Conflict of interest

The current study is based on the approved research project at Shahed University and its costs are from the property of the project. According to the authors, current research has no conflict of interest.

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