

## Prediction of emotion regulation strategies and psychological hardiness based on components of meaning in life among adults of Tehran

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### Abstract

**Introduction:** The present study has aimed to predict the psychological hardiness and emotion regulation strategies based on components of meaning of life, in adults of Tehran city.

**Materials and Methods:** The study was conducted using Correlation Method. 384 subjects were chosen from 22 regions of Tehran city from 1395 to 1396, by clustered sampling, and participated in the study. The data were collected through “meaning in life” questionnaire-MLQ-(Steger et al, 2006), “cognitive-emotional regulation” questionnaire (CERQ), and “Ahwaz Hardiness Inventory” (AHI). And the resultant data were analyzed step by step by correlation scales and regression analysis, using version 18<sup>th</sup> of SPSS software.

**Results:** According to the results, the presence of meaning subscale, has negative and significant correlation with other-blame and catastrophizing, and has positive and significant correlation with putting into perspective, positive refocusing, positive reappraisal, and planning. Regression analysis results suggested that 28% of variations in positive refocusing, 29% of variations in planning, 33% of variations in positive reappraisal, 22% of variations in putting into perspective, 4% of variations in catastrophizing, and 8% of variations in other-blame, are predictable through the presence of meaning subscale. Also, presence of meaning subscale, had positive and significant correlation with psychological hardiness( $r=0.66$ ), and 43% of variations in psychological hardiness was predictable by presence of meaning subscale.

**Conclusion:** The present study results showed that presence of meaning component, had role in predicting psychological hardiness and emotion regulation strategies.

**Keywords:** Meaning of life; Psychological hardiness; Emotion regulation strategies

### 1. Introduction

Recent theoretical developments have revealed that acquisition of meaning in life is bonded with human psyche [1]. There is no consensus on definition of meaning in life, congruous for every man. Therefore, such definition varies in different aspects of life [2]. Previous studies have demonstrated that meaning in life usually reflects a feeling of existential integration achieved by understanding the essence of life, discovering purpose of life and accomplishing valuable goals, as well as feeling complete and fructify [3].

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Prior research suggests a strong correlation between the concept of meaning in life and individual's health and psychological well-being. In fact, there are growing appeals for the feeling of having meaning in life as a source to reduce distress and incidence of psychological disorders [4]. Accordingly, the component of emotion can be influenced by the existence, absence or search for meaning. Emotional experiences play a pivotal role in everyday life, psychological health, motivational process, proper responding towards stressful events and social transformation and, affect different activities by individuals [5].

Emotion regulation was defined as the process of initiating, preserving, modifying or alteration to incidence, severity or continuity of one's inner feelings and the emotions engaged with social, psychological and physical procedures in accomplishing individual's goals [6]. In other words, cognitive emotion regulation strategies refer on how people think after having a negative experience or traumatic event [7].

A number of authors have recognized psychological hardiness, as a personality trait that could be a source of resistance and a coping strategy, effective in determining the severity of one's pathology [8]. Psychological hardiness was known as a multi-component structure in which individuals enjoy it at different levels [9].

According to earlier investigations, psychological hardiness consists of three elements of struggle, control, and commitment [10], which together lead to positive thinking as well as flexibility in dealing with life tasks [11]. Once meaning is created, values will be developed: a set of guidelines or principals to live by in life [12]. Studies have demonstrated that people who live with meaningful goals and engage with activities of creating meaning in life, experience better self-harmony (to recognize and enjoy activities) [13]. Other researchers have recognized psychological hardiness as a self-conceptualization strategy consisting of commitment, control and challenge (struggle) applied to manage stressful situations and to transform it into a progressive experience rather than a disabling one [14].

The main objective of the current research was to predict emotion regulation strategies and psychological hardiness through the component of meaning in life.

The overall goal of the present study was to measure the relationship between meaning in life and the strategies used by adults to regulate their emotions. This research also aimed to calculate level of subjects' psychological hardiness against negative life events.

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## 2. Material and methods

A correlation method was applied with meaning in life as the predictive variable and emotion regulation strategies and psychological hardiness as the criterion variables. Survey samples of 348 people were selected by cluster sampling method. The Morgan table was used for determining the sample size; Adult residents of all 22 municipal districts of Tehran province during 2018 and 2019 were administered. Initially, we included 400 samples in the setting of our study -considering possibility of incomplete filled questionnaires by individuals. To conduct current research, we have divided Tehran into five regions of north, east, west, south and center. We have selected 80 samples from each region. The following step was to randomly chose a shopping mall to find samples with non-government careers and a Bank to choose samples with government jobs in each region, in order to include individuals with variety types of classes in our study (government/non-government employed, university student, unemployed, housewives). A university was randomly selected to provide samples of students in each district. Then, a college was randomly selected and gradually, a class of the same college was randomly selected in each region. We also referred to the Social Security Office of each region to find unemployed samples.

We reached the housewife samples by selecting a school and consequently a grade in each school in every region. The number of individuals in each category and the occupations were selected based on the ratio of people in their community.

We performed Meaning in Life Questionnaire (MLQ) by Steger to collect data. The meaning in life scale consists of two sub-scales that evaluate presence of meaning in life and search for meaning in life. Total score of items 2,3,7,8,10 (the 9th item with negative coding) indicates level of meaningfulness in individual's life. Seven choice Likert scale was used for this purpose (completely disagree: 1 to completely agree: 7). This questionnaire has been validated on the Iranian population by Mesrabadi et. al, in 2013 and its factor structure was proofed valid[15]. The factor analysis was carried out in the present study by considering the two correlated factors as well as considering 5 questions for each factor in which reached the exact same results as expected based on the study of Steger & Frazier(2006)[16].

The Cognition Emotion Regulation Questionnaire (CERQ) was applied to determine individual's cognitive coping strategies in negative experiences. This is a self-report tool with 36 items and 9 sub-scales. Subscales measured in this questionnaire include: self-blame, acceptance, rumination, positive refocusing, refocus on planning, positive reappraisal, putting into perspective, catastrophizing, and other-blame. Scale scores could range between 1 (almost never) to 5 (almost always). Every subscale consists of 4 items. The total score of each subscale is computed by summing all scores of items. As a result, scores of each subscale may range between 4 to 20. High scores in each subscale indicate the greater use of same strategy in confronting and coping with stressful and negative situations [17].

We utilized additional data collected from Ahvaz Hardiness Inventory (AHI), developed and validated by Kiamarsi, Najarian and Mehrbizadeh honarmand in 1998[18]. This inventory tool consists of 27 items with four possible answers of "never, rarely, sometimes, and often" to each item. Values of 0, 1, 2, 3 are considered for grading each item, respectively. Validity of the scale was calculated simultaneously with defining the scale "psychological hardiness (resilience), and a high validity was obtained.

We analyzed data as a function of correlation scales, followed by stepwise regression analysis applying SPSS software version 18.

### 3. Results

Descriptive statistics were calculated for all variables used in the study applying 400 questionnaires distributed among study participants who were selected through cluster sampling method. Gradually, 384 filled questionnaires were analyzed. Of all samples, 195 (50.8%) were female and 189 (49.2%) were males. Table one indicates demographic data of the study participants.

**Table 1** Participants Baseline Characters

Characteristic features		Frequency	Percent	cumulative percentage
Sex	Female	195	50.8	50.8
	Male	189	49.2	100
Marital status	Single	169	44.0	44.8
	Married	205	53.4	98.2
	Divorced	5	1.3	99.5
	Widowed	2	0.5	100
	Unanswered	3	0.8	
	Total	384	100	
Employment Status	Governmental	85	22.1	23.4
	Non-governmental	134	39.4	58.3
	Housewife	67	17.4	75.8
	University student	76	19.8	95.6
	Unemployed	11	2.9	98.4
	Part-time governmental	4	1.0	99.5
	Retired	2	0.5	100
	Unanswered	5	1.3	
	Total	384	100	

Characteristic features		Frequency	Percent	cumulative percentage
Education Level	Below Secondary Education	6	1.6	1.6
	High school Diploma	74	19.3	20.8
	College degree	27	6.5	27.3
	Bachelor's Degree	135	35.2	62.5
	Master's degree	122	31.8	94.3
	Ph.D and above	22	5.7	100
	Total	384	100	100

Average mean of meaning in life was obtained 25.72 in the sample population. Also, mean score of psychological hardiness was 49.70. Among the emotion regulation strategies, the highest and lowest mean scores were rumination (mean score of 14.71) and other blame, respectively. There was also a slight difference between studied females and males in terms of search for meaning, self-blame, acceptance, rumination, positive reappraisal and refocus on planning. But average scores in other variables show that females gained higher scores in scales of meaning in life, psychological hardiness, positive reappraisal, and putting into perspective, and rather males reported greater scores than females in the scales of catastrophizing and other-blame.

A correlation test was applied to test the relationship between the presence of meaning in life and participant's emotion regulation strategies as well as search for meaning in life and their emotion regulation strategies which all results are presented in table 3. Results of the correlation test on the relationship between meaning in life and individual's emotion regulation strategies reflect a negative correlation between presence of meaning in life, other-blame and catastrophizing, whilst it is positively correlated with putting into perspective, positive reappraisal, refocus on planning and positive refocusing; as the strongest correlation was observed on positive reappraisal scale (0.57). But there was no statistically significant relationship between presence of meaning in life and, rumination, acceptance and self-blame.

Similarly, search for meaning in life was positively correlated with catastrophizing, putting into perspective, positive reappraisal, refocus on planning, rumination and self-blame, but it was not significantly correlated with acceptance, positive refocusing and other-blame. Highest correlation of this item was reported with putting into perspective (0.19). Results of the regression analysis test for the above mentioned structures are demonstrated in tables 3 and 4.

**Table 2** Results of Regression Analysis for the Presence of Meaning in Life and Emotion Regulation Strategies

Variables	Model	Mean Squares	Level of Freedom	Mean Squares	F	Sig	Beta	T	Sig	R	R2
Presence of Meaning & Self-blame	Regression	0.15	1	0.15	0.02	0.87	0.008	0.15	0.87	0.008	0.000
	Residual	239.80	382	6.25							
	Sum of Regression	239.80	383								
Presence of Meaning & Acceptance	Regression	3.94	1	3.94	0.58	0.44	0.03	0.76	0.44	0.03	0.002
	Residual	255.54	382	6.69							
	Sum of Regression	256.49	383								
Presence of Meaning & Rumination	Regression	9.12	1	9.12	1.55	0.21	0.06	1.24	0.21	0.06	0.004
	Residual	224.93	382	5.88							
	Sum of Regression	225.06	383								
Presence of Meaning & Positive Refocusing	Regression	155.21	1	1550.21	151.9	0.000	0.53	12.32	0.000	0.53	0.28
	Residual	389.51	382	10.20							
	Sum of Regression	544.72	383								
Presence of Meaning & Positive Refocus of Planning	Regression	1213.5	1	1213.5	162.11	0.000	0.54	12.73	0.000	0.54	0.29
	Residual	285.45	382	7.48							
	Sum of Regression	407.95	383								
Presence of Meaning & Positive Reappraisal	Regression	171.19	1	1717.19	187.74	0.000	0.57	13.7	0.000	0.57	0.33
	Residual	349.95	382	9.14							
	Sum of Regression	521.15	383								
Presence of Meaning & putting into perspective	Regression	900.63	1	900.63	108.35	0.000	0.47	10.41	0.000	0.47	0.22
	Residual	317.02	382	8.31							
	Sum of Regression	407.65	383								

Presence of Meaning & Catastrophizing	Regression	147.11	1	147.11	18.23	0.000	0.21	4.27	0.000	0.21	0.04
	Residual	308.88	382	8.06							
	Sum of Regression	322.99	383								
Presence of Meaning & Other-blame	Regression	210.10	1	210.10	33.45	0.000	0.28	5.78	0.000	0.28	0.08
	Residual	239.08	382	6.28							
	Sum of Regression	260.18	383								

As shown in table 2, significance level for variables including self-blame, acceptance, and rumination were above 0.05, therefore obtained R2 were not statistically significant. However, the significance level of positive refocusing, refocus on planning, positive reappraisal, putting into perspective, catastrophizing, and other-blame was less than 0.05 which as a result, it was concluded that 28% of the changes in refocus on planning, 33% of changes in positive reappraisal, 22% of changes in putting into perspective, 4% of changes in catastrophizing, and 8% of changes in other-blame could be predictable due to presence of meaning in life.

**Table 3** Results of Regression Analysis for the Search for Meaning in Life and Emotion Regulation Strategies

Variables	Model	Mean Squares	Level of Freedom	Mean Squares	F	Sig	Beta	T	Sig	R	R2
Search for Meaning & Self-Blame	Regression	58.65	1	58.65	9.60	0.002	0.15	3.09	0.002	0.15	0.02
	Residual	2332.30	382	6.10							
	Sum of Regression	2390.95	383								
Search for Meaning & Acceptance	Regression	18.88	1	18.88	2.83	0.09	0.08	1.68	0.09	0.08	0.07
	Residual	2543.60	382	6.65							
	Sum of Regression	2562.49	383								
Search for Meaning & Rumination	Regression	79.24	1	79.24	13.90	0.000	0.18	3.72	0.000	0.18	0.03
	Residual	2176.81	382	5.69							
	Sum of Regression	2256.06	383								
Search for Meaning & Other-blame	Regression	86.50	1	86.50	6.16	0.01	0.12	2.48	0.01	0.12	0.01

Positive Refocusing	Residual	5362.22	382	14.03							
	Sum of Regression	5448.72	383								
Search for Meaning & Positive Refocus of Planning	Regression	89.90	1	89.90	8.62	0.004	0.14	2.93	0.004	0.14	0.02
Positive Refocus of Planning	Residual	3983.05	382	10.42							
	Sum of Regression	4072.95	383								
Search for Meaning & Positive Reappraisal	Regression	165.25	1	165.25	12.51	0.000	0.17	3.53	0.000	0.17	0.03
Meaning & Positive Reappraisal	Residual	5045.90	382	13.20							
	Sum of Regression	5211.15	383								
Search for Meaning & putting into perspective	Regression	900.63	1	900.63	108.35	0.000	0.47	10.41	0.000	0.47	0.22
Meaning & putting into perspective	Residual	317.02	382	8.31							
	Sum of Regression	407.65	383								
Search for Meaning & Catastrophizing	Regression	107.25	1	107.25	13.12	0.000	0.18	3.62	0.000	0.18	0.03
Meaning & Catastrophizing	Residual	3121.74	382	8.17							
	Sum of Regression	3228.99	383								
Search for Meaning & Other-blame	Regression	57.10	1	57.10	1.55	0.21	0.06	1.24	0.21	0.06	0.004
Meaning & Other-blame	Residual	2598.61	382	80.6							
	Sum of Regression	2609.18	383								

According to table 4 and considering levels of significance, search for meaning in life could possibly predict changes in variables including self-blame, rumination, refocus on planning, positive reappraisal, putting into perspective, and catastrophizing. In other words, 2% of changes in self-blame, 3% of changes in rumination, 2% of changes in refocus on planning, 3% of changes in positive reappraisal, 3% of changes in putting into perspective, and 3% of changes in catastrophizing could be predictable due to the variable search for meaning in life.

We applied correlation test to assess relationship between presence of meaning in life and psychological hardiness, as well as relationship between search for meaning in life and psychological hardiness, and the results could be found in table 4.

**Table 4** Results of Correlation Test for the Relationship between Presence of Meaning in Life, Search for Meaning in Life and Psychological Hardiness

Variable	R	Sig
Presence of Meaning in Life	0.66	0.000
Search for Meaning in Life	0.08	0.1

According to Table 4, there is a significantly positive correlation between presence of meaning in life and psychological hardiness (0.66). This is whilst no significant relationship was observed between search for meaning in life and psychological hardiness.

Results of regression analysis for the same two relationships follows in table 5.

**Table 5** Results of Regression Analysis for the Relationship between Presence of Meaning in Life, Search for Meaning in Life and Psychological Hardiness**Table 3** Results of Regression Analysis for the Search for Meaning in Life and Emotion Regulation Strategies

Variables	Model	Mean Squares	Level of Freedom	Mean Squares	F	Sig	Beta	T	Sig	R	R2
Search for Meaning & Self-Blame	Regression	21026.78	1	21026.78	299.16	0.000	0.660	17.29	0.000	0.66	0.43
	Residual	26848.54	382	70.28							
	Sum of Regression	47875.33	383								
Search for Meaning & Acceptance	Regression	331.90	1	331.90	2.66	0.10	0.08	1.63	0.10	0.08	0.007
	Residual	47543.42	382	124.45							
	Sum of Regression	47875.33	383								

As demonstrated in table 5, 43% of changes in the level of psychological hardiness were predictable through variable presence of meaning in life.

#### 4. Discussion

The main objective of the present study was to predict psychological hardiness and emotion regulation strategies based on the components of meaning in life among adults in Tehran.

Results found clear support for a negative significant relationship between the variable presence of meaning in life and, self-blame and catastrophizing, but it was positively related to under-estimate, positive reappraisal, refocus on planning and positive refocusing. The analysis showed that the strongest correlation was observed between presence of meaning in life and positive reappraisal (0.57).

Our results showed no significant correlation between presence of meaning in life and, rumination, acceptance, and self-blame. Gross (2002) stated that the difference between tendency to emotional response (desire) and the eventual behavior of individuals reveals how we constantly adjust our emotional responses. Our results casts a new light on explaining such difference through effectiveness of meaning in life [19].



Our findings confirmed the strongest relationship between meaning in life and positive reappraisal scale, which this result ties well with Frankle's belief in individual responsibility and his attitude towards a specific situation or challenge [20].

Positive reappraisal indicates on person's search for positive aspects, once facing a challenging situation, as turning it into an opportunity to grow and becoming stronger. Moreover, three other emotion regulation strategies (under-estimation, refocus on planning, and positive reappraisal) which were realized to have a significantly positive correlation with presence of meaning in life, are categorized as adaptive emotion regulation strategies and seem logically relevant to presence of meaning in life, according to the standard definition of each [21].

Prior studies (Kleftaras & Psarra, 2012; Kleiman & Beaver, 2013; Yee Ho, Cheung & Cheung, 2010) reported that the concept of meaning in life is closely related to individual's health and psychological well-being. In fact, meaningfulness of life reduces level of negative emotions such as anxiety and depression, and gradually leads to reduced risk of mental illnesses [22, 20, 23]. Kleftaras & Psarra (2012) concluded there was a significant negative correlation between meaning in life and level of depression among women [22]. These findings are in accordance with findings documented by Bergman, Bodner, Haber (2018) regarding a significant relationship between having purpose in life and general health aspects including physical symptoms, anxiety symptoms, sleep disorders, social function and depression symptoms among the university staff [24].

Kleftaras & Psarra (2012) examined the relationship between meaning in life, psychological well-being and symptoms of depression, in a comparative study. They have found a significant relationship between the two variables, as the youth with higher levels of meaning in life reported less depression symptoms. Moreover, a research by Lei et. al (2014) that investigated emotion regulation strategies among out-patients diagnosed with major depression disorder, showed that self-blame, acceptance and catastrophizing strategies were positively related with depression symptoms, whilst positive reappraisal was negatively correlated with depression symptoms among the studied population. A similar pattern of results was obtained in the present study that showed a negative significant relationship between presence of meaning in life and strategies of catastrophizing and self-blame [25].

According to the results of the above-mentioned studies, not only maladaptive emotion regulation strategies like self-blame and catastrophizing seem to be positively related to depression, but also depression could negatively be correlated with meaning in life. It could be concluded that people with a purpose in life are less likely to use such emotion regulation strategies. Based on the results of the current study, search for meaning in life was positively correlated with catastrophizing, under-estimation, positive reappraisal, refocus on planning, rumination and self-blame, but it has no significant relationship with acceptance, positive refocusing, and other-blame, and its highest correlation coefficient was reported with under-estimation (0.19).

Dezutter et.al (2013), explored the role of meaning in life in psychological well-being of patients with chronic diseases, and discriminated adaptive procedure of search for meaning (including both components of presence and search for meaning in life) and maladaptive procedure of search for meaning (lacking component of presence of meaning in life). Their results indicated that people who gained high scores in the element of presence of meaning in life, enjoyed better psychological well-being, no matter what score they have obtained in the component of search for meaning in life [26].

In the present study, all subjects with high scores in search for meaning in life were investigated (regardless of their scores in the element of presence of meaning in life) and as per results of Dezutter et.al (2013) study and our findings, it could be concluded that participants of the current research who gained high scores in both elements of presence and search for meaning in life possibly use positive emotion regulation strategies and the subjects who gained high scores in the element of search for meaning only, might have only used negative emotion regulation strategies [26].

Presence of meaning in life had a positive significant correlation ( $P > 0/01$ ) with psychological hardiness, and 43% of changes in the level of psychological hardiness could be predictable through the meaning in life. This finding was in line with the results of Dehdari et. al, (2013) & Bergman, Bodner, Haber (2018) studies [27, 25].

People who experience commitment, do not act passively and accept the responsibility to bring meaning to their lives. Klanik (1973) realized that among those under stress, the ones committed to take actions were healthier, compared to those with low commitment, because they find stressful situations interesting and meaningful and rely on themselves in search of strategies to turn such experiences into important and favorite matters [28].

Furthermore, studies have shown that people with deepest meaning in life could not only better cope with life challenges and stress related to it, but also processing new information was easier for them and had a more positive and broader perspective for their future life [23].

Earlier investigations highlighted that having meaning in life could be a useful coping strategy that enables individuals enjoy their good times and endure hard times [29].

Results of the correlation test suggested no significant relationship ( $P > 0.05$ ) between search for meaning in life and psychological hardiness. Therefore, it could be concluded that level of search for meaning in life does not affect the rate of their psychological hardiness.

Frankle(2006) recognized search for meaning in life as the main motive for human life. According to this statement, all individuals are some way searching for such potential meaning. People who lack meaning in life might be in search of it; and those who already have meaning in life may still be searching for a different and greater meaning in their lives [20].

It could be explained that individuals who fail to find meaning in life despite searching for it and use mal-adaptive process of searching for meaning in life might be weak in other components of psychological hardiness like control and struggle. As a result, any attempt to search for meaning in life cannot be solely linked to psychological hardiness.

One limitation about the findings of the present study was analyzing the data collected from self-reported scales, which might be susceptible to distortion due to defense mechanisms, bias in response and personal introduction practices.

Another limitation involves the issue of not considering the participant's culture since it plays an important role in people's beliefs and emotional habits. Lack of investigating religion related variables was also another limitation to this study.

Future investigations are necessary to validate the kinds of conclusions that can clear the outcomes to adaptive or mal-adaptive attempts to search for meaning in life with successful or failed results.

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## 5. Conclusion

Results support the relationships between presence of meaning in life and searching for meaning and emotion regulation strategies. It could be concluded that people with a purpose in life are less likely to use negative emotion regulation strategies. psychological hardiness was related to meaning of life and not searching for life. As a result, any attempt to search for meaning in life cannot be solely linked to psychological hardiness. While presence of meaning had role in predicting psychological hardiness and emotion regulation strategies, searching for meaning has a different way.

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## Compliance with ethical standards

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### *Disclosure of conflict of interest*

There was no conflict of interest for both authors.

### *Statement of ethical approval*

"The present research work does not contain any intervention performed on animals/humans subjects by any of the authors".

### *Statement of informed consent*

"Informed consent was obtained from all individual participants included in the study."

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