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## Development and testing of the relationship model of basic psychological needs on the meaning of life through the mediating roles of the psychological capital and human values

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### Abstract

**Introduction:** People have always been seeking inner peace to satisfy basic psychological needs and find new meaning for their suffering. In this way, protection of the human values has been prioritized with the help of psychological capitals. Therefore, the purpose of this study was to investigate the effect of the basic psychological needs on the meaning in life through the mediating roles of the psychological capital and human values.

**Materials and Methods:** The statistical population of this descriptive-correlational study consisted of all nurses working in hospitals in Kermanshah (2017) that 500 individuals were selected as the sample using multi-stage cluster sampling method. Deci and Ryan Scale of Psychological Needs (2000), Luthan's Psychological Capital Questionnaire (2007), Schwarz's Scale of Human Values (1994) and Steger et al. Meaning in life Questionnaire (2006) were used as the measuring tools. To analyze the data, structural equation modeling was used.

**Results:** The findings indicated that in general, the hypothesized model was fitted with the data, and the direct effects of basic psychological needs, psychological capital, and human values on the meaning in life were significant. Also, psychological capital had a direct and significant effect on human values. In addition, the indirect and significant effects of basic psychological needs on human values and psychological capital on the meaning in life were confirmed ( $P < 0.01$ ).

**Conclusion:** Based on the results, the basic psychological needs, human values and psychological capitals can largely predict the meaning of life in the nurses. Further, by improving these three variables, we can increase the meaning of life in these cases.

**Keywords:** Meaning of life, Needs Psychological capital, Value.

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## Introduction

Concern about the meaning and purpose of life is one of the characteristics human beings as a thinker and explorer. Human has always had a strong desire for her/his understanding and in order to support this desire, has performed a variety of cognitive and behavioral behaviors (1). According to Shek (2), the existence of meaning is the extent to which a person considers her/his life important, meaningful, and understandable.

Generally, this concept refers to the integrated understanding of humans from their self and life experiences, as well as having a goal during lifetime (3).

Meaningfulness allows people to interpret the events and provide values according to their lifestyle and desires. If human life is of real and positive values, it is meaningful (4). Values like the meaning of life are unique for everyone and every situation. According to Lindeman and Verkasalo (5), values are standards that guide thought and behavior, and individuals judge themselves and others by them (6). Schwartz (7) presented the theory of human values in which he has identified ten values that differ in terms of motivational basis, including self-direction, stimulation, hedonism, achievement, power, security, conformity, tradition, benevolence and universalism (8). He introduces human values as cognitive realization of the desirable and abstract goals, extra-situational and with an independent behavior that their importance is different as guiding principles in the lives of individuals and groups (9).

The psychological capital is another indicator of positive psychology, which is defined with features such as the individual's belief in his abilities to achieve success, perseverance in pursuing goals, creating positive affirmations about self and enduring problems (10).

Luthans (11) refers to the psychological capital as a situation and individual positive psychological source that its components includes: 1) self-efficacy, meaning belief in and assurance of person's ability to reach success for the task; 2) optimism about success in the present and future; 3) hope that means commitment to the goals and, if necessary, reviewing the goals for success; and 4) resilience, keeping calm and flexibility at the

extreme problems and unpleasant conditions to achieve success (12).

These four components of psychological capital have a high potential for change, and anyone who has the right psychological and situational conditions can provide the ground to strengthen them in various ways (13). These four components can make meaningful the individual's life in an interactive and measuring evaluation (14). Self-efficacy and resilience are influenced by satisfaction of the basic psychological needs (15).

Major focus of the self-determination theory is to satisfy the three basic psychological needs, including the need for autonomy, sense of competence, and relationship (16). Autonomy involves a tendency toward self-direction and a sense of will, vitality, and self-initiation (17). The sense of competence is the need for the ability to perform challenging tasks and to be effective to interact with the environment (18). The need for relationship is also to feel to be satisfactory with social and supportive relations, interesting in and belonging to others (19).

The basic psychological needs are innate and universal, and necessary for individual and social development of human beings. Therefore, the environmental conditions that will satisfy the basic psychological needs are important predictor to answer this question whether individuals will have the appropriate psychological health and vitality or not (20).

In the explanation of the proposed model of the present study, it can be said that, on the one hand, satisfaction of the need for competence and relationship can positively and significantly predict the degree of resilience, optimism and self-efficacy (as the components of psychological capital) (21,22). On the other hand, the results by Eakman (23) imply the mediating role of the variable of the basic psychological needs in meaningful activity and meaning of life. In addition, Kok, Goh and Gan (24) confirmed that there was a relationship between the meaning of life and achievement of the goal and value. Zahra and Hossein (25) also concluded that there was a positive significant correlation between psychological capital and spiritual values.

Therefore, considering the significance of the meaning of life, the review of research literature

and the lack of an integrated and coherent purpose of this study was to develop and test the relationship model of the basic psychological needs on the meaning of life with the mediation of psychological capital and human values.

### Materials and Methods

The method of this study is the applied one in terms of its purpose, and since any intervention has not been done in collecting data, it is descriptive-correlational and of structural equation modeling. Its purpose is to investigate the relationship between the extrinsic and intrinsic hidden structures existing in the model. The statistical population of the study consisted of the nurses working in the public hospitals of Kermanshah city in 2017.

Since the method of structural equation modeling is largely similar to some aspects of multivariate regression, we can use the principles of determining the sample size in structural equation modeling (26).

In multivariate regression analysis, the ratio of sample numbers to independent variables should not be less than five. So in general in the method of structural equation modeling, the sample size can be determined between 5 to 15 observation per each measured variable (or question) (26). Therefore, considering 112 items in four questionnaires used in this study, 560 people were selected through multi-step sampling method. In the first step, eight public hospitals were selected among the public hospitals in city of Kermanshah and five wards were randomly selected in each hospital. The criteria of entering people into the study as the statistical sample were: (1) being a working nurse; (2) being at the age range of 25-35 years; (3) having at least one year of work experience; (4) having at least the bachelor's degree. During the research and afterwards, ethical considerations, including the preservation of private information of individuals, were observed. In addition, Sanandaj Islamic Azad University approved conducting this study. To analyze the data, SPSS and AMOS software programs were used.

### Research instrument

A) *The Scale of Satisfaction of Basic Psychological Needs*: This scale was developed by LaGuardia et al. (27) and includes 21 items

research in the field of these variables, the that measure the basic psychological needs at a general level. The items measure the three sub-scales of autonomy, competence and relationship (belonging) in a seven-degree scale of score (1=not true at all) to (7=absolutely true) (28). In the study by LaGuardia et al. (27), reliability coefficients of implementation of the questionnaire on father, mother, friends and romantic partners were obtained equal to 0.92 in all cases. Besharat (29) reported Cronbach's alpha coefficients of the sub-scales of autonomy, competence and relationship about an Iranian sample (n=584) equal to 0.87, 0.83 and 0.91, respectively. Also, Kharazmi, Kareshki and Meshki (30) reported that the validity of the questionnaire was approved by three experts.

B) *The Scale of Psychological Capital*: This scale was developed by Luthans et al. (31). It includes 24 items and 4 sub-scales of self-efficacy, hope, optimism, and resilience. Each sub-scale consists of 6 items with 6 options (1=strongly disagree, to 6=strongly agree). The range of scores is between 24 and 144. Luthans et al. (31) reported the proper and very high reliability for this scale. Also, its reliability coefficient was calculated equal to 0.89 through Cronbach's alpha (32). Alipour et al. (33) also reported Cronbach's alpha equal to 0.85 for this scale.

C) *Schwartz's Value Scale*: This scale was designed by Schwartz (34) in 57 items and 10 sub-scales, including benevolence, tradition, conformity, security, power, success, stimulation, hedonism, self-direction and universalism. The task of the subject is to determine the degree of importance of each value as a guiding principle in her/his life, on a 7-degree scale (from 1=opposite of my values to 6=excellent). The range of scores is between zero to 342. Del-Khamoush and Ahmadi Mobarakeh (35) confirmed the validity of theoretical model of meaning and structure of values in an Iranian sample. Del-Khamoush and Ahmadi Mobarakeh (36) reported the reliability coefficient for all components more than 0.76.

D) *The Meaning of Life Scale*: This scale was developed by Steger et al. (37), which includes 10 items with 7 options (from 1= absolutely incorrect, to 7=absolutely correct). Each of the 5 items measures one of the two components of

the meaning of life and the search for meaning. The range of scores is between 10 and 70. Steger et al. (37) examined the convergent and divergent validity and reported a good validity for it. In addition, they reported the reliability of both subscales higher than 0.80. Ahmadi et al. (38) calculated reliability of the subscale of the meaning of life equal to 0.79 and that of the search for meaning equal to 0.71 through test-retest with 15-day interval ( $P < 0.001$ ).

**Results**

Of the 560 individuals participated in the research, 380 were women and 180 were men. The mean and standard deviation of the nurses' age were 29.74 and 8.17 respectively. The mean of their work experience was  $7.53 \pm 6.3$ . The mean and standard deviation of the components of research variables have been presented in Table 1.

**Table 1.** The mean and standard deviation of the components of research variables

	Autonomy	Competence	Relationship	Self-efficacy	Hope	Resilience	Optimism	Benevolence	Tradition	Conformity
<b>Mean</b>	32.59	27.52	38.24	27.36	24.10	23.20	22.97	57.42	25.47	23.64
<b>Standard deviation</b>	4.95	4.67	6.18	4.83	5.60	4.24	3.60	13.21	5.97	5.23
	Security	Power	Success	Stimulation	Hedonism	Self-direction	Universalism	Search for meaning	Existence of meaning	
<b>Mean</b>	28.55	21.89	22.17	12.59	8.94	22.88	37.23	19.81	19.09	
<b>Standard deviation</b>	6.54	5.55	6.23	3.39	2.51	5.75	8.66	3.73	4.27	

**Table 2.** Variance-covariance matrix of the components of research variables

Components	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. Autonomy	24.519																		
2. Competence	13.234	21.892																	
3. Relationship	14.464	14.319	38.300																
4. Self-efficacy	10.850	11.091	10.939	23.334															
5. Hope	8.572	10.112	9.332	15.361	31.449														
6. Resilience	3.445	3.566	4.382	8.607	8.837	17.988													
7. Optimism	5.657	5.450	5.499	6.735	8.698	3.450	12.961												
8. Benevolence	17.391	20.807	28.794	33.701	22.807	14.401	11.125	174.52											
9. Tradition	5.371	7.685	10.330	14.264	12.457	8.134	5.209	59.196	35.652										
10. Conformity	7.494	9.282	12.289	13.808	9.785	6.371	4.934	56.666	23.883	27.424									
11. Security	7.735	9.492	11.322	13.456	7.605	4.960	4.197	58.676	23.588	25.577	42.803								
12. Power	4.039	2.384	3.917	7.361	6.819	2.344	1.964	31.535	14.449	11.994	15.144	30.873							
13. Success	4.809	2.167	6.112	7.870	7.323	2.438	2.003	35.762	16.341	13.127	17.433	29.231	38.822						
14. Stimulation	2.328	1.464	3.994	4.565	4.520	1.612	1.635	19.670	10.276	7.825	10.252	10.111	12.745	11.51					
15. Hedonism	2.866	2.212	3.982	4.329	2.470	0.966	1.346	18.150	7.964	7.250	9.396	7.028	8.495	5.050	6.350				
16. Self-direction	6.329	6.064	8.695	10.072	5.605	3.598	3.287	43.599	18.458	17.776	21.366	17.200	20.871	12.456	8.414	33.127			
17. Universalism	10.756	13.470	17.377	21.208	13.788	9.953	7.028	93.490	35.908	36.244	37.676	20.324	23.461	13.827	12.569	29.235	75.01		
18. Search for meaning	3.121	3.411	5.087	5.020	4.877	3.618	2.953	16.003	35.908	6.731	6.974	4.066	4.791	2.311	2.306	5.427	10.08	13.98	
19. The existence of meaning	8.137	8.437	8.821	7.844	8.576	5.272	5.565	18.328	7.001	8.082	7.577	2.730	2.899	1.112	1.906	4.721	12.19	6.69	18.30

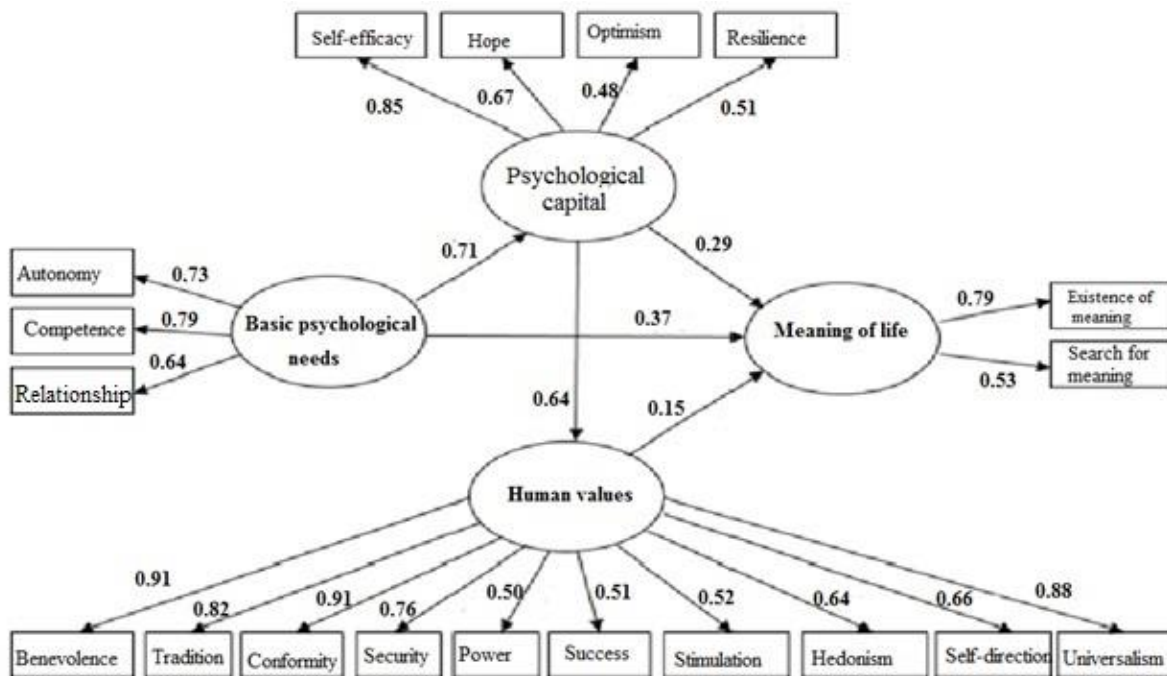


Fig 1. Structural equation model for variables along with standardized path coefficients

Figure 1 shows the confirmed structural equation model for four variables of the basic needs, psychological capital, human values and the meaning of life. The approved model in Figure 2 indicates that the nurses’ basic psychological needs affect the meaning of their lives by mediating psychological capital. In other words, these variables can predict the nurses’ meaning of life. According to the above diagram, the basic psychological needs (0.37), psychological capital (0.29) and human values (0.15) affect the meaning of life; basic psychological needs (0.71) affect psychological

capital; and psychological capital (0.64) affects human values in nurses directly. It should be noted that in the above model, all covariance paths are also significant ( $P < 0.05$ ). Among the sub-scales of basic psychological needs, competence (0.79) had the most impact on this variable. In addition, among the sub-scales of psychological capital, self-efficacy (0.85), human values, conformity, benevolence (0.91), meaning of life, and the existence of meaning (0.79) had the most effect on the intended variable. The fit indices related to the proposed model have been illustrated in Table 3.

Table 3. Fit indices related to the proposed model

Fit index	DF	CMIN	CMIN/DF	GFI	IFI	PNFI	CFI	RMSEA
Developed model	141	477.677	3.388	0.91	0.94	0.75	0.94	0.069

As seen in Table 3, the amount of CMIN (477.677) with a degree of freedom equal to 141 shows an optimal value. The amount of chi-squares relation to the degree of freedom for CMIN/DF is 3.388; considering that it is between 2 and 5, it shows an acceptable fitness. The goodness of fit index (GFI), adjusted goodness of fit index (AGFI), and comparative fit index (CFI) are other important indices,

which due to their proximity to 1 represents the optimal fitness of the model. Also, parsimonious normalized fit index (PNFI) because of being greater than 0.5 indicates that the model economy has been observed. The root mean square error of approximation (RMSEA) can be calculated for different confidence intervals and is an index that is often identified as a cutoff point for good and bad models. Fitness of the

models with values higher than 0.10 are considered weak (39). Therefore, the value of this index is acceptable for the present model

(0.069). Study of standard and non-standard path coefficients and their t-value are presented in Table 4.

**Table 4.** Estimates and general characteristics of the model

Path		t-value	Standard estimates	Non-standard estimates	
Basic psychological needs	---->	Psychological capital	10.933	0.71	0.740
Psychological capital	---->	Human values	12.914	0.64	1.192
Psychological capital	---->	The meaning of life	2.60	0.288	0.139
Basic psychological needs	---->	The meaning of life	3.70	0.365	0.184
Human values	---->	The meaning of life	2.80	0.145	0.038

According to the data in Table 4, t-value of the path of basic psychological needs to psychological capital is 10.933. The t-value the path of psychological capital to human values is 12.914, that of psychological capital to meaning of life is 2.60, the t-value the path of basic psychological needs to meaning of life is 3.70

and that of human values to meaning of life is 2.80. Considering that all values in the table are greater than (or equivalent to) 2.58, the coefficients of the mentioned paths are significant with 99% confidence. Direct, indirect and total effects have been shown in Table 5.

**Table 5.** Direct, indirect and total effects

Paths	Direct impact	Indirect effect	Total effect
Basic psychological needs ----> Psychological capital	0.710	0.000	0.710
Basic psychological needs ----> Human values	0.000	0.454	0.454
Basic psychological needs ----> The meaning of life	0.365	0.270	0.365
Psychological capital ----> Human values	0.640	0.000	0.640
Psychological capital ----> The meaning of life	0.288	0.093	0.380
Human values ----> The meaning of life	0.145	0.000	0.145

As seen in Table 5, the extrinsic variables of basic psychological needs and psychological capital both directly and indirectly affect on the intrinsic variable of the meaning of life.

Also, the effects of variables of basic psychological needs on psychological capital, psychological capital on human values, as well as human values on the meaning of life are just indirect. In addition, the effect of basic psychological needs on human values is only indirect.

**Discussion**

The purpose of this study was to develop and test the relationship model of basic psychological needs on meaning of life through the mediating roles of psychological capital and human values. In the present study, the general fitness of the model was confirmed and the goodness of fit indices showed that the theoretical model match with the realistic data of fitness. In other words, the research hypothesis that was presented in the form of a theoretical

model was generally consistent with the results obtained from the sample and it can be said that the model is confirmed. Analysis of structural relations showed that basic psychological needs could directly and indirectly affect the meaning of life.

Given that the meaning of life is one of the components of positive psychology, this finding is congruent with all studies that state the satisfaction of the basic psychological needs improve one of the components of positive psychology, including Ahmadi et al. (40) that showed there was a positive and significant relationship between basic psychological needs and well-being (virtue-oriented and pleasure-oriented) indices. In a study by Moynihan et al. (41) entitled "Freedom, relationship and significance", it has been shown that there is a positive and significant relationship between free will and the meaning of life by mediating relationship along with belonging, which is one of the components of basic psychological needs. However, this finding is more accurately consistent with the results of a study by Eakman (23). In his research, he explored the relationships among the meaningful activities, basic psychological needs and the meaning of life. The results of that study indicated the mediating role of basic psychological needs in the relationship between the meaningful activities and the meaning of life. In fact, the findings showed that the basic psychological needs directly and significantly affected the meaning of life.

As can be seen, the results of this research are in line with the self-determination theory, and in fact, this is logical that people can have special targets and purposes for their lives in which their basic psychological needs are accurately satisfied.

In the following, the analysis of structural relationships for the positive and significant effects of the basic psychological needs on psychological capital is shown. The literature review revealed that, on the one hand, Kharazmi, Kareshki and Moshki (30) found that the basic psychological needs were effective in intrinsic motivation, and on the other hand, Ghasem and Hosseinchari (42) showed that intrinsic motivation was effective in self-efficacy and resilience that are the components

of psychological capital. In addition, Pazhohan et al. (43) confirmed the effect of the components of basic psychological needs on the intrinsic motivation as well as their impact on psychological capital by mediating creativity. As a result, it can be said that the findings of the previous researches also support the finding of the present research. However, Arban et al. (44) reported a positive correlation coefficient (0.52) for the relationship between basic psychological needs and psychological capital. In addition, Verleysen et al. (45) concluded that the satisfaction of basic psychological needs had a direct and significant effect on psychological capital.

Another finding of the present study is the significant effect of psychological capital on the meaning of life that is considered a one of the unique results of this study, because a similar result is not found in the researches done so far. In explaining this finding, it can be said that the component of psychological capital, including self-efficacy, optimism, hope and resilience give meaning to the individual's life in an interactive and evaluative process (14).

It was also found in the analysis of structural relations that human values also directly and significantly affect the meaning of life, which this finding is also in line with positive psychology as well as with the result found by Sharifi et al. (46) that confirmed the relationship between Schwartz's personal values and subjective well-being. Barni and Danioni (47) in a study entitled "Adolescents' basic personal values and sense of coherence" showed that the sense of coherence means a general attitude towards life in terms of understanding and ability to control, and is defined by meaning of life, which is a source for coping with stress and improving health. Conservative and self-oriented value are positively correlated with sense of coherence. Values are the resources for increasing the sense of coherence, especially meaningfulness of life and reflect a clear understanding of problems, control, competence and commitment. Also, a research by Dahl (48) under the title of "Valuing in ACT" showed that valuing as an important process for the promotion of meaning, well-being and quality of life is necessary. Kok, Goh and Gan (24) in a research entitled "Meaningful life and

happiness” confirmed the findings of the present study. They found that the Malaysian youth considered a meaningful life in three subjects, including happiness, relationship with the family members, and achieving the goals and values.

Another finding of the present study is the significance of the direct and positive effect of psychological capital on human values. This finding is consistent with the results of the study by Zehra and Hussain (25). They concluded that there was a positive and significant correlation between psychological capital and spiritual values. According to Schwartz (34), the values originate from three general needs, including biological needs, the need for social interaction and the need for survival and prosperity. The researchers’ inference is that the role of psychological capital in social interaction is undeniable, and the developed psychological capital provides the survival and well-being of the groups. As an individual’s psychological capital is changed by various factors, Karamati-Moghaddam et al. (49) also showed that a person’s value system does not remain constant. On the other hand, the value system is somewhat influenced by experiences and individual and social factors influence the creation of values through the process of socialization or environmental transfer (50). Therefore, it seems logical that development of psychological capital can affect on the development of the human values, because both are changed over time.

Another finding of the present study is the insignificance of the direct effect of basic psychological needs on human values. Since basic psychological needs are innate, and human values are affected more than basic psychological needs by environmental conditions, this effect is not direct, but it is done by mediating of the psychological capital. In explaining this result, we can say that in the approved model, instead of approving the relationship of the innate and biological subjects such as basic psychological needs and meaning of life, the relationship between the principles,

which are affected by environment such as psychological capital and the human values, has been confirmed. The environments that support the basic psychological needs, including autonomy, relationship associated with belonging and competence, can improve the meaning of life. They also develop the psychological capital and human values that in turn increase the meaning of life.

This study was conducted on a specific professional group. So, one should be cautious in generalizing the results. If the job constraints were reduced or controlled during the research and data collection, we could study the relationship among the variables more accurately, which this issue was not possible to some extent because of being busy the nurses participated in this study. According to the results of this study, it is suggested that a training package of the model is provided and its effectiveness is studied in order to increase the subjective well-being.

### Conclusion

The findings suggest that, in general, the hypothetical model fits with data and the direct effects of basic psychological needs, psychological capital and the human values on the meaning of life are significant. Also, psychological capital has a direct and significant effect on the human values. In addition, the indirect but significant effect of the basic psychological needs on the human values as well as that of psychological capital on the meaning of life was confirmed.

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