

The Role of Personality Traits on Life Satisfaction with an Emphasis on the Mediating Role of Self-efficacy in Paramedical Students in Shiraz

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Abstract

Background and Objective: Life satisfaction is an important concept in positive psychology, so that it is nowadays considered as one of the important indicators of well-being. The present study was an attempt to investigate the structural model of the role of personality traits on life satisfaction considering the mediating role of self-efficacy.

Methods: The statistical population of the present study included all students of the paramedical faculty of Shiraz that 486 people were selected among them using a convenience sampling method. Neo personality inventory and life satisfaction and self-efficacy questionnaires were used to collect research data among general paramedical students in Shiraz. The proposed model was evaluated through structural equation modeling (SEM) in SPSS18 software and AMOS 18 software. Bootstrap method was used to test the indirect effects in the proposed model.

Results: The results revealed that the proposed model has a relatively good fit with the data. Better fit was achieved by eliminating a non-significant path.

Conclusion: In general, the results of present study include important implications about life satisfaction and the factors affecting it, including personality traits and self-efficacy in paramedical students in Shiraz.

Keywords: Life Satisfaction, Self-Efficacy, Personality Traits, Paramedical Students, Shiraz.

Background and objective

The experience of happiness and life satisfaction is the ultimate goal of human beings in life and all human beings are trying to achieve it¹. Life satisfaction is one of the oldest and most important subjects investigated and as a cognitive component of mental well-being, it refers to people cognitive assessment of quality of life based on self-defined criteria². Life satisfaction is the ultimate goal of human beings and it is associated with many factors. Based on psychologists, life satisfaction stems from experiencing positive emotions in life³. According to them, life satisfaction is both the result of tangible living conditions such as education, married life, employment, and financial and welfare facilities in general, and is also influenced by one's inner states and perceptions, which is called mental satisfaction. Identifying factors related to life satisfaction is not an easy task⁴. Several factors have been proposed to increase life satisfaction. These factors can be classified into two classes of biological factors (such as genetic predisposition and physical health) and psychosocial factors (such as desirable social relationships and psychological needs).

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Personality of individuals is among the biological and genetic factors affecting life satisfaction (3. Personality traits are one of the factors influencing the life satisfaction. Personality makes it possible to predict what a person will do in a situation⁵. Using factor analysis, Costa and McCrae showed that personality is composed of five big factors of neuroticism, extraversion, and openness to experience, agreeableness, and conscientiousness, each of which is the product of six traits⁶. The five-factor personality model is a comprehensive classification of personality traits, reflecting individuals' tendencies to show thinking, feeling, and acting patterns⁷. The neuroticism trait is characterized by emotional instability, confusion, feeling of guilt, pessimism, and low self-esteem. Extraversion is also characterized by being social, self-expressing and working with a group, and the trait of openness to experience is characterized by active imagination, diversity-seeking, independence in judgment, and openness of mind. Agreeableness traits are associated with traits such as empathy, altruism, and respect for the opinions of others. Conscientiousness is also characterized by characteristics such as purposefulness, determination, responsiveness and honesty. These five great personality traits explain the high degree of variability in personality⁷. The results of studies have shown that the dimensions of agreeableness, conscientiousness and openness to experience are positively correlated with life satisfaction, while they are negatively correlated with neuroticism⁸. The effect of personality dimensions on behavior and cognition leads to behavioral, cognitive or non-cognitive consequences that have a significant impact on creating a sense of satisfaction or dissatisfaction with life. This effect is sometimes direct and sometimes psychological mediator such as self-efficacy in paramedical students in Shiraz is involved in this regard.

According to Bandura, self-efficacy in paramedical students is the most essential human mechanism for managing and controlling the events that affect his or her life⁹. In a study conducted by Shi, Li, Zhu & Shi, results showed that self-efficacy in paramedical students has a positive and significant relationship with personality dimensions including extroversion, emotional stability, agreeableness, conscientiousness and openness to experience. According to the results of self-efficacy studies, it is also associated with life satisfaction¹⁰. It should be noted that identifying the correlated factors and predictors of life satisfaction is only a small part of the effort to fully investigate this phenomenon. Higher success is achieved when the underlying mechanisms involved in the occurrence of this sensation are identified. In dynamic models of relationships between the variables, the effect of the predictor variable on the criterion variable is through mediating variables. These models were first introduced by Tallman in his review of the stimulus-response model and developed with attribution theory. The mediating variable is usually an endogenous variable. One of these variables is self-efficacy. Given what was stated above, the present study is an attempt to investigate the psychological mechanism through which personality traits affect life satisfaction. Given what was stated and considering the shortcomings of research in the area of life satisfaction, personality traits and self-efficacy, this study aims at investigating the relationship between personality traits and life satisfaction by considering the mediating role of self-efficacy in paramedical students. (Figure 1) illustrates the proposed model of the present study.

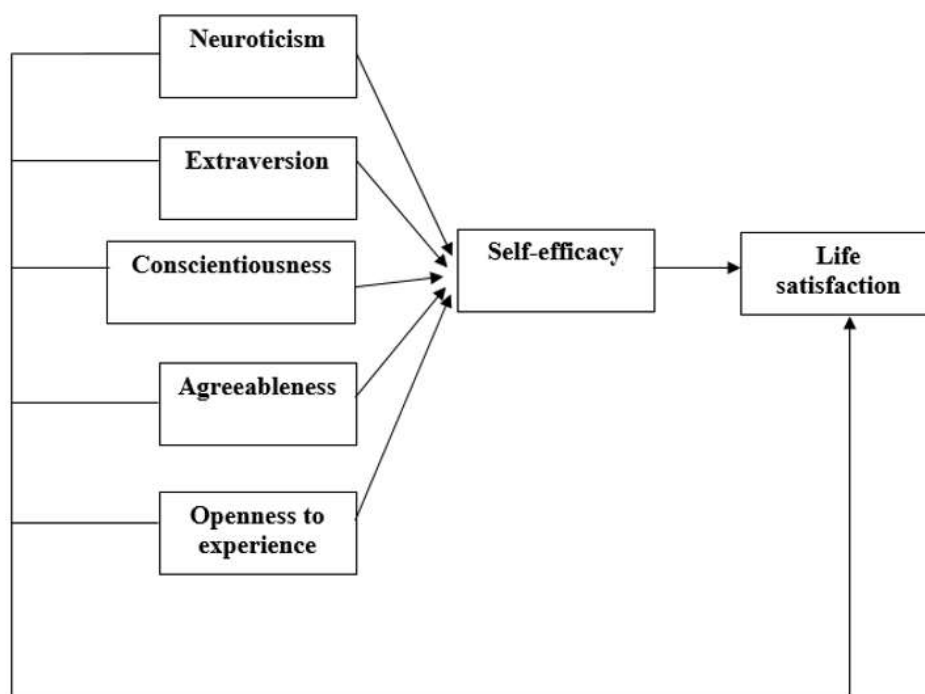


Figure 1. The proposed model of the present study

Method

The present study is a cross-sectional study in terms of time, fundamental in terms of aim, and structural equation modeling in terms of method of data collection and correlation analysis. The statistical population of the present study included all students of Shiraz Paramedical School in the academic year of 2019-2020, who were studying at associate and a master level of education during the data collection. In the present study, a convenient sampling method was used. Questionnaires were distributed and collected from a sample of 516 people. After excluding the distorted questionnaires, 486 questionnaires were analyzed. Self-report questionnaires were used to assess the variables of this study. Also, sample members were asked to answer questions raised to collect data about some of their demographic characteristics, including gender, educational group, and level of education.

Neo personality inventory

Neo Costa and MaCrea inventory has 60 questions that assess five factors of neuroticism, extraversion, and openness to experience, agreeableness, and conscientiousness. Each factor is measured with 12 questions, and each question is scored on a five-point Likert scale ranging from zero to 4 (0 = strongly disagree to 4 = strongly agree). The minimum score in each subscale is zero and the maximum score is 48.

Considering the validity and reliability of the Neo personality inventory, the results of a study showed that the correlation between the five subscales of the short form and the long form is from 0.77 to 0.92. The internal consistency of its subscales was also estimated at the range of 0.68 to 0.86. Using Cronbach's alpha method, the reliability coefficient for neuroticism, extraversion, openness to experience, agreeableness and conscientiousness have been reported at 0.79, 0.76, 0.54, 0.61 and 0.78, respectively¹¹. In this study, Cronbach's alpha for each of the factors of neuroticism, extraversion, and openness to

experience, agreeableness and conscientiousness were obtained at 0.90, 0.76, 0.91, 0.72 and 0.88, respectively.

Diener Life Satisfaction Scale

This scale was designed by Diener to assess the level of general life satisfaction of individuals and includes 5 questions scored on a 7-point Likert scale (1 = strongly disagree to 7 = strongly agree). The reliability of internal consistency coefficients and scale test-retest among students were reported to be 0.78 and 0.82, respectively. In the exploratory factor analysis of this instrument, one factor was extracted and the obtained factor explained 63.40% of the variance of the scores. Also, this scale showed a positive correlation with other welfare scales used. The alpha coefficient of this scale was obtained at 0.87 and the reliability coefficient of the scale was also obtained at 0.92¹². In this study, the reliability of the instrument using Cronbach's alpha method was calculated at 0.74.

General self-efficacy questionnaire

In the present study, a 17-item general self-efficacy questionnaire was used to measure self-efficacy in paramedical students. Its questions were scored on a 5-point Likert scale from strongly agree to strongly disagree. Sherrer et al have shown that the general self-efficacy questionnaire has an acceptable internal consistency with a value of 0.78¹³. In an Iranian sample, the psychometric properties of this scale were obtained at acceptable level and Cronbach's alpha was reported at 0.83. Also, this questionnaire was correlated with measurements of several personality traits (Rotter's Internal and External Control Scale, Personal Control subscale, and Rosenberg Interpersonal Competence Scale), which the predicted correlation between the self-efficacy scale in paramedical students and sizes of some

moderate and significant personality traits was obtained at 0.48, 0.56, 0.53, respectively, and the desired structure was confirmed¹⁴. In this study, the reliability of this instrument using Cronbach's alpha method was calculated at 0.86.

Emotion regulation subscale of the Emotional Openness Dimensions Questionnaire

To measure emotion regulation, the emotion regulation subscale of the Emotional Openness Dimensions Questionnaire was used. In this questionnaire, the dimensions of emotional openness, emotion regulation measures the ability and capacity of the person to regulate and control emotions. This subscale has 4 questions and each item is scored on a 5-point Likert scale ranging from 1 to 5 (1 = not at all to 5 = maximum). The reliability coefficient of this subscale using Cronbach's alpha method was at 0.81¹⁵. In the present study, the reliability of instrument using Cronbach's alpha method was calculated at 0.77. Structural equation modeling (SEM) was used to evaluate the proposed model. All analyses were performed in SPSS18 and AMOS 18 software. To determine the fit of proposed model with the data, a combination of fitness indices were used. The bootstrap method was also used to examine the indirect effects.

Results

Data of 486 participants (289 females and 197 males) were analyzed. Among them, 181 were studying in radiology, 164 in laboratory science, 45 in medical journalism, 41 in biotechnology, 32 in hematology and 23 in radiobiology.

Since the basis for analysis of causal patterns is the correlation matrix, the correlation matrix of the studied variables is presented in (Table 1).

Table 1. Correlation matrix of research variables

Variables	1	2	3	4	5	6	7	8
Neuroticism								
Extraversion	0.405**							
Conscientiousness	-0.279**	0.191**						
Agreeableness	-0.185**	0.249**	0.639**					
Openness to Experience	0.234**	0.786**	0.325**	0.412**				
Self-efficacy	-0.443**	0.627**	0.141**	-0.142**	0.550**	-		
life satisfaction	-0.365**	0.559**	0.116**	0.151**	0.541**	0.123**	0.434**	-

(Table 1) show the relationships between the research variables at the level of $p < 0.05$. These correlation analyses provide insight on the relationships between the

two variables of the research. (Table 2) presents the descriptive indices of the research variables.

Table 2. Descriptive indices of research variables

Variables	Mean	SD	Skewness	Kurtosis
Neuroticism	24.25	8.01	0.094	0.517
Extraversion	24.73	5.85	0.228	0.640
Conscientiousness	29.83	5.84	0.045	0.324
Agreeableness	27.66	4.43	0.471	0.412
Openness to Experience	26.07	4.57	-0.568	0.601
Self-efficacy	57.23	8.82	-0.541	0.215
life satisfaction	19.71	4.60	-0.466	-0.214

As shown in (Table 2), all research variables have an absolute value of the skewness coefficient of less than 3 and the absolute value of kurtosis coefficient of less than 10, so normality of data is confirmed. In addition, investigating univariate and multivariate outliers showed that there was no outlier in any of the measured variables. The results also showed that the tolerance values obtained for the variables were above 0.1, indicating lack of multi-collinearity between the variables. Also, the value of variance inflation factor obtained for the variables was less than 10, indicating that there is no multi-collinearity between the variables. First, the direct path coefficients of the variables measured in the model were investigated. Based on the results,

all paths except the path of openness to experience were significant for life satisfaction. Then, the fit of the proposed model with the data was examined. Although the values of most fit indices indicated an acceptable fit of the proposed model to the data, the RMSEA index showed that the model needed to be improved. The next step was improving the fit of the proposed model by eliminating non-significant paths (providing a modified model). Thus, non-significant paths were eliminated and another analysis was performed on the data. The results indicated a good fit of the final model. The fit indices of the proposed model and the final model are presented in (Table 3).

Table 3. Fit indices of the proposed model

Structure	χ^2	df	χ^2 df	GFI	AGFI	IFI	TLI	CFI	NFI	RMSEA
Proposed model	144.4	13	11.10	0.89	0.91	0.90	0.87	0.90	0.90	0.08
Final model	25.77	12	2.14	0.90	0.93	0.90	0.90	0.92	0.91	0.05

RMSEA index is the most common index used in model fit. If this index is lower than 0.1 and the obtained p-value is significant at the level of 0.05, the model fit is confirmed. Also, if the result of dividing chi-square on df is less than the value of 3, the fit of model is strongly confirmed, which it was obtained at 2.14 in this study. According to (Table 3), since

RMSEA index in this model is equal to 0.05, it can be stated that the obtained model has a good fit with the data. Also, since the values of other fit indices are at the desired level (above 0.9), it can be stated that the results of the fit indices of the model are appropriate. (Figure 2) illustrates the standardized path coefficients in the final model

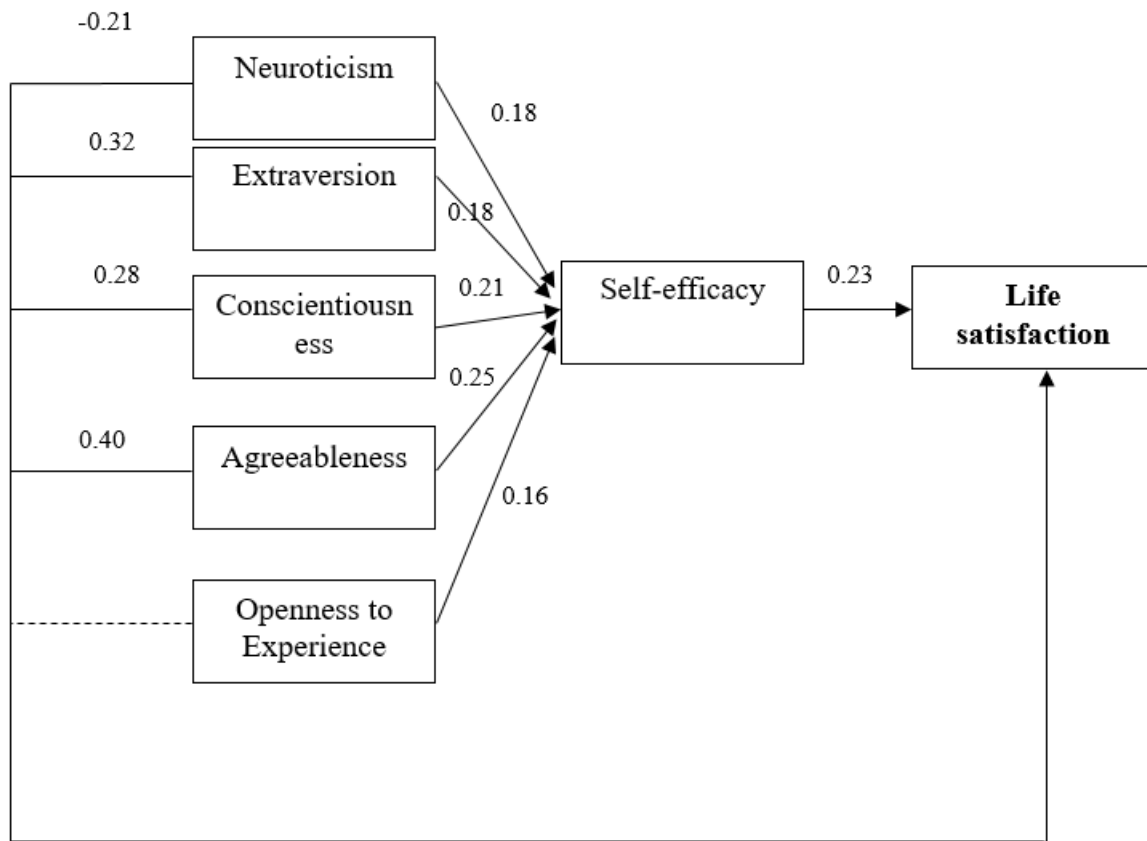


Figure 2. Standardized path coefficients of the final model

The results of the intermediate relationships examined by bootstrap method for indirect paths are shown in (Table 4).

Table 4. Bootstrap results for research intermediate paths

path	data	bootstrap	bias	SD	Lower bound	Upper bound
Neuroticism > Self-efficacy in paramedical students > Life satisfaction	0.4596	0.4585	-0.0006	0.0681	0.4041	0.6256
Extraversion > Self-efficacy in paramedical students > Life satisfaction	0.0168	0.0164	-0.0004	0.0111	-0.0094	-0.0455
Conscientiousness > self-efficacy in paramedical students > Life satisfaction	0.0383	0.0387	0.0081	0.0194	0.0206	0.0571

path	data	bootstrap	bias	SD	Lower bound	Upper bound
Agreeableness> self-efficacy in paramedical students> Life satisfaction	0.0272	0.0264	0.0054	0.0133	0.3345	0.7781
Openness to experience> Self-efficacy in paramedical students> Life satisfaction	0.0569	0.0568	0.009	0.0145	0.0324	0.0451

The confidence intervals for the paths listed in (Table 4) indicate that all indirect paths were significant as all 5 indirect paths in the present study were not zero. The confidence level for these intervals was 95 and the number of bootstrap re-sampling was 1000.

Discussion

The aim of present study was to investigate the mediating role of self-efficacy in paramedical students in Shiraz in the relationship between personality traits and life satisfaction. The results showed that all personality traits except for openness to experience had a significant effect on life satisfaction. This result is consistent with results of previous studies. The results of research conducted by Szcześniak et al.¹⁶ showed that as the level of neuroticism increases in employees, the level of life satisfaction among them decreases. In explaining this result, it can be stated that life satisfaction is a multidimensional issue that one of its important dimensions is related to mental health. Thus, whenever one's mental health is threatened, the level of life satisfaction decreases. Mental health also stems from personality traits. In explaining the relationship between extroversion and life satisfaction, it can be stated that people with more extroversion trait are more successful in making friends and creating support networks, resulting in formation of a higher level of life satisfaction. In explaining the significant effect of agreeableness on life satisfaction, it can be stated that people with high agreeableness have characteristics such as trust,

frankness, hostility, altruism, humility and compassion. These people also have the characteristics of helping and sense of empathy, and they view others as their own, they establish relationship with others easily. These characteristics may affect their life satisfaction because they are more adaptable. Results indicate that openness to experience has no significant effect on life satisfaction. This result is in line with results of the research conducted by Judge et al.¹⁷. In explaining this result, it can be stated that based on research of Lin¹⁸, openness to experience leads to both positive and negative emotional states and it causes that openness to experience does not play a role in life satisfaction. Also, the results indicate the positive effect of self-efficacy in paramedical students on life satisfaction. These results are in line with the results of a study conducted by Lin. In explaining this result, we can refer to Bandura's theory of self-efficacy. Based on theory of self-efficacy, when people are in a stressful situation, those who consider themselves capable and efficient in the face of problems make more efforts to cope with problems, confirming the role of self-efficacy in life satisfaction¹⁹. The results supported the significant effect of personality traits on self-efficacy. In explaining this result, it can be stated that individual differences in personality traits and self-efficacy beliefs have a unique role in people perception of their performance at different stages of life. For example, conscientiousness includes goal-oriented behavioral traits as well as impulse control in a community-friendly manner. It seems that with increasing one's responsiveness,

he or she becomes more self-regulating and efficient person, and consequently, enjoys higher self-efficacy²⁰.

Conclusion

Although personality traits were associated with students' life satisfaction, this relationship was mediated through self-efficacy in paramedical students, so it was more important and fundamental structure. In the present study, it was shown that self-efficacy in paramedical students acts as a psychological mechanism through which personality traits affect life satisfaction. Based on self-efficacy theory, perceived inefficiency plays a major role in depression, anxiety, and sense of satisfaction or dissatisfaction, it can also result in feelings and beliefs of emptiness. A person will be depressed when he or she finds himself or herself ineffective in achieving valuable goals and he or she will become anxious when he or she realizes that he or she is unable to cope with threatening stimuli. People with poor self-efficacy view tasks more difficult and this increases their stress, in contrast, strong self-efficacy beliefs cause peace of mind. Based on the results of the present study and considering the mediating and important role of self-efficacy in students' life satisfaction, counselors of universities are recommended to hold workshops on self-efficacy and self-confidence for students, and students with characteristics such as low self-esteem should be identified by university counselors through screening and provide special trainings for them. Since the present study design is structural equations modeling and does not prove the cause, we should with caution in generalizing the results.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

Authors' contributions

The authors are the same

References

1. Chui W. & Wong M. Gender differences in happiness and life satisfaction among adolescents in Hong Kong: Relationships and self-concept, *Social Indicators Research*, Feb; 2016. 125(3): 1035-1351
2. Moksnes U. & Eilertsen M. & Ringdal R. & Bjørnsen H. & Rannestad T. Life satisfaction in association with self-efficacy and stressor experience in adolescents—self-efficacy as a potential moderator, *Scandinavian journal of caring sciences*, Mar; 2019. 33(1):222-30.
3. Johnson W. & Krueger R. How money buys happiness: genetic and environmental processes linking finances and life satisfaction, *Journal of personality and social psychology*; 2006. 90(4): 680-698.
4. Diener E. & Seligman M. Very happy people, *Psychological science*, 2002. 13(1): 81-89.
5. Steel P. & Schmidt J. & Shultz J. Refining the relationship between personality and subjective well-being. *Psychological bulletin*, 2018. 134(1): 138-159.
6. McCrae R. & Costa J. Adding Liebe und Arbeit: The full five-factor model and well-being, *Personality and social psychology bulletin*; 2020. 17(2): 227-232.
7. Hengartner M. & van der Linden D. & Bohleber L. & von Wyl A. Big five personality traits and the general factor of personality as moderators of stress and coping reactions following an emergency alarm on a Swiss university campus, *Stress and Health*; 2017. 33(1):35-44.
8. Anglim J. & Grant S. Predicting psychological and subjective well-being from personality: Incremental prediction from 30 facets over the Big 5, *Journal of Happiness studies*; 2016. 17(1): 59-80.

9. Abolghassemi A. & Poorkord M. & Narimani M. The relationship of social skills and self-efficacy with tendency to substance use in adolescents, *Journal of Sabzevar University of Medical Sciences and Health Services*; 2016. 16(4): 181-185.
10. Shi M. & Li X. & Zhu T. & Shi K. The relationship between regulatory emotional self-efficacy, big-five personality and internet events attitude, In 2010 IEEE 2nd Symposium on Web Society, IEEE, 2010. 16(8): 61-65.
11. McCrae R. & Costa J. Personality, coping, and coping effectiveness in an adult sample, *Journal of personality*, 1986. 54(2): 385-404.
12. Daemi F. & Joshanlo M. Study the validity and reliability of the life satisfaction scale in college students. *Journal of clinical psychology*; 2004. 2(11): 135-144.
13. Sherer M. & Maddux J. & Mercandante B. & Prentice-Dunn S. & Jacobs B. & Rogers R. The self-efficacy scale: Construction and validation. *Psychological reports*; 1982. 51(2): 663-671.
14. Barati S. Investigating the simple and multivariate relationship between self-efficacy and self-esteem with academic performance in students.; MA thesis in educational psychology: Shahid Chamran University; 2006. 8(5): 47-66.
15. Garnefski N. & Kraaij V. The cognitive emotion regulation questionnaire, *European Journal of Psychological Assessment*; 2017. 23(3): 141-149.
16. Szcześniak M. & Sopińska B. & Kropiewski Z. Big Five personality traits and life satisfaction: The mediating role of religiosity. *Religions*, 2019. 10(7): 437-449.
17. Judge T. & Heller D. & Mount M. Five-factor model of personality and job satisfaction: A meta-analysis. *Journal of applied psychology*; 2012. 87(3): 530-548.
18. Lin S. An exploration of Chinese international students' social self-efficacies, Doctoral dissertation, The Ohio State University; 16(2): 489-527.
19. Caprara G. & Vecchione M. & Alessandri G. & Gerbino M. Barbaranelli C. The contribution of personality traits and self-efficacy beliefs to academic achievement: A longitudinal study. *British Journal of Educational Psychology*. Mar; 2020. 81(1): 78-96.
20. Putarek V. & Pavlin-Bernardić N. The role of self-efficacy for self-regulated learning, achievement goals, and engagement in academic cheating, *European Journal of Psychology of Education*, 2019. 28(1): 1-25.

Please cite this article as:

Afsane Samadpor, Sadrollah Khosravi ,Mahbobeh . The Role of Personality Traits on Life Satisfaction with an Emphasis on the Mediating Role of Self-efficacy in Paramedical Students in Shiraz . *Int J Hosp Res*. 2021; 10 (2).