




Structural model of life satisfaction based on personality traits with the mediating role of emotion regulation in paramedical students

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Abstract

Introduction: Experiencing happiness and life satisfaction is the ultimate goal of human beings in life. The aim of this study was to investigate structural model of life satisfaction based on personality traits with the mediating role of emotion regulation in paramedical students

Methods: The statistical population of the study included all students of the paramedical school of Shiraz, from which 486 people were selected by convenient sampling methods. Neo, Life Satisfaction and Emotion regulation Questionnaires were used to collect research data. The evaluation of the proposed model was done through Structural Equation Modeling (SEM) using SPSS software (version 18) and AMOS (version 18). Bootstrap method was used to test the indirect effects in the proposed model.

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

Conclusion: According to the research results, emotion regulation has a mediating role in relation to personality traits and life satisfaction, so it may be possible to include management and emotion regulation training programs to increase life satisfaction among social prevention programs.

Keywords: Emotional Regulation; Personal Satisfaction; Personality.

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Introduction:

Life satisfaction is an important concept in positive-oriented psychology so that it is known as one of the significant welfare criteria. In other words, it is a reliable criterion to assess the development in a society in respect of physical and other aspects of life. Life satisfaction is a vital factor in welfare of humans. The investigation about this concept in health care system is interwoven to health,

because there is a close correlation between life satisfaction and mental and physical health (1). This concept is as complex and multi-dimensional as life definition and impacted by different factors (2).

Personality traits is one of these influencing factors. In fact, personality, as the central part of individual's psychological framework has a crucial role in conforming his lifestyle. It

could also be a major root of life satisfaction (3).

Personality characteristics include some frameworks by which the individual selects them in order to tackle new problems. These characteristics are typically unchangeable (4).

Big Five Personality Theory is a comprehensive category of personality characteristics which reveals the people's attitude in demonstrating their thoughts, feelings and action (3). Based on this theory, personality can be described in five major spectrums: neuroticism, extraversion, agreeableness, accountability and openness to experience (5). The results of investigations have shown positive relation between agreeableness, accountability and openness to experience with life satisfaction and negative relation of the mentioned variables with neuroticism (6). Emotion is a psychological factor which can play an important role in people's life satisfaction. Therefore, the efficient regulation of

emotions effect psychological function tremendously (7). This regulation is a significant determinant in mental welfare and health (8), and can impact individuals' life satisfaction. Emotion regulation is a series of internal and external processes which is responsible for control, assessment and modification of emotional interactions in order to achieve personal goals (9). The behaviors, feelings and cognition of an individual affected by self-regulating mechanisms depend on his personality and emotion regulation process (10). In other words, individual differences associated with emotion regulation are related to various dimensions of personality (11).

The findings of various studies have demonstrated the association between personality characteristics with emotion regulation in a way that the relation between extraversion and accountability with emotion regulation were positive and this relation was negative with neuroticism (8).

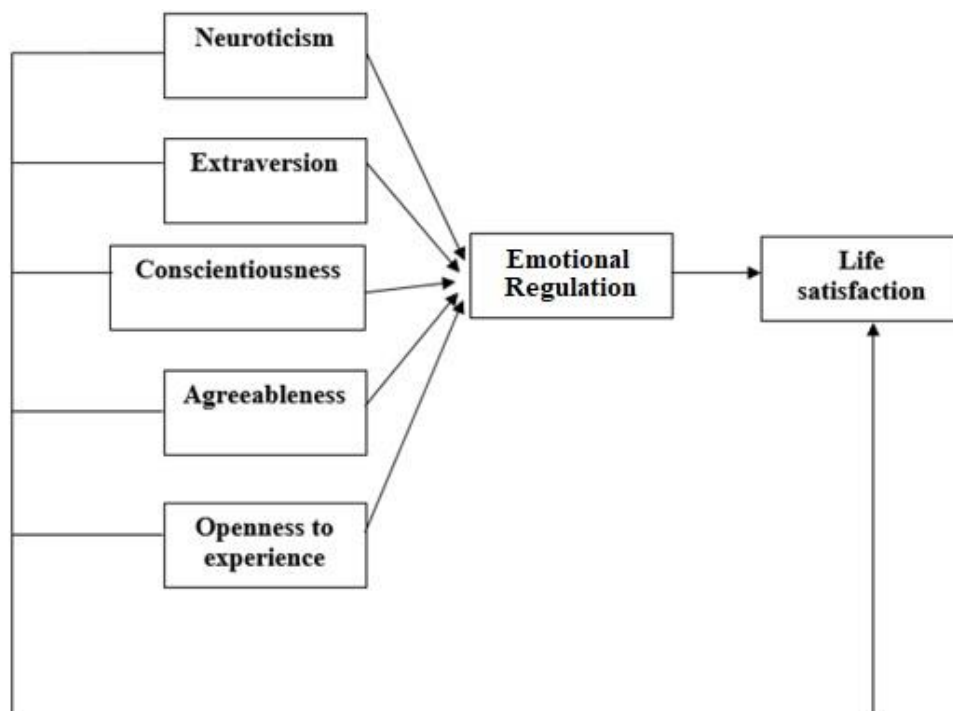


Figure 1. The proposed model of the present study

The present study was conducted to investigate the direct and indirect relations of factors related to paramedical students' life satisfaction. Therefore, the role of personality and emotion regulation were investigated. It should be noted that the role of mentioned factors related to life satisfaction have been studied in a variety of researches. However, there has been found no study in which the impact of all these factors on life satisfaction have been investigated. Hence, constituting a model can be regarded as an important measure to recognize the factors influencing paramedical students' life satisfaction and the alternatives to improve this condition. Figure 1 presents the model of present study.

Methods

This was a correlation project designed through Structural Equation Modeling (SEM). The studied population included all students of paramedical faculty in Shiraz (An Iranian southern city) who were in Shiraz Paramedical School in the academic year of 2019-2020. They were passing B.S and M.S. levels. The sampling was done through convenient method. The data were collected by self-reported questionnaires. They were distributed among 516 students and 486 completed questionnaires were received back.

Neo Personality Inventory

Personality McCrae and Costa Inventory is an instrument to assess the personality in five aspects including neuroticism, extraversion, agreeableness, accountability and openness to experience. Every factor was assessed through 12 questions. Meanwhile, each question had a five range Likert scale from 0 (completely disagree) to 4 (completely agree). The least score in every sub-scale was zero and the maximum was 48 (12).

The correlation between five subscales of the short form and the long form is from 0.77 to 0.92. The internal inconsistency of the sub-

scales was ranged from 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, respectively (13).

Alpha Cronbach of neuroticism, extraversion, openness to experience, agreeability and accountability were 0.90, 0.76, 0.91, 0.72 and 0.88 respectively in present investigation.

Diener Life Satisfaction Scale

Diener Life Satisfaction Scale is designed to measure individual's life satisfaction. It has 5 questions with 7 Likert's options from 1 (completely disagree) to 7 (completely agree). The reliability of internal consistency coefficients and scale test-retest among the studied students were 0.78 and 0.82, respectively. Besides, one factor was extracted from analysis of this instrument's exploratory factor analysis so that the achieved factor was modified 63.40 percent of scores' variance. This scale has positive correlation with other welfare scales. Moreover, Alpha Cronbach and retest validity of this scale were, in turn, 0.87 and 0.92 (14). The validity of this scale was reported by Alpha Cronbach (0.74).

Emotion Regulation Sub-scale achieved from Emotional Openness Dimension questionnaire

In order to assessing emotion regulation, Emotion Regulation Sub-scale achieved from Emotional Openness Dimension questionnaire was used. This questionnaire assessed emotion regulation dimension, the capability of emotions control and regulation. This sub-scale has 4 questions and every one of them was assessed by 4-option Likert scale from 1 (never) to (maximum possible). The validity of this sub-scale was reported 0.81 (15). This was reported 0.77 by using Alpha Cronbach in present investigation.

Structural Equation Modeling (SEM) was used to assessing the suggested model. The analysis of data was done by SPSS (version 18) and AMOS (version 18). The combination of fitness's indices was used to determine the qualification of the suggested model's fit. Also, Bootstrap was utilized to assess the mediating relations.

Results

There were 286 studied students. The distribution of their majors included as 181 students studied in Radiology, 164 in Laboratory Sciences, 45 in Medical Journalism, 41 in Biotechnology, 32 in hematology and 23 in Radiobiology.

Table 1. Demographic information of the respondents

Variable	Subgroups	Frequency	Percent
Gender	Male	85	41.4
	Female	112	58.6
Age	Below 20	47	24.6
	20-25	98	51.3
	25-30	31	16.2
	Above 30	15	7.9
Marital status	Single	162	84.8
	Married	29	15.2
Level of education	Bachelor's Degree	126	66
	Master's Degree	65	34
	Degree		

The relations between investigation's variables were demonstrated in Table 2 with

Table 2. 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	-0.367**	0.559**	0.116*	0.151**	0.545**	0.123**	—	
							0.434**	—

respect of $P < 0.05$ significance level. The correlation analyses provide an insight into two-variable relations. Descriptive indices of the studied variables were shown in Table 3.

As shown in Table 3, 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. Moreover, investigating univariate and multivariate outliers indicated that there was no outlier in

Table 3. 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

any of the measured variables. The results also illustrated that the tolerance values obtained for the variables were above 0.1, showing lack of multi-collinearity between the variables. In addition, the value of variance inflation factor achieved for the variables was less than 10, indicating that there is no multi-collinearity between the variables.

At first, the coefficients of direct paths related to measured variables were assessed in the model. Based on the achieved results, all paths except agreeableness and

Table 4. Fit indices of the proposed model

Structure	χ^2	df	$\frac{\chi^2}{df}$	GFI	AGFI	IFI	TLI	CFI	NFI	RMSEA
Proposed model	144.40	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

accountability were significantly correlated with emotion regulation. Then, the fit of the suggested model was investigated in according to the achieved data. However, RMSEA showed that the model needed to be improved. The next step is to improve fit of the suggested model through removing insignificant paths and presenting a revised model. Therefore, a new analysis was done on data. The results showed an appropriate fit of the achieved model. The characteristics of the suggested model’s fit and the final model are shown in Table 4.

the significance level is supposed 0.05, the fit of model would be confirmed. Also, if the division of chi-square on df is less than 3, the model fit is strongly affirmed. This was reported 2.38 in the present investigation. Based on Table 4, since RMSEA in this model is 0.05, it can be declared that the achieved model had efficient fit with data. On the other side, given the amounts of other fit indices were appropriate (over 0.9), it can be concluded that the fit of model is confirmed. The coefficients of the standard path in the final model are shown in Figure 2 .

RMSEA is the most common index in the model’s fit. If this index is less than 0.1 and

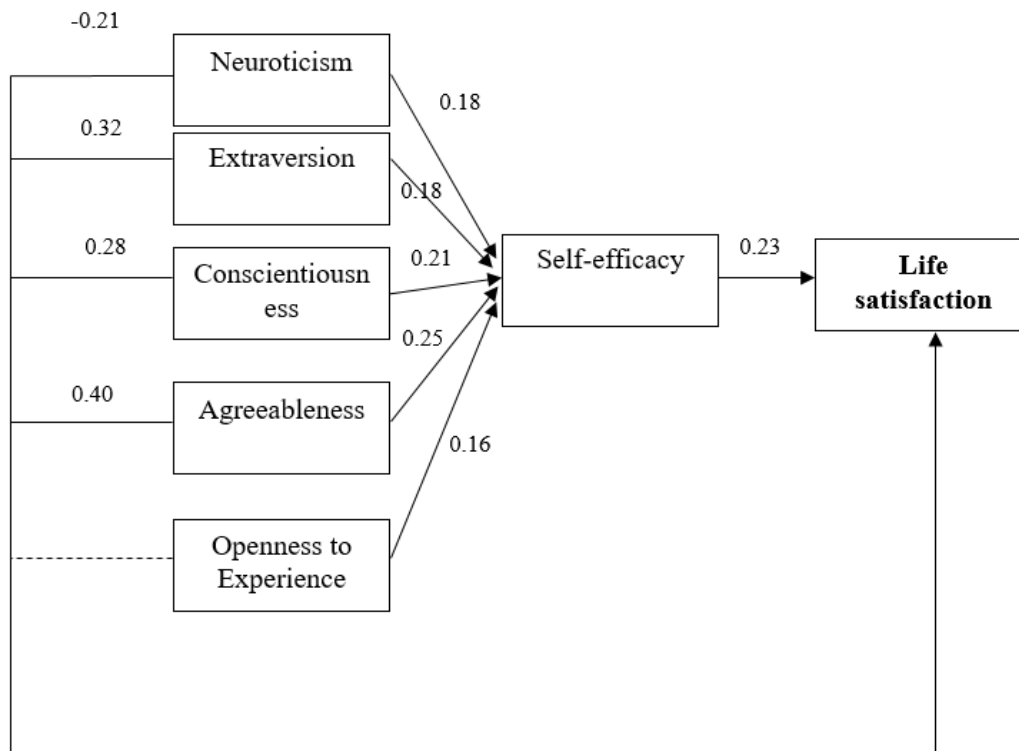


Figure 2. Standardized path coefficients of the final model

Table 5. Bootstrap results for research intermediate pathways

Pathway	Data	Boot	Bias	Standard Deviation	Lower Bound	Upper bound
Neuroticism>Regulation Emotion>life Satisfactory	0.0515	0.0521	0.0006	0.0122	0.0311	0.0788
Extraversion> Regulation Emotion>life Satisfactory	0.0768	0.0768	0.000	0.0157	0.0479	0.1101
Accountability> Regulation Emotion>life Satisfactory	0.0298	0.0299	0.0001	0.0169	0.0017	0.0645
Agreeableness> Regulation Emotion>life Satisfactory	0.0481	0.0489	0.0008	0.0241	-0.0011	0.0932
Openness to Experience> Regulation Emotion>life Satisfactory	0.0955	0.0957	0.001	0.0201	0.0624	0.1411

The results achieved from mediating relations used Bootstrap for indirect paths in Table 5. Confidence intervals for the paths noted in Table 5 represent the exclusion of zero with the five indirect paths and, hence, this illustrates the significance of all indirect paths in present investigation. Confidence level for these intervals were 95 and the number of re-samplings for Bootstrap was 1000.

Discussion

The goal of present study was to investigate the mediating role of emotional regulation between personality traits and life satisfaction. The results demonstrated that all personality traits except agreeableness and accountability, had significant impact on emotional regulation. This is in line with other findings in previous studies. The negative impact of neuroticism on emotional regulation can be justified by this fact that neuroticism is the individual's tendency to experience negative feelings such as fear, anxiety, grief, sympathy-seeking, restlessness, anger, guilt feeling and dislike, depression and low self-esteem. The people with low score of neuroticism are prone to illogical beliefs and they are able to control their impulses. They can adjust to stress with difficulty. As a consequence, it can be declared that the students gaining higher scores of neuroticism are more possible to use negative strategies. Haren and Mitchell, stated that there was negative correlation between neuroticism and emotion-based strategy of emotion regulation (16). The results of Hojati. study investigating the

relation between personality dimensions and emotion regulation strategies among the mothers' children with autism, indicated significant correlation between cognitive emotional regulation strategies and personalities dimensions including psychosis, extraversion, openness to experience, agreeableness and being conscientious. They also found that the strongest predictor of cognitive emotional regulation strategies was psychosis dimension of the studied mothers' personality (17).

In fact, psychotic people misconceive the life situations and use inappropriate cognitive assessments. Therefore, they have few chances to evaluate their problems sufficiently. This chain leads them to use inefficient emotion-based strategies which brings about anxious, stressful, aggressive, depressed and also vulnerable to any harm. In other words, psychosis makes the individual prone to experience negative emotions and discomforts (17).

The impact of extraversion and openness to experience on emotion regulation can be based on this fact that the people with high levels of these two characteristics feel further happiness and cheerfulness and have more positive attitude towards their surroundings and themselves.

In other words, some characteristics such as being opportunistic and empathetic can result to use positive strategies in daily challenges so that the people with these manners experience more positive mood and better

emotion regulation. Basically, positive emotion regulation enhances the ability to manage the emotions and recognize them in themselves and others. This, consequently, helps them to react suitably in stressful conditions (16).

Zare and Rezaei, study also showed that extraversion and agreeableness had positively significant correlation with positive emotion regulation (18).

In addition to this, extraversion increase people's preparation to experience enjoyable events in a way that it assists the individual to act more efficiently in social and inter personal circumstances. This causes to reinforce emotionally cognitive regulation. Other aspects of extraversion include positivism, assertiveness and being sociable which are able to strengthen people's readiness in social interactions and relations. Subsequently, it will develop emotionally cognitive regulation (17).

The insignificant impact of agreeableness and accountability on emotion regulation are accompanied and against several studies. For example, Zare and Rezaei, showed that agreeableness had positively significant relation with emotion regulation and negatively significant relation with negative emotion-seeking (18), Regarding the contrast findings related to these results, it can be declared that using negative and positive emotion regulation strategies may be associated with the determinants beyond personality factors.

In other words, the variety in the achieved findings can be attributed to different factors such as family construct. Based on the results of present investigation, emotion regulation had positively significant relation with life expectancy. Some researchers believe that the individual's assessment of an event causes to an emotional reaction far beyond the identity of that event.

Also, various assessment of the similar events can lead to different emotions. For instance, a person whose car was stolen, can assess this event in a different way in accordance with cognitive strategies. He may feel to be guilty due to his own ignorance. He also may blame other people which leads to show dislike towards others. In contrast, he can rationalize this event in a positive way. For example, he can think about the alternatives to prevent from happening such these events again.

This individual can attribute this event as a way to neutralize any possible physical harm which might have been occurred. These positive ways of thinking can result in experiencing neutral or positive emotions such as calmness. the people experience different emotions through selecting every one of these assessments. Consequently, positive assessment of life events and use of efficient cognitive strategies for emotion regulation can cause the improvement of people's cognitive and emotional function. This will result to solve problems successfully and, therefore, life satisfaction can be increased (19).

The findings have shown that personality characteristics had relation with life satisfaction with mediation of emotion regulation. The individuals with high level of neuroticism and lower agreeableness, openness and accountability use passive strategies such as avoidance, self-blaming, aggressive manners and extraversion of negative emotions whenever they face difficult conditions in their life. This results in decreasing life quality and life satisfaction (8).

Conclusion

The present investigation showed that although personality characteristics is correlated to life satisfaction, this correlation is happened through emotion regulation as a more significant construct. 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.

Recommendations:

Based on the findings of present study and the role of emotion regulation as a mediator, it is proposed that emotion regulation and management education of emotions would be included in preventive social programs. Meanwhile, it is suggested that the therapies based on reducing the difficulties of emotional self-regulation would be considered as a main part of medical programs. Since this project is a SEM and does not prove the causality, it is recommended to approach it with caution. Given self-reported questionnaires were used in present investigation with high validity and reliability, if standardized and more comprehensive instruments were used, the achieved results would have been more accurate.

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Author's contribution

Afsane Samadpor and Sadrollah Khosravi developed the study concept and design. Mahbobeh Chinaveh acquired the data. Afsane Samadpor and Sadrollah Khosravi analyzed and interpreted the data, and wrote the first draft of the manuscript. All authors contributed to the intellectual content,

manuscript editing and read and approved the final manuscript.

Informed consent

Questionnaires were filled with the participants' satisfaction and written consent was obtained from the participants in this study.

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Conflicts of Interests:

No conflict of interests is existed among the members of research team.

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