



## Research paper

# The role of personality factors in predicting life satisfaction of non-native students with the mediating role of self-differentiation

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## ABSTRACT

**Introduction:** This study aimed was to predict the life satisfaction (LS) of non-native students based on personality traits and mediated by the level of differentiation.

**Aim:** The aim of this cross-sectional study was to determine the psychosocial effects of the COVID-19 pandemic on students attending a private high school in Istanbul, Turkey.

**Material and methods:** This study population consisted of all non-native students of the Ferdowsi University of Mashhad. Two hundred people were selected by convenience sampling method and answered the Diener life satisfaction questionnaire, Gary-Wilson personality traits and Skowron and Friedlander self-differentiation questionnaire. Data analysis was performed using AMOS and SPSS software v. 24 and Pearson correlation coefficient, regression coefficient, and path analysis.

**Results and discussion:** The mean age of participants was  $27.92 \pm 5.32$  years. The proposed model had a good fit according to the index of fitness. There was a significant correlation between behavioral activation systems (BASs) as one of the subscales of personality factors with LS ( $P < 0.05$ ,  $r = 0.47$ ), and between BASs with self-differentiation ( $P < 0.05$ ,  $r = 0.35$ ). Also, there was a significant indirect correlation between behavioral inhibition system (BIS) and LS ( $P < 0.05$ ,  $r = -0.40$ ) and between BIS with self-differentiation ( $P < 0.05$ ,  $r = -0.30$ ). There was a significant relationship between differentiation with LS ( $P < 0.05$ ,  $r = 0.55$ ). Due to the significant indirect effect of the model, the level of differentiation could mediate the relationship between personality factors and LS.

**Conclusions:** Although personality factors predict a part of LS, the ability to differentiate between thought and feeling and to maintain independence in interpersonal relationships plays an essential role in the LS of non-native students.

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## 1. INTRODUCTION

Entering university is a very sensitive period for students, which is known as a dynamic transition period.<sup>1</sup> Meanwhile, non-native students who leave their hometowns have different conditions than other students.<sup>2</sup> Studies showed that young people, including students, are most sensitive to changes in environmental conditions and are at risk of reduced life satisfaction (LS) in dealing with life issues.<sup>3</sup> This concept shows how people perceive the difference between their reality and their needs or desires with respect to several important domains of functioning and activity/participation.<sup>4</sup> On the other hand, studies show that LS is widely influenced by developmental backgrounds, internal traits and cognitive processes, including personality traits.<sup>5</sup>

The theory of sensitivity to reinforcement is one of the most prominent theories of personality.<sup>6</sup> According to Gary's theory of personality, there are three separate but interacting systems in the mammals brain that control emotional behaviors that includes behavioral activation systems (BASs), behavioral inhibition systems (BISs), and fight/escape systems.<sup>7</sup>

Although personality is one of the factors affecting LS according to bio-psychological perspective and trait theory,<sup>8</sup> but judging about one's life in different situations can be different. Non-native students who have special circumstances than other students and are away from their families may have a different outlook on life.

Self-differentiation is one of the important concepts in family therapy theories that is formed within the family and indicates the level of emotional maturity and psychological independence of the individual.<sup>9</sup> This concept consists of two dimensions. Its inner dimension indicates emotional maturity and the interpersonal dimension refers to relational maturity. People with high levels of differentiation are better able to adapt to their living conditions, are less affected by situations, act more independently in emotional situations, and have a positive outlook on life even in stressful situations.<sup>10</sup> People who are well-differentiated are self-directed, self-aware of their thoughts and feelings, express them correctly, and do not force themselves to conform to the unreasonable expectations of others.<sup>11</sup> So far, studies have examined the relationship between self-differentiation and LS<sup>12</sup> and the study of personality traits with LS,<sup>4</sup> but few studies have examined the relationship between LS and personality traits and the level of differentiation among non-native students.

## 2. AIM

Given the importance that the concept of LS plays both psychologically and physically for each person and many aspects of life, successes and failures in education, work, family and etc. related to this individual belief, Therefore, the aim of this study was to predict the LS of non-native students according to their personality traits and to study the role of differentiation levels.

## 3. MATERIAL AND METHODS

The present study is a descriptive non-experimental causal study that investigates non-experimental causal relationships through correlations in the form of structural equation method. The present study population included all male non-native dormitory students of Ferdowsi University of Mashhad who were studying in the academic year 2019–2020. The study sample consisted of 200 people who were selected by available sampling method. Participation in the study was optional and the entrance criteria were no history of physical or mental illness.

### 3.1. Life satisfaction SWLS

This scale was designed by Diener, Emmons<sup>13</sup> and is a five-item test in which the respondent measures his or her overall LS. At this scale, the participant announces their agreement from 1 to 7 and based on the Likert scale (strongly agree to strongly disagree). A higher score indicates more LS and the minimum and maximum scores on this scale are 5 and 35. Bayani, Koocheky<sup>14</sup> in their research obtained Cronbach's alpha coefficient of 0.83.

### 3.2. Gary-Wilson personality questionnaire short form

The scale was designed by Slobodskaya et al.,<sup>15</sup> and is based on the Gary–Wilson long form questionnaire, which consists of 120 questions and 6 factors. This questionnaire has 28 questions and 2 areas. Each question of this questionnaire is related to the two systems of behavioral inhibition and behavioral activation, and the range of answers is three-grade ('yes,' 'no' and 'I don't know'), which is scored both negatively and positively. For each positive question, if 'yes,' a score of 2, 'I do not know' a score of 1 and 'no,' a score of 0 is given, and for negative questions, the trend is reversed. In the research of Sepahmansour,<sup>16</sup> Cronbach's alpha coefficient was obtained 0.68 and its validity was confirmed.

### 3.3. Self-differentiation questionnaire

This scale was designed by Skowron and Friedlander<sup>17</sup> and had 46 questions, which are scored on a six-point Likert scale. A higher score reflects a higher level of differentiation. This questionnaire measures the 4 dimensions of emotional reactivity, self- position, emotional escape and fusion with others. Skowron and Friedlander<sup>17</sup> obtained Cronbach's alpha for the whole self-differentiation questionnaire of 0.88 and for the emotional responsiveness subscales 0.83, self-position 0.80, fusion with others 0.82 and emotional escape 0.80.

### 3.4. Data analysis

In the proposed conceptual model, the structural equation model was used in our study. Structural equation modeling is a powerful multivariate analysis method through which hypotheses about causal relationships between independent and dependent variables can be tested. Then, analyzes related to the underlying assumptions of structural equation modeling were performed. Also, more complex analyzes were

performed to evaluate the proposed model, all of which were applied by modeling structural equations using the statistical method of maximum likelihood estimation. Data analysis was performed using AMOS statistical software (v. 24) and SPSS (v. 24), and Pearson correlation coefficient, regression coefficient and path analysis. *P*-value less than 0.05 was considered significant.

#### 4. RESULTS

A total of 200 people participated in this study. The mean and standard deviation age of them was  $27.92 \pm 5.32$  years. Demographic information of the participants are presented in Table 1.

Table 2 presents the mean variables of the study. Based on Table 2, there was a significant correlation between BAS and LS ( $P < 0.05, r = 0.47$ ), and self-differentiation ( $P < 0.05, r = 0.35$ ). While, a significant indirect correlation was obtained between BIS and LS ( $P < 0.05, r = -0.40$ ), and also self-differentiation ( $P < 0.05, r = -0.30$ ).

Table 3 presents the direct and indirect predictor variables BAS and BIS on differentiation and LS. The direct effect of the mediating variable of differentiation on LS is also presented.

Figure 1 shows the mediating role of self-differentiation in the relationship between personality factors and LS. Comparative fit index (CFI), normative fit index (NFI), incremental fit index (IFI), goodness of fit index (GFI) and root-mean-square error of approximation (RMSEA) for the fitted model are 6.11, 0.99, 0.98, 0.99, 0.98 and 0.063 respectively. Based on available sources (Myers, Gamest and Garino, 2016), it is better than the fit indices are greater than 0.90 and the RMSEA index is less than 0.08. Therefore, according to the fit indices, it can be inferred that the fitted model has a good fit.

Behavior activation positively and significantly predicts LS ( $P < 0.05, \beta = 0.49, t = 15.39$ ) and self-differentiation ( $P < 0.05, \beta = 0.38, t = 11.70$ ). In particular, with the rise of the brain's BAS, which is associated with positive emotions, my position and fusion with others in self-differentiation questionnaire, increase. Behavior inhibition negatively and significantly predicts LS ( $P < 0.05, \beta = -0.42, t = 14.52$ ) and self-differentiation ( $P < 0.05, \beta = -0.32, t = 10.41$ ). Also,

self-differentiation could positively and significantly predict LS ( $P < 0.05, \beta = 0.53, t = 11.53$ ). The two subscales of differentiation, including emotional reactivity and my position, were positively and significantly associated with LS, although this correlation was weak. Other subscales of differentiation, including emotional escape and integration with others, were not found to have a significant relationship with LS.

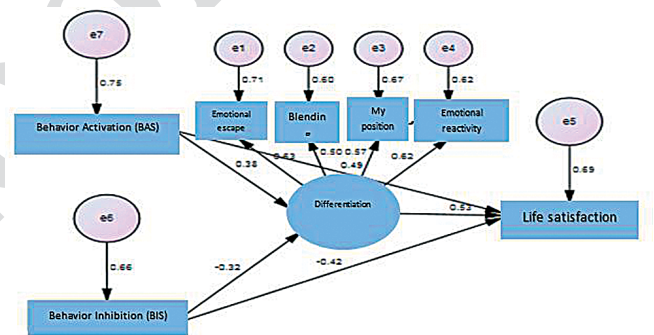
**Table 1. Demographic information of the participants.**

Variable	N(%)
Marital status	
Single	166(83)
Married	34(17)
Field of study	
Ph.D students	102(51)
Master students	82(41)
Undergraduate students	16(8)

**Table 2. Mean of studied variables and correlation between them.**

Variable	Mean ± SD	1	2	3	4
Life satisfaction	20.47±6.59	1	-	-	-
Self-differentiation	143.91±19.93	0.55*	1	-	-
Behavior Activation	10.91±4.77	0.47*	0.35*	1	-
Behavior Inhibition	10.86±4.04	-0.40*	-0.30*	-0.48*	1

Comments: \* Significance at the level of 0.001



**Figure 1. The mediating role of self-differentiation in the relationship between personality factors and life satisfaction.**

**Table 3. Direct and indirect standard coefficients and the whole model.**

Total effect	Indirect effect	Direct effect	Control variable	Intermediate variable	Predictive variable
0.38*	-	0.38*	Differentiation	-	Behavior Activation
-0.32*	-	-0.32*	Differentiation	-	Behavior Inhibition
0.53*	-	0.53*	Life satisfaction	-	Differentiation
0.49*	-	0.49*	Life satisfaction	-	Behavior Activation
-0.42*	-	-0.42*	Life satisfaction	-	Behavior Inhibition
0.58*	0.20*	-	Life satisfaction	Differentiation	Behavior Activation
-0.51*	-0.16*	-	Life satisfaction	Differentiation	Behavior Inhibition

Comments: \* Significance at the level of 0.001.

**Table 4. Bootstrap test results for indirect routes.**

Predictive variable	Interface variable	Control variable	Low limit	High limit	Assurance distance
Behavior Activation	Differentiation	Life satisfaction	0.0156	0.132	0.95
Behavior Inhibition	Differentiation	Life satisfaction	0.0103	0.165	0.95

Path analysis for direct and indirect effects is shown in Table 4. The results show that the lower and upper limits of the indirect pathways of differentiation into LS through behavioral activation and inhibition do not include zero, which indicates the significance of the indirect pathways.

## 5. DISCUSSION

The aim of present study was to predict the LS of non-native students of Ferdowsi University of Mashhad based on personality traits (BAS / BIS) and to investigate the role of students' level of self-differentiation in this regard. In this study, personality was examined on the basis of the theory of sensitivity to reinforcement and two central systems affecting on regulating human behavior were evaluated. The results showed that there is a significant relationship between LS among non-native students and BAS as one of the components of personality. Explaining this result, we can refer to Gray's theory which believes that positive and negative emotions are regulated by different parts of the brain and the BAS is related to positive emotions.<sup>18</sup> On the other hand, LS is a concept that is strongly influenced by positive emotions, and positive emotion alone plays an essential role in the feeling of happiness and overall LS.<sup>19</sup> The activity of the BAS increases the motivation to move towards the goal and experience positive emotions such as hope and happiness.<sup>20</sup> Khodabakhsh et al.,<sup>21</sup> believed that people with high LS experience more positive emotions; While people with low LS, evaluate life events and situations as undesirable and are more prone to negative emotions. Therefore, people whose personality is such that their BAS is sensitive, react more positively to rewards, and their emotions are usually positive, and it makes sense for them to experience high LS.

Based on the results, there was a significant correlation between differentiation and LS. This result is consistent with the findings of Kim and Jung,<sup>10</sup> they showed that people with high levels of differentiation are more adaptable to their environment and experience more LS. Differentiation is a desirable condition whose high levels indicate a sense of individuality and independence concerning family and other important people in life while feeling belonging. This condition causes the person to experience less psychological vulnerability and social anxiety.<sup>22,23</sup> Therefore, according to the concept of LS, the positive relationship between the level of differentiation and LS is logical.

Other findings of the present study indicated that personality traits have a significant relationship with the level of differentiation. The results are consistent with the study of Kalantari and Merart,<sup>24</sup> while, they used the Neo questionnaire to assess personality in their research. In explaining the result, it should be noted that my position as one of the sub-scales of

differentiation is a concept that shows the ability of a person to present a clear picture of his identity and have specific ideas and beliefs in life.<sup>25</sup> Gardner and Garr-Schultz<sup>26</sup> found that there is a close relationship between personality and identity traits with differentiation. Ha showed that the status of students and the relationship between students is a reflection of social, cultural, economic conditions, on the other hand the result of internal factors formed by students, such as their personality and degree of differentiation.<sup>27</sup>

Additionally, here the indirect effects of personality traits on LS was also significant. This finding showed that differentiation itself has been able to mediate the relationship between personality traits and LS. Differentiation is a personality trait that manifests at different levels of the inner and outer psyche and can be examined at two levels; One as a process that occurs within the individual that includes components of my position and emotional responsiveness, and second as a process that occurs in interpersonal relationships that includes components of integration with others and emotional cutting. My position means a clear sense of 'self' and independence in thoughts and beliefs,<sup>28</sup> and emotional responsiveness refers to the dominance of one's emotions over reason and logic and responsiveness based on emotions, but in interpersonal level, integration with others refers to the loss of your independence and dissolution and integration during intimate relationships with others, critical, people in life.<sup>28</sup> Emotional cutting also indicates a sense of threat and vulnerability in relationships and sometimes a tendency to adopt defensive behaviors such as distancing oneself, abruptly severing relationships and denying the importance of relationships with others.<sup>29</sup>

People with higher levels of differentiation are less emotionally responsive, less cohesive in their relationships with others, less likely to use emotional cutting, and more capable of taking my place than people with lower levels of differentiation. Distinction itself interacts with different types of structures. In terms of the consequences of self-differentiation, Bowen hypothesizes that higher levels of self-differentiation are associated with consequences such as higher levels of overall, psychological, and physiological functioning, and that differentiated individuals enjoy greater happiness, vitality, and LS.<sup>30</sup>

The results of numerous studies to discover and support the structure of 'self-differentiation' are consistent with Bowen's theory. Empirical evidence has extensively discussed the effect of their level of differentiation on the dimensions of mental health and LS and has considered self-differentiation as an essential factor in promoting mental health and happiness.<sup>31</sup> In Gray's theory of personality BAS, BIS and fight, fugitive and freezing system (FFFS), are underlie personality differences that control behaviors and emotions. BAS is involved in the experience of positive



emotions and the emergence of behavioral impulsivity personality dimension<sup>32</sup>, and BIS is related to the personality dimension of anxiety.<sup>33</sup>

### Limitations and strength

The limitations of the present study was the lack of cooperation of some participants due to using three questionnaires that tried to solve this problem by considering a larger sample size. Moreover, this study was performed among non-native students and can't be generalized to other students. Among the strengths of this study were using the concept of 'self-differentiation' in the family domain to investigate the relationship between the two psychological variables of personality with LS. Sufficient sample size and new statistical methods were the same strengths of the present study.

## 6. CONCLUSIONS

According to the results found in the study, it can be concluded that although personality factors predict a part of LS, the ability to differentiate between thought and feeling and maintain independence in interpersonal relationships plays an important role in the LS of non-native students.

### Conflict of interest

No conflict of interest has been reported by the authors.

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