Rivista Italiana di Filosofia Analitica Junior Vol 14, No. 2 (2023)
ISSN: 2037-4445

Predicting the quality of life based on personality traits and defense mechanisms in psychology master's students of Azad universities in Tehran province

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Abstract

Objective: The objective of this study was to predict the quality of life based on personality traits and defense mechanisms in students.

Methods: The statistical population of this descriptive-correlation study was male and female students of master's degree in general psychology. Among them, 330 people were selected by a multi-stage random method and completed the quality of life questionnaire (SF-36), defense mechanisms questionnaire (DSQ-40), and McCrae and Costa personality traits inventory (NEO-FFI). Data were analyzed using descriptive and inferential statistics.

Results: The variables of neuroticism, extroversion, flexibility, and responsibility explain 22% of immature defense style and neurotic defense style explains 15% of the variance in quality of life. Among the defense styles and personality traits, the highest effect belongs to the immature defense style (12%). Additionally, comparing the mean of variables in terms of gender showed that males are at a lower level than females in all the components of quality of life, except the limitations in playing a role due to physical reasons and the level of pain, and the overall score of quality of life. The trait of neuroticism is more in males than in females. However, females have more extroversion, adaptability, and responsibility than males.

Conclusion: The use of immature mechanisms is more in males than in females and the rate of using neuroticism mechanisms is more in females than in males.

Keywords: Quality of life, Defense mechanisms, Personality traits, Master's students in Psychology.

Introduction

Much attention has been paid to the quantitative aspect of human life thanks to the expansion of the process of industrialization and the advancement of technology. Over the last few decades, the concept of quality of life has been considered in Western countries due to the neglect of the qualitative aspects of life. The excessive development of modern life has brought many problems to mankind with the mass production of various goods and services in the quantitative dimension. For this reason, scientists and experts have paid attention to the concept of quality of life to improve living conditions and improve the quality of human life (Landman, 2016). Quality of life can be considered a key indicator and an operational tool for measuring overall well-being (Greimel et al. 2016).

Zhan (1992) considers quality of life as the degree of satisfaction in one's life experiences. He stated that the quality of life includes life satisfaction, self-image satisfaction, health, and social and economic factors (Zhan, 1992; quoted by Bakhshoodeh, 2011). Studies have proven a relationship between quality of life and dimensions of health, including physical, mental, and environmental health. It has been also found that the physical areas of quality of life have a significant correlation with the three areas of anxiety, social dysfunction, and depression. The mental health area of quality of life has a significant correlation with the area of pseudo-physical symptoms of mental health. Also, the social

function area of quality of life shows a significant correlation with the area of mental health dysfunction in social function (Makvandi and Zamani, 2010). Additionally, a significant relationship has been reported between the autonomy component of psychological well-being and the quality of life of gifted students (Alborzi and Alborzi, 2019).

Psychological explanations of quality of life emphasize the individual differences of people in the way of thinking and feeling about their behavior. These differences can appear in the form of subtle and minor differences in behavior and make some people consider their quality of life unfavorable due to reasons such as increased anger, a little dependence, and attachment to others. These explanations can be expressed under the model of psychoanalysis and the model of personality disorder (Makvandi and Zamani, 2010). Researchers agree on three characteristics of quality of life, including multidimensionality, subjectivity, and dynamism (Cynthia, 1998). According to the existing research literature, the structure of quality of life is composed of different components based on different theoretical orientations. Each of the scientists and theorists has considered different categories and dimensions for it (Bastami, 2008).

One dimension of quality of life is related to health and it considers aspects of quality that are specifically related to one's health. The question in this regard is whether the quality of life is an objective or subjective phenomenon. Based on the current view, quality of life is a mental feeling of well-being that includes physical, social, and spiritual dimensions (Addington-Hall and Karla, 2001, quoted by Keshavarz, 2013). Evans & Cope (1989) consider the dimensions of quality of life as physical, psychological, social, family, economic, recreational, and spiritual dimensions (Evans and Cope, 1989; quoted by Bakhshoodeh, 2011).

Based on previous studies, several factors affect the quality of life and its components, namely physical health, mental health, social relations, and environmental health. Among these factors, we can refer to the factors of age, management stress, physical health, lifestyle, gender, marriage, nutrition, interpersonal relationships, job and income, education, personality, social indicators, and mental health (Keshavarz, 2013). Waze et al. (2004) stated that the quality of life of students is significantly lower than that of non-students of the same age. Goodman found out that two factors affect the quality of life. The first factor was instrumental and the second factor was communicational, reflecting the quality of interpersonal communication. These two factors are similar to Maslow's second and third needs, namely the need for security and the need for belonging (Goodman, 2000; quoted in Fireland et al., 2010).

Personality traits are among the significant dimensions that are likely to affect the quality of human life. Personality is the most comprehensive psychological concept that governs all human functions. It can be considered as a specific and distinct pattern of thinking, emotion, and behavior, which determine the personal style of interaction with the physical and social environment of each person (Schultz-Schultz, 2005, translated by Seyyed Mohammadi, 2012). The five-factor theory of McCrae and Costa is one of the most effective and comprehensive theories about personality. Based on this theory, personality is organized as a hierarchy with five primary factors and each of these factors includes subsets. The primary factors are at the top of this pyramid. They include extroversion, neuroticism, flexibility, agreeableness, and conscientiousness (McCrae and Costa, 2005). In a meta-analysis, Saravoglu (2002) found a significant relationship between the big five personality factors and spirituality. He showed that spirituality has a positive relationship with extroversion, agreeableness, conscientiousness, and openness to experience. However, it showed a negative relationship with extroversion. Defense mechanisms are also one of the individual factors that affect the quality of life. According to Freud, defense mechanisms cause conflicting thoughts to be removed from consciousness. In other words, the use of defense mechanisms shows a kind of adaptation method that people use to prevent the degradation of self-esteem and to cope with the increase in anxiety (Sanati, 2010).

Defense mechanisms are patterned thoughts or behaviors that are almost involuntary and are evoked in response to the perception of danger (Vailant, 2001). They are a kind of mental process or coping style leading to the emergence of automatic psychological reactions to protect a person from anxiety. They organize and survive psychological conditions by avoiding anxiety or a certain way of coping with anxiety. Thus, they make efforts to cope with psychological conflict and can facilitate coping behaviors. However, using them inappropriately, such as denial, projection, displacement, and isolation can disrupt psychological development and prevent useful coping responses (Vailant, Bond, and Caroline, 1986). Defense styles in normal life conditions facilitate a person's exposure to psychological changes and environmental stressors and cause the continuation of adaptation. Physical health and positive functioning and psychosocial adjustment (such as satisfaction with life) are known as outcomes of mature defense styles. Defense mechanisms distort reality. The level of distortion of reality is greater in the immature defenses than in the mature defenses. The lack of using defense mechanisms can be related to having a purposeful and meaningful life, mental health, satisfaction with life, and other psychological factors (Fathi Ashtiani and Dastani, 2009).

Akbari, Rostami, and Zarean (2008) revealed a significant relationship between mature and immature defense mechanisms and the tendency to use drugs.

Since no domestic and foreign study was found that directly investigate the relationship between quality of life and personality traits and defense mechanisms, and due to the significance of quality of life in our society, especially students, this study investigated the relationship between quality of life and defense mechanism styles and five personality factors in students. The primary question of the researcher was whether it is possible to predict the quality of life based on defense mechanisms and personality traits and which of them plays a greater role in this regard.

Statistical population and sampling method

This study is among the correlational studies in terms of method. The statistical population of the present study included all master's degree students in psychology at Azad Universities of Tehran province during 2014-2015. The sample of this study included 330 people who were selected using a convenience sampling method. The inclusion criteria of this study were: master's degree student in general psychology from one of the branches of Tehran Azad University and signing the informed consent forms to participate in the study. Also, the exclusion criteria of this study were unwillingness to complete the questionnaire and unwillingness to continue participating in this study. All measures taken in this study were under the ethical standards of the Research Ethics Committee of Islamic Azad University and the Helsinki Declaration of 1975, amended in 2000. Also, the study participants signed an informed consent to participate in this study and all questionnaires were completed by the participants themselves.

Research tools

Quality of Life Questionnaire (SF-36): This questionnaire was designed by Ware & Sherbourne in 1992 by an international organization in America. It measures a person's view of his or her health (Najat, 2008). It includes 36 questions in the physical and psychological areas. They measure 8 subscales related to health (Dar, 1992; quoted by Mousavi, 2014). This scale includes scores from zero to five. In the 11 questions of the questionnaire, a score of zero indicates the worst and a score of five indicates the best possible state for a person. The overall score of the questions is 0 to 100 depending on the answers of the people. A score between 71 and 100 indicates a favorable quality of life, a score of 31 to 70 is somewhat favorable, and a score of 0 to 30 is considered unfavorable for them. The scales of the Persian version of SF-36, except for the vitality scale (a=0.65,) have minimum standard reliability coefficients in the range of 0.77 to 0.90. All scales of this test, except for the vitality scale, have minimum standard reliability coefficients in the range of 0.90-0.77. The convergent validity of this scale was in the range of 0.58-0.95.

NEO-FFI five-factor personality questionnaire: NEOPI-R questionnaire is one of the personality tests introduced by McCrae and Costa in 1985 under the title of NEO personality inventory. The long form of this inventory was designed in 240 items to measure five factors or the primary areas of neuroticism, extroversion, flexibility, agreeableness, and responsibility. Each factor has 6 levels or subscales. However, in the short form, each factor is measured by 12 questions. The questions are scored on a five-point Likert scale, ranging from strongly disagree (0), disagree (1), have no opinion (2), agree (3), and strongly agree (4). Some questions are scored in reverse. The correlation of 5 subscales of the short form with the long form was reported from 0.77 to 0.92. Also, the internal consistency of its sub-scales was estimated in the range of 0.68 to 0.86.

Defense Style Questionnaire (DSQ-40): Bond, Gardner, Christian, and Sigal (1983) developed a questionnaire for healthy and sick individuals to determine a person's perception of his or her habitual defense style. This tool is a paper-pencil test consisting of 40 questions. To measure each defense mechanism, two questions have been considered, and a total of 20 defense mechanisms are considered. The subject's score in each mechanism indicates his or her preference for using that mechanism. The questions are scored on a 9-point Likert scale (from strongly disagree (1) to strongly agree (9)). In the defense mechanisms, the highest alpha is related to the immature style (0.72), and the lowest is related to the neurotic style (0.50). Therefore, the highest Cronbach's alpha using split-half test is related to male students and the lowest is related to the neurotic style, indicating that the correlations related to the twice implementation of the questionnaire in the studied groups are significant at ($p<0.01$) and ($p<o.o5$). According to the results, the defense styles questionnaire is reliable in the studied groups.

In this study, the Kolmogorov-Smirnov test was used to examine the normality, Levene's test was used to examine the homogeneity of the variances, the Pearson correlation coefficient was used to examine the correlation coefficients between the significant variables, one-way analysis of variance was used to compare the research variables of both sexes, and multivariate regression was used to predict the variable of quality of life through predictive variables in SPSS software. Frequency distribution, mean, and standard deviation were also used to describe the research variables.

Results

Table 1 reports the frequency and percentage of demographic indicators of the subjects based on gender.

Table 1- Sample frequency based on gender

Groups	Frequency	Percentage	Percentage of accumulative frequency
Males	95	28.8	28.8
Females	234	72.2	100
Total sample	330	100	

Table 2 presents the descriptive indices regarding each of the observed variables separately based on gender.

Table 2- Descriptive indices of the research variables based on gender

Variable	Group	Mean	SD	Skewness	Kurtosis
Physical function	Males	23.66	5.44		
	Females	24.86	5	0.82-	0.41-
	Total	24.51	5.15		
Limitation of role-playing due to physical reasons	Males	6.74	1.63		
	Females	6.64	1.62	0.05-	0.94
	Total	6.67	1.62		
Limitation of role-playing due to emotional reasons	Males	5.26	1.48		
	Females	5.59	1.12	1.02	1.07
	Total	5.49	1.24		
Energy and vitality	Males	13.65	3.02		
	Females	14.69	1.61	1.2-	0.64
	Total	14.39	2.16		
Emotional health	Males	17.56	3/39		
	Females	19.39	2.06	1.04	1.03
	Total	18.86	2.64		
Social function	Males	7.41	2.30		
	Females	8.28	1.33	0.93-	1.02
	Total	8.03	1.71		
pain	Males	4.32	2.17		
	Females	4.21	1.82	0.50-	0.59-
	Total	4.18	1.93		
General health	Males	10.90	1.65		
	Females	11.32	1.71	0.11-	0.61
	Total	11.20	1.7		
Total quality of life	Males	89.50	12.25		
	Females	94.92	6.95	1.4-	1.44
	Total	93.36	9.12		
	Males	5.07	0.84		

Immature style	Females	4.80	0.55	0.91	1.05
	Total	4.88	0.66		
Mature style	Males	5.72	1.04		
	Females	5.82	0.87	0.14-	0.42-
	Total	5.79	0.92		
Neurotic style	Males	5.25	1.02		
	Females	5.64	0.95	0.67	0.59
	Total	5.53	0.98		
Neuroticism	Males	33.16	5.96		
	Females	30.88	5.82	0.25	0.06-
	Total	31.54	5.94		
extroversion	Males	39.01	5.25		
	Females	41.69	5.82	0.45	1.06
	Total	40.92	5.78		
flexibility	Males	36.92	4.44		
	Females	36.98	4.81	0.56	0.30-
	Total	36.96	4.70		
Adaptability	Males	41.44	6.84		
	Females	44.71	6.33	0.16-	0.70-
	Total	43.77	6.64		
Physical function	Males	43.02	6.71		
	Females	46.45	5.03	0.45-	0.59
	Total	45.45	5.77		

To measure the normality of the variables, the Kolmogorov-Smirnov test was used, the results of which are reported in Table 3.

Table 3- The results of the normality of research variables

Variable	Kolmogorov-Smirnov test	Sig	Levene's test	Sig
Physical function	1.01	0.25	2.93	0.08
Limitation of role-playing due to physical reasons	0.81	0.53	3.34	0.079

Limitation of role-playing due to emotional reasons	1.18	0.12	1.23	0.29
Energy and vitality	1.12	0.16	0.12	0.78
Emotional health	1.25	0.08	1.77	0.19
Social function	1.19	0.11	1.15	0.30
Pain	0.98	0.29	2.26	0.11
General health	1.19	0.11	1.15	0.30
Quality of life	0.98	0.29	2. 28	0.12
immature mechanisms	1.08	0.25	2.94	0.09
Mature mechanisms	1.24	0.092	21.3	0.075
Neurotic mechanisms	1.68	0.07	0.47	0.49
Neuroticism	1. 12	0.16	0.72	0.40
Extroversion	0.82	0.53	0.14	0.90
Flexibility	1.19	0.12	2.16	0.14
Adaptability	1.14	0.16	1.44	0.23
Physical function	1.25	0.09	1.79	0.18

As shown in Table 3, all significance levels in the Kolmogorov-Smirnov test are greater than 0.05. Thus, the distribution of scores in the research variables and its components are not significantly different from the normal distribution ($p>0.05$). Additionally, the results of Levene's test and its significance level, which is greater than 0.05 in all cases, indicate that the variance of the groups in these variables is homogeneous. Therefore, due to the interval nature of all the scales, it is possible to test this hypothesis that states there is a difference between the quality of life, defense mechanisms, and personality of males and females. Also, an independent parametric t-test (t) can be used to compare the two groups. The results of the parametric t-test and its significance level are shown in Table 4.

Table 4- The results of an independent t-test comparing the mean quality of life and its components in two groups of males and females

Variable	Mean of differences	t-test results	Sig
Physical function	1.5-	1.98-	0.046
Limitation of role-playing due to physical reasons	0.01	0.51	0.61

Limitation of role-playing due to emotional reasons	0.33-	2.18-	0.03
Energy and vitality	1.04-	4.05-	0.001
Emotional health	1.83-	5.95-	0.001
Social function	0.87-	4.28-	0.001
Pain	0.02	0.84	0.40
General health	0.42-	2.04-	0.042
Quality of life	-5.42	5.06-	0.001
Immature mechanisms	0.27	3.41	0.001
Mature mechanisms	-0.1	0.87-	0.38
Neurotic mechanisms	0.39-	3.25-	0.001
Neuroticism	2.28	3.20	0.001
Extroversion	-2.68	3.90-	0.001
Flexibility	0.06-	0.09-	0.92
Adaptability	-3.27	4.16-	0.001
Responsibility	3.43-	5.05-	0.001

As shown in Table 4, the two groups of males and females are significantly different in the components of physical function (t=-1.98 and sig=0.046) and limitation of role-playing due to emotional reasons (t=-2.18 and sig=0.03)), energy and vitality (t=-4.05 and sig=0.001), emotional health (t=-5.95 and sig=0.001), social function (t=-4.28 and sig=0.001), general health (t=-2.04 and sig=0.042), and total quality of life (t=-5.06 and sig=0.001). Accordingly, males have a lower score in all components of quality of life except for limitations of role-playing due to physical reasons, the level of pain, and the overall score of quality of life compared to females. Therefore, the research that states the quality of life is

different in males and females is confirmed with 99% confidence. Also, the two groups of males and females are significantly different in the rate of using immature mechanisms (t = 3.41 and sig = 0.001) and neurotic mechanisms (t=-3.25 and sig=0.001), so the use of immature mechanisms is more in males than in females and the rate of using neurotic mechanisms in females is more than in males. However, there is no significant difference between males and females in the use of mature mechanisms (t=-0.87 and sig=0.38).

Also, the two groups of males and females are significantly different in the traits of neuroticism (t=3.20 and sig=0.001), extroversion (t=-3.90 and sig=0.001), adaptability (t=-4.16 and sig=0.001), and responsibility (t=-5.05 and sig= 0.001), so the trait of neuroticism is more in males than in females. However, females are Mohave a higher level of extroversion, adaptability, and responsibility than males. However, males and females do not differ significantly in the trait of flexibility (t=0.09 and sig=0.92). The questions of this study are: Can defense styles predict students' quality of life? To what extent it can predict the quality of life? Can personality factors predict the quality of life, and to what extent each of these factors can predict the quality of life of students? Can personality factors and defense styles simultaneously the predict quality of life, and which one has a greater share?

To answer these questions, stepwise and simultaneous regression models were used. Before performing the primary regression analyses for each specific question, a full regression analysis model was performed for the quality of life variable on all predictor variables. This analysis was performed with two goals. The first goal is to examine the basic assumptions of multiple regression analysis, such as the collinearity of the relationship between the criterion variable and the predictor variables, the normality and homogeneity of the distribution of the conditional distributions, and to examine the status of the distributions in terms of the presence of outliers. Although the F test used for the significance of R2 in regression analysis is resistant to the average deviation of some of these assumptions, assumptions such as the non-collinearity of the relationship and the presence of outliers have an incorrect effect on the model and accuracy of parameter estimation and inferences.

Also, to achieve the first goal, separate regressions of the quality of life on the scales were performed individually to examine the distribution of the data accurately. The second goal of this analysis was to investigate the success rate of the overall model in predicting the quality of life variable and determining the R2 value. The results of full regression analysis and individual regression analysis showed that three subjects had high outliers that affected the regression model and the estimation of parameters. A regression model was performed with and without these outliers. Without these six outliers, R2 increased by 2%, and significant changes were observed in the regression coefficients (b). Thus, these three subjects were excluded from the final analysis. To examine the assumption of multicollinearity, the statistical index of zero-order correlation coefficients was used. Based on the correlation matrix of the predictors with each other, all the correlation coefficients between the predictor variables were smaller than 0.9. Thus, the probability of collinearity between the predictor variables is low (Tabachnik and Fidel, 2007). The second goal of this analysis was to investigate the success of the model in predicting the quality of life of students and to answer the question whether defense styles and personality traits are valid predictors of quality of life. For this reason, by simultaneously entering the variable of defense styles and personality traits as predictor variables and quality of life as a criterion variable, the share of the variables of defense styles and personality traits in predicting the explained variance was presented in Table 5.

Table 5: Simultaneous regression of quality of life according to the defense styles

Values of predictors	R	R^2	Adjusted R2	SE	F test	Sig
defense styles and personality traits	0.611	0.37	0.36	7.34	23.64	0.001

R is the correlation between the observed value and the predicted value of the criterion variable. R2 is the square of this correlation and shows the share of variance in predicting the criterion variable. It is a scale that shows to what extent it is possible to predict the criterion variable by knowing the predictor variables. Thus, based on the R2 value presented in Table 5, the variables of defense styles and personality traits explain about 37% of the changes in the quality of life. Observed F and its significance level is p<0.001, indicating the significant effect of defense styles and personality traits simultaneously. Table 5 indicates that two variables of immature defense style (t=-5.40 and P<0.001) and neurotic (t=-2.50 and P<0.001) from the defense styles and five predictive variables of neuroticism (t=-2.32 and P<0.05), extroversion (t=-2.46 and P<0.05), flexibility (t=-4.35 and P<0.001), and responsibility (t=4.20 and P<0.001) from the five personality factors significantly affect the quality of life. However, the mature defense style variable (t=1.41 and P>0.05) and adaptability (t=1.21 and P>0.05) did not significantly affect the quality of life and are removed from the regression line equation.

Table 6: Coefficients and significance of coefficients obtained from simultaneous regression analysis of quality of life according to personality traits and defense styles.

Predictor variables	Coefficient B	Standard error)SE(	Standard coefficient β	t-value	Sig
Constant	132.55	8.91	-	14.87	0.001
Immature style	-4.34	0.80	0.31-	-5.40	0.001
Mature style	0.79	0.56	0.08	1.40	0.16
Neurotic style	-2.13	0.50	0.23-	-4.24	0.001
Neuroticism	-0.23	0.10	-0.15	2.31-	0.02
extroversion	-0.21	0.08	0.13-	2.46-	0.01
flexibility	-0.41	0.09	0.21-	4.35-	0.001
Adaptability	0.09	0.07	0.06	1.21	0.23
responsibility	0.37	0.08	0.23	4.20	0.001

According to the results obtained from the statistical analysis of simultaneous multivariate regression, the line equation or model for predicting the quality of life based on the number of predictor variables is written as follows:

Y= a+bx1+bx2+bx3+bx4+bx5+bx6

Responsibility 0.37 + Flexibility 0.41 - Extroversion 0.21 - Neuroticism 0.23 - Neurotic 2.13 - Immature style 4.34 - 132.55 = quality of life.

Although this equation predicts the dependent values based on the predictor variables, the coefficients (b) cannot be used to understand the relative importance of the predictors. If dependent and independent variables are standardized and their mean is zero and the standard deviation is 1, these coefficients will be more interpretable. The standard coefficients (β) are reported in Table (6). The prediction equation for standardized variables is as follows:

Y= βx1+ βx2+ βx3+ βx4+ βx5+ βx6

Responsibility 0.23 + Flexibility 0.21 - Extroversion 0.13 - Neuroticism 0.15 – neurotic 0.23 – immature style - 0.31 = Quality of life.

Based on these results, the primary research hypothesis that states personality traits and defense styles predict students' quality of life is confirmed ($p<0.01$). In the second step, defense styles and personality variables are entered into the analysis step by step to determine the share of each factor. Table (7) shows the share of each of the defense styles and personality variables individually and in combination with each other and its significance. Based on Table 7, in the first model, only the neuroticism variable enters the regression. In this state, neuroticism explains 9% of the quality of life, which is significant at the 99% level.

Table 7: Summary of stepwise regression results of quality of life according to personality traits and defense styles

Rank	R	R^2	R^2 adjusted	Adjusted F-value	Significance of R^2 adjusted	F-value	Sig
1	0.31	0.09	0.09	34.82	0.001	34.82	0.001
2	0.32	0.10	0.01	2.01	0.15	18.47	0.001
3	0.37	0.14	0.03	13.69	0.001	17.36	0.001
4	0.38	0.14	0.01	3.25	0.07	13.92	0.001
5	0.47	0.22	0.07	29.63	0.001	18.05	0.001
6	0.58	0.33	0.11	56.89	0.001	27.15	0.001
7	0.58	0.34	0.000	0.06	0.81	23.21	0.001
8	0.61	0.37	0.03	17.98	0.001	23.64	0.001

In the second model, in addition to the neuroticism variable, the extroversion variable is added to the previous model. In this state, 10% of the criterion variable is explained, which is significant at the $p<0.001$ level, but the almost 1% change is not significant ($p > 0.05$). In the third model, the flexibility variable is added to the previous variables, and the variance is explained by almost 14% in this state. Adding the flexibility variable played a significant role in explaining the quality of life ($p<0.001$). In the fourth model, when adaptability is added, no significant change is seen in the level of explained variance and only 0.1% change occurs ($p>0.05$).

In the fifth model, where responsibility is added (all personality variables are included) the level of explained variance of quality of life reaches 22%, which is statistically significant at the level ($p<0.001$) so the responsibility variable alone adds 7% to the explained variance, which is significant at the 99% level. Hence, among the personality traits, neuroticism plays the greatest role in predicting quality of life as it explains 10%, followed by responsibility, which explains 7%. Hence, in total, the five personality factors can explain 22% of the variance in the quality of life in young people, which is significant. In the sixth model, where immature defense style is added to personality traits, the level of explained variance of quality of life reaches 34%, which is statistically significant at the level ($p<0.001$), so the immature defense style variable alone adds 12% to the explained variance, which is at the 99% level. In the seventh model, where the mature defense style is added to the previous variables, the level of explained variance of the quality of life reaches 34%, which is statistically significant at the level of $p<0.001$, so the variable of the mature defense style has not created a change in the percentage of explanation, which is not significant at the 95% level. In the eighth model, where the neurotic defense style is added

to the previous variables, the explained variance of the quality of life reaches 37%, which is statistically significant at the level of p<0.001, so the neurotic defense style variable alone adds 3% to the explained variance, which is significant at the 99% level.

In total, defense styles (immature and neurotic) can explain and predict 15% of the variance in quality of life, while personality traits explained 22% of the variance in quality of life. Also, among the defense styles and personality traits, the most influential factor in explaining the quality of life belongs to the immature defense style (12%)

The data in Table 8 shows the regression effect of each variable in each model and the correlation between them. The interpretation of the regression coefficients is based on the beta coefficient. The first statistic in this table is the constant value, which is the intercept and shows the level of the dependent variable without the intervention of the independent variable. In Table 8, regression effect coefficients are presented as standardized coefficients (Beta) and unstandardized coefficients (B). Therefore, we can use it to determine the relative share of predictor variables in each model.

Table 8: Coefficients and their significance in stepwise regression of quality of life according to personality traits and defense styles

Model	Variables	Coefficient B	Standard error (SE)	Standard coefficient β	t-value	Sig
1	Constant	108.42	2.60	-	41.66	0.001
	neuroticism	0.48-	0.08	0.31-	5.90-	0.001
2	constant	116.60	6.32	-	18.44	0.001
	neuroticism	0.55-	0.09	0.36-	-5.71	0.001
	Extroversion	0.14-	0.10	0.09-	-1.41	0.16
3	constant	131.10	7.33	-	17.87	0.001
	neuroticism	0.61-	0.09	0.39-	6.32-	0.001
	Extroversion	0.10-	0.09	0.06-	1.05-	0.29
	Flexibility	0.38-	0.10	0.19-	3.70-	0.001
4	constant	123.11	8.54	-	14.40	0.001
	neuroticism	0.54-	0.10	0.35-	5.16-	0.001
	Extroversion	0.13-	0.09	0.08-	1.27-	0.20
	flexibility	0.38-	0.10	0.19-	3.70-	0.001
	adaptability	0.15	0.08	0.11	1.80	0.07
5	constant	106.62	8.3	-	12.20	0.001
	neuroticism	0.42-	0.10	0.27-	-4.11	0.001
	Extroversion	0.21-	0.10	0.14-	2.23-	0.03
	flexibility	0.44-	0.10	0.22-	4.37-	0.001
	adaptability	0.03	0.08	0.02	0.43	0.67
	responsibility	0.51	0.09	0.32	5.44	0.001
6	constant	135.80	8.94	-	15.19	0.001

	neuroticism	0.34-	0.10	0.22-	3.57-	0.001
	Extroversion	-0.28	0.09	0.17-	3.12-	0.002
	flexibility	0.32-	0.09	0.17-	3.44-	0.001
	adaptability	0.001	0.07	0.001	0.02	0.98
	responsibility	0.37	0.09	0.23	4.17	0.001
		-5.21	0.69	0.38-	7.54-	0.001
7	constant	135.37	9.12	-	14.83	0.001
	neuroticism	0.33-	0.10	0.21-	3.26-	0.001
	Extroversion	0.28-	0.09	-0.18	3.12-	0.002
	flexibility	0.32-	0.09	0.16-	3.34-	0.001
	adaptability	0.001	0.08	0.001	0.11	0.99
	responsibility	0.37	0.09	0.23	4.08	0.001
	immature style	5.30-	0.79	0.38-	-6.70	0.001
	mature style	0.14	0.56	0.01	0.25	0.80
8	constant	132.55	8.91	-	14.87	0.001
	neuroticism	0.24-	0.10	0.15-	2.31-	0.02
	Extroversion	-0.22	0.09	-0.14	2.46-	0.01
	flexibility	0.42-	0.10	0.21-	4.35-	0.001
	adaptability	0.09	0.08	0.07	1.21	0.23
	responsibility	0.37	0.09	0.23	4.20	0.001
	immature style	4.35-	0.80	0.31-	-5.40	0.001
	mature style	0.80	0.57	0.08	1.40	0.16
	neurotic style	2.13-	0.50	0.23-	4.24-	0.001

As shown in Table 8, the variables of neuroticism (t=-2.31 and p<0.05), extroversion (t=-2.46 and p<0.05), flexibility (-4.35 t= and p<0.01), responsibility (t=4.20 and p<0.01), immature defense style (t=-5.40 and p<0.01), and neurotic defense style (t-4.24) = and p < 0.01) have a significant effect in explaining the quality of life and are included in the equation of the regression line. However, the variables of adaptability (t=1.21 and p>0.05) and mature defense style (t=1.40 and p>0.05) have no significant effect on the quality of life and are not included in the regression line equation. Therefore, the line equation or model for predicting the quality of life based on the number of predictor variables is written as follows:

Y= a+bx1+bx2+bx3+bx4+bx5+bx6

Responsibility 0.37 + Flexibility 0.42 - Extroversion 0.22 - Neuroticism 0.23 - Neurotic 2.13 - Immature growth 4.35 - 132.55 = quality of life

Also, the standard equation line is written as follows:

Y= βx1+ βx2+ βx3+ βx4+ βx5+ βx6

Responsibility 0.23 + Flexibility 0.21 - Extroversion 0.14 - Neuroticism 0.15 – Neurotic 0.23 - Immature growth 0.31 - = quality of life

According to these results, the primary research hypothesis that states personality traits and defense styles predict students' quality of life is confirmed ($p<0.01$).

Discussion and Conclusion

The results show that neuroticism has an inverse and significant relationship with physical health, limitations in playing a role due to physical and emotional reasons, energy and vitality, and emotional health. However, it has a direct relationship with pain and general health. The highest relationship is between neuroticism and social function and this relationship is negative or inverse. In other words, with increasing neuroticism in people, their social functions will be more disrupted. Also, the results revealed a significant relationship between neuroticism and quality of life, and extroversion showed a positive and significant relationship with quality of life. However, flexibility was associated with reduced quality of life. Personality traits, including extroversion and flexibility, can affect the quality of life. Personality traits such as adaptability and responsibility have a direct and significant relationship with the quality of life, so increasing these traits will lead to better quality of life.

The trait of adaptability was positively associated with the components of physical health, limitations in playing a role due to emotional reasons, energy and vitality, emotional health, and social function. However, the trait of flexibility was associated with reduced quality of life. Also, the trait of extroversion showed a positive relationship with quality of life, while the trait of responsibility showed an inverse and significant relationship with pain. The total share of personality traits in explaining the quality of life is 22%. The trait of responsibility is directly associated with the quality of life and has a significant relationship with physical health, limitation of playing a role due to physical reasons, limitation in playing a role due to emotional reasons, energy and vitality, mental health, social function, and the general quality of life. The trait of responsibility has an inverse relationship with pain, and responsible people experience less pain. Also, personality traits such as neuroticism, agreeableness, and conscientiousness have the greatest share in explaining the quality of life.

The results show that an immature defense style has a negative relationship with quality of life and has a direct relationship with pain. It can be explained in this way that people who use the immature defense style more often have problems such as role limitation, reduced capacity for insight, and self-discovery, which can lead to a decrease in quality of life and an increase in pain. Immature defense style has a negative relationship with quality of life and a direct relationship with pain. However, it has a direct relationship with physical health and social function. The total share of defense styles in explaining the quality of life is 15%, and the immature defense style has no share in explaining the quality of life. Since people who use an immature defense style have problems such as limitations in playing a role, and reduced capacity for insight, and self-discovery, this style can lead to a decrease in quality of life and an increase in pain. Moreover, people who use a mature defense style have more normal coping styles that have a positive role in people's mental health and can help improve physical health and social functions.

The results suggest that the mature defense style has a direct relationship with physical health and social function. However, it does not have any relationship with mental health and quality of life. Additionally, the neurotic defense style has an inverse relationship with the quality of life. In other words, the more people use this defense style, the less quality of life they will have. Moreover, the neurotic defense style is directly related to pain. In total, defense styles explain up to 15% of the differences in quality of life. Also, excessive use of neurotic defense styles has an inverse relationship with physical health, energy and vitality, emotional health, and quality of life. Excessive use of this defense style is

also directly associated with pain. Investigating the relationship between defense styles and extroversion showed that people with more extroversion use more mature defense styles and less immature defense styles. These people enjoy more social interactions and participation in social activities and use more adaptive, normal, and efficient coping methods.

In the present study, the dimensions of students' quality of life including physical function, physical pain, role limitation, general health, vitality, social function, psychological problems, and mental health were examined by using the SF-36 quality of life questionnaire. The results revealed that the overall quality of life is 36.93, and males are at a lower level than females in all components of quality of life, except for limitations in playing a role due to physical reasons, physical pain, and overall quality of life. The independent t-test also revealed a significant difference between the two groups of males and females in the components of physical function and role limitation due to emotional reasons, energy and vitality, emotional health, social function, general health, and overall quality of life. Thus, the hypothesis that the quality of life is different in females and males was confirmed with 99% confidence. The analysis of the results revealed that the low quality of life in males compared to females in terms of physical function, role limitation due to emotional reasons, vitality, mental health, social function, and general health is due to the gender characteristics of males. Males also obtained a lower score than females in the components of quality of life, except for role limitations due to physical reasons and physical pain. The level of functional limitation due to physical problems and physical pain is higher in males than in females.

This study revealed that males and females are significantly different in the level of using immature and neurotic mechanisms. Males use immature mechanisms more than females. It reduces the barrier to understanding reality and the capacity for insight and self-discovery. Additionally, females use psychological mechanisms more than males, leading to problems in relationships, jobs, and success in life in the long term. In this study, students' personality traits were measured using a NEO-FFI. The results showed that males and females are significantly different in the traits of neuroticism, extroversion, adaptability, and responsibility. Males were more likely to have neuroticism than females, which may lead to physical discomfort such as headaches and back pain. Moreover, females have emotional stability and are usually calm. In this study, the results showed that five personality traits, including neuroticism, extroversion, flexibility, responsibility, and immature and neurotic defense styles significantly affect the quality of life. In the quality of life prediction model, responsibility and flexibility with more weight had the greatest effect, and extroversion, neuroticism, immature, and neurotic defense styles had significant effects.

The present study, like other studies, has limitations. A questionnaire was merely used to collect data in this study. Thus, factors such as the subject's inattention, lack of knowledge of their characteristics, fatigue, and other factors may have distorted the accuracy of the answers. The primary problem in this study is the limited background and the lack of background similar to the subject of the study. According to the results and limitations of our study, some practical recommendations are presented here. To gain more confidence and not depend on a specific research tool, it is recommended for future studies to use other tools such as semi-structured interviews to measure the desired variables. The issue of quality of life in other geographical areas should be evaluated according to the cultural context of those areas. Also, since we have little background about the variable of quality of life and defense mechanisms, it is recommended that more studies be conducted in this field.

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