Investigating the Relationship Between Personality Traits and Defense Styles of Students (Girls) with High and Low Academic Performance in Ardabil

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Abstract

The aim of this study was to compare the personality traits and defense styles of students (girls) with high and low academic performance in Ardabil city in the academic year of 2019-2020.The research method was causal-comparative. In this regard, the number of students with high educational performance of 30 people and students with low educational performance were selected as well as 30 students using a multi - stage cluster sampling method. To collect research data, the five-factor personality test neo-phi (short form) and the defense styles questionnaire of Bond, Gardner, Christian and Sigal. were used. To analyze the collected data using SPSS-20 software, descriptive statistical methods including mean and standard deviation were used and also inferential statistics methods including multivariate analysis of variance were used. The results showed that there is a significant difference between students with suitable and unsuitable academic performance in some personality traits and defense styles The students with high academic performance in the personality traits of extraversion ($p < 0.044$) and conscientiousness ($P < 0.45$) got higher scores and students with low academic performance in the personality traits of neuroticism got higher scores. The results also showed that in defense styles students with high academic performance ($P < 0.012$) had higher scores and the students with low academic performance in underdeveloped defensive styles ($P < 0.013$) and psychotic defense styles got higher scores. Therefore, according to the findings of the study, it can be concluded that personality traits (Extraversion and conscientiousness) and defensive styles have a decisive role in students' academic performance.

Keywords: Academic Performance, Personality Traits, Defense

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Introduction

Improving the quality of mental health and investment on educational and human resources are regarded as effective factors paving the way for a country's pervasive development. Hence, improvement of students' academic achievement is also among the basic goals of educational planning. High academic performance of school children is not only the key to success in school studies and the following higher education; it also plays a major role for children's everyday life in school, making them competitive in the modern society (Rui, Stuart, 2013).

Factors influencing learning of students and educational performance are widespread and broad. Identifying these factors and resolving their problems in the educational system is very important. One of these factors is the student's personality traits. Personality is a set of emotional and behavioral traits that surround a person in his everyday life. Personality is likely to set boundaries for the type of learning that may be adapted to environmental conditions and desires, thereby affecting academic performance. The Big Five Personality Factors are framework of personality traits (Costa and McCray, 1999). The five factors that have been abundant in studies are neuroticism, extraversion, and openness to experience, harmony, and conscientiousness (bakat, Othman). Neuroticism, as a general tendency to have negative emotional states, irrational ideas, and conflict, is defined by impulsive actions. Extraversion is defined as a general desire to express oneself, to be dynamic, and to perform social actions. These people are exciting, irritating and sociable. Openness to experiences is defined by a general tendency to spread new information, to have divergent thinking, and to have unusual values. Harmonization is defined as a general desire to have altruistic feelings, trust in others, and to accompany and agree with them. Finally, conscientiousness is defined as the general tendency to have purposeful behavior and cognition, strong will, and determination. In other words, conscientiousness and openness predict of course performance and pleasantness conscientiousness and openness, especially when students apply the knowledge they have already accumulated in real life. In contrast, neuroticism is negatively related to academic achievement. In addition to those five factors, other characteristics such as courage or persistence are a predictor of academic performance. (Camaro, Promos and Fordham, 2015). Another factor related to academic performance is defense styles, the automated psychological processes that protect individuals against anxiety, risk perception, and stressors. Defense mechanisms work to reduce cognitive dissonance and minimize sudden changes in internal and external reality by influencing how People's perception of situations and events. Some of these mechanisms are mature and useful, and some are immature (Winelands, 2000).Academic achievement is not only influenced by learning and school factors, but also by individual and psychological issues (Di Fabio and Palazeshki, 2009). Academic achievement is almost measured in most researches in this field in its quantitative form by the average of a person's courses in school or university or any other educational environment in which a person studies (Maher Afroz, 2015). A very wide range of individual, social, family and cultural variables are associated with academic achievement. Some researchers emphasize the importance of individual variables in this regard, For example, Kalmar et al. (1999)

believe that in today's world, a person has certain personality and individual characteristics to enter society and face its various situations, and these individual and personality characteristics have also been influenced by the wider issues of society. And also affect it. Understanding the different dimensions of academic performance and related variables is the first and main step for this goal. It should also be considered that students have many individual differences that play a key role in their education and academic performance. They have important differences in terms of learning, efficiency, positive thinking ability, and also deal with problems and challenges in different ways. Some students enjoy the new activity and like to reorganize things themselves, while others prefer pre-tested and safe tasks and are unable to reorganize them. (Glover et al.,1999). In other words, learners have differences in terms of personality, attitudes, emotional reactions, defensive styles and etc. that affect their learning and how they deal with issues and problems. Students are exposed to different sources of stress and people use different methods in stressful situations one of which is defense styles and related mechanisms. The defense styles and their mechanisms are used when (ego) is activated to defend against perceived threats from external, internal sources and the resulting anxiety. (Haidari Nasal et al., 2011). Some defense styles are developed (suppressive defense mechanisms, humor, and foresight, sublime) and show more adapted ways of people facing the norm with the environment and mainly bring about risk satisfaction and psychological satisfaction.(Yazdanshenas Qazvin, 2010). This attitude is based on the efforts of people like Anna Freud.(1995), because by changing the direction of analytical theory from instincts to interaction (ego) with the environment, there is an increasing recognition of defense mechanisms as normal cognitive processes that individuals in accordance with the facts and in the service of strengthening and organizing (I) in its positive meaning (Ali Bakhsh, 2016). A healthy defense style and its mechanisms increase the individual's ability by postponing conflicts, increasing endurance, preparing for difficult situations and directing needs and shocks in a popular way (Zeighami, et al., 2019). And in the meantime, academic achievement is one of the areas that can be promoted (barakat, Othman, 2014). Since defense styles are immature (defense mechanisms of reasoning, projection of denial, dissociation, devaluation, transient action, physicalization, fantasy, layering, fragmentation, passive aggression, displacement, isolation) and psychologically disturbed defense styles (false heterosexuality, reactive organization, idealization, invalidation) prevent the individual from understanding reality. And cause irritability and in the long run, provide neurosis (Yazdanshenas Qazvin, 2010). According to a research, neurosis has a negative relationship with academic success at the university level (Akbary Ata Youssefi, 2011). Also, the study of students with academic failure indicates the unfavorable state of their mental health in various aspects of mental health (Kahrazaei et al., 2015) and the prevalence of disorders related to mental health is one of the reasons for expulsion (Zeighami and Et al., 2016). These properties are usually fixed and immutable (Verme, 2000). In general, in today's psychology, there are different. (Duff et al. (2004) believe that models that predict academic performance focus on the importance of variables such as intelligence and motivation, and personality is often considered as a predictor alongside these variables.

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But today, as research show in numerous studies, five personality traits are related to a wide range of behaviors (Kumaran et al., 2011), which include academic and occupational performance (Costa et al., 2010). Most of this research has focused on the relationship between the five major factors of personality and academic performance. The five major personality factors are (neuroticism, extroversion, and openness to experience, conscientiousness, and adaptation). (Klink Oz, 2010).By examining such research, it can be seen that most of the research done on personality traits and defensive styles has been done on students. Therefore, it seems necessary to do this research among students as well. Also, most of this research has been done in areas other than the five major personality factors and defense styles. The main purpose of this study is to answer the question whether students with high and low academic performance have significant differences in defense styles and personality traits.

Methods

The method used in this research was causal and comparative. Personality traits and defense styles are compared to high academic performance and low educational performance. So that the variables of personality traits and defense styles are considered as dependent variable, and academic performance is considered as independent variables. The Statistical community included all high school students of Ardabil, who were studying in the province's schools in the academic year 2019 - 2020. (n=4000) The sampling method is multi-stage cluster random sampling. Considering that in such researches (causal-comparative), 15 people are enough for each group (Delavar, 2009), therefore, the sampling was as follows: selected. At first, two districts were selected among all education districts. Finally when these students got their report card from these school, we considered their average with high academic performance (18 and up) and low academic performance (14 down). From these schools, 30 students were selected for the group of students with high academic performance and 30 students for the group of students with low academic performance and a total of 60 people were selected. Raw data were analyzed using SPSS software. In the first part, descriptive statistics such as mean, and standard deviation was used and in the second part, multivariate analysis of variance was used to test the hypotheses.

Included Research instruments

1-Neo's Five Factors of Personality Tests (short form) :

Neo five factor inventory (neo-costa & mac & Kerry), revised form by Grouse (2002). (neo - phi) in Iran , is one of the personality tests designed based on factor analysis and one of the newest tests in this field Costa and McCrae's (1989, 1992) NEO Personality Inventory (NEO PI), Revised NEO Personality Inventory (NEO PI-R), and NEO Five-Factor Inventory (NEO FFI) were developed with the aim of assessing the five domains of the FFM: (a) neuroticism (N), the tendency to experience negative emotions and psychological distress in response to stressors; (b) extraversion (E), the degree of sociability, positive emotionality, and general activity; (c) openness to experience (O),

levels of curiosity, independent judgment, and conservativeness; (d) agreeableness (A), altruistic, sympathetic, and cooperative tendencies; and (e) conscientiousness (C), one's level of self-control in planning and organization(Rosellini, Brown, 2011). The questions of this scale are scored on the five - part Likert spectrum from 0 to 4 and each factor has a score ranging from zero to forty 48-eight. The coefficients of credit and the recovery of its scales are obtained from the three - month intervals between 0/75 to 0/83 (costa and McClelland, 2004) In order to evaluate the criterion validity of the test , the correlation between two forms of personal reporting and observer form was used .and its obtained correlation was between 0/45and 0/66, Alpha coefficient method was used to evaluate the end of the test and its correlation was between 0/56and 0/87 (Garoosi,2010).

2- The Defense Style Questionnaire (DSQ)

The Defense Style Questionnaire (DSQ) is a self-report inventory that measures specific defense mechanisms in terms of DSM-III-R concepts that was originally construed by Bond, Gardner, Christian and Sigal(1983). The short vjersion of the DSQ consists of 36 items which are allocated to I7 defense mechanisms derived from the DSMIII-R: i.e. sublimation. humor. anticipation. suppression, undoing. idealization. reaction formation projection. passive aggression, acting out. isolation, devaluation, auttstic fantasy, demal. splitting. rationalization, and somatization. Each item has to be checked by the S on a nine-point scale. rangmg from I (strongly disagree) to 9 (strongly agree). A defense mechanism score can be obtained by summing the scores on the relevant items. Because most of the defense mechanisms of the short version DSQ are only composed of one or two items, Cronbach's 2s were not calculated. Nevertheless, a recent study by Andrews. Singh. and Bond (I 993) showed that the 72-item DSM-III-R-labeled DSQ, from which the short version has been derived, possesses reasonable psychometric properties (i.e. moderate internal consistency and good test-retest reliability). Neuroticism (Cronbach's r = 0.84) was assessed using the E~,se~k Personrrli/j~ Ques/ionnrrirr [EPQ (Eysenck & Eysenck, 1975)].

Results

Table 1: Frequency distribution and percentage of research subjects in the variables of age, parental education

Attributes		Students with high academic performance		Students with low academic performance	
Variable		3/4	1	Percentage	Frequence
Age	15	27/6	8	6/7	2
	16	41/4	12	46/7	14
	17	27/6	8	36/7	11

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		18	6/9	2	10/00	3
Father's education	Elementary and lower	6/9	2	23/3	7	
	Cycle	41/4	12	10/00	3	
	Diploma	31/00	9	26/7	8	
	Bachelor's degree and higher	24/1	7	33/3	10	
Mother's education	Elementary and lower	3/4	1	24/00	9	
	Cycle	44/8	13	26/7	8	
	Diploma	20/7	6	23/3	7	
	Bachelor's degree and higher	34/5	10	16/7	5	
Arrange the family child	First	31/0	9	30/00	9	
	Second	27/6	8	56/7	17	
	Third	6/9	2	3/3	1	
	Four and more	3/4	1	10/0	3	

Table 2 shows the level of education of parents (parents) in detail, which showed that fathers with a bachelor's

degree and above have the highest number. And mothers with cycles degree have the highest number.

Table (2) Mean and standard deviation of five factors of personality and academic achievement

Variable	group	Average	The standard deviation
Neuroticism (N)	High academic performance	28/51	4/46
	Low academic performance	27/44	5/34
Extraversion (E)	High academic performance	26/48	5/13
	Low academic performance	25/79	4/38
Flexibility (openness to experience)(o)	High academic performance	27/10	6/16
	Low academic performance	26/62	8/44
Agreeability(A)	High academic performance	26/06	5/72
	Low academic performance	28/31	6/22

| Conscientiousness (being conscientious) (C) | High academic performance | 25/41 | 5/69 |
| | Low academic performance | 28/51 | 5/03 |

The findings of Table 2 show that the average personality traits of extraversion, agreement and conscience are higher among students with high academic performance than students with low academic performance, but Students with low academic performance have in the personality traits of neuroticism and openness to knowledge experience a higher average than students with high academic performance.

Table 3: Descriptive statistics (mean and standard deviation) of defense styles

Variable	group	Average	The standard deviation
Developed defense styles	High academic performance	48/65	12/58
	Low academic performance	4070	11/05
Annoyed mental defense styles	High academic performance	36/06	9/11
	Low academic performance	36/37	8/32
Immature defense styles	High academic performance	109/24	35/23
	Low academic performance	127/60	16/59

The findings of Table 3 show that the average of developed defense styles is higher among students with high academic performance than students with low academic performance, but in underdeveloped defense styles and psychotic defense style students with low academic performance. Have a higher average than students with high academic performance. in the scores of some personality traits. So that in the personality traits of extraversion (P <0.044) and conscientiousness (P <0.45) students with high academic performance got higher scores and in the personality trait of neuroticism (P <0.023), students with low academic performance got high scores.

Discussion

At the beginning of the research, we examined the fact that there is a significant difference between students with high academic performance and students with low academic performance in terms of personality traits (neuroticism, extraversion, flexibility, agreement and conscientiousness). The results of analysis of variance in this regard showed that there is a significant difference between the two groups of students with high academic performance and low academic performance. These results are based on the findings of studies by Renato (2016, Cascina (2014), Versailles (2014), Barton and Nelson (2006), Bartok et al. (2006), Duff et al. (2004), Stein Marie et al. (2008),

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Lastborn. Et al. (2003), Chamorro and Fahrney (2003). Explaining these findings, it can be said that personality probably creates limits and boundaries for the type of learning and these limits may be adapted to environmental conditions and desires. Personality is a set of emotional and behavioral features that surround and accompany person in his daily life. In other words, personality is a continuous characteristic through which a person regulates his interaction and adaptation with others and the social environment (Albert, Mania, Gergiev, Bigot, 2010). According to the results of several studies, one of the factors affecting students' academic achievement is their personality traits .The Big Five Personality Factors (Costa and McCray, 1990) is a framework of personality traits as a decisive and frugal model for understanding the relationship between personality and different academic behaviors. Research has shown that learners' learning levels vary in the same situation, and perhaps one of the most important reasons is their different personality traits. Identifying their personality traits in the face of homework in order to achieve effective methods of studying and learning them, can affect the improvement of students' academic performance in lessons. Accordingly, perhaps one of the reasons influencing the poor performance of students with learning disabilities is their dominant personality traits. As reported, there is a significant difference between the two groups of students with high and low academic performance in three components of personality dimensions, namely extraversion, conscientiousness and neuroticism. This means that students with high academic performance are more extroverted than students with low academic performance (Isai et al., 2016)As mentioned, people with high levels of energetic extraversion are interested in teamwork, collectivism, optimism, activity and expression, and so on. (Costa and Veliger, 2008). Many of these characteristics play a positive role in the academic progress of learners. For example, the Students who work in groups can benefit from each other in the right shape and resolve their problems. Another finding of the study showed that the average scores of conscientiousness in students with high academic performance is higher than students with low academic performance. It means that ordinary students have a higher degree of conscientiousness than the students of high academic performance. A conscientious person is efficient, orderly and responsible. It is associated with features such as hard work, responsibility, and being urgent on the optimal task and progress. (Costa and McCray, 1992). The personality traits of conscientiousness have a positive and direct relationship with self – efficacy. People with high conscientiousness have characteristics such as high motivation, striving for progress, discipline, responsibility and conscientiousness. These characteristics enable people with a high score in conscientiousness to continue their education with more perseverance and responsibility, and as a result, have better academic performance and achieve higher success and progress. (Pets, 2006). The personality trait of conscientiousness is positively correlated with self - efficacy and planning. Conscientiousness is determined by characteristics such as purposefulness, responsibility, self-discipline and perseverance. These people tend to be organized,

hardworking, and persistent (Costa ET Weedier, 2002). They also feel that they are ready to face life's challenges and evaluate their abilities positively. These people have high self-regulation and can force themselves to do something. (Haghshenas, 2012). Also, among personality traits, neuroticism is more common in students with low academic performance than students with high academic performance. Neuroticism is directly related to emotional effects. The findings of the present study are consistent with the results of the research of Difreud and Marveled (2000) and Atashrooz (2011).Neuroticism is a personality trait that has low stability and anxiety on one side and high instability and anxiety on the other. Therefore, it is clear that people with high levels of psychological distress and therefore anxiety and arousal cannot have a good academic performance. Anxiety is characterized by characteristics such as emotional instability, fear, anxiety, and confusion. These people feel that they cannot cope well with daily stresses and become frustrated and upset in stressful situations (Costa and Weedier, 2008). These traits reflect the characteristics of people with high emotional impact. People who are more affected by emotions, such as those who are mentally disturbed, evaluate their abilities at a lower level, expect themselves lower performance, and are affected by anxiety and worry. (Sara son, 2000, quoted by Dortaj,2012 and Spence et al. 1999, quoted by Sivas, 2007). In the other part of the study, we examined the fact that there is a significant difference between students with high academic performance and students with low academic performance in terms of defense styles (grown, mentally retarded, and immature. The results of analysis of variance in this regard showed that there was a significant difference between the two groups of students with high academic performance and low academic performance in the scores of developed defense styles (P <0.012) and immature defense styles (P <0.013). So that in the developed defense styles, the students with high academic performance scored higher and in the underdeveloped defense styles and the psychologically disturbed defense style, the students with lower academic performance obtained higher scores. Our findings in this study are in line with the findings of Shirin (2011), Ganji et al. (2013), Hashmi (2012), and Mohtashami et al. (2013). Research on the relationship between academic negligence and defense styles showed that defense mechanisms can play an effective role in academic achievement (Hashemi, 2012). It can be said that academic achievement is not only affected by educational factors but also by intrapersonal and psychological issues (Di Fabio and Palazzki, 2009).Students faced with various sources of stress and in this situation use different methods, one of which is the defense styles and defense mechanisms related to these styles. Their mental health is unfavorable in various dimensions of mental health. (Kohzaei et al., 2005). Defense styles and mechanisms are used when I am activated against the perceived threat from external and internal sources and the resulting anxiety (Haidari Nasab et al., 2007). Some of the defense styles (such as suppression, sublimation, humor, foresight) and show are developed people's exposure to the environment and mainly bring satisfaction (Yazdanshenas, 1390). The basis of this attitude is based on the

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efforts of people like Anna Freud (Ali Bakhshi, 2008). In the meantime, academic achievement, which is one of the areas that can be promoted, since the defense styles have not developed (reasoning, projection, denial, division, devaluation, action, bodybuilding, fantasy, layering, break passive aggression, displacement and isolation) and psychologically disturbed styles (inverted reaction, false heterosexuality, idealization and voiding) hinder one's perception of reality, reduce one's visual capacity and self-exploration (Zeinali Najani and Et al., 2011) According to a research, neurosis has a negative relationship with academic success (Akbari and Agayousefi, 2010). On the other hand, stress can cause a person to drown in the past and the future; A mental state in which a person loses what he calls the mind of consciousness by not being aware of his thoughts, behavior, emotions and feelings, lack of presence in the present and judgmental reaction to events (Pakizeh and Afkhami, 2012; Barnofer and Et al., 2011) and is locked into a personal imagination (Chascalson, 2005). Mind-conscious people, on the other hand, process events more realistically instead of impulsively or habitually, and because they perceive internal and external facts without distortion, they make events less disturbing than they are. They receive and process and have a great ability to deal with a wide range of thoughts, emotions and experiences (Falconstrom, 2010). In fact, it can be said that the academic achievement of students with developed defense styles is higher in comparison to students with undeveloped defense styles and psychologically abused defense styles, since developed defense styles show more adapted ways of normal people. Comparison with the environment, it can bring psychological satisfaction by creating an optimal balance between conflicting motivations (Ali Bakhshi, 2011) and thus lead to improved academic performance. In this regard, students' academic performance can also cause a lot of anxiety due to educational, social, family, emotional and economic factors. Therefore, it seems that students who have been able to use developed defense styles in the face of threatening anxiety, have a better academic achievement due to benefiting from more focus on inner resources and homework (Hafezi et al., 2011) despite anxiety situations.. The defense mechanism in developed styles allows individuals to overcome internal conflicts with awareness of feelings and thoughts, rather than pathological distortions of internal and external realities. The results of research also indicate the greater use of immature and psychologically abused defense styles by students with low academic performance (Ganji et al., 2017). Limitations of this research include the limitation of research to girls and the inability to control variables such as intelligence, etc. For future research, it is suggested the cognitive styles and intelligence of individuals better to be examined.

Conclusion

The findings of this study should be considered in light of some limitations. First, information and data were collected through self-report of the subjects through a questionnaire which is always influenced by various influential factors such as the

tendency of respondents to provide community-friendly answers. Second, since the subjects are female students, we must be careful in generalizing the results to all male and female students. Third To determine the high and low academic performance, only the students' grade point average was used, which does not seem to be completely accurate. The results showed that there is a significant difference between students with high and low academic performance in some personality traits and defense styles so that. The students with high academic performance in the personality traits of extraversion (p<0.044) and conscientiousness (P <0.45) got higher scores and students with low academic performance in the personality traits of neuroticism got higher scores. The results also showed that in developed defense styles students with high academic performance (P <0.012) had higher scores and the students with low academic performance in underdeveloped defensive styles (P <0.013) and psychotic defensive styles got higher scores. Therefore, according to the findings of the study, it can be concluded that personality traits and defensive styles have a decisive role in students' academic performance.

Disclosure Statements

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