

The Five Personality Factors over the Students with Four Blood Types

Fatemeh Beheshtian¹, Roghayeh Hashemi¹ and Zolfaghar Rashidi²

¹Department of Psychology, Qeshm International Branch, Islamic Azad University, Qeshm, Iran

²Department of Psychology, Roudehen Branch, Islamic Azad University, Roudehen, Iran

Received: March 13, 2015

Accepted: June 22, 2015

ABSTRACT

The study aims to compare the personality factors over the students with blood types A, B, AB, and O. The statistical population includes all students in Tehran and Kish, Iran in 2014-15 academic year. The sample was composed of 160 students selected using cluster sampling from the universities of these two cities (i.e. the Islamic Azad University (IAU) of Roode Hend and IAU of Kish). The sample was evaluated using the research instruments including the NEO PI-R Questionnaire. This instrument is a popular instrument that its validity and reliability were validated in different studies. The data was analyzed using the MANOVA Test. The statistical analysis of the hypotheses indicated a significant difference in the openness to experience factor in students' blood types ($p < 0.05$); however, no difference exists for other personality traits ($p > 0.05$).

KEYWORDS: Five personality traits, Blood types, Student

1. INTRODUCTION

The complexity of human psyche is the main subject of psychology. The identification of characteristics, the behavioral factors and their roots, and the mental health not only is a necessity but is a difficulty because when they are identified, effective steps can be taken to improve the relationship between an individual and others and consider ways to improve his mental health [1]. According to World Health Organization (WHO), Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity [2]. A number of genes cause most human characteristics, together. Some characteristics such as intelligence, height and emotionality are not classified in a definite category in this regard; however, they are on a range of variations [3].

Blood type is one of the most important differences among populations around the world. Human blood can be categorized into four types of A, B, AB, and O based on the two antigens of A and B on the red blood cells and the two related antibodies of Anti-A and Anti-B in plasma. The importance of blood types is due to the fact that their hereditary nature is simple and to some extent recognized, and their recognition is supposed to help recognize many other characteristics such as the personality traits [4].

Personality is often regarded as a power to organize human behavior; therefore, it has had an outstanding position in psychology. Personality is an effective factor in causing individual differences, and a set of personal traits, which can be applied in comparing individuals. The physical and mental health of people can also be studied through their personality traits. The five-factor model is an agreement among the trait psychologists. There are five main dimensions or factors in describing all personality traits. These five bipolar and extensive dimensions are called the Big Five Personality Traits. This bigness is not due to their largeness, but it is due to their subjectivity and extended nature [5].

According to Digman [6], the five-factor outline indicates the structure of the personality traits and is produced after 4 decades of attempts in this regard. The five main factors include neuroticism, extraversion, openness to experience, agreeableness and conscientiousness.

Both the extraversion and agreeableness factors are related to interpersonal factors and the conscientiousness factor includes the aim for achievement and impulse control in a sociable way. Neuroticism refers to the degree of emotional stability against a wide range of negative emotions such as sadness, vulnerability, anxiety. The openness factor, finally, is related to an individual's extensiveness, depth, complexity, and his experiences [5].

Different psychologists have different approaches towards the big five Factors and their components. The social analysis advocates such as Hogan, for example, consider the personality traits as categories used by individuals to evaluate themselves. In fact, these substitute traits indicate the level of their acceptability to each other. These psychologists believe that personality is not a neuropsychological structure in human beings [6]. In contrast, Mc Care and John [7] believed the five-factor model cannot be described as a theory on relatively stable patterns of thoughts, feelings and actions and cannot be measured as some traits with some kind of interposition stability. Based on the evidence on the hereditary nature of personality traits, Costa and Mc Care believe that a kind of stability, biological structure and a causal role can be attributed to it which makes their approach different from others towards the big five factors as its main point. Relying on the findings that show heritability considers a biological infrastructure for them. It is found that this factor must be derived from the biological processes and structures such as the special position of genes, some brain areas such as almond, some neural transmitters and/or

*Corresponding Author: Fatemeh Beheshtian, Department of Psychology, Qeshm International Branch, Islamic Azad University, Qeshm, Iran; Email: kish_par@yahoo.de

hormones. [8]. These factors are not therefore merely regarded as descriptions on human behavior, but are considered as indicators of biological processes and structures conducting an individual behavior and must be discovered [9].

Blood is an effective factor, which can have a determining role in transmitting the personality traits, and is studied less. It is said that people with type O are competitive, others with type A are stubborn, but reliable and organized and do not like sudden events. Others with type B are courageous and very active, trustee, and hardworking. In addition, those with AB blood type will become good lawyers, policy-makers and guideline schedulers. According to Tehrani, also, People with type AB are fewer extraverts, those with type A are more impulsive. People with type A and O are more associable than the other two types. Those with Type B are more instable (uncertain) and those with type O are more timid.

According to Cramer and Aimaik [10], although no evidence exist on the relationship between the competitive personality type and blood types, high scores of neuroticism were observed among those with type B.

Paying attention to a retest of the nature of personality traits, presently, and a new interest in the recent decade and the recent researchers' tendency towards studying the role of biological issues in psychological traits (problems) have led the present research to contribute its share to study the role of one of the biological factors (i.e. the blood type) in the personality traits hopefully to be effective in determining the factors and roots of human behavior and be used as a predicting factor in people's identification for choosing an appropriate job, spouse. What make this study different from other similar studies is its large sample and the advanced statistical methods in data analysis, whereas other studies were performed merely in descriptive method.

2. MATERIAL AND METHODS

This research can be regarded applied in purpose and descriptive-causal comparative in data collection; because the researcher did not intend to manipulate the studied variables and will only study the distributed characteristics over the intended statistical population and a more precise identification of the existing conditions for a better decision-making.

Population, sample and Sampling Method

The statistical population includes all students in Tehran and Kish, Iran in 2014-15 academic years. The multistage cluster sampling was applied in a way that first, the two IAUs of Roudehen and Kish were selected randomly; then, an 80-member group student was selected randomly from each university. The sample size is recommended to be at least 30 members in each group in experimental and causal-comparative studies [11]. Therefore, the sample of this causal-comparative study was determined to be 160 students divided into four groups with a margin for possible outflows. The questionnaire was copied for all participants. The questionnaire was performed on each individual sample at the researcher's presence after providing the subjects with some explanations on research purposes. It was explained, also, that the information is collected only for a student research and will be kept confidential to prevent information biases. The questionnaires were collected on the due time and the preliminaries were provided for their analysis. It was noted that the subjects must provide the blood donation card, the Red Crescent card, and the valid certificates of blood laboratories or their driver's license to confirm their blood type before entering the study. The selection of subjects was stopped upon the completion of each blood type capacity.

Measurement Instrument

The Neo PI-R Questionnaire: It is the short form of the NEO PI-R questionnaire by Costa and Mc Care [12]. This 60-item questionnaire evaluates the five personality factors including neuroticism, extraversion, openness to experience, agreeableness and conscientiousness. Twelve questions are devoted to each component and each provided answer receives a score of 0-4. The subjects must choose among the following for each item: completely agree, agree no idea, disagree, and completely disagree.

The questionnaire has an acceptable reliability. It must be noted that the makers of this scale in the U.S., Costa and Mc Care [12].Cronbach's Alpha indexes for each of the five-fold components in their study on a 1000-member sample: neuroticism (0.92), extraversion (0.89), openness to experience (0.87), agreeableness (0.86) and conscientiousness (0.90). Therefore, this questionnaire has an acceptable reliability. The Persian version of the NEO PI-R was retested on the subjects after six months. The results indicated a retest correlation coefficient between 0.76 and 0.83.

The long-term reliability of the NEO PI-R test was also evaluated. A 6-year linear study was performed on the neuroticism; extraversion and openness to experience indicated a reliability index between 0.68 and 0.83 in both personal and couples reports. The reliability index for agreeableness and conscientiousness was 0.79 and 0.63 in a three-year interval [12].The reliability index was obtained in this study using Cronbach's Alpha. The indexes were obtained 0.74, 0.65, 0.47, 0.68, and 0.77 for neuroticism, extraversion, and openness to experience, agreeableness and conscientiousness, respectively.

The validity of this test was also measured in relation to different personality tests. For example, the correlation with the 16-item test by Katella was obtained 0.86 and its correlation with the CPI scale was obtained 0.62 [13].The content validity is expressed in this concept that 6 tributary traits are considered for each main

factor and each trait is evaluated through its special questionnaires. The validity for the criterion group or the external validity was measured through comparing an individual's performance with a criterion. The neurotic people are expected to get high scores in the neuroticism factor.

3. RESULTS

The results of the demographic findings indicated no significant difference among groups in their academic and age. As indicated by the results from the table above, no significant difference exist among the averages obtained for blood type groups regarding neuroticism, extraversion and agreeableness factors. The highest and lowest averages are related to AB and O blood type respectively for the openness to experience factor. The highest and lowest averages are related to O and A blood type respectively for conscientiousness factor.

The personality components are studied in four groups, and the hypothesis is formulated according to the research subject. After the suppositions are confirmed, the MANOVA statistical test was applied to test them.

Table 1. the Descriptive Indexes of research Variables among Groups

Blood Type	List of Variables	Number	Average	Standard Deviation
A	Neuroticism	40	26.50	4.27
	Extraversion	40	25.70	3.77
	Openness to Experience	40	26.57	4.10
	Agreeableness	40	24.50	5.04
	Conscientiousness	40	27.73	4.95
B	Neuroticism	40	25.72	4.38
	Extraversion	40	27.18	4.79
	Openness to Experience	40	22.25	6.30
	Agreeableness	40	25.10	5.60
	Conscientiousness	40	28.45	5.23
AB	Neuroticism	40	25.92	5.69
	Extraversion	40	26.59	3.47
	Openness to Experience	40	29.63	3.37
	Agreeableness	40	26.23	4.11
	Conscientiousness	40	28.78	4.81
O	Neuroticism	40	24.86	4.58
	Extraversion	40	26.72	4.43
	Openness to Experience	40	21.13	2.72
	Agreeableness	40	25.68	5.30
	Conscientiousness	40	31.95	5.08

Table 2. The MANOVA Statistical Tests

Statistical Index	Test	Value	F	df Hypothesis	df Error	sig
Difference over Groups	The Pillai Trace	0.39	4.68	15	462	0.001
	Wilks' Lambda	0.63	5.20	15	420	0.001
	The Hotelling Trace	0.56	5.70	15	452	0.001
	Roy's Greatest Root	0.50	15.55	5	154	0.001

The results of table 2 indicate that there is a significant effect for the independent variable group Through MANOVA. This effect indicates the difference at least in one of the personality components among blood types (Wilks' Lambda =0.63, $p < 0.05$).

Table 3. The One-way Variance Analysis Tests inside MANOVA

Statistical Index Variables	Source of Variation	SS	df	F	Significance Level	Effect Level	Test Exponent
Neuroticism	Group	21.44	3	0.41	0.74	0.04	0.12
Extraversion	Group	4.28	3	0.09	0.96	0.008	0.06
Openness to Experience	Group	204.52	3	4.94	0.006	0.28	0.88
Agreeableness	Group	83.18	3	0.96	0.42	0.08	0.24
Conscientiousness	Group	66.53	3	1.34	0.27	0.10	0.33

The results of Table 3 confirm the difference between the openness to experience in the blood type groups. As seen in table 4.9, the results indicate that the obtained significance level for this personality factor is smaller compared with the 0.01 significance level obtained from the Benfironi correction (the significance level of 0.05 divided by the five personality components). The impact level of the blood type (the operational significance) on this factor was 0.28; that is, 28% of the whole variance or the personality differences were related to the blood type in this personality factor. The high exponent of the statistical test in this research indicates that the null hypothesis was rejected correctly by 88% probability.

4. DISCUSSION AND CONCLUSION

It was indicated that no significant difference exist among different blood types regarding their personality traits. Researches indicated that the relationship between the blood type and the personality traits was rejected using the five-factor personality version. In this research, however, a significant difference in openness to experience was observed among different blood types. Openness as a personality factor is recognized much less than neuroticism and extraversion. Openness is composed of active imaginations, aesthetic sensitivity, attentiveness to inner feelings, and independence of judgment. It often contributes greatly to theories and personality evaluations. The unity of these factors has been considered in one index. The individuals accept the experiences by the ones who are curious about the inner experiences and their surrounding world and have many positive and negative feelings compared to the unaccepting people. An individual with high openness score seeks more educational opportunities and challenging work experiences actively [14]. The openness index is usually positively related to intelligence, and people in higher academic ranks obtain better scores in this scale. Openness is particularly related to those intelligence dimensions that are less subject to be measured in intelligence tests. One of these dimensions is the divergent thinking closely related to creativity [12]. It must be noted, however, that openness is not equal to intelligence. Some very intelligent people does not accept experience and some highly experience accepting people have less intelligence capacity. The males and females with low scores in this index seem standard in behavior and conservative in their appearance. They like common subjects better than the rare ones and their emotional responses are rather calm and hidden.

Considering the high correlation between intelligence and openness to experience, and the high impression of hereditary and genetic factors on intelligence, it can be said that the hereditary factors such as blood type contributed more to the openness to experience personality factor.

Personality is a constant complex mixture of traits, attitudes, propensities, needs, treatments, feelings, formed in interaction with the environment. It is clear, however, that the biological backgrounds an individual brings to this world will evolve due to his experiences while growing [15]. The congenital power born with an individual is highly influenced by the environment an individual faces, even the part of growth which seems to be highly dependent on the innate biological plan might be influenced by the environmental events.

Considering the big sample size of this study and the use of advanced statistical method of MANOVA, it can be concluded with more certainty that in line with previous studies, there is a small difference among the blood types in the personality traits. The significant difference was observed only in openness to experience which is correlated more with the more influenced variables by the heredity. As shown in the previous studies, also, the people with AB blood type are more logical, careful and prudent people indicating their higher intelligence and therefore more openness than other groups.

Elaborating on other personality factors where no significant difference was observed, it can be said that the congenital power born with an individual is highly influenced by the environment an individual faces, even the part of growth which seems to be highly dependent on the innate biological plan might be influenced by the environmental events [1]. The theories are emphasizing the heredity, mentioning the constancy of traits such as being sociable, anxiety, in later life and often considering the life experiences as if they create the lifetime patterns, there are some other more optimistic theories that believe in flexibility and the possibility of change in the traits. That is, if new experiences support the change, the change becomes possible [14].

REFERENCES

1. Atkinson, R.L., Atkinson, R.C., Smith, E.E., Bem, D.J., Hoeksema, S.N., Smith, C.D. 1998. *Hilgard's introduction to psychology*. Trans. Baraheni MT, Birashk B, Beik M, Mohiedin M, Zamani R, Shahr Aray M, et al. Tehran, Iran: Roshd.
2. Sadock, B.J., Kaplan, H.I., Sadock, V.A. 2007. *Kaplan and Sadock's synopsis of psychiatry: behavioral sciences/clinical psychiatry*. Trans. Pour Afkari N. Tehran, Iran: Shahr Ashoub.
3. Zargar Shirazi, F. 1992. *Relationship of blood type and personality*. M.A Thesis. Tehren, Iran: Institute of Psychiatry.
4. Noami, T., Beshar, A. 1988. *You are your blood type: The biochemical key to unlocking the secrets of your personality*. New York, NY: Pocket Books.
5. Costa, P.T. & McCrae, R.R. 2005. *Revised NEO personality inventory (NEI. PI - R) and NEO five - factor inventory (NEO - FFI) professional manual*. Odess, P. I, Psychological Assessment Resources.
6. Digman, J.M. 2008. *Personality structure; emergence of five factor model*. *Annual Review of psychology*; 87: 3 - 29.
7. Mc Care, R.R. & John, J. 1992. *Validation of the five-factor model of personality across instruments and observers*. *Journal of personality and social psychology*; 52:81 - 90.
8. Lawson, R. B. & Shen, Z. 2007. *Organizational psychology foundation & Applications*. Oxford university press.

9. Mohammad zadeh Ebrahimi, A. 2009. The Relationship between the Big Five Personality Factors and Marital Satisfaction. Thesis submitted in partial fulfillments of the MSc. Requirements, Alameh Tabatabaai University.
10. Cramer, K.M., Aimaik, E. 2002. Personality, blood type, and the five-factor model. *Personality and Individual Differences*; 32(4): 621-26.
11. Delavar, A. 2005. *Research Methods in Psychology and Educational Sciences*. Viraiesh Publications, Tehran, Iran.
12. Costa, P.T. & McCrae, R.R. 1991. Normal personality assessment in clinical practice: The NEO personality inventory psychological assessment, *Journal of Counseling And Clinical Psychology*; 1 (5): 13-19.
13. Goldberg, L.R. 1999. A. alternative description of factor structure *Journal of personality and social psychology* *Personality The Bi – Five in Higher Education*; 5(1): 56 - 72.
14. Berk Laura, E. 2005. *Development through the lifespan*, Illinois State University.
15. Schultz, D.P. & Schultz, E. 2005. *Theories of Personality*. Publisher: Jon-David Hague.