

Relationship between Big Five Personality Domains and Blood Groups

Sunita Nighute^a, Kiran Buge^b, Shiva Kumar^b, Abhijit Awari^c

Abstract

In this study the relationship between two important variables, namely blood group and big five personality traits, are determined in the research framework. Many statisticians have incorporated the five-factor model and the NEO Personality Inventory, both describing various aspects of personality including the five domains of personality – neuroticism, extraversion, openness, agreeableness, and conscientiousness—into determining whether blood type influences personality [1,5]. In this study, involving about 100 undergraduate medical students who were aware of their own blood groups, participants were asked to rate various aspects of their personality by using personality inventory questionnaire of Buchanan (2001) based on Five-Factor Modality (FFM). In our study the difference in ratings for the different blood types is not statistically significant for Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness ($p>0.05$). So it is concluded that there was no evidence of any association between blood type and personality. However, the study showed weakness such as small sample sizes and unequal sample size, more accurate studies should be performed in the future to confirm or reject the results of this study.

Keywords: Blood Groups; Personality Domains; Five-Factor Modality (FFM).

Introduction

Aims and objectives of our study are- (1)To investigate the relationship between Five Factor Model of Personality (FFM) and Blood groups. (2) The recognition of the personality based on the blood type of students.

This paper studied the relation of blood groups with the big five personality domains.

Numerous research studies are performed with relation to the recognition of the personality based on the blood type of people [1]. For the past 50 years, the Japanese have been gathering data to support "Theory B", a system used to classify personality based on blood type [2]. The purpose of this study is, therefore, the recognition of the personality based on the blood type of students using five-factor model of personality

In Japan, blood type is analogous to zodiac signs and is applied in many aspects, from matchmaking to job hiring; it is applied to such a degree that Junichi

wadayama, a health, welfare, and labour ministry official, claims "blood types could lead to discrimination" [3]. Four of the top ten Japanese best sellers were about the link between blood type and personality; these books combine for a total of five million copies sold. According to this theory, "Type As are sensitive perfectionists but overanxious; Type Bs are cheerful but eccentric and selfish, Os are curious, generous, but stubborn; and ABs are arty but mysterious and unpredictable"[3]. The idea originated from Nazi race ideologues and was later adopted in the 1930s by the Japanese militarist government in order to breed more suitable soldiers; the theory was abandoned a few years later. However, in the 1970s, Masahiko Nomi, who had no medical background, advocated the theory and brought back the craze. Currently, blood type is used to determine compatibility for matchmaking, to make business decisions such as promotions, to divide schoolchildren into groups, and to customize athlete's fitness training [3]. The five-factor model and the NEO Personality Inventory [4]. The five-factor model consists of five personality domains – Neuroticism,

Author's Affiliations: ^aProfessor ^bAssistant Professor, Dept of Physiology ^cProfessor and Head, Dept of Microbiology, DVVPF'S Medical College, Opposite Govt Milk Dairy, Vilad Ghat, Ahmednagar, Maharashtra 414111, India.

Corresponding Author: Kiran Buge, Asst. Prof., Dept of Physiology, DVVPF'S Medical College, Opposite Govt Milk Dairy, Vilad Ghat, Ahmednagar, Maharashtra 414111, India.
E-mail: drsunitanighute@gmail.com

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Extraversion, Openness, Agreeableness, and Conscientiousness, often referred to as N, E, O, A, and C [5]—and has become the most widely accepted model for personality [6]. The five-factor model has been incorporated into studies about the linkage between blood type and personality; the NEO Personality Inventory is an approach based on the five-factor model that allows participants to rate the five domains of their personality [5]. “The genetic influence on neuroticism has been estimated at 41%, extraversion at 53%, openness to experience at 61%, agreeableness at 41%, and conscientiousness at 44% [6]. Historical studies concluded, “Approximately 40% of the variation in personality can be explained by genes” [5]. Because blood type is genetic and can be easily identified, many studies have analyzed the dependence of personality on blood type in Australia, Canada, Greece, India, Italy, Japan, and the United States [5]. However, only about half of the studies found a relationship between personality and blood type, while the other half did not. The studies that found a relationship were conducted by Furukawa from 1927 to 1930 [7]; Cattell, Boutourline, and Hundleby in 1964 [8]; and Wu, Lindsted, and Lee in 2003 [5], reaching the general conclusion that Type A blood individuals are melancholic, tender-minded, and anxious and Type O blood individuals more passive and self-conscious.

However, Furukawa concluded that Type B blood individuals were more sanguine. The personalities of Type AB individuals remain unclear and contradictory [6]. Angst and Maurer-Groeli (1974) [9] found higher Neuroticism scores among persons with Type B. Jogawar (1983) [1] found that people with Type B blood were less emotionally stable, more Apprehensive, and less self-sufficient. Gupta (1990) [10] observed that Neuroticism scores were significantly higher for participants with Type B blood. Similarly, Marutham and Prakash (1990) [11] reported that Type B scored significantly higher on Neuroticism than other groups did. Three studies have reported associations between neuroticism and blood type. Jogawar (1984) [1] found those with Type B blood to be more neurotic than individuals of other blood types. Marutham and Indira (1990) [11] initially found no difference between blood groups and extraversion, neuroticism and “Type A” behaviour, but after dividing the groups on the basis of EPI norms, found that blood Type Bs had higher scores on neuroticism than did any other group. Studies focusing on the association between extraversion and blood type were conducted by Angst and Maurer-Groeli in 1974 [12], Lester and Gatto in 1987 [13], and d’Abamo and Whitney in 2001 [14]; conclusions

were often contradictory, especially for Type AB blood individuals, and included that Type Os and ABs were extraverted (and, in another study, introverted), On the other hand, many studies concluded that there was no association between these two factors; these studies were conducted by Thompson in 1936 [15]. Cattell, Boutourline, and Hundleby in 1964 [6], Carmer and Imai in 2000 [16], and Rogers and Glendon in 2000 [6]. Eysenck proposed that “anxiety and neuroticism levels varied with the proportion of Type B blood individuals” and that “introversion varied with the proportion of Type AB blood Personality and Blood Type individuals” [6].

the majority of studies are in agreement that Type A blood individuals are “passive, shy, docile, tender-minded, introverted, and emotionally vulnerable” [6] studies also agree that Type O blood individuals are generally “active, optimistic, sociable, and extraverted” [6] Studies on Type B blood individuals were less conclusive—some found them to be active, others sociable, honest, and light-hearted, and still others introverted. Studies on Type AB blood individuals were contradictory and inconclusive—conclusions ranged from passive to aggressive and from introverted to extraverted. Most of the above studies were designed poorly—all had unequal cell sizes, and some only analyzed one or two of the principal blood types; this makes definitive conclusions difficult to make.

Materials and Methods

This study was conducted in the dvvpfs medical college, Ahmednagar. We collected data from 100 students of age in between 18-20 years of first MBBS 2015-2016 batch who were aware of their own blood groups, Of these individuals, 60% were males and 40% were females. Demographic information such as age, gender was collected,

Inclusion criteria was 100 healthy medical students of first MBBS batch 2015-2016 who were aware of their own blood groups.

Exclusion criteria Students who are having any major illness were excluded from the study.

Ethical clearance was taken from institutional ethical committee and written consent was taken from the students of first MBBS those who are involved in the study.

At the start of the semester during classes a personality inventory was administered to the students. We used personality inventory

questionnaire of Buchanan (2001) based on Five-Factor Modality (FFM). The students rated each item on a 5-point Likert-type scale (1= strongly disagree, 5 = strongly agree). The FFM is based in a belief that people are rational beings and count for their own personality and behaving, can analyze their own actions and Reactions (McCrae & Costa, 1996). Then by using responses from the participants from the study, we calculated the average ratings for each of

the five personality domains, for each of the four principal blood types.

Results

Table 1 show the distribution of blood groups in percentage in students who has participated in study.

Table 1: Percentage distribution of blood groups amongst the subjects

Blood Group	Present Age Distribution of Blood Groups
A	26%
B	16%
AB	10%
O	48%

Table 2: Statistical analysis of personality ratings for each blood type.

A. Neurotissim

Personality Trait	Blood Groups	Mean (St Deviation)	Significance
Neurotissim	A	4.308(1.798)	(p>0.05) NS
	B	2.750(2.492)	(p>0.05) NS
	AB	2.600(2.190)	(p>0.05) NS
	O	4.334(2.478)	(p>0.05) NS

NS=not significant

B. Extraversion

Personality Trait	Blood Groups	Mean (St Deviation)	Significance
Extraversion-	A	6.616(1.710)	(p>0.05) NS
	B	6.250(2.252)	(p>0.05) NS
	AB	4.600(1.674)	(p>0.05) NS
	O	4.334(2.258)	(p>0.05) NS

NS=not significant

C. Openness-

Personality Trait	Blood Groups	Mean (St Deviation)	Significance
Openness-	A	6.1538(1.9082)	(p>0.05) NS
	B	6.750(1.488)	(p>0.05) NS
	AB	4.600(1.6734)	(p>0.05) NS
	O	6.0834(1.9092)	(p>0.05) NS

NS=not significant

D. Agreeableness

Personality Trait	Blood Groups	Mean (St Deviation)	Significance
Agreeableness-	A	6(1.8258)	(p>0.05) NS
	B	6.5(1.4142)	(p>0.05) NS
	AB	4.2(2.2804)	(p>0.05) NS
	O	6(1.865)	(p>0.05) NS

NS=not significant

E. Conciuousness

Personality Trait	Blood Groups	Mean (St Deviation)	Significance
Conciuousness-	A	6.0716(1.0378)	(p>0.05) NS
	B	6.5(1.7728)	(p>0.05) NS
	AB	6(1.8258)	(p>0.05) NS
	O	6.8334(1.7894)	(p>0.05) NS

NS=not significant

In that out of 100 students 26% students are having A blood group, 16% are of B blood groups, 10% are of AB blood groups, and about 48% students are having O blood group.

Table 2 shows statistical analysis of personality ratings for each blood type. In that the difference in ratings for the different blood types is not statistically significant for Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness ($p > 0.05$).

Conclusions

There was no evidence of an association between blood type and each personality domain; the difference in ratings was not statistically significant from that we cannot conclude that blood type influences personality in terms of neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness.

Discussion

The present paper has attempted to explore the predictability of personality by using blood groups in medical students by well-established personality measures the five factor model. The five-factor model of personality can provide a useful framework for examining the relationship between personality constructs and blood groups in the medical course.

In this study statistical analysis reveal that there is no evidence of an association between blood type and each personality domain; the difference in ratings was not statistically significant from that we cannot conclude that blood type influences personality in terms of neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness and is consistent with the study of Thompson in 1936 [15], Cattell, Boutourline, and Hundleby in 1964 [8], Cramer & Imaike, 2002 [16] Rogers, M., & Glendon, A.I. (2000) [6] they found no significant relationship between blood type and personality.

As per previous research of Angst and Maurer-Groeli (1974) [12], Gupta (1990) [10] Marutham and Prakash (1990) [11] there is higher Neuroticism scores among persons with Type B. They scored significantly higher on Neuroticism than other groups did. They found that people with Type B blood were less emotionally stable, more apprehensive, and less self-sufficient and found those with Type B blood to be more neurotic than individuals of other blood types Rinieris,

Christodoulou, and Stefanis (1980) [17] found that irrespective of blood type, females had a higher mean neuroticism score than males did. Their results suggested that gender may be an intervening variable in the relationship between blood type and personality.

In this study we evaluated a series of a priori hypotheses, each predicting a unique relation between blood type and personality, as measured by the five factor model of McCrae and Costa, 1987. The following seven hypotheses were evaluated:

1. There will be (a) higher extraversion scores among both Type ABs and Os, and (b) lower extraversion scores among both Type As and Bs [13].
2. There will be higher extraversion scores among Type Abs [8].
3. There will be higher extraversion scores among Type Os [19].
4. There will be lower extraversion scores among Type ABs [9,13].
5. There will be higher neuroticism scores among Type Bs [9,1].
6. There will be (a) higher neuroticism scores among Type As, and (b) lower neuroticism scores among Type Os [20].
7. There will be lower Agreeableness and Conscientiousness scores among Type Bs and ABs [12,13].

In this study statistical analysis reveal that there is no evidence of an association between blood type and each personality domain this may be due to many weaknesses in our study like 1) Small sample size, larger sample sizes allow for more accurate determination of whether populations were normally distributed. 2) Another limitation of the study was the sampling location. Because the sampling was limited to only students. 3) Unequal sample sizes were caused by differing proportions of each blood type – Type AB blood individuals make up a significantly smaller proportion of the world's population compared to Type O blood individuals

Because many weaknesses were present in this study further, more accurate research may prove otherwise.

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