

“Comparison of Extraversion with Different Types of Blood Groups”

Sudhir Prasad Sah, Dr. Vijaya S. Dandannavar
Department of Physiology, KAHER, J.N. Medical College, Belagavi.
*Corresponding author: Sudhir Prasad Sah

ABSTRACT

Background: ABO Blood group is genetically determined, recognized and also used as biological marker to evaluate the effect of genetic factors on personality in various ethnic groups.

Objectives: To find comparison of Extraversion with different types of Blood groups.

Methodology: A total of 487 consenting first year medical students of KAHER, Belagavi were enrolled. Blood samples were collected by finger pricks method and Blood groups were determined by Slide agglutination method for Blood groupings. Personality traits were assessed by using Short-form revised Eysenck Personality Questionnaire: A Hindi edition (EPQRS-H). Analysis of data was done by using SPSS software (version 20). MANOVA and Tukey's HSD were statistical tests that were used to determine the statistical significance.

Result & Conclusion: Our study revealed statistically significant differences with Extraversion score in Blood groups A-ve & AB+ve.

Keywords: -ABO Blood groups, Rh typing, Extraversion, EPQRS-H

I. INTRODUCTION

ABO Blood group is genetically determined, recognized and also used as biological marker to evaluate the effect of genetic factors on personality in various ethnic groups.¹

There are numerous lines of proof that ABO Blood group is related with several diseases, including cardiovascular disease, cancer, and stress response-related immune disease. There are also reports that specific personality traits, such as depression and anxiety may be related with these diseases. Therefore, it is possible that ABO Blood group is also related with Personality traits.²

Since 2000, few published studies have been reviewed to find possible relationship between Blood groups and Personality traits using the NEO Personality Inventory Questionnaire to evaluate the Big Five personality traits, which represent five broad dimensions of Personality. Though, they were unsuccessful to find any relations.³ Galen proposed a temperament theory based on an imbalance in bodily fluids. Some recent Personality theories still advocate biological antecedents to individual differences, including Sheldon's constitutional theory.⁴

The first paper with the hypothesis of an association between Blood groups and Personalities was printed in English in an American journal by Furukawa in 1930, and later, more studies were done in Japan in the mid- the 1980s. Regarding relationship between Blood groups and Personalities, several studies were conducted outside Japan.⁵

Eysenck's Personality theory is based on physiology and genetics. He was a behaviorist and considers personality differences as growing out of our genetic inheritance. Temperament is the aspect of our personalities i.e. genetically based, inborn or even before. It does not mean that a temperament theory says we don't also have aspects of our personality that are learned, it's just that Eysenck focused on "nature," and left "nurture" to other theorists.⁶

II. MATERIAL AND METHODS

Study population: This study was conducted in the first year (Medical-200, Dental-100, Physiotherapy-80 and Allied Health Science -130) students of KAHER, Belagavi.

Selection criteria:

Inclusion criteria:

Both males and females willing to participate in the study were enrolled.

Exclusion criteria:

Those who were absent during data collection.

Sample size: 510

Sampling Procedure: Universal Sampling

Blood typing: Done by Slide Agglutination Method.

(1) Blood samples were collected by finger pricks method from enrolled study participants.

(2) RBCs suspension of isotonic saline was made and a drop of Anti-sera “A”, Anti-sera “B” and Anti-sera “D” was added to glass slides and mixed with separate applicator sticks.

(3) The mixture was observed for agglutination with corresponding antisera and compared with the control for confirmation.

Personality trait Assessment:

Personality traits were assessed by using Short-form revised Eysenck Personality Questionnaire: A Hindi edition (EPQRS-H).⁷

This is validated scale for Indian population with satisfactory internal consistency scores of alpha coefficients well in excess of 0.7.

III. DATA COLLECTION

Out of 510 participants (312 girls and 198 boys) were administered EPQRS-H questionnaire after getting informed consent from them and 487 (298 girls and 189 boys) were duly completed and returned the questionnaire. Other questionnaire were not given back because they weren't present during data collection.

IV. DATA ANALYSIS

Analysis of data was done by using MANOVA and Turkey's HSD with appropriate SPSS software (version 20).

V. RESULT

Table 1: Comparison of Extraversion score with different Blood groups

Blood Groups	No. of male participants	Male (Extraversion score)	No. of female participants	Female (Extraversion score)	Total (Extraversion score)	Z value
A +ve	46	7.43±1.75	85	7.36±2.42	7.39±2.21	0.19
A –ve	4	8.50±1.29	7	6.2±2.69	7.09±2.46	1.91
B +ve	49	6.87±2.48	78	7.66±1.99	7.36±2.22	1.88
B –ve	6	8.33±1.96	11	6.25±2.21	7.5±2.22	2.00*
AB+ve	25	6.52±2.1	44	7.58±1.95	6.98±2.08	2.07*
AB-ve	3	4.66±0.57	6	6.33±3.05	5.5±2.16	1.30
O +ve	53	7.47±2.36	14	6.96±2.23	7.15±2.28	0.75
O –ve	3	7.00±1	11	6.25±3.05	6.45±2.62	0.69

If Z= 1.98 or 2-2.6, * $P < 0.05$; Z= 2.6-3, ** $P < 0.01$; Z= more than 3, *** $P < 0.001$

Table 1: Comparison of Extraversion score with different Blood groups.'

Participants with B-ve Blood group (Z = 2.00, $P < 0.05$) & AB+ve Blood group (Z=2.07, $P < 0.05$) showed significant differences with Extraversion score, all others types of Blood group did not show statistically significant differences. It was also found out that females participants with Blood group AB+ve (63.77%) & B-ve (64.70%) had higher Extraversion score compared to male participants (36.23%) & (35.30%) respectively.

VI. DISCUSSION & CONCLUSION

In our study, it was found out that participants with B-ve and AB+ve Blood groups were found to be extraversion in nature. This finding was not consistent with other studies. Some of previous study showed persons with Blood group 'O' were higher on Extraversion and Optimism.⁸ It was also found out, majority of female participants had higher percentage of Extraversion, this could be due to effect of purposive sampling method as well as number of female participants were more in this study. Therefore our study concludes that there was statistically significant difference in Extraversion score with B-ve&AB+ve Blood groups.

REFERENCES

- [1]. Wu K, Lindsted KD, Lee JW. Blood type and the five factors of personality in Asia. *Personality and Individual Differences*. 2005; 38:797–808.
- [2]. Liumbruno GM, Franchini M. Beyond immunohematology: the role of the ABO blood group in human diseases. *Blood Transfus*. 2013; 11:491–9.
- [3]. Tsuchimine S, Saruwatari J, Kaneda A, Yasui-Furukori N. ABO Blood Type and Personality Traits in Healthy Japanese Subjects. *PLoS ONE* 2015; 10(5):1371-83
- [4]. Kirk, R. L. "Blood group interaction and the world distribution of the ABO gene p2 and the Rh gene r (cde)." *American journal of human genetics* 13.2 (1961): 224.
- [5]. Sharifi M, Ahmadian H, Jalili A. The relationship between blood groups and "typeA" personality. *Scholars Research Library*, 2015, 7 (9):35-39.
- [6]. Nahida A, Chatterjee N. A study on relationship between Blood group and Personality. *International Journal of Home Science* 2016; 2(1): 239-243.
- [7]. Tiwari T, Singh AL, Singh IL. The Short form revised Eysenck Personality Questionnaire: A Hindi edition. *Ind. Psychiatry J*. 2009; 18(1): 27-31.
- [8]. Rogers, M., & Glendon, A. I. Blood type and personality. *Personality and Individual Differences*. 2003; 34: 1099–1112.

**Corresponding author: Sudhir Prasad Sah
Department of Physiology, KAHER JN Medical College, Belagavi.*