*RESEARCH ARTICLE*

*©2023 The Academy of Environmental Biology, India*

**Journal of Ecophysiology and Occupational Health,** *Vol 25(1), DOI: 10.18311/jeoh/2025/45373, 147-154, March 2025*

*ISSN (Online) : 0972-4397*
*ISSN (Online) : 0974-0805*

# ABO Blood Type Correlation with *Manas Prakriti* and Psychological Parameters in Young Healthy Females: An Exploratory Study

**Divyani Soni[1*], Vandana Verma[1], Shobhna Joshi[2], and Sangeeta Gehlot[1]**

[1]Department of Kriya Sharir, Faculty of Ayurveda, IMS, Banaras Hindu University, Varanasi - 221005, Uttar Pradesh, India; divyanisoni21@gmail.com
[2]Department of Psychology, Faculty of Social Science, Banaras Hindu University, Varanasi - 221005, Uttar Pradesh, India

## Abstract

**Background:** This study investigated the relationship between blood groups and Manasika *Prakriti* types in young females. According to *Ayurveda*, *Prakriti* refers to the phenotypic expression of genotype, and *Prakriti* types indicate phenotypic variations in terms of physiological, psychological, and morphological traits. Manasika *Prakriti* types encompass variations in psychological traits. Scientific data suggest that blood group type is genetically determined, and examining the blood group is one way of exploring the genetic basis of personality traits. Published research articles have documented a significant relationship among personality traits, blood types, and various diseases, including psychological disorders. However, no such study data is available in *Ayurveda*. **Aim and Objectives:** The study aims to explore the association between blood group, *ManasPrakriti*, and psychological parameters (stress, depression, and anxiety) in young, healthy females. **Methods:** In this study, 450 young females were registered from different departments of Banaras Hindu University. This study was carried out in the Department of Kriya Sharir, IMS, BHU, during the year 2018-2019. Assessment of *ManasPrakriti*, stress, depression and anxiety was done by using the *Manas Prakriti* Assessment Inventory (MPAI), Stress Scale (SS), Beck Depression Inventory-II (BDI II), and Sinha anxiety scale. The blood group was identified by antigen agglutination test using standard Antisera i.e. anti-A-anti B and anti-D. **Result:** The incidence of blood group A (39.3%) and AB (31%) was maximum in *Rajasika Prakriti* females while B blood group was maximum in *Satvika Prakriti* (29.4%) and 25.6% females of "O" blood group belonged to *Tamasika Prakriti*. *Tamasika Prakriti* females of all four blood groups "A", "B", "AB" and "O" had more chances of severe levels of stress. The *Rajasika Prakriti* females having blood groups "A" and "AB" are more prone to very high levels of anxiety and *Tamasika Prakriti* females of blood groups "AB", "O" and "B" are having severe levels of depression.

**Major Findings:** In the overall population, *Tamasika Prakriti* females across all four blood groups- A, B, AB, and O- were found to have a higher of experiencing severe stress. *Rajasika Prakriti* females with blood groups A and AB are more susceptible to very high levels of anxiety, while *Tamasika Prakriti* females with blood groups AB, O, and B are prone to severe depression.

**Keywords:** Anxiety, Blood Group, Depression, *Manas Prakriti*, Stress

## 1. Introduction

The scientific data suggest that blood group type is genetically determined, thus examining the blood group is one way of examining the genetic basis of personality traits. Aristotle believed personality traits are inherited through the blood, however, in 1927 Furukawa suggested that blood types are important determinants of temperament.

**Author for correspondence*

Article Received on: 09.08.2024 Revised on: 09.10.2024 Accepted on: 10.10.2024

Eysenck (1977) found "emotional behaviour" to be more common in Type B than in Type A blood group and Type ABs to be more introverted than other types. However, few studies have suggested that there is no significant relation between blood types and the big five psychological traits of personality[1].

*Ayurveda* scholars have mentioned that the determination of *Prakriti* of an individual has a genetic basis along with environmental factors. A study found a significant correlation between *Prakriti* and HLA type. The complete absence of the HLA DRB1*02 allele in the *Vata* type and of HLA DRB1*13 in the *Kapha* type is significant. HLA DRB1*10 had a higher allele frequency in the *Kapha* type than in the *Pitta* and *Vata* types. This study has given new insight into human classification by correlating genotypes with phenotypes[2].

A study by Udupa *et al.,* (1975) reported the preponderance of the activity of Cholinesterase, Monoamine oxidase, and Histaminase in *Vata*, *Pitta*, *Kapha Prakriti* respectively and suggested that *Vata*, *Pitta*, *Kapha Prakriti* individual show Neurogenic, Vasogenic, Histogenic effects due to higher level of neurotransmitters Acetylcholine, Catecholamine, and Histamin in blood[3].

*Ayurveda* scholars have described a detailed description of mental traits under the *Manas Prakriti* which refers to a person's mental constitution, which is made up of three Maha Gunas i.e. *Sattva*, *Rajas* and *Tamas*[4]. The individuals are broadly categorized into *Satvika*, *Rajasika* and *Tamasika Prakriti*, based on the predominance of traits related to *Satva*, *Raja* and *Tama.*

Although in *Ayurveda* the concept of blood group has not been mentioned, however few previous studies on the association between the blood group and Deha *Prakriti* have been conducted. A study by Srivastava N. *et al.,* 2020, reported that the maximum infants of *Vata Prakriti* having "A" blood group, "O" blood group maximum in *Pitta Prakriti* infants and maximum *Kapha Prakriti* infants having "B" blood group. *Vata-Kapha Prakriti* maximum in AB blood group and *Pitta-Kapha Prakriti* maximum reported in O blood group infants[5].

A study by Meena S. *et al.,* 2021, entitled "Co-relation between Deha *Prakriti* and Blood Group in healthy individuals" concluded that the maximum number of individuals of the $B^+$ blood group having *Vata Prakriti*, *Pitta* and *Kapha Prakriti*. The study shows an association between blood group type B with all single *Doshaj Prakriti* (*Vata*j, *Pitta*j and *Kapha*)[6].

A study by Kumari V *et al.,* 2018, entitles "Association of ABO blood group with different constitutional types" resulted that blood group "A" maximum in I infants, blood group "B" is more prevalent in *Pitta*ja *Prakriti*, and blood group "O" was found to be maximum in *Vata Prakriti* infants[7]. Several past studies have been conducted on relationship between the personality and psychological traits[8-10]. Blood groups are considered the most important traits which differ with the differences of peoples around the world. Many researchers have noticed the inclinations of the personality traits in the blood group[11-14].

Some previous studies have pointed out that the individuals of the B blood group have a high degree of nervousness while O blood group individuals are the highest in ease and optimism. A blood group individual has a high degree of acceptability. Individuals of the AB blood group are the highest in conscience[15].

The study reported by Dehghani in 2017 mentioned that persons having a similar blood group are similar in ethics and behaviour. Thus, the nature of the individuals, their personality and ability to be creative and their temperament depend on the blood group of each person[16].

An attempt was made in our study to find out the association between *Manas Prakriti* and psychological parameters (stress, depression and anxiety) in young healthy females as per blood group. No such studies have been reported regarding the relationship between *Manas Prakriti* and the blood group to date, but few studies have been conducted on the relationship between *Deha Prakriti* and the blood group.

## 2. Material and Method

**Study design:** It is a cross-sectional, convenient survey study.
**Study Population:** For the present study (Ethical no-IMS, BHU (vide letter No. Dean/2019/EC/1306) 450 clinically healthy young females aged 18-30 years were registered from the Department of Kriya Sharir, Faculty of *Ayurveda*, IMS, BHU in the year 2018-2019.
**Sample Collection:** The students were registered from different faculty of Banaras Hindu University, Institute of Medical Sciences and Institutes of Social Sciences after taking their voluntary written consent.

The females suffering from psychological problems like anxiety neurosis, major depressive disorders, bipolar disorders, history of intake of medication of psychological disorders etc. were excluded from the study.

## 3. Assessment of Manasika *Prakriti*, Stress, Depression and Anxiety

This Parameter was assessed by using a validated and reliable MPAI developed by Anam Aftab *et al*, 2018[17]. Hindi version of the Stress Scale (SS)[18], English and Hindi both the version of Beck Depression Inventory II (BDI II)[19] and Sinha's anxiety scale were used[20]. Assessment of the blood group was done by antigen agglutination test using standard Antisera i.e. anti-A-anti B and anti-D.

Analysis of data was done by using SPSS.16. software and chi-square test.

## 4. Observations and Result

**Incidence of *Manas Prakriti*:** In the total study population, out of 450 female students, 180(40%) volunteers belonged to *Satvika Prakriti*, 145(32.23%) subjects were of *Rajasika Prakriti*, and 125 (27.77%) females were having *Tamasika Prakriti*.

Most females with Maximum *Rajasika Prakriti* had A and AB blood groups, comprising 39.3% and 31%, respectively. Among Maximum *Satvika Prakriti* females, the highest percentage (29.4%) had B blood group, while those with Maximum *Tamasika Prakriti* showed that 25.6% of them belonged to blood group O (Table 1).

The maximum number of females of *Satvika* Prkariti (27.8%) had having A+ blood group followed by B+ (25.6%), O+ (16.1%), and AB+ (14.4%). The incidence of Rh-negative population in different blood groups was $A^-$(5%), $B^-$(3.9%), $O^-$(3.9%) and 3.2% had $AB^-$ blood group. The females of *Rajasika Prakriti* were having maximum A+ blood group of 31% followed by AB+ (26.2%), B+ (15.9%), $A^-$ (8.3%), $O^-$ (6.9%), O+ (6.2%) and 0.7% having B- blood group. The maximum females of *Tamasika Prakriti* were having A+ blood group 32.8% followed by B+ (16%), O+ (13.6%), AB+ (12.8%), $O^-$ (12%), $B^-$ (4.8%), $AB^-$ (4.8%) and 3.2% were having $A^-$ blood group. On applying the chi-square test significant difference was found between the blood group and *Manas Prakriti* (P<0.001) (Table 2).

Among the overall population, 161 females had blood group "A" 103 were having blood group "B" and 99 females belonged to blood group "AB". Blood group "O" was reported by 87 females. Out of 180 total *Satvika Prakriti* females, 59 females were of the "A" blood group and 53 females were of the "B" blood group while "AB" and "O" blood groups were reported by 32 and 36 females respectively. In blood group "A", 50% of *Satvika* and *Rajasika Prakriti* females had very low levels of stress. In

**Table 1.** Incidence of blood group as per *ManasPrakriti*

| ManasPrakriti **(n=450)** | **A** | **B** | **AB** | **O** |
|---|---|---|---|---|
| *Satvika Prakriti* (n=180) | 5 (32.7%) | 53(29.4%) | 32(17.7%) | 36 (20%) |
| *Rajasika Prakriti* (n=145) | 57(39.3%) | 24 (16.5%) | 45 (31%) | 19(13.1%) |
| *Tamasika Prakriti* (n=125) | 45(36%) | 26(20.8%) | 22 (17.6%) | 32(25.6%) |
| $\chi 2$= 36.012, **p< 0.001** | | | | |

**Table 2.** Incidence of blood group and Rh factor as per *Manas Prakriti*

| ManasPrakriti **(n=450)** | **A+ (n=136)** | **A- (n=25)** | **B+ (n=89)** | **B- (n=14)** | **AB+ (n=80)** | **AB- (n=19)** | **O+ (n=55)** | **O- (n=32)** |
|---|---|---|---|---|---|---|---|---|
| *Satvika Prakriti* (n=180) | 50 (27.8%) | 9 (5%) | 46 (25.6%) | 7 (3.9%) | 26 (14.4%) | 6 (3.2%) | 29 (16.1%) | 7 (3.9%) |
| *Rajasika Prakriti* (n=145) | 45 (31%) | 12 (8.3%) | 23 (15.9%) | 1 (0.7%) | 38 (26.2%) | 7 (4.8%) | 9 (6.2%) | 10 (6.9%) |
| *Tamasika Prakriti* (n=125) | 41 (32.8%) | 4 (3.2%) | 20 (16%) | 6 (4.8%) | 16 (12.8%) | 6 (4.8%) | 17 (13.6%) | 15 (12%) |
| $\chi 2$= 36.012, **p< 0.001** | | | | | | | | |

**Table 3.** Blood group and stress level as per *Manas Prakriti*

| | | | | |
|---|---|---|---|---|
| **"A" blood group**<br><br>Satvika=**59**<br>Rajasika=**57**<br>Tamasika=**45**<br>**Total= 161** | **Stress Level** | Satvika Prakriti **(n=180)** | Rajasika Prakriti **(n= 145)** | Tamasika Prakriti **(n=125)** |
| | **Very low (n= 76)** | 38 (50%) | 38(50%) | 0* (0%) |
| | **Low (n=48)** | 17 (35.4%) | 8(16.7%) | 23(47.9%) |
| | **Moderate (n=12)** | 4 (33.3%) | 8(66.7%) | 0*(0%) |
| | **High (n=20)** | 0* (0%) | 3 (15%) | 17 (85%) |
| | **Severe (n=5)** | 0*(0%) | 0*(0%) | 5 (100%) |
| $\chi2$= 93.702, **p<0.001** | | | | |
| **"B" blood group**<br><br>Satvika=**53**<br>Rajasika=**24**<br>Tamasika= **26**<br>**Total= 103** | **Very low (n= 47)** | 33 (70.2%) | 14(29.8%) | 0* (0%) |
| | **Low (n= 35)** | 14(40%) | 6 (17.1%) | 15 (42.9%) |
| | **Moderate (n= 8)** | 4 (50%) | 3(37.5%) | 1 (12.5%) |
| | **High (n= 9)** | 2 (22.2%) | 1(11.1%) | 6 (66.7%) |
| | **Severe (n= 4)** | 0* (0%) | 0* (0%) | 4 (100%) |
| $\chi2$= 42.933, **p<0.001** | | | | |
| **"AB"**<br>**blood group**<br><br>Satvika=**32**<br>Rajasika=**45**<br>Tamasika=**22**<br>**Total= 99** | **Very low (n= 47)** | 19(40.4%) | 28(59.6%) | 0* (0%) |
| | **Low (n= 35)** | 10(28.6%) | 12(34.3%) | 13 (37.1%) |
| | **Moderate (n= 9)** | 3 (33.3%) | 5(55.6%) | 1 (11.1%) |
| | **High (n= 8)** | 0*(0%) | 0* (0%) | 8 (100%) |
| $\chi2$= 46.785, **p<0.001** | | | | |
| **" O" blood group**<br><br>Satvika=**36**<br>Rajasika=**19**<br>Tamasika= **32**<br>**Total= 87** | **Very low (n= 40)** | 24(60%) | 14(35%) | 2 (5%) |
| | **Low (n= 23)** | 7 (30.4%) | 3 (13%) | 13 (56.5%) |
| | **Moderate (n= 10)** | 5 (50%) | 2(20%) | 3 (30%) |
| | **High (n= 10)** | 0* (0%) | 0*(0%) | 10 (100%) |
| | **Severe (n= 4)** | 0* (0%) | 0*(0%) | 4 (100%) |
| $\chi2$= 45.809, **p<0.001** | | | | |

**The Chi-square test is applied due to the expected frequency of 0% of the given cell being more than 5.*

**Table 4.** *Manas Prakriti* and depression level as per blood group

| | | | | |
|---|---|---|---|---|
| **"A" blood group**<br><br>Satvika= **59**<br>Rajasika= **57**<br>Tamasika= **45**<br>**Total= 161** | **Depression Level** | ***Satvika Prakriti*** | ***Rajasika Prakriti*** | ***Tamasika Prakriti*** |
| | **Minimal (n= 62)** | 43 (69.4%) | 19(30.6%) | 0*(0%) |
| | **Mild (n= 39)** | 7 (17.9%) | 32(82.1%) | 0* (0%) |
| | **Moderate (n= 19)** | 3 (15.8%) | 6(31.6%) | 10 (52.6%) |
| | **Severe (n= 41)** | 6 (14.6%) | 0* (0%) | 35 (85.4%) |
| $\chi2$= 1.492, **p<0.001** | | | | |
| **"B" blood group**<br>Satvika= **53**<br>Rajasika= **24**<br>Tamasika= **26**<br>**Total= 103** | **Minimal (n= 59)** | 45 (76.3%) | 13(22%) | 1 (1.7%) |
| | **Mild (n= 10)** | 4 (40%) | 6 (60%) | 0*(0%) |
| | **Moderate (n= 8)** | 3 (37.5%) | 5 (62.5%) | 0* (0%) |
| | **Severe (n= 26)** | 1 (3.8%) | 0* (0%) | 25 (96.2%) |
| $\chi2$= 1.055, **p<0.001** | | | | |
| **"AB" blood group**<br>Satvika= **32**<br>Rajasika= **45** | **Minimal (n= 46)** | 26 (56.5%) | 20 (43.5%) | 0*(0%) |
| | **Mild (n= 26)** | 6 (23.1%) | 19 (73.1%) | 1 (3.8%) |

| | | | | |
|---|---|---|---|---|
| Tamasika= **22**<br>**Total= 99** | **Moderate (n= 71)** | 0*(0%) | 6 (85.7%) | 1 (14.3%) |
| | **Severe (n= 20)** | 0*(0%) | 0*(0%) | 20 (100%) |
| $\chi 2$= 1.026, **p<0.001** | | | | |
| **"O" blood group**<br>Satvika= **36**<br>Rajasika= **19**<br>Tamasika= **32**<br>**Total= 87** | **Minimal (n= 30)** | 24 (80%) | 4 (13.3%) | 2 (6.7%) |
| | **Mild (n= 23)** | 9 (39.1%) | 12 (52.2%) | 2 (8.7%) |
| | **Moderate (n= 8)** | 2 (25%) | 3 (37.5%) | 3 (37.5%) |
| | **Severe (n= 26)** | 1 (3.8%) | 0* (0%) | 25 (96.2%) |
| $\chi 2$= 74.722, **p<0.001** | | | | |

**Table 5.** *Manas Prakriti* and anxiety level as per blood group

| | **Anxiety Level** | ***Satvika Prakriti*** | ***Rajasika* Prrkriti** | ***Tamasika Prakriti*** |
|---|---|---|---|---|
| **"A" blood group**<br>Satvika= **59**<br>Rajasika= **57**<br>Tamasika= **45**<br>**Total= 161** | **Very low (n= 16)** | 16 (100%) | 0*(0%) | 0*(0%) |
| | **Low (n= 9)** | 8 (88.9%) | 1 (11.1%) | 0*(0%) |
| | **Normal (n= 29)** | 22 (75.9%) | 5 (17.2%) | 2 (6.9%) |
| | **High (n= 33)** | 10 (30.3%) | 15 (45.5%) | 8 (24.2%) |
| | **Very high (n= 74)** | 3 (4.1%) | 36 (48.6%) | 35 (47.3%) |
| $\chi 2$= 94.344, **p<0.001** | | | | |
| **"B" blood group**<br>Satvika= **53**<br>Rajasika= **24**<br>Tamasika= **26**<br>**Total= 103** | **Very low (n= 21)** | 21 (100%) | 0* (0%) | 0* (0%) |
| | **Low (n= 8)** | 5 (62.5%) | 3 (37.5%) | 0*(0%) |
| | **Normal (n= 20)** | 16 (80%) | 4 (20%) | 0*(0%) |
| | **High (n= 25)** | 8 (32%) | 8 (32%) | 9 (36%) |
| | **Very high (n= 29)** | 3 (10.3%) | 9 (31%) | 17 (58.6%) |
| $\chi 2$= 57.887, **p<0.001** | | | | |
| **"AB" blood group**<br>Satvika= **32**<br>Rajasika= **45**<br>Tamasika= **22**<br>**Total= 99** | **Very low (n= 10)** | 10 (100%) | 0*(0%) | 0*(0%) |
| | **Low (n= 8)** | 4 (44.5%) | 3 (33.3%) | 2 (22.2%) |
| | **Normal (n= 15)** | 11 (73.3%) | 3 (20%) | 1 (6.7%) |
| | **High (n= 25)** | 3 (12%) | 20 (80%) | 2 (8%) |
| | **Very high (n= 40)** | 4 (10%) | 19 (47.5%) | 17 (42.5%) |
| $\chi 2$= 58.852, **p<0.001** | | | | |
| **" O" blood group**<br>Satvika= **36**<br>Rajasika= **19**<br>Tamasika= **32**<br>**Total= 87** | **Very low (n= 16)** | 15 (93.8%) | 0* (0%) | 1 (6.2%) |
| | **Low (n= 8)** | 4 (50%) | 0*(0%) | 1 (0%) |
| | **Normal (n= 9)** | 8 (88.9%) | 0*(0%) | 1 (11.1%) |
| | **High (n= 15)** | 4 (26.7%) | 5 (33.3%) | 6 (40%) |
| | **Very high (n= 39)** | 5 (12.8%) | 14 (35.9%) | 20 (51.3%) |
| $\chi 2$= 44.093, **p<0.001** | | | | |

**The Chi-square test is applied due to the expected frequency of 0% of the given cell being more than 5.*

blood group "B", 70.2% of the *Satvika Prakriti* individuals felt very low levels of stress. In blood group "AB", maximum *Rajasika Prakriti* females (59.6%) constitute very low level of stress. In the "O", Blood group, 60% of females belonging to *Satvika Prakriti* had very low levels of stress. In all four blood groups, *Tamasika Prakriti* females had high levels of stress. On applying the chi-square test the

association between stress level and blood group as per *Manas Prakriti* was found significant (p<0.001) (Table 3).

In the "A" blood group, 69.4% of females of *Satvika Prakriti* reported minimal depression followed by 82.1% of *Rajasika Prakriti* females constituted mild depression. Among blood group "B", 76.3% of *Satvika Prakriti* females have minimal depression followed by 62.5% of *Rajasika Prakriti* females having moderate depression. Among blood group "AB", 56.5% of *Satvika Prakriti* females suffered with minimal depression. In blood group "O", 80% of *Satvika Prakriti* volunteers had minimal depression followed by 52.2% of the females constituted mild depression. *Tamasika Prakriti* females of all the Blood groups had more chances of severe depression. On applying the chi-square test to see the association between depression level and blood group as per *Manas Prakriti* was found significant (p<0.001) (Table 4).

Among blood groups "A" and "B", all the *Satvika Prakriti* females had very low levels of anxiety. In "AB" blood group, 44.4% of the *Satvika Prakriti* females had a low level of anxiety followed by 73.3% of the individuals having a normal level of anxiety and 47.5% of the *Rajasika Prakriti* females felt a very high level of anxiety. In blood group "O", 93.8% of females of *Satvika Prakriti* had very low levels of anxiety. The *Rajasika Prakriti* females were having chances of high levels of anxiety. On applying the chi-square test to see the association between anxiety level and blood group as per *ManasParkriti* was found significant(p<0.001) (Table 5).

## 5. Discussion

A significant association between the different *Manas Prakriti* types and blood groups was found (p<0.001). In this study, the maximum frequency of the "A" blood group was in *Rajasika Prakriti* females (39.3%) followed by 32.7% in *Satvika Prakriti* subjects and 36% in *Tamasika Prakriti* females. "B" blood group frequency was maximum among *Satvika Prakriti* females. However, the blood group "AB" was maximum (31%) in *Rajasika Prakriti* females, and the "O" blood group was maximum in *Tamasika Prakriti* females.

The present study shows that *Tamasika Prakriti* females having blood groups "A", "B", "AB" and "O" had more chances of severe stress. The *Tamasika Prakriti* females having Blood group "A" are also prone to high levels of stress. 70.2% of the *Rajasika Prakriti* females having a "B" blood group constitute very low levels of stress. Similarly, a previous study done by Chaudhuri A. *et al.,* 2016, has revealed that the subjects belonging to the "O" blood group were more prone to stress[21].

The percentage of blood group AB, O and B individuals having severe levels of depression in *Tamasika Prakriti* females was 100, 96.2 and 96.2 respectively. No subject of blood group A was found in the severe category of depression. The previous study done by Singh S. *et al.,* 2001 has shown similar findings that the individuals belonging to the "O" blood group are more prone to depression[22]. A study conducted by Qadir MI *et al.,* 2018; reported that the volunteers having the B+ blood group were more prone to depression and the subjects having the O+ blood group were prone to low depression[23]. The variation in the result of the present study may be due to a lesser sample size or the application of different assessment tools.

Furthermore, the present study shows that all the *Satvika Prakriti* females having very low levels of anxiety belong to blood group "A" and 47.3% of *Satvika Prakriti* females of blood group "A" have very high levels of anxiety. 58.6% of the *Tamasika Prakriti* females having blood group "B" were more prone to very high levels of anxiety. Similarly, *Tamasika Prakriti* subjects having blood group "AB" (42.5%) and "O" (51.3%) were more prone to very high levels of anxiety. However, earlier different studies reported no significant relationship between blood group and psychological well-being[24-26].

## 6. Conclusion

This study demonstrates an association between blood groups and *Manas Prakriti* with psychological parameters, namely stress, depression, and anxiety. In the overall population, females with maximum *Tamasika Prakriti* across all four blood groups- A, B, AB, and O- were found to have a higher likelihood of experiencing severe stress.

*Rajasika Prakriti* females with blood groups A and AB are more susceptible to very high levels of anxiety, while *Tamasika Prakriti* females with blood groups AB, O, and B are prone to severe depression.

## 7. Acknowledgement

The author would like to extend sincere thanks to the participants of this study, the Department of Kriya Sharir and the Department of Psychology, BHU, Varanasi.

## 8. References

1. Eysenck HJ. National differences in personality as related to ABO blood group polymorphism. Psychol Rep. 1977; 41(3_suppl):1257-8. https://doi.org/10.2466/pr0.1977.41.3f.1257
2. Bhushan P, Kalpana J, Arvind C. Classification of human population based on HLA gene polymorphism and the concept of *Prakriti* in *Ayurveda*. J Altern Complement Med. 2005; 11(2):349-53. https://doi.org/10.1089/acm.2005.11.349
3. Udupa KN, Singh RH, Dubey GP, Rai V, Singh MB. Biochemical basis of the psychosomatic constitution. Indian J Med Res. 1975; 63(7):923-7. PMID: 814089.
4. Agnivesha. Charaka Samhita. In: Tripathi B, editor. Sharirsthana. Varanasi: Chaukhamba Subhasrti Prakashan; 2018. p. 785-6.
5. Srivastava N, Gehlot S, Singh S, Singh B. Association of *Prakriti* and blood groups of infants in respect to blood groups of parents. Int J Innov Knowledge Concept. 2020; 4(1):59-63. https://doi.org/10.25835/IJIK-125
6. Meena S, Meena P, Gujjarwar V. Co-relation between deha *Prakriti* and blood group in healthy individuals. IAMJ. 2021; 8(9):696-702. https://doi.org/10.46607/iamj0109042021
7. Kumari V, Singh B. Association of ABO blood group with different constitutional types. Natl J Physiol Pharm Pharmacol. 2018; 8(9):1. https://doi.org/10.5455/njppp.2018.8.0621726062018
8. Shilpa S, Venkatesha Murthy CG. Understanding personality from Ayurvedic perspective for psychological assessment: A case. Ayu. 2011; 32(1):12-9. https://doi.org/10.4103/0974-8520.85716
9. Xin Y, Wu J, Yao Z. The relationship between personality and the response to acute psychological stress. Sci Rep. 2017; 7:16906. https://doi.org/10.1038/s41598-017-17053-2
10. Pisk SV, Vuk T, Ivezić E, Jukić I, Bingulac-Popović J, Filipčić I. ABO blood groups and psychiatric disorders: a Croatian study. Blood Transfus. 2019; 17(1):66-71. https://doi.org/10.2450/2018.0266-17
11. Sharifi MR, Ahmadian H, Jalali A. The relationship between the big five personality factors with blood types in Iranian university students. J Chem Pharm Res. 2015; 233-40.
12. Franchini M, Liumbruno GM. ABO blood group: old dogma, new perspectives. Clin Chem Lab Med. 2013; 51(8):1545-53. https://doi.org/10.1515/cclm-2013-0168
13. Ekpenyong C, Inamete V. Association between ABO blood group phenotype and reaction to academic stress and coping strategies among college students. J Educ Soc Behav Sci. 2019; 28(3):1-10. https://doi.org/10.9734/JESBS/2018/46039
14. Tsuchimine S, Saruwatari J, Kaneda A, Yasui-Furukori N. ABO blood type and personality traits in healthy Japanese subjects. PLoS ONE. 2015; 10(5). https://doi.org/10.1371/journal.pone.0126983
15. Nahida A, Chatterjee NA. A study on the relationship between blood group and personality. Int J Home Sci. 2016; 239-43.
16. Dehghani E. The impact of blood groups on the mental toughness of female students. IOSR J Sports Phys Educ. 2017; 17-27. https://doi.org/10.9790/6737-04031727
17. Aftab A, Gehlot S, Joshi S. Evaluation of the relationship between *ManasPrakriti*, Deha *Prakriti* and personality traits [MD thesis]. Varanasi: Department of Kriya Sharir, Faculty of *Ayurveda*, IMS, BHU; 2018.
18. Singh M. Stress Scale. Mumbai: Institute of Research and Test Development; 2002.
19. Beck AT, Steer RA, Ball R, Ranieri W. Comparison of Beck Depression Inventories-IA and -II in psychiatric outpatients. J Pers Assess. 1996; 67(3):588-97. https://doi.org/10.1207/s15327752jpa6703_13
20. Sinha WA. Sinha Anxiety Scale. University of Allahabad; 1996.
21. Chaudhuri A, Ray M, Hazra S, Goswami A, Shyamal B. Correlation of perceived stress with blood group A and O among medical students and its effect on lipid profile in a medical college of eastern India. Saudi J Sports Med. 2016; 16(1):57. https://doi.org/10.4103/1319-6308.173469
22. Singh S, Lewis JL. Depression and blood types. Psychol Rep. 2001; 88(3):725-6. https://doi.org/10.2466/pr0.2001.88.3.725

23. Qadir MI, Hanif AZM. Blood group system connection with depression. J Ment Disord Treat. 2018. https://doi.org/10.4172/2471-271X.1000170
24. Zadeh SZ, Zadeh MM, Nirouzad F, Rastegarpour F, Kahkesh SB, Tosang MA, Zolfaqarinezhad Z, Bahreinian A. The relationship between blood type A and anxiety in the students of Dezful learning centres. 2015.
25. Yadav S, Prakash S, Jain R. Tri-gunas (*Sattva*, *Rajas* and *Tamas*) and risk-taking behaviour among undergraduate students. Int J Res Granthaalayah. 2016; 4(1):138-45. https://doi.org/10.29121/granthaalayah.v4.i1.2016.2852
26. Shilpa S, Venkatesha Murthy CG. Understanding personality from Ayurvedic perspective for psychological assessment: A case. Ayu. 2011; 32(1):12-9. https://doi.org/10.4103/0974-8520.85716


| Access this journal online | |
|---|---|
| **Website:** www.informaticsjournals.co.in/index.php/JEOH/index | **Quick Response Code** |