

Influence of blood group on the character traits -A cross-sectional study on Malaysian student population

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ABSTRACT

Background: The ABO blood group system holds a respectable position in the studies of its possible influence on individual's life style, personality, attitudes and proved to be very well linked with it. However, reports of its influence on person's character traits are scanty. Current study has been carried out to rule out such association of ABO groups with the person's character trait in Malaysian student population.

Materials and Methods: A cross sectional study was undertaken with the involvement of 277 medical undergraduate students of Malaysian origin. Participants were provided with a faculty validated close ended questionnaire representing the range of familiar character qualities. Various characters have been further categorised under 4 major domains of trait. The options chosen by the subjects for each questions were scored and compiled. Resulting data was analysed statistically by ANOVA using SPSS (16.0) software.

Results: In the present study, 71(26%) subjects were of blood group A, 91(33%) of group B, 18 (6%) of group AB and 97 (35%) of group O. Test of homogeneity of variance had normal distribution. There were no significant differences in the character traits between the groups of individuals with various blood groups.

Conclusion: An individual's characters may be influenced by many external factors rather than the blood group itself. A person's perception and his upbringing play a major role in determining his/her character together with hereditary inheritance.

KEY WORDS: Blood group, character trait, ABO, Malaysian.

1. INTRODUCTION

A person's character is influenced by various factors. Never the less, in the field of psychological genetics, it is believed that behavioural trait of an individual is associated with heredity. The blood type of an individual does not depend on the race or age. It is conferred on inheritance and thus it is unchangeable. Blood group is hereditary and the relative proportion of the four common blood groups for an ethnic group remains almost constant. Hence, rational ethnic character is passed in a hereditary manner from parent to child and from child to grandchild thereby persisting indefinitely (Cattel, 1964).

It has been believed that many genes of ABO group show association with personality trait (Keller, 2005; Gerra, 2000). In some countries like Japan, much effort has been made to understand the relationship between personality of an individual and the blood type (Sabo and Watanabe, 1992). Previous research work conducted worldwide however, failed to show any relationship between blood type and intelligence, extroversion-introversion, or emotional affectivity and idiosyncrasy (Thompson, 1936).

With this context, we aimed to correlate an influence of specific blood groups with the character of an individual. In this cross sectional survey, we have tested certain common characters reflecting tendency for some issues under four domains of character traits; namely time management, emotional coefficient, responsibility and materialism. Responses obtained by the questionnaire in the form of data collected might serve as a reflection of Malaysian students on their personal strengths and weakness. Hence, our objective was to determine the influence of blood groups on specific character traits including management skills, responsibility, emotional coefficient and materialistic attitudes.

2. MATERIALS AND METHODS

Present research study involved responses from 277 Medical undergraduate (MBBS) students of Malaysian origin. Each student were given faculty validated questionnaire consisting 21 stems of close ended questions related to familiar qualities of character traits to choose single relevant answer corresponds to their characters. Each options of the questionnaire was assigned by the specific scores and total number of scores for each domain was calculated and tabulated on the basis of blood group. The character related questions further grouped into 4 major domains of character trait: time management, materialism, responsibility and emotional coefficient. Ethical approval has been obtained from Institutional Research Committee.

Statistical analysis: Compiled data of student's responses categorised into domains of character trait were analysed statistically by one way analysis of variance (ANOVA) using SPSS package 16.0 after confirming the test of homogeneity of variance. Level of significance (p) less than 0.05 was considered as statistically significant.

3. RESULTS

Among 277 participants, 71(26%) were with blood group A, 91(33%) with B, 18 (6%) with AB and 97 (35%) with group O. (Figure 1).

The mean score with standard deviation (SD) was calculated from the various responses provided by the participants based on their character matching the questionnaire and are summarized in Table 1 (for time management trait), Table 2 (for materialistic trait), Table 3 (for responsibility trait) and in Table 4 (for emotional coefficient). The statistical analysis (ANOVA) tested to know the differences in the character trait between the participants of various blood groups revealed no significant differences for neither of the four major domains (time management trait; $p=0.82$, materialistic trait; $p= 0.39$, responsibility trait; $p=0.56$ and emotional coefficient; $p= 0.46$).

DISCUSSION

An individual's character is said to be determined by personal upbringing, social interaction and several other factors to which the individual is exposed. However if it is still believed to have any link with the person's blood group type, then it is necessary to look at the differences in blood groups bringing about typical behaviors in various occupational settings. Very early research reports expressed the opinion on ABO blood group and personality, according to which the type O is being associated 'aggressiveness' of personality trait, type A being co-operative and get along in crowded communities, Type B can able to adapt to new demands as an assimilator and type AB respond with general flexibility to a situations and challenges (D'Adamo and Allan, 1994). However, there is no scientific consensus in these facts. Probably, this is due to population frequency distributions of ABO blood groups and single nucleotide polymorphisms in ABO gene as found in human genome project (Donna, 2011). An attempt to correlate the blood group type and individuals personality trait, reported lower aggressiveness and neuroticism characters in males than females (Kenneth, 2002).

Previous studies have highlighted the affinity of specific blood groups toward certain lifestyle preferences. Higgins (1963), in the report of the research work on tobacco smoking and blood group, quoted the inference of Cohen and Thomas, about the susceptibility of various blood groups to certain habits that are demonstrated in the majority of people, non-smokers or occasional smokers belongs to blood group B and among the Rh factor, Rh negative individuals found to be negligible numbers of occasional smokers (Higgins, 1963).

A study by D'Adamo, in 1994 on influence of food consumption patterns in human beings reported that, individuals with blood group O consumed more meat than other groups of ABO system. Authors justified this nature of the O group individuals with the earliest human blood type was type O. These people were ancient hunter-gatherers and ate a diet dominated by meat. And hence blood type O individuals developed antibodies against the lectins found in agricultural foods such as wheat and other grains. Therefore it has been suggested that individuals with type O blood should eat a diet more similar to their ancient ancestors that is a diet with more meats and fewer grains. Similarly A group known to show association with obsessive compulsiveness (Mao, 1991; Rinieris, 1978),

Results of present study in attempt of correlation between ABO group and personality trait among the Malaysian students population, did not support the hypothesis, as there was no significant relationship between blood group type and one's character trait as tested.

From the results obtained above, there is indeed no link that a person's character trait might be influenced by their predetermined blood group. Hence it can be suggested that it is rather appropriate to apply a person's-environment fit theory of work for the relation between blood type and persons-attribute. Therefore, the behavior or character trait of an individual may not be dictated by their blood group rather, it may be influenced by the genetic inheritance, environmental factor to which an individual is exposed or socio-economic status of the persons etc.

Table 1. Statistical profile of ABO blood group with respect to time management trait between the groups

Blood group type	Number of subjects	Mean score \pm SD	p value
A	71	9.83 \pm 1.5	0.82
B	91	9.77 \pm 1.8	
AB	18	9.78 \pm 1.5	
O	97	10.03 \pm 1.5	

The time management trait between the groups was not significant ($p>0.001$)

Table 2. Statistical profile of ABO blood group with respect to materialistic trait between the groups

Blood group type	Number of subjects	Mean score \pm SD	p value
A	71	10.72 \pm 1.6	0.39
B	91	10.62 \pm 1.9	
AB	18	9.89 \pm 2.2	
O	97	10.31 \pm 2.3	

The materialistic trait between the groups was not significant ($p > 0.001$)

Table 3. Statistical profile of ABO blood group with respect to responsibility trait between the groups

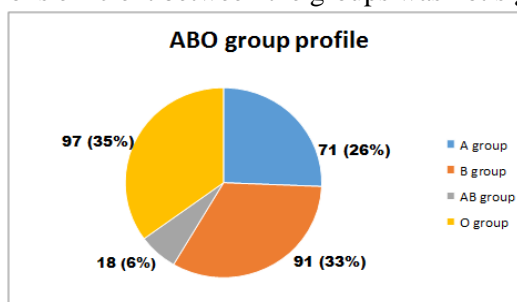
Blood group type	Number of subjects	Mean score \pm SD	p value
A	71	18.38 \pm 3.0	0.56
B	91	18.09 \pm 3.4	
AB	18	17.11 \pm 2.8	
O	97	18.37 \pm 2.7	

The responsibility trait between the groups is not significant ($p > 0.001$)

Table 4. Statistical profile of ABO blood group with respect to emotions efficient trait

Blood group type	Number of subjects	Mean score \pm SD	p value
A	71	23.03 \pm 2.7	0.46
B	91	22.25 \pm 2.8	
AB	18	22.44 \pm 3.3	
O	97	22.73 \pm 2.5	

The emotions efficient between the groups was not significant ($p > 0.001$)

**Figure.1. Participants' ABO group profile**

4. CONCLUSION

An individual's characters are influenced by many external factors rather than the blood group itself. A person's perception and his upbringing circumstances might play a major role in determining his/her character rather individuals blood group type.

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