A blood type is a description of an individual’s characteristics of red blood cells due to substances (carbohydrates and proteins) on the cell membrane. The two most important classifications to describe blood types in humans are ABO and the Rhesus factor (Rh factor). Individuals with type A blood have red blood cells with antigen A on their surface and produce antibodies against antigen B in their blood serum. Individuals with type B blood have the opposite arrangement, antigen B on their cells and produce antibodies against antigen A in their serum. Individuals with type AB blood have red blood cells with both antigens A and B and do not produce antibodies against either antigen in their serum. Individuals with type O blood have red blood cells with neither antigen but produce antibodies against both types of antigens. Overall, the O blood type is the most common blood type in the world, although in some areas, such as Sweden and Norway, the A group dominates. The A antigen is overall more common than the B antigen.

Another characteristic of blood is Rhesus factor or Rh factor. It is named after the Rhesus Monkey, where the factor was first identified in 1940. Someone either has or does not have the Rh factor on the surface of their red blood cells. This is indicated as + or -, and the two groups are described as Rh positive (Rh+) or Rh negative (Rh-) respectively. This is often combined with the ABO type. Blood types are not evenly distributed throughout the human population. Type O+ blood is most common, though in some areas type A prevails, and there are other areas in which as many as 80 per cent of the people are type B. AB- is the rarest. There are also variations in blood-type distribution within human subpopulations (Landsteiner, 1900).

Personality is derived from Latin word *persona* meaning mask. In psychology, personality
describes the character of emotion, thought, and behaviour patterns unique to a person. Recently developed the big five factors of personality known as ‘OCEAN’ of the personality namely Openness, Conscientiousness, Extraversion, Agreeableness and Neuroticism. Openness is labeled as the tendency to be creative, imaginative and thoughtful, Conscientiousness represents achievement and dependability, Extraversion is defined as the tendency to be outgoing, assertiveness, active and excitement seeking. Agreeableness consists of tendency to be a nice, gentle, trusting and warm. Neuroticism indicates the tendency to be moody, anxious, fearful and depressed.

Psychologists have shown little interest in the issue of the relationship between blood-type and personality despite wider acceptance by many people of the notion that blood-type is related to personality. Beginning in approximately 1930, the Japanese embraced the idea of matching personality traits with one’s blood type. According to D’Adamo and Whitney (2001), more than 70% of Japanese believe that blood type is directly related to personality. In Taiwan, books discussing the influence of blood type on temperament and interpersonal relationships are readily available (Chang, 1999).

In Nazi Germany, researches have been conducted associating blood type with personal characteristics. Researchers have tried to associate B-type blood with inferior characteristics. B-type blood was relatively common among German Jewish populations. While in Japan, blood type theory of personality is a popular belief that a person’s ABO blood type is predictive of their personality, character, and compatibility with others. This belief has carried over to certain extent in other parts of East Asia such as South Korea and Taiwan. In Japan, asking someone their blood type is called as “Typing by blood”, which was proposed by popular psychologists and it has been very prevalent since the beginning of the 1970s.

Furukawa (1930) reported that the Japanese believe that a person’s blood type affects their personality. Each blood type has a personality profile. People with blood type A have a deep-rooted strength that helps them stay calm in a crisis when everyone else is panicking. People with blood type B are the most practical of the blood groups. They are specialists in what they do. People with blood type O are outgoing, energetic and social. They are the most flexible of the blood types. People with blood type AB are hard to categorize. They can have characteristics on both ends of the spectrum at the same time. For instance, they are both shy and outgoing. They easily switch from one opposite to another. The idea that blood type determines personality has been dying out slowly in Japan. At the same time, the West has finally noticed the potential of blood typing.

Angst and Maurer-Groeli (1974) found that higher neuroticism scores among persons with Type B and introversion was significantly more frequent among people with Type AB. Jogawar (1983) reported that people with Type B blood were less emotionally stable, more apprehensive, and less self-sufficient. Gupta (1990) observed that Neuroticism scores were significantly higher for participants with Type B blood and individuals with Type AB were less extraverted than those having Type A or Type O blood groups. Similarly, Marutham and
Prakash (1990) documented that Type B blood group scored significantly higher on neuroticism than other blood groups did. They also reported lack of significant difference on extraversion scores among A, B or O blood types. Eysenck (1982) reviewed studies in over 20 countries and suggested that the level of neuroticism in a country seemed to vary consistently with the proportion of persons in that country who had Type B blood group. He also reported that Type AB blood group was related to psychoticism. However, Lester and Gatto (1970) observed that individuals with Type O or AB blood groups had significantly higher Extraversion scores than those with Type A or Type B blood groups.

In contrast, Rinieris, Christodoulou, and Stefanis (1980) found no relationship between blood type and Neuroticism. The findings on extraversion were less consistent. Similarly, Cattell, Boutourline and Hundleby (1964) reported no significant difference in extraversion and neuroticism among the blood groups, but suggested that Type A were more tender-minded than individuals with other blood types.

Further, Yatabe-Guilford Personality Inventory (Hasegawa, 1985) and Edwards Personal Preference Schedule (Takuma and Matsui, 1985) were used to examine the personality of different blood groups. Neither of the two research studies reported any statistically significant relationship between personality test scores and blood groups. Thompson (1936) did not find relationship between blood type and personality.

After reviewing the relevant literature, it has been observed that some studies are suggesting significant relationship between blood groups and personality, while others are indicating absence of significant correlation between blood groups and personality. Reported studies have been contradictory on the issue of the relationship between blood groups and personality. This contradiction inspired us to plan the current study. Therefore, the aim of present study is to assess the relationship between blood groups and personality.

Method

Sample: Sample consisted of 201 students (B.Tech/M.Sc/M.Tech/Ph.D) randomly selected from urban locality of Delhi. Sample included 146 boys and 55 girls. Their age-range was 18-27 years (Mean= 21, S.D. = 1.7). 86% participants were from nuclear families while 14% were from joint families. 94% participants belonged to urban families and 6% belonged to rural families. Majority of participants (54%) perceived participative parenting style while permissive parenting style was perceived by 37% participants. However, authoritative parenting style was perceived by only 8% participants. Furthermore, Very few (1%) participants perceived uninvolved parenting style. All of them belonged to middle socio-economic strata.

Tools: 1. Demographic profile sheet: Demographic profile sheet was prepared which included general information about socio-personal characteristics of the student and his/her family.

2. NEO Personality Inventory-Revised (1992): The NEO PI-R (form S) by Costa and
McCrae (1992) was used to assess the big five factors of personality viz. openness to experience, conscientiousness, extraversion, agreeableness and neuroticism. It is a concise measure of the five major domains of personality with six traits or facets that define each domain. The NEO PI-R is based on decades of factor analytic research with both clinical and normal adult populations. The five domains measured by the instrument provide a clear and concise description summarizing an individual’s emotional, interpersonal, experiential, attitudinal, and motivational styles. The NEO PI-R is self-administered, five point Likert Scale ranging from ‘strongly agree’ (1) to ‘strongly disagree’ (5). It contains 240 items. Hand scoring is quickly performed by tearing off the top layer of the answer sheet and summing scoring across rows to find total raw scores of each of the thirty (6X5) facet scales. Internal consistency estimates for the facets from Form S range from 0.56 to 0.81. Validity is also reported to be satisfactory.

**Data Collection:** The data were collected from UG and PG students. Tutorial classes were utilized to collect data from UG students, while PG students were approached only when they were free of studies and other tasks. Demographic profile sheet and the Neo PI-R along with answer sheets were given to the subjects to fill up and then taken back after checking that all statements are rated appropriately.

**Results and Discussion**

Initially the data were analyzed for mean scores, standard deviations and then to examine the significance level of differences among four blood groups, Multivariate analysis of variance was also done. Percentages of prevalence of four blood groups were also calculated to see status of these blood groups in the sample, as shown in Table 1.

<table>
<thead>
<tr>
<th>Blood groups</th>
<th>% of respondents</th>
<th>Blood groups</th>
<th>% of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+ (n = 28)</td>
<td>13.9</td>
<td>A (n = 31)</td>
<td>15.4</td>
</tr>
<tr>
<td>A- (n = 03)</td>
<td>1.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B+ (n = 83)</td>
<td>41.3</td>
<td>B (n = 86)</td>
<td>42.8</td>
</tr>
<tr>
<td>B- (n = 03)</td>
<td>1.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AB+ (n = 23)</td>
<td>11.4</td>
<td>AB (n = 24)</td>
<td>11.9</td>
</tr>
<tr>
<td>AB- (n = 01)</td>
<td>0.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>O+ (n = 56)</td>
<td>27.9</td>
<td>O (n = 60)</td>
<td>29.9</td>
</tr>
<tr>
<td>O- (n = 04)</td>
<td>2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As indicated by Table 1, B (43%) was the most prevalent blood group in the total sample.
O blood group was also found in considerably large percentage (30%) of respondents. ‘A’ blood group was found in relatively lesser percentage (15%) of the sample as compared to other blood groups. Only twelve percent of respondents had been found to have AB blood group in the sample. According to Landsteiner (1900) Type O+ blood is most common, though in some areas type A blood group prevails, and there are other areas in which as many as 80 percent of the people are type B. AB- blood group is the rarest. As stated in the above research, abundance of blood group may differ area to area. In Indian context, blood group B especially B+ was found highest in the population and especially AB- was the rarest.

### TABLE 2

Means, SD’s and F values, for the significant variations in personality factor in different blood groups.

<table>
<thead>
<tr>
<th>Personality factors</th>
<th>A</th>
<th>B</th>
<th>AB</th>
<th>O</th>
<th>F-VALUES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M ± SD</td>
<td>M ± SD</td>
<td>M ± SD</td>
<td>M ± SD</td>
<td></td>
</tr>
<tr>
<td>Openness</td>
<td>123.07±14.52</td>
<td>118.61±14.60</td>
<td>114.38±13.07</td>
<td>117.95±15.5</td>
<td>1.65</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>112.1±22.01</td>
<td>107.49±17.16</td>
<td>105.71±13.89</td>
<td>107.97±21.43</td>
<td>0.62</td>
</tr>
<tr>
<td>Extraversion</td>
<td>112.03±14.31</td>
<td>109.12±16.36</td>
<td>107.75±12.94</td>
<td>112.23±16.33</td>
<td>0.80</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>103.13±18.26</td>
<td>106.12±13.98</td>
<td>103.46±9.93</td>
<td>108.22±17.35</td>
<td>0.99</td>
</tr>
<tr>
<td>Neuroticism</td>
<td>99.48±12.12</td>
<td>97.19±17.72</td>
<td>100.13±16.37</td>
<td>93.23±23.24</td>
<td>1.20</td>
</tr>
</tbody>
</table>

As shown in Table 2, none of the variations in personality factors in different blood groups differed significantly. As indicated by the findings, it is found that A group respondents showed the highest mean scores (M = 123.07) of openness while AB blood group respondents exhibited lowest mean scores (M = 114.38) of openness. Taking into account Conscientiousness, it was observed that A blood group respondents exhibited highest mean scores (M = 112.1) of conscientiousness while AB blood group respondents displayed lowest mean scores (M = 105.71) of conscientiousness as compared to other blood groups. Looking at Extraversion, it was observed from current findings that O blood group respondents exhibited highest mean scores (M = 112.23) of extraversion and AB blood group respondents showed lowest mean scores (M = 107.75) of extraversion. Further coming to agreeableness, it was found that O blood group respondents displayed the highest mean scores (M = 108.22), while A blood group respondents exhibited lowest mean scores (M = 103.13) of agreeableness. Finally in case of neuroticism, mean scores for neuroticism were highest (M = 100.13) in AB blood group and lowest (M = 93.23) in O blood group as compared to other blood groups. However, difference between mean scores was observed non-significant in almost all cases. F-values for different personality factors were 1.65, 0.62, 0.80, 0.99 and 1.20 for Openness, Conscientiousness, Extraversion, Agreeableness and Neuroticism respectively. Non-significant differences indicate lack of relationship between blood groups and five factors of personality.
Our findings were consistent with various studies conducted so far. Kunher et al. (2005) found that multiple linear regression analysis showed no significant relationship between blood type and personality except for Type AB blood group females who scored lower on the conscientiousness domain. MANOVA results showed that the combined dependent variables were not significantly affected by blood type or its interaction. They concluded that the potential effect seen in type AB blood group females on conscientiousness might be a chance finding because of the small sample size (78). Rogers and Glendon (2003) investigated the relationship between blood type and personality using measures based on the five-factor model. Study showed no significant relationship between blood type and the five factors of personality. Similarly, Cramer and Imaike (2002) conducted a research study, in which 107 male and 339 female psychology undergraduates at the University of Windsor in Southwestern Ontario, Canada were studied to determine the relationship between blood type and personality with the help of five factors model of personality and they found no relationship between blood groups and personality. Takuma and Matsui (1985) and Hasegawa (1985) did not report any statistically significant relationship between personality test scores and blood groups.

Conclusion

As mean differences of the five factors of personality among different blood groups has been found to be non-significant, therefore, it was concluded that personality factors were not significantly different among different blood groups.

REFERENCES


