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International Journal of Current Research
Vol. 9, Issue, 12, pp.62982-62985, December, 2017

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

ISSN: 0975-833X

RESEARCH ARTICLE

MOOD- STATES IN RELATION TO BLOOD- GROUP AND GENDER OF ADOLESCENTS

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ARTICLE INFO

Article History:
Received 13th September, 2017
Received in revised form
08th October, 2017
Accepted 20th November, 2017
Published online 27th December, 2017

Key words:
Mood-States,
Blood- Group,
Adolescents.

ABSTRACT

The present study has tried to make a comparison between perceived Mood-States of Adolescents possessing A+, B+, AB+ and O+ Blood Group. For this data was collected on 200 respondents: 100 boys and 100 Girls equally divided into four categories on the basis of their Blood- Group (Boys=100, A+=25. B+=25, AB+=25 and O+=25, Girls=100, A+=25. B+=25, AB+=25 and O+=25). 8SQ constructed by Cattle and Currans (1989) was utilized to measure the perceived Mood-State of the respondents. The present study have revealed that 1. Anxiety and Guilt were reported more by the Adolescents who possessed A+ type of blood-group while Depression and Fatigue were found to report more among Type O+ respondents. 2. Boys were found to report more Anxiety, Fatigue and Arousal while girls were found to report more Guilt as compared to boys. No other significant results were found on other dimensions of Mood-States.

Citation: Dr. Neeta Gupta, 2017. "Mood- States in relation to Blood- Group and Gender of Adolescents", *International Journal of Current Research*, 9, (12), 62982-62985.

INTRODUCTION

The word 'Mood' has a wide range of usage and meaning. One might use the term to describe a phenomenological property of individual subjectivity perceived affective state (Kumavat, 2017). A mood state is a relatively long lasting affective or emotional state. Mood differs from simple emotions in intense, and less likely to be triggered by a particular stimulus or event (Gupta and Joshi, 2009). According to Thayer (1996), people feel best when they are in a calm energy mood. They feel worse when in a tense- tired state. Mood state is a conscious state of mind or predominant emotion. Mood is primarily a psychological manifestation. It is a frame of mind, the dispositionin the atmosphere one is experiencing (Gupta and Joshi, 2010). Mood is an internal subjective state but it often can be inferred from posture and other behaviors. We can be sent into a mood by an unexpected event, from the happenings of seeing an old friend to the anger of discovering betrayed by a partner. We may also just fall into a mood (Biss et al, 2010). Emotions constitute potent, pervasive, predictable, harmful and beneficial drives of judgment and decisions through multiple mechanisms (Lerner et al, 2015). Positive moods let people think creatively, freely and be more imaginative while negative moods have been connected with depression, anxiety, aggression etc. The present study has tried to explore the effect of different types of blood-group upon mood- states of the adolescents.

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Blood is a fluid tissue that helps in circulation of the transportation of substances through the body. These are vascular connected tissues. The circulation is intimately associated with all functions of living ones and it is one of the integrating system, depending upon the distribution of antigens and antibodies (Gupta and Joshi, 2009). Blood acts as transportation of materials, defense against infections and diseases, control of body temperature, healing of wounds and helps in the maintenance of homeostasis in the body by regulating the amount of salts, acids, water etc. in the tissue fluids. So, it is very likely to affect the mood states of the respondents as a person responds negatively in the state of disequilibrium. So, the present study tries to explore which type of blood keeps this equilibrium faster to maintain the positive mood states.

Depending upon the antigens and antibodies four types of ABO blood groups are found in human beings viz A, B, AB and O. Another important antigen and antibody in the plasma membrane of RBC's which is termed Rh factor. Rh factor was found to present in about 85% of human beings called Rh+ and those without it are called Rh-. The present study is done on Rh+ respondents. Blood type is a biological fact. Every individual must have one type of blood group. Since mood states are affected by social, cultural, biological factors, so blood group of the respondents might play an important role in determining the mood states of the individuals since every individual with different blood groups have different antigens and antibodies flowing in their blood, may be biologically prone to behave in a certain manner.

Hence, the main objective of the present study was to explore the effect of blood groups upon mood states of the individuals.

METHODS

Objectives

- To identify Blood- Group of the Adolescents.
- To identify the effect of Blood- Group (A+,B+,AB+ and O+) upon different dimensions of Mood-States.
- To identify gender differences on Mood-States.

Hypotheses

- Adolescents with different Blood-Groups will differ significantly from each other on all the dimensions of Mood-States.
- There will be significant gender differences on all the dimensions of Mood-States.

Design

The design which is used to conceptualize the study is 4x2 factorial design with the two classificatory variables being Blood-Group (divided in to four types A+, B+, AB+ and O+) and Gender (divided into Boys and Girls) of the respondents.

Tools

Eight StateQuestionnaire (8SQ) by Cattle and Curran (1989) was used to measure eight important emotional states of the respondents. The Eight mood states are

- Anxiety,
- Depression,
- Stress,
- Regression,
- Fatigue,
- Guilt,
- Extraversion,
- Arousal.

Sample

A total of 200 respondents were contacted which comprised of 100 boys and 100 girls having 25 boys and 25 girls in each of the four types of blood groups. The Mean age of boys was 19.8 years and for girls it was 17.9 years.

Procedure

The sample was selected using purposive sampling method. All the respondents were contacted personally. The questionnaire required at least 15 minutes to complete.

Analytic Strategy

The obtained data was analyzed using Mean, SD and ANOVAs.

RESULTS AND DISCUSSION

Keeping in view the objective of the present study the data was analyzed using Mean, SD and ANOVA. The results are discussed as follows:

Mood States across four Blood-Groups of the Adolescents: As it is clear from the inspection of Table-2 that few dimensions of Mood-States were found to be significant among respondents possessing different types of blood-groups. As it is clear from the inspection of Table-1 that few dimensions of mood-states such as Anxiety, Depression, Fatigue and Guilt were found to be significantly different among respondents possessing A+, B+, AB+ and O+ blood type. These results partially support the first hypothesis stating thatAdolescents with different Blood-Groups will differ significantly from each other on all the dimensions of Mood-States.

As it is clear from the observation of Table-1 that the respondents possessing A+ blood group were found to report significantly more Anxiety and Guilt as compared to adolescents having B+, AB+ and O+ blood group while Depression and Fatigue were found to be significantly more among respondents having O+ blood type as compared to adolescents having A+, B+, and AB+ blood type. Anxiety is actually a psychological, and physiological state characterized by cognitive, somatic, emotional and behavioral components. These components combine to create an unpleasant feeling that is typically associated with uneasiness, fear or worry when confronted with unpleasant and potentially harmful stimuli such as foul odors or tastes (Zald, et al, 2002). The results of the present study have suggested that adolescents having A+ blood type reported more anxiety and guilt. Blood type is a physiological fact. Every individual must have one type of blood group (A+, B+, AB+, O+, A-, B-, AB-, and O-). Like the physiological fact there is also a psychological fact that every individual must have some mood states depending upon his personality which is affected by the environmental, biological, social and physical conditions (Gupta and Joshi, 2009). So, blood groups and the related personalities leading to different mood- states are very closely related. The results of the present study stand in contrast with the findings of Gupta and Joshi (2009) who reported that type A+ adolescents have shown more responsibility and emotional stability as compared to type B+, AB+ and O+ respondents. The findings of Rogers and Glendon (2003) and Kunher et al (2004) also contradict the findings of the present study who found no relationship between blood group and personality.

Depression and Fatigue were reported more by type O+ respondents. Depression is socially debilitating syndrome including cluster of syndromes (i.e. vegetative, cognitive, behavioral and physical feature as well as impairment of impulse control in behavior) only one symptom of which is abnormality of mood (Piccinelli, 2000). While fatigue may be defined as a subjective state in which one feels tired and exhausted and in which the capacity for normal work or activity is reduced. As we know that blood flows within blood vessels is a continuous circuit. A profuse network of blood vessels is spread in the whole body. The blood is pumped into the vessels by rhythmic contraction of heart and is also associated in its circulation by breathing movement, muscular contraction, and gravity contractions of some of the large vessels. As it is evident that blood is not similar in all persons in ABO blood groups are based upon the presence of certain proteins in the plasma membrane of RBC's and coded by genes. These proteins are of two types: A and B and are called antigens and two antibodies. These designed as anti A or 'a' and anti B or 'b' antibodies, 'a' reacts with antigen A and 'b' reacts with antigen 'b' and renders it highly sticky so that RBC's containing this antigen dump together.

Table 1. Mean & SD of four groups of respondents on different dimensions of Mood- States

Mood-States	A+		B+		AB+		O+		Total	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1.Anxiety										
Boys	16.04	2.65	14.20	1.39	9.79	1.11	14.21	1.23	13.56	1.59
Girls	15.20	1.24	11.60	1.22	10.21	2.01	12.22	2.01	11.30	1.62
Total	15.62	1.94	12.9	1.31	10.00	1.56	13.22	1.62		
2.Stress										
Boys	17.6	3.56	19.56	2.39	15.16	2.36	17.33	3.66	17.41	2.99
Girls	16.5	3.05	18.23	1.98	14.11	3.10	18.16	3.41	16.77	2.88
Total	17.05	3.31	18.89	2.18	14.63	2.73	17.74	3.53		
3.Depression										
Boys	16.17	3.44	16.24	1.33	12.12	5.05	18.40	3.96	15.73	3.22
Girls	17.07	3.14	12.96	2.16	15.11	4.01	17.41	2.56	15.65	2.96
Total	16.62	3.29	14.60	1.74	13.62	4.53	17.90	3.26		
4.Regression										
Boys	15.48	3.01	13.12	4.01	14.78	4.22	17.34	4.34	15.18	3.80
Girls	17.22	2.18	15.22	3.17	13.11	3.16	15.08	3.01	15.15	3.29
Total	16.35	2.59	14.17	3.59	13.94	3.69	16.21	3.62		
5.Fatigue										
Boys	17.48	2.53	14.12	3.01	10.29	4.76	17.21	3.12	14.77	3.35
Girls	15.22	1.64	10.02	2.89	10.11	5.22	15.54	5.05	12.72	3.70
Total	16.01	2.08	12.07	2.95	10.21	4.99	16.01	4.08		
6.Guilt										
Boys	18.41	4.11	14.82	4.12	9.98	5.04	14.82	4.21	14.51	4.35
Girls	17.05	3.68	10.14	6.22	7.75	4.98	15.51	5.19	12.62	5.01
Total	17.73	3.89	12.48	5.17	8.87	5.01	15.16	4.65		
7.Extraversion										
Boys	15.15	4.12	16.21	3.87	18.01	3.98	17.22	3.85	16.64	3.99
Girls	14.22	3.40	18.42	2.43	19.65	2.78	18.12	2.91	17.60	2.96
Total	14.68	3.76	17.31	3.11	18.81	3.38	17.67	3.38		
8.Arousal										
Boys	18.10	3.12	20.12	4.12	18.96	4.52	17.12	5.61	18.58	4.94
Girls	16.71	3.13	15.66	2.55	15.36	3.98	18.69	4.22	16.60	3.47
Total	17.40	3.12	17.89	3.33	17.16	4.25	17.90	4.29		
9.Total MS										
Boys	139.32	15.59	137.20	16.91	125.80	15.23	140.54	13.59	135.72	15.33
Girls	140.35	14.89	128.40	15.25	128.10	22.11	143.45	16.67	135.07	17.28
Total	139.83	15.24	132.80	16.08	126.95	18.67	141.99	15.24		

Table 2. Summary ANOVA on different dimensions of Mood- States

Mood-States	Blood-Group	Gender	Interaction
1.Anxiety	19.24**	4.25*	2.15
2.Stress	2.28	1.25	1.84
3.Depression	9.59**	2.08	0.74
4.Regression	1.92	1.01	0.62
5. Fatigue	12.82**	3.59*	0.95
6. Guilt	8.95**	5.45*	1.96
7.Extraversion	1.45	2.72	1.75
8. Arousal	2.03	4.42*	2.20
9.Total	2.17	1.09	0.79

**= Significant at .01 level
*= Significant at .05 level

Depending upon the distribution of above antigens and antibodies A, B, AB and O (+) or (-) blood groups are formed and they may guide an individual to behave in a specific way. That might be the reason that type O+ respondents reported more depression and fatigueas compared to other blood groups.

Gender differences on Mood- States: As it is evident from the inspection of Table-2 that few dimensions of mood- states were found to be significant. They are Anxiety, Fatigue, Guilt and Arousal. As it is evident from the Table-1 that boys were found to report more anxiety, fatigue and arousal as compared to girls while girls were found to report significantly more guilt than boys. These results partially support the second hypothesis stating that there will be significant gender differences on all the dimensions of Mood-States. Anxiety is as much a part of life as eating and sleeping (APA, 2008).

In the present study males were found to be more anxious than females. These results are supported by the findings of Gupta et al (2009) who reported more Anxiety and Fatigue among males as compared to females. The results of Weinstock, (1999) stand in contrast with the findings of the present study as he reported that females were found to be more anxious than males. While the findings of the present study were supported by the study of Gupta et al (2009) who found fatigue to be more among males. The present study has reported more guilt among girls which supports our cultural values also. In our culture, females are taught and socialized to be shy and not expected to express their feelings. They are blamed more often for every bad things more often than males. That's why they were found to report more guilt than males. No significant interaction effect was found on mood- staes for gender and blood- groups.

Conclusion

The results of the present study have tried to throw some light upon the relationships between mood- states and blood- group and it can be concluded that there exists at least some relationship with some dimensions of mood states among boys and girls with their blood groups. But further researches are needed in this area to explore some more interesting findings for blood group especially O+ and AB+ which are universal donor and universal recipient respectively. The universality of these blood groups may affect people's mood states significantly. This study also suggests that males are more susceptible to mood disorders contrary to the popular belief that women are more vulnerable to mood disorders. So, further researches are needed to explore these controversies so that a better conclusion could be drawn.

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