IOSR Journal of Sports and Physical Education (IOSR-JSPE)
e-ISSN: 2347-6737, p-ISSN: 2347-6745, Volume 4, Issue 3, (May. – June. 2017), PP 17-27
www.iosrjournals.org

The Impact of Blood Groups on Mental Toughness of Female Students

Elham Dehghani
Department of physical education university of Tehran

***Abstract*:** *The aim of this study has been investigating the effect of blood groups on female student athletes ' mental toughness. The population of this study included all female students taking part in twelfth Sports Olympiad from universities and higher education institutions across the country that was held in summer of 1393 and attended by 1200 athletes from 75 universities and higher education institutes in 8 sports fields including FUTSAL, volleyball, Basketball, badminton, table tennis, running, swimming and taekwondo hosted by the SHAHID BEHESHTI University. A sample of 320 students have been selected randomly and based on Morgan table as an example and mental toughness data was selected and evaluated by using GOLBY -Sheard sports mental toughness quessionnaire (2009). To analyze the data statistical tests were used according to the scale of descriptive and inferential statistical methods on two levels. First of all, the normality of the data distribution was approved using the Kolmogorov-Smirnov test. To analyze the data, one side variance analysis test (ANOVA) was used by SPSS software 22 (05/0 = α). The results showed that female student athletes with blood group of O were more mental toughness than other blood groups and students with blood group of B showed more toughness than blood groups of A and AB and there was no significant difference in toughness between blood groups of A and AB in female students.*

***Key words*:** *toughness, Sports Olympiad, female student athletes, blood groups*

I. Introduction

In respect to the complexity of the human psyche, as the main matter of psychology, understanding the causes and roots of human behavior and personality and mental health, is essential, yet difficult. Because by knowing these things we can take effective steps to have relationship with other people and also help them to save their mental health and subsequently, to improve the well-being of individuals and populations who are faced with physical problems. One of the questions that have always preoccupied the human mind is this: If biological factors play a significant role in behavior or not? That throughout the history it has been faced with many fans and critics. Reviewing the fundamentals of individual differences and the biological and genetic characteristics of human personality has a long history and turns back to the ancient Greece. The Greeks believed that personality traits are inherited under the strong influence of biological factors and tried to correlate physical factors with character traits. In this regard, many contemporary psychologists believe hereditary and environmental factors constitute the foundation of human personality and endeavor to clarify many aspects of their relationship with this character. The differences from the first days of life that in mood and level of activity and attention of men could be seen indicate the effects of hereditary factors. Evidence suggest that men may have differences in terms of emotional response, mood and personality traits and even the level of activity that is also something innate. As with observing characteristics such as the amount of attention in babies, adaptability with environmental changes we can easily get the overall mood because some babies who are more active, their attention is easily diverted from a matter and they are willing to accept new things and people. While other babies may often be silent, and show a strong focus on carrying out activities and are afraid of each new situation (ZARGAR Shirazi, 1371).

In fact, the bodily and physical characteristics of the human body are transmitted from parents to children. But in recent years the desires to understand how transfer some behaviors and psychological traits from parents to children have increased that is called behavioral genetics and includes phenomena such as intelligence, aggressiveness, emotionality and mental illness. As we know genetic factors are based on genes and blood groups as typical genetic factors are determined directly by genes and transmit from one generation to the next. In fact, blood is the center of biochemistry that links human by genes and chromosomes to the past and future generations. When several generations of the same family have special talent such as music, literature or politics often people say that this talent is in their blood. Genes in the blood determine the type of personality characteristics. Blood and blood group represent the genetic mood, health, temperament and character. (NAMI and BASHAR, 1998).

Leicester (1901) classified the blood into four groups: A, B, O, and AB, each of which has both positive and are negative RH. Blood cells have a protein coating that like fingerprint specifies the identity of the owner. With the help of biologists, pathologists concluded that some psychological traits and human morality is

transmitted through the blood and genetics. As a result extensive and remarkable research has been started in this field. As many people who have the same blood group, have identical morality and behavior and the nature, character, ability, creativity and mood are depended on each person's blood group. That's why in many advanced countries such as Japan in time of recruitment and appointment blood group is a priority. In a cross-cultural research by Leicester (1978), the relationship between blood groups and individual aggression and violence and ethnic or national characteristics in sixteen industrialized nations has been found. Leicester research results' indicate that nations who have a higher proportion of blood group of O have lower rate of suicide and they are less anxious and agitated than other nations. Also people with blood group of A are more obsession than other blood groups and they are more affected in obsessive-compulsive disorder. In view of Japanese, blood group of O includes individuals upbeat, light-hearted and vibrant and as if the director were created. Show complete composure and stamina in the face of problems. Blood group B have a lot of friends and less with someone they like.

In terms of positive work and ambition desperately trying to reach your goal. Blood group A people who are mentally changed to a great extent. Sometimes brilliant, inventive and full office and are sometimes influenced by the thoughts and plans of others. Usually shy and influenced and in front of unfamiliar people never lose caution and conservatism. Mitsubishi Electric Industry Co. all its employees are among those with blood group water generation. Because this blood group holders, logical and calculating people, faithful and honest, organized, obedient, yet powerful and to manage and judgment, agencies and employers are more appropriate. AB blood group have been strange and a dreamer and sometimes unbalanced and unstable, flexible, high intelligence and taste remarkably kind and humane people are inherently (Commendable, 1387). He and colleagues (1388), the study examines the relationship between the characters and their blood groups and cognitive behavioral characteristics and blood Each of the groups mentioned in detail. The results showed. That people with blood group O have a lot of resistance in the face of problems and the expansion because of heavy exercise and mental comfort of the group. In addition, this type of exercise to prevent weight gain them and their mental balance and sleep will help them a lot. These people are carriers of the gene in their bodies. Which gives them the strength to endure suffering, confidence, courage and optimism give. People with blood group O have a good public relations and in terms of social impacts, successful. Owners of blood group and are very creative and popular. These people love this. Are the center of attention and of course they enjoy a high degree of confidence. The last step is to do anything. People of blood group, to easily adapt in any environment and the ease with those around them matches. These people can be good ministers and athletes. As well as those with blood group B, patients with the target and intellectually strong. They diligently, when they are busy doing something, only it will complete successfully and are self-contained and usually their own way in life and sensitive people and at the same time assiduous, intolerant, are unpredictable. But people with blood group A than other blood disorders are obsessed with and the more people who are phobic disorders and in times of hardship and pressure from other blood groups are less able to control and focus. People with blood group A are susceptible to a variety of stresses. They are very sensitive and shy people; and when the excitement and discomfort they lose much beyond its control. The members of this group can not be good candidates for jobs that require careful management. Of course, that does not mean. The things that people can not accept direct responsibility. It means that those tasks that require special attention it is hard for the people of this group and may face it wrong. People with blood group AB has a mix of both blood group A and B are two types of character. Means I can be shy or socially, are confident or shy. It is possible that even though people are responsible. But with the high responsibility of their grip. The people who are having features of both blood group. At the same time non-negative constant and serious and are a radical ethic. That suddenly from one state to another are (God et al., 1388).

On the other hand the behavior of more fundamental factor is the psychological origin. Considering the close relationship of nurses with human life and its role in his social relations. Blood groups as genetic factors and psychological factors and personality as behavioral factors, are considered. Among the goals is paramount. To determine the possible relationship between blood groups and psychological characteristics of individuals. In fact psychology is the science of behavior and cognitive-behavioral and physiological processes that cause the condition and professionals who gather knowledge about practical problems of this science applies. Psychology has been significant growth in recent years. One indicator of this growth, dramatically increasing membership in the America Psychological Association (APA) is. The association is a national organization. Psychology is for development-established.

Along with the specialization of all science, there have been many overlaps among them. So that each day offered new terms. Sports psychology is one of those terms. In fact, as long as any human activity, interpersonal relationships and mental states concerned. It certainly also linked with psychology. In the meantime, the exercise of which is very wide and researchers from various fields has attracted. Area of interpersonal relationships and psychological states in which athletes and coaches is of particular importance. From this perspective, it is clear that psychology will be also closely connected with the sport. Therefore, the

result of the interaction of a broad and applied sport psychology and sport psychology. Is a relatively new field of growing importance in the path ahead. New sport psychology a branch of psychology. That general human behavior in physical activity and sport checks (Gale, 2002). The various definitions of sport psychology is presented. Generally, the field of mental health and improve athletic performance is considered. Mental health effects on the mind of the body. While improving athletic performance refers to psychological factors and personality influencing performance. In the document there are significant works in the psychology of sport. Psychology shows that favorable characteristics are greatly contribute to the highest performance. At the elite level, the difference between competitors in terms of mental abilities, tactical and their health is minimized and psychological differences become apparent (Moran, 2004). In general, the implementation of optimal athletic skills, there are three types of fitness, skill and mental well. Because the training protocols and methods of implementation skills, evolved and the distance between the heroes of a few milliseconds and a few millimeters has fallen. Discusses the impact of mental skills in performing sports skills is of great importance and individual psychological factors that are involved in athletic performance. Wide interest athletes, coaches and sports psychologists is located. So that in recent years, studies and experiments largely on psychological factors and impact of each of these factors on performance-focused (Gvkyardy, 2008). One of the psychological factors involved in the exercise, mental toughness. Sports psychologists, coaches, sports commentators and athletes, all on its importance in athletic performance, have stressed (Jones et al., 2002; Gvkyardy, 2008) .vaynbrg and Gold (2007), mental toughness and the ability of an athlete to focus, Back from the break, faced with the pressure and insistence and perseverance despite difficulties and problems have defined .jvnz (2002), mental toughness of a natural or developed psychological problems described. That enables players to cope with a large number of claims and demands which they are expected to meet. Those who have high mental toughness tend to be social. Because they have the ability to remain calm and risks. They are many excellent condition and less anxiety than others (Klafvhmkaran, 2002). Sheard and GOLBY (2009), three factors: reliability, stability and control as key components of mental toughness described. Make the belief in their own abilities. Endurance, will power athletes to achieve maximum competitive needs, competing and practicing responsibility for setting goals, having a strong attitude and ability to concentrate points. A recognition that an athlete has control of their own capabilities and pushes him towards the desired result.

Jones et al (2002), Twelve features a strong performers were identified in order of importance:

1. Having self-confidence and self-belief in the ability to achieve the goals.
2. Ideally, after returning to failures affected by the strong will to succeed.
3. Self-belief that you possess unique features and capabilities are than your opponent.
4. Having an inexhaustible desire and motivation to succeed.
5. Maintain full focus and attention distraction in the face of competition.
6. regain emotional control in the wake of unexpected and uncontrollable events, especially the competition.
7. blurring the limits of physical and mental pain, yet keep striving pressure (in practice and competition).
8. Accept the inevitable anxiety of competition and realize the fact that you come back from his responsibility.
9. The progress of the competition.
10. Under the influence of good and bad performances ignoring others.
11. In the face of distraction to keep your personal life completely focused.
12. Change a focus for the sport or not so necessary.

The first activities in the area of mental toughness, Lvhr (1982), emphasized. Coaches and athletes believe. At least 50% of success is a result of psychological factors. The result is mental toughness. According to his toughness and endurance athletes with mental responding in different ways. Which leads to a feeling of relaxation, calm and energetic to be. Because they have learned to improve their two skills: the ability to increase the flow of positive energy. In other words, positive energy and hard in critical condition. Second, thinking that it enables a proprietary manner. With correct attributes, are faced with the pressure and mistakes in the race. Also, 83% of educators, mental toughness and psychological determinants of athletic success as their main characteristic (Gvkyardy, 2009).

Gold and Weinberg (2010) showed that athletes who benefit from mental skills. Can better focus, high level of self-confidence, mental efficiency, higher it goes, with the excitement. As well as the athletes have decision-making power of positive thinking and be better than the other athletes are. In this regard, Gibbs (1997) refers. Mental toughness of an internal locus of control and self-efficient. What is the advantage inherent or acquired through years of experience, enables performers to have a unique skill set.

Martin Jones and John Parker (2013) study examines the relationship between mental toughness and experience their youth. The results showed that experiences most relevant to youth mental toughness. Annunciation et al (1388) The relationship between resilience and hard work of the athletes tested successfully and mental health. The findings suggest that resilience and hard work can change fields related to exercise and mental health of the athletes successfully predict. Zahid also Babel and colleagues (1390), was to investigate the

relationship between hardiness and athletes have done in the past with hope. Results showed that passed between the two variables and mental toughness, mental toughness personality can predict changes of hope in athletes. Ranjbar et al (1393), in a study to compare the intransigence of the Iranian elite soccer players in different positions paid. Premier League football players have been the research community. Researchers sport mental toughness questionnaire Sheard and GOLBY (SMTQ) was used to measure the hardiness players. Results showed that between mental toughness elite soccer players in different positions there are significant differences and defenders because of physical and psychological pressure more than other posts are higher mental toughness showed. According to the definitions and effects of mental toughness. It seems that having high levels of psychological characteristics can improve the performance of athletes in competition and overcome obstacles such as pressure, mental stress and coordination problems, help them gain more success. As we know an integral part of social relations and human psychological and personality. Which has a direct impact on these relations and any attempt to gain something valuable compromise and in this way finding and behavioral factors associated with psychological factors are important. According to what was said on psychological traits and personality factors can. We have a better understanding and more appropriate solutions for various mental health groups advise. In the meantime one of the variables that mental and psychological features is likely directly related to blood groups. Despite this possible association and the ambiguities of previous research in this area and limited research of this kind in Iranian society justifies the need for this kind of research as well and researchers to lead such research to investigate the role of psychological factors in the blood in one of the most important mental toughness. Also remove the ambiguity of the results reached more acceptable. Because the results can make different aspects of personality and mental health of persons placed and obtaining appropriate information tailored to the personality traits of people in situations they can be used. On the other hand informing the relevant organizations and institutions to develop and deploy forces helped your situation. So, do the research and application of its results in terms of mental health and selection of talent. It is very important for specific purposes.

II. Methodology

Population and sample

This study is based on nature, is a descriptive survey and in terms of applied research is objective. The population of this study included all female students in the twelfth Olympiad college athletics and higher education institutions across the country. In the summer of 1393 and attended by 1200 athletes from 75 universities and institutions of higher learning in 8 sports, football, volleyball, basketball, badminton, tennis Myz, running, swimming and taekwondo hosted by the SHAHID BEHESHTI University was held. (Sports Olympiad universities and higher education institutions. Every two years once hosted one of the universities under the University Sports Federation (Fizeau) held in individual and team sports and finally completed with the introduction of unique and top universities arrives) . A sample of 320 students to simple random sampling were selected based on Morgan table as an example and mental toughness by using a sports mental toughness and GOLBY Sheard (2009) collected and evaluated.

To gather the information.

To gather information, the questionnaire mental toughness sports (SMTQ) Sheard and GOLBY was used. The questionnaire only specific tool to measure mental toughness in sport. 3 of reliability, stability and control as key factors in assessing the mental toughness (Sheard et al., 2009). The questionnaire has 14 questions. Each question has four response options based on the Likert scale (from very bad to very true) is. In the study, Cronbach's alpha coefficient GOLBY Sheard and reliability, sustainability and control 80/0, 74/0 and 71.0 respectively. Which is indicative of the reliability of the questionnaire. The researchers also through exploratory and confirmatory analysis, also confirmed the validity (Sheard et al., 2009). The validity of the Persian version by Kashani et al. (1390), studied and verified. The researchers also determined the validity of the content of the questionnaire, the content validity ratio Lavshh (1975) and content validity index Lane (1986) was used and 83/0 respectively content validity and content validity index for simplicity criteria vary from 850 respectively. For the specific criteria vary from 850 resolution 87/0 and for criteria were reported. Content validity of the questionnaire, which indicated for use in internal investigations (Kashani et al., 1390).

Procedure

First, after coordination with the tournament organizing committee and coaches as well as leading teams in the competition. On the subject of research and the importance of the information that was given to them and mental toughness questionnaire and GOLBY Sports Sheard (2009) that in addition to questions in the questionnaire included demographic information such as age, history of the Olympic Games, sport and the blood group. At rest, the athletes are randomly were 400 of them. To be taken to complete it. They were also assured. There is no right or wrong is no answer to the questionnaire and the results of this study, the selection by the coaches not to attend their team. Finally 320 questionnaires returned the questionnaires. Which contains

information such as blood group have full demographic (each blood group n = 80) were selected for the analysis.

Data analysis

After the student-athlete's mental toughness data collection, data analysis, descriptive and inferential statistical methods on two levels and appropriate statistical tests with SPSS 22 statistical software was used under the given scale. To check the status of the participant's descriptive and structural measures of central tendency and the standard deviation were used descriptive then, to check the normality of data distribution. Parametric and non-parametric statistical tests appropriate for the Kolmogorov-Smirnov (KS) were used. Given the normal distribution of data, ANOVA parametric test ANOVA was used for data analysis. As well as to assess the homogeneity of variance Levene test and to determine the difference post hoc "Scheffe" was used.

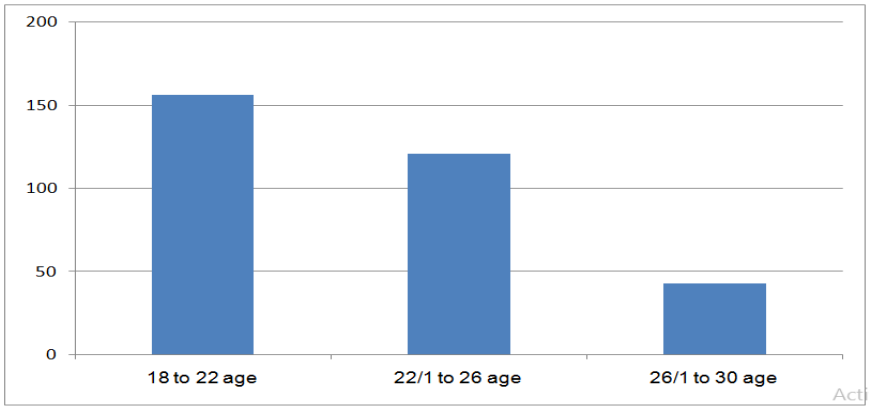
Results of Research

Achieving finds

In this level the case of fullness such as age ,Blood group and the lasting of being appearance in sport Olympiad.

Age of sport students .

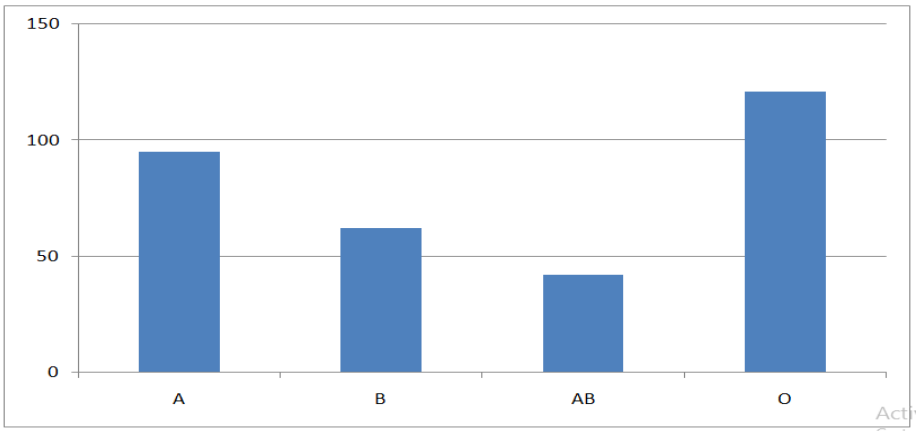
Collecting of age showed that people under 22 age huge number (156people ,48/08percent) 121 people from the advance between 22 to 26 age . (37.8 percent.) just 43people (13.4 percent) from students appearance in this research age up to 26 age ,the Amusing of the age of students sports ,in first show puzzle .



First show table . sports girls students audiences .

Blood group

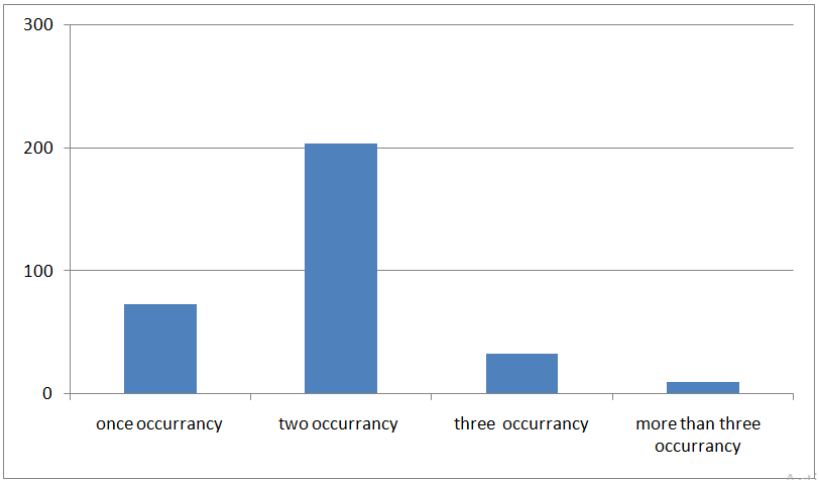
Girl students with blood group O by 121 people (37.8 percent)the most case of lest have more than the other Blood group . and the low test of 42 people (13.1 percent) have Blood group AB . 2 show table ,summary of girl students sport as of Blood group showed .



2 number show table . girls sport students as of Blood group .

Sport Olympiad occurrence .

From the Olympiad sport occurrence, girl students in this research are devise info four group .2/3 from this people in search are people who have 2 occurrence in Olympiad sport (63.8 percent , 204 people) and just to people of these are students by three occurrence in sport Olympiad student by low percent (%3.1)



3 show table , girls student in sport Olympiad occurrence.

Inferential Findings

Normality of data distribution in mental toughness variable and reliability, control and stability components are being tested through using Kolmogorov-Smirnov test. Related results presents in following table (significant level of α=0.05 was considered for all hypothesis):

Table 1- result of Kolmogorov-Smirnov test on the research variables

Variable	Statistics k-s	Significant level
Mental toughness	0.01	0.077
Reliability component	0.01	0.110
Control component	0.02	0.08
Stability component	0.04	0.12

Figures in significant level column which all are bigger than 0.05, shows that data in all variables is fallowing normal distribution.

Table 2 shows Levine test results in order to measure homogeneity of the research variable variances which is one of assumptions of one-way variance analysis tot.

Table 2-levine test results for measuring homogeneity of the research variable variances

Variable	Levine statistic	Freedom Degree=1	Freedom Degree=2	Freedom Degree=3
Mental toughness	1.91	3	316	0.13
Reliability Component	1.23	3	316	0.16
Stability Component	1.85	3	316	0.09
Control Component	2.40	3	316	0.068

Significant levels in above table (p>0.05) shows that there is congruence within the research variable variances. ANOVA test results are shown table 3 for comparing mental strength of female athlete students separated as per their blood group.

Table 3- comparison between of female athlete students separated based on blood group.

	Sum of squares	Freedom Degree	Square of average	Statistic F	Significant level
Between groups	1.8	3	0.52	60.71	0.001
Intergroup	9.1	316	0.04		
Total	10.9	319			

With regard to significant level of ANOVA test which is less than 0.05, there is a significant difference between mental toughness of female athlete students with different blood Group. For determining the difference place, Scheffe test was used and table 4 shows the results:

Table 4-Scheffe test results to compare mental toughness of female athlete students separated based on their blood group

Blood Group	Blood Group (J)	Average Difference	Standard Error	Significant level
	B	*-4.58	0.04	0.01
A	AB	0.86	0.05	0.7
	O	*-7.46	0.05	0.001
B	AB	*5.46	0.04	0.001
	O	*-2.88	0.04	0.002
O	AB	*8.34	0.04	0.003

Significant level of pairwise comparisons in Scheffe test shows that:

- Female athlete students with blood group O have more mental toughness than others.
- Female athlete students with blood group B have more mental toughness than who with blood groups A and AB.
- There is no significant difference between female athlete students with blood groups A and AB.

Table 5 shows ANOVA test results for comparing reliability component of mental toughness between different blood groups:

Table 5- Comparison between reliability components of female athlete students separated based on blood group.

	Sum of squares	Freedom Degree	Square of Average	Statistic F	Significant level
Between Group	0.19	3	0.06		
Inter Group	20.09	316	0.10	61.60	0.02
Total	20.28	319			

Considering significant level in above table is lower than 0.05, there is a significant a difference between mental toughness of female athlete students with different blood groups.

Scheffe test is used in order to determine place of the difference and table 6 shows the results:

Table 6- Shceffe test results for comparing reliability component between female athlete students separated based on blood groups.

Blood Group (I)	Blood Group (J)	Average difference (I-J)	Standard Error	Significant level
	B	*-2.78	0.04	0.01
A	AB	0.72	0.05	0.5
	O	*-3.89	0.05	0.01
AB	AB	*3.51	0.04	0.001
	O	*-1.10	0.04	0.02
O	AB	*46.62	0.04	0.03

Significant level of pairwise comparison in above table shows that:

- Reliability component of female students with blood group O is higher others.
- Students with blood group B have higher numbers in reliability component.
- There is no significant difference between female athlete students whose blood group is A and AB.

Statistics of ANOVA test to compare stability component in different group shown in table 7.

Table 7- Comparison between stability components of female athlete student separated Based on blood groups.

	Sum of squares	Freedom Degree	Square of Average	Statistic F	Significant level
Between Group	4.70	3	2.06		
Inter Group	11.67	316	0.09	36.88	0.001
Total	16.37	319			

Significant level of ANOVA test shows that there is a significant difference between stability components of female athlete students who has different blood group. Scheffe test is used for determining place of the difference and the results came in table 8:

Table 8- Scheffe test results for comparing stability component.

Blood Group (I)	Blood Group (J)	Average difference (I-J)	Standard Error	Significant level
	B	*-1.79	0.07	0.04
A	AB	0.67	0.07	0.2
	O	*-2.05	0.07	0.001
B	AB	*1.46	0.05	0.01
	O	*-1.25	0.06	0.01
O	AB	*2.72	0.06	0.003

Considering significant level and difference between averages in table 8:

- Female students with blood group O take higher numbers in stability component than others.
- Female students with blood group 13 take higher numbers in stability component than whom their blood group are A and AB.

- There is …. Significant difference in stability component of female athlete students with blood group A and AB.

Statistics of ANOVA test for comparing control component in different groups are shown in table 9:

Table 9- comparing control component of score players in different posts.

	Sum of squares	Freedom Degree	Square of Average	Statistic F	Significant level
Between Group	6.23	3	3.28		
Inter Group	32.50	316	0.15	13.27	0.001
Total	38.73	319			

Significant level in table 9 shows a significant difference between difference averages in control component, therefore, female athlete students with different blood groups have significant difference with each other in control measure. Scheffe test is used for determining place of the difference.

You can find Scheffe test result in table 10:

Table 10- Scheffe test results for comparing control component

Blood Group (I)	Blood Group (J)	Average difference (I-J)	Standard Error	Significant level
	B	*-0.99	0.09	0.01
A	AB	-0.51	0.09	0.4
	O	*-1.51	0.10	0.001
B	AB	0.48	0.07	0.06
	O	-0.51	0.08	0.3
O	AB	*0.99	0.08	0.02

Considering statistics of above table (averages and significant level), following results will be achieved:

- Female students with blood group O take better numbers in control component than others.
- Female students with blood group B take better numbers in control component comparing whom their blood group is A.
- There is no significant difference in control component between blood group A and AB as well. As blood groups B and AB.

III. Conclusion

Purpose of the study is to compare mental toughness between female athlete students with different blood groups. We continue discussing about each one of the research findings: The main purpose of the study is comparing mental toughness of female athlete students with different blood groups. Results shows that there toughness of female athlete students with different blood groups.

Comparison between average scores shows that female athlete students with blood group O have more mental toughness than others. According to Leicester research (1978), nations who have more portion of blood group O are less anxious and disturbed than other nations. On the other hand, clough et al (2002) concluded that those who have high mental toughness, capability of keeping calm and are active in many circumstances and have less anxious than others.

Considering findings of Leicester research (1978) and Clough et al research (2002) and with regards to the results of this study, we can conclude that female athlete students with blood group O have more mental toughness than other blood groups because they are affected by psychological pressure and stress less than others and can tolerate high pressure conditions. Also, with blood group B have more mental toughness than blood groups A and AB.

According to Khodaei et al (1388), blood group B can immediately change its situation in dealing with accidents and harmonize itself with the circumstances of time and place. These people are similar to blood group O in same features but they have less adaptability and flexibility than blood group O in some special conditions. But instead it has more generalizability with special mental and psychic conditions than blood group A and AB and people with this blood group can understand others views well and can be aligned with them. Results of this research is also in line with Khodaei et al (1388). But there is no significant difference between mental toughness of female athlete students with blood group A and AB in the findings of the research. As pre Leicester findings (1978), people with blood group A are dealing with obsessive – compulsive and phobia disorders less than others. (In phobic anxiety (Phobia), person has kind of imaginary fear and although he is aware that there is no reason for the fear, he is not able to get rid of it). Also, Sotoodeh et al (1387) found that people with blood group A and AB are strange, autistic and sometimes non-stable. Can find more similarities between people with blood groups A and AB than others through comparing personal features and behaviors of people with blood groups A and AB. Therefor it is expected that these two groups take similar number in mental

toughness which is a physiological feature. Second goal of this study is to compare reliability component of female athlete students with different blood groups.

Reliability is to believe in own abilities. It is what a person believes that he has capabilities which can be used in life specific and stressful conditions to improve mental and physical function and efficiency. According to the study results, female athlete students with blood group O take better numbers in reliability component than others. According to Khodaei et al (1388), people with blood group O has a gene which helps them to have gameness, self-confidence, dare and also are optimistic. These people trust in themselves and care about themselves and like to attract others attention and have high self-confidence. Japanese believes that blood group O are optimistic, stirring and light hearted and have high self-confidence against problems and fully preserve against tough situations (Sotoodeh, 1387). This study also shows that persons with blood group O take higher scores in reliability and self-confidence than others. Also, this research shows that people with blood group B take better number in reliability component than blood group A and AB. According to Khodaei et al (1388); blood group B act almost similar to blood group O when they are under high stress situations but they have less flexibility than group O. instead that generalizability to bad and specific circumstances in compare with blood group A and AB as well as this group can quickly be conform with the situations. So, we can expect that people with blood group B take better numbers in reliability component of mental toughness than blood group A and AB. There is no significant difference between reliability component of female students with blood group A and AB. It means there usually are genetic and behavioral similarities between blood group A and AB. In Leicter finding (1978); blood group A and AB have the most similarities in terms of personality and behavior and result of this study confirm it also.

Third goal of this study is to compare stability component of female athlete students with different blood groups.

Findings shows that there is significant difference between stability of these groups. Comparison between averages of scores shows that blood group O takes higher scores in stability components than others. Stability means athlete willing power to achieve high level competitive exercising needs, responsibility for arranging competitive and exercising goals, a stable attitude and ability of concentration. Every performer knows that he/she should be responsible for her competitive and exercising function because every athlete function is independent of others and its results will be addressed to the athlete finally. In this concentration and appropriate action with courage and audacity in dealing with problems and tough circumstances. According to Khodaei et al (1388), having ability of conformation with environment, perseverance and assiduity against stress and psychological pressure, accommodation and quick coordination to every kind of environment and individual are outstanding features of people with blood group O. according to Khodaei et al; these people can be good athlete. Results of this study is also showing that stability female athlete students with blood group O is higher than others which is aligned with Khodaei et al finding. Also, the study shows that female student with blood group B take better scores in stability component than whose blood group is A and AB. According to Khodaei et al (1388); people with blood group A are subject to affection of kinds of tensions and stresses. They are shy, sensitive and impressionable and will lose their control when they are under high stress. These people also cannot be candidate for the jobs which requires precise management. It does not mean that these people are not able to accept direct responsibility of functions but it means that it is hard for them to handle a group of jobs which requires special precise and they may make mistake. People with blood group B have more interaction and acclimation with other groups and are able to change situation immediately when they face to accidents and make themselves align with time and place circumstances. They are similar to group O in terms of same features and specifications but they are able to go ahead in an independent way and choose another way for themselves. Btu generally people with blood group B have same features with people with blood group O. against them there are group AB who are called public receiver group too. One of the features of this group having specifications of both group A and group B. ability of change the internal situation when external factors are change like group B and weakness in dealing with fear and stress like group A can be among features of group AB. In fact people with blood group AB have both personalities of blood group A and blood group B. it means they can be shy and or social, have self-confidence or/and timid. They might be faced to problem in high responsibility although they are responsible people. These people are non-stationary and negative and serious and have a complicated radical ethics it means they can change from one status to another suddenly because they have features of both A and B at the same time. The result of this study shows that there is no significant difference between stability component of groups A and AB; there for, it can be a reason for domination of group A features in group AB than group B features.

Forth goal is to compare control component of female athlete students with different blood group. People who believe that they have control on the events on their life, feel better about themselves and can deal with problems and crisis of life well. In fact, control is a concept that a person has about his capability and lead him to achieve desirable results. Control factor is related to calmness and regaining psychological control after an unexpected event (jones et al 2002). Results shows that average difference between scores in control

component is significant and female students with blood group O take better scores than others. People with blood group O highly resist again problems. Hard sports causes expansion and psychological comfort in people with blood group O. meanwhile this kind of sports prevent getting fat and help them with regard to their psychological balance and sleep. These people have a gene which gives them power of bearing troubles, self-confidence, courage and optimism. People with blood group O have good social relations and are successful in terms of social interactions. These persons are creative and lovely. These people like to be in center of attention and of course have high self-confidence. Also, they volunteer for every job. People who has this blood group, are easily adapted to any environment and are easily be aligned with people around them. These people can be good vice president and athletes (Khodaei et al 1388). Considering mentioned features of blood group O, we can expect that this group have more focus and control power on dealing with stresses and pressures and are more successful than other groups.

Results shows that there is no significant difference in control component of blood group AB than groups A and B. since blood group AB has characteristics of both groups A and B, we can expect that there are some psychological similarities between them and there is no significant difference between them.

Capability of changing physical conditions when external factors are changed like blood group B and weakness in dealing with fear and stress like blood group A can be a feature of this group. In fact persons with blood group AB has characteristics of both group A and group B. it means they can be shy and/or social, have self-confidence and/or be timid. As these people have features of both group A and B, they have variable characteristics and are negative and serious and have a complicated radical ethics (it means they can change from one status to another status suddenly) (Khodaei et al 1388). Findings of this study are also in line with this results. And it is reusable. There are some similarities in behavioral and psychological features of blood group AB and groups A and B. also, results shows that blood group B takes better scores in control component then group A. according to Khodaei et al (1388); people with blood group B are goal oriented and have powerful brain. These hardworking people will finish successfully their jobs, they are self-oriented and usually have their own method. They are frank, sensitive and at the same time hardworking, impatient and unexpected. But people with blood group A are suffering from pernickety disorders more than other groups and these people suffer from phobia disorders and have less control and focus on high pressure and stressful than other groups. They are shy, co sensitive and impressionable and will lose their control when they are in high emotional situation. Meanwhile these people are not able to accept direct responsibilities and are not good candidate for the fob which requires precise management. Of course it does not mean that these people cannot accept direct responsibility of jobs but the purpose is that it is hard for them to do the jobs which requires special attention and they might make mistake in them. Considering outstanding differences of these two blood groups, we can expect that they shows different functions in dealing with similar circumstances in terms of focus power and control capability on tough situations. Since behavioral and psychological features of group B shows that they act better one more effective in tough circumstances, it is not unexpected that they significantly take higher scores in control component of mental toughness and likely considering pervious researches such a results has been predicable.

Refrences

[1]. Beshart, MohammadAli et al 91388). Relation between tolerate and hardworking with exercise success and psychological healthy in athletes. Recent psychology. 3rd period. No 2.

[2]. Khodaei, Naser, et al (1388). Blood group roll in human characteristics. Paramedical magazine of university of Iran army. 4th year. No 2. Fall and winter 1388.

[3]. Ranjbar, Nader et al (1393). Comparison between mental toughness of Iranian elite scores in different pasts. MD thesis. Sport university of Tehran.

[4]. Zahed Babolan, Adel et al (1390). Surveying relations between psychological toughness and forgiveness with hope in athletes. Motion behavior, no 8, page 115-130.

[5]. Zargar Shirazi, Fariba (1371). Relation between blood group and personality, MD thesis, Tehran, psychology institution.

[6]. Sotoodeh, Hedayat (1387). Social pathology. Tehran, Avaye Noor publication, 1387.

[7]. Seyed MohammAdi, Yahya (1391), public psychology. 13th edition, Tehran, Ravan publication.

[8]. Keshani, Valiallah et al (1390). Comparing mental toughness of athlete men and women who are in contact and noncontact sports with different levels of skills. 2nd national conference of motion behavior and sport psychology, institute of physical education and sport sciences.

[9]. Vaez Mousavi, MohammadKazem (1386). Psychological readiness of athletes who come to psychology center of the national Olympic academy. Iran national Olympic committee. Abstracts. Page 96-100.

[10]. Clough, P. Earle, k. & Sewell, D. (2002). Mental toughness: the concept and its measurement. In I. Cockerill (Ed). **Solution in sport psychology** (pp. 32-45). London: Thomson.

[11]. Gibbs, A. (1997). Focus groups. Social Research Update, University of Surrey. Retrieved September 9, 2005.

[12]. Gill, D. L. Dzewaitowski, D. A. & Deeter, T. E. (2002). The relationship of competitive and achievement orientation to participation in sport and nonsport activities. **Journal of sport and exercise psychology**, 10, 139-150.

[13]. Gucciardi, D. F. Gordon, S. & Dimmock, J. A. (2008). "Towards an understanding of mental toughness in Australian football". **Journal of Applied Sport Psychology**, 20, 261–281.

[14]. Gucciardi, D. F. & Gordon, S. and Dimmock, A. (2009). Advancing mental toughness research and theory using personal construct psychology. **International Review of Sport and Exercise Psychology**, Vol. 2, No. 1, 54_72.

[15]. Jones, G. Hanton, S. & Connaughton, D. (2002). What is this thing called mental toughness? An investigation of elite sport performers. **Journal of Applied Sport Psychology**, 14, 205-218.

[16]. Jones, Martin. John K. Parker. (2013). what is the size of the relationship between global mental toughness and youth experiences? Personality and Individual Differences 54 (2013) 519–523.
[17]. Landsteiner K, Levine P. The differentiation of a type of human blood by means of normal animal serum. J Immunology 1901; 20(2): 179-85.
[18]. Lawshe.C. H. (1975). A quantitative approach to content validity. Personnel Psychology 28(4): 563- 575.
[19]. Lester, D. (1978). Murders and suicide: Are they polar opposites. Behavioral Sciences & the Law Volume 5, Issue 1, pages 49–60, Winter 1987.Article first published online: 18 APR 2006
[20]. Loehr, J. E, (1982). Athletic excellence: Mental Toughness Training for Sports. New York: Plume.
[21]. Lynn, M. R. (1986). Determinatin and quantification of content validity. Nursing Research, 35(6): 382-385.
[22]. Moran, A. (2004). Sport and exercise psychology: A critical introduction. Hove, ENGLAND: routledge.
[23]. Nomi T, Besher A. You are your blood type: The biochemical key to unlocking the secrets of your personality. New York, NY: Pocket Books; 1988
[24]. Sheard. M, Golby. J and Wersch. A. (2009). Progress toward Construct Validation of the Sports Mental Toughness Questionnaire (SMTQ). **European Journal of Psychological Assessment;** Vol. (3):186–193.
[25]. Weinberg Robert S. Daniel Gould (2007). " Foundations of Sport and Exercise Psychology". Fourth Edition. Human Kinetics Publisher.
[26]. Weinberg, R. S. & Gould, D. (2010). Foundations of sport and exercise psychology. Champaign, IL: Human Kinetics.