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Comparative study of selected psychological and Physical components of female cricket and Base Ball players of Delhi University

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Abstract

For the purpose of the study 100 female subjects (50 Cricket and 50 Baseball) were purposively selected from different colleges of University of Delhi, with age ranged between 17-20 years. Intercollegiate participation was the minimum level to be selected as subjects for the study. All the subjects were regularly practicing and competing in their respective sports competition. To find out the difference between Cricket and Baseball players of Delhi Schools on their selected Physical and Psychological variables the required statistical calculation were computed with the help of SPSS software in the computer. The difference among all the selected motor abilities and psychological variables, the data were collected and analyzed using the descriptive statistics and Independent sample 't test'. The level of significance was set at .05 level, The speed and Cardiovascular endurance of the Baseball player are found to be more than the Cricket players. The results shows that the Explosive Strength of the Cricket players is found to be more than the Baseball players, the psychomotor ability of Baseball and Cricket players is found to be almost same, the level of concentration of the Cricket players is more than that of Baseball players, A significant difference has been observed in the speed, cardiovascular endurance, Explosive Strength and concentration of the Baseball and Cricket players, No significant difference is observed in the psychomotor ability of the Baseball and Cricket players.

Keywords: Speed, cardiovascular endurance, psychomotor ability and concentration

Introduction

We all know just how popular cricket is globally. It is thought that 2.5 billion people tuned in for the most recent men's World Cup and that around 1 billion people in India follow the game. These are some pretty big numbers and show just what an impact the game has around the world. Although much focus has traditionally been put on the men's game in India, more is now being given to the thriving women's cricket scene in the country. We've seen similar inroads made in other sports, and it shows just how much attitudes towards women's sport is changing globally (Needhiraja, 2012) ^[5].

Cricket in India has always played a key role in society and allowed the country to express its identity. The women's game had been played in an ad-hoc fashion throughout the country, but it was the 1970s that really saw it take off properly. This was down to the women's game becoming more organized under Mahendra Kumar Sharma. This saw the Women's Cricket Association of India registered in 1973 and the Inter-State National Championship being set up. Over the following years, the game grew in India as more teams joined the Championship and more tournaments were created for female cricket teams to take part in. A big step forward for the women's game was international cricket being played for the first time in 1975. India won its first Test match in 1976 by beating the West Indies women's team at Patna in front of 25,000 spectators (Rashedi, 2012) ^[6].

Women's baseball is played in several countries. The strongest and most organized women's baseball leagues are in the United States, Australia, Japan, Taiwan, Cuba, Hong Kong, and Canada. Those countries have national governing bodies that support girls' and women's baseball programs. Other countries/regions that currently have organized women's baseball are France, Croatia, the Netherlands, India, Korea, Venezuela, Argentina, Puerto Rico, Colombia, Brazil, the Dominican Republic, and Pakistan (Hastie, 2012) ^[3].

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Women's place in the baseball realm has been greatly contested since its conception. Banned or discouraged in the wake of a 1890s riot, female participation experienced a resurgence in the late 1910s and 1920s. Although women played baseball prior to World War II, both casually and more professionally, the establishment of the All-American Girls Professional Baseball League in 1943 brought female baseball players into the spotlight. Though female players faced and continue to face opposition, they have made themselves known on the field and the Hall of Fame alike. (Amita, 2006) [1].

Physical fitness variables

Physical fitness is the fundamental necessity for any sporting activity. Motor qualities such as speed, strength, explosive power, endurance, and flexibility are essential for excellence in sports. Sports trainers lay heavy emphasis on improving the physical fitness and motor qualities of the players, which is also conditioning program. A good conditioning program is the backbone of the overall training of the sportsperson. In Cricket, the specific fitness is with reference to strength, speed and co-ordination. Fitness training equips the sportsperson to face the physiological and psychological challenges that come his way in his competitive sports career. Based on the demand of physical fitness qualities the below explained physical fitness qualities are selected in this study (Chandrashekar, 2008) [2].

Physical fitness, as one aspect of total fitness, is a means for development of individual personality as a whole. Physical fitness includes adequate degrees of health, posture, physique, proper functioning of vital organs, nutrition, and good health habits, along with an adequate amount of endurance, strength, stamina, and flexibility (Ravikumar, 2002) [7].

Psychological variables

Sports is a psycho-social activity with, full of competition against opponents and co-operation among team mates, that give rise to a lot of stress and strain before and after the competition, especially when the player handle the stress and strain and emerge with more confidence to face the next challenge. In a team sport such as Cricket, the player has to interact with his fellow teammates and perform in the common interest of the team. Psychological preparation not only helps him overcome the ill effects of the stress and strain imposed on him during the competition, but also helps him adjust with his teammates to give his best performance. In considering the importance of psychological variables the following psychological variables are selected in this study.

Very little work has been done in the field of physical fitness pertaining to the indigenous games—Cricket, Baseball and Wrestling. In India it is a relatively a neglected field. For coaches of Cricket, Baseball and Wrestling there is a need to explore this field. Moreover; a comparison helps in

understanding the variables under study properly and in a detailed manner. This study was undertaken to understand the nature of these games and can help to propose some modules for an improvement in the coaching and training methods that are being used today. The findings of the study will have significance in assessment of the role of various physical fitness variables for indigenous game players (Koley, 2002) [4].

Objectives and hypothesis

Keeping in mind the demands of the study and based on the available literature following objectives were set for the study:

- To find out the different between the selected physical fitness components of female Cricket and Baseball players i.e. speed, explosive strength and cardiovascular endurance.
- To find out the difference between the female Cricket and Baseball on Psychomotor ability, and concentration level.

Based on the objectives following hypothesis were framed

- There will no significant difference in selected physical fitness factors of female Cricket and Baseball players.
- There will no significant difference in selected psychological factors of female Cricket and Baseball players.

Variables for the study

Physical fitness components

- Speed- 40 m. Sprint (Seconds)
- Explosive Strength- standing broad jump (Cms.)
- Cardiovascular endurance- 12 min. run/walk test (meters)

Psychological - Components

- Psychomotor ability- eye hand coordination test
- Concentration- Grid concentration test

Procedure and methodology

For the purpose of the study 100 female subjects (50 Cricket and 50 Baseball) were purposively selected from different colleges of University of Delhi, with age ranged between 17-20 years. Intercollegiate participation was the minimum level to be selected as subjects for the study. All the subjects were regularly practicing and competing in their respective sports competition. To find out the difference between Cricket and Baseball players of Delhi Schools on their selected Physical and Psychological variables the required statistical calculation were computed with the help of SPSS software in the computer. The difference among all the selected motor abilities and psychological variables, the data were collected and analyzed using the descriptive statistics and Independent sample 't test'. The level of significance was set at .05 level.

Results of the study

Table 1: Descriptive analysis of the selected Physical fitness components of the Cricket and Baseball players

S. no.	Variables	Game	N	Mean	Standard Deviation
1	Speed	Cricket	50	6.1	2.01
2	Explosive Strength		50	171	29.8
3	Cardiovascular Endurance		50	1788.9	189.08
5	Speed	Baseball	50	6.9	2.07
6	Explosive Strength		50	162	20.08
7	Cardiovascular Endurance		50	1808.1	190.19

Table no. 1 clearly depicts the descriptive analysis of the selected physical fitness components of female Cricket and Baseball players, which shows that mean and standard

deviation values of Speed, Explosive strength and Cardiovascular endurance for Cricket players are found to be 6.1±2.01, 171±29.8 and 1788.9±189.08.86 respectively,

whereas that of Baseball players are found to be 6.9 ± 2.07 , 162 ± 20.08 and 1808.1 ± 190.19 respectively. The graphical

representation has been shown in fig no. 1

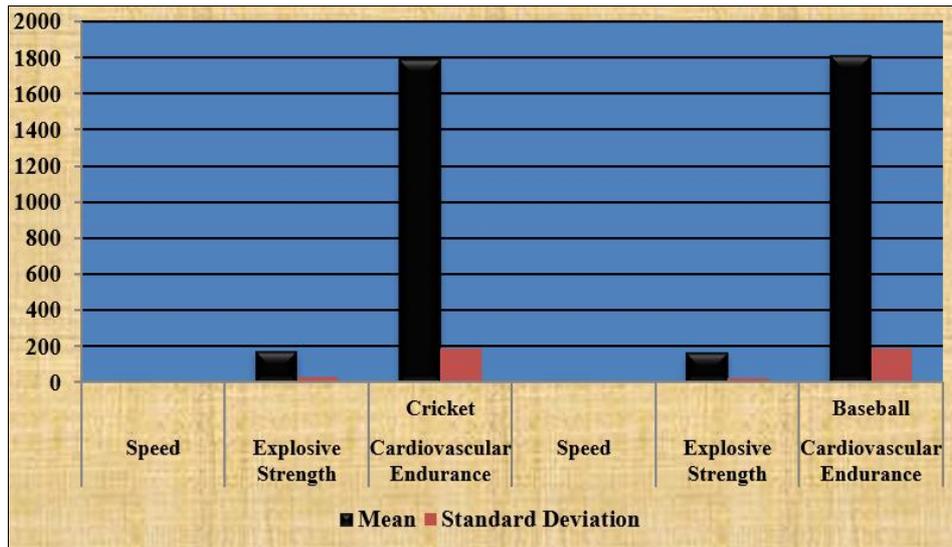


Fig 1: Graphical representation of descriptive analysis of the selected physical fitness components of the cricket and baseball players

Table 2: Descriptive analysis of the selected psychological variables of the cricket and baseball players

S. No.	Variables	Game	N	Mean	Standard Deviation
1	Psychomotor Ability	Cricket	50	26.6	3.01
2	Concentration		50	24.01	2.09
3	Psychomotor Ability	Baseball	50	27.1	3.34
4	Concentration		50	20.89	2.32

Table no. 2 clearly depicts the descriptive analysis of the selected Psychological variables of female Cricket and Baseball players, which shows that mean and standard deviation values of Psychomotor ability and concentration are found to be 26.6 ± 3.01 , 24.01 ± 2.09 respectively, whereas that of Baseball players are found to be 27.1 ± 3.34 and 20.89 ± 2.32 , respectively. The graphical representation has been shown in fig no. 2

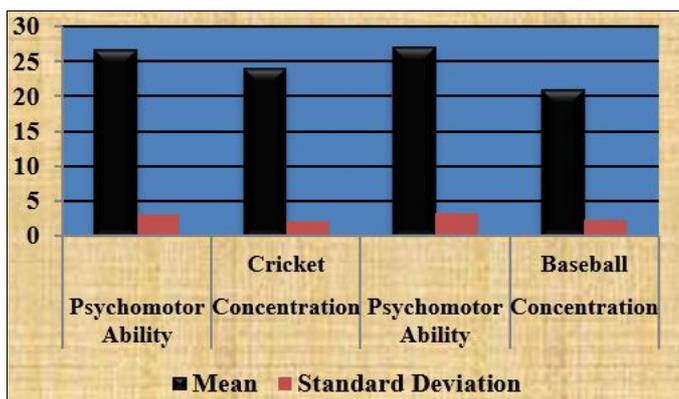


Fig 2: Graphical representation of descriptive analysis of the selected psychological variables of the cricket and baseball players

Table 3: Independent sample 't' for the selected physical fitness components

S. No.	Variables	t	Significance
1	Speed	5.26**	0.001
2	Explosive Strength	4.20**	0.012
3	Cardiovascular Endurance	4.89**	0.003

**Sig (0.005) = 2.01

Table no. 3 depicts the values for Independent sample 't' for

the selected physical fitness components between the Cricket and Baseball players, which shows that a significant difference has been found for Speed, Explosive strength and Cardiovascular endurance as the values are found to be 5.26, 4.20 and 4.89 respectively against the tabulated value 2.01, which is significant at 0.05 level.

Table 4: Independent sample 't' for the selected Psychological variables

S. No.	Variables	F	Significance
1	Psychomotor Ability	1.62	0.761
2	Concentration	4.26**	0.012

**Sig (0.005) = 2.01

Table no. 4 depicts the values for Independent sample 't' for the selected psychological variables between the Cricket and Baseball players, which shows that a significant difference has been found for Concentration as the values are found to be 4.26 against the tabulated value 2.01, which is significant at 0.05 level, whereas no significant difference is found for psychomotor ability as the value is found to be 1.62.

Conclusions: The following conclusions can be drawn on the basis of the results:

- The speed and Cardiovascular endurance of the Baseball player are found to be more than the Cricket players.
- The Explosive Strength of the Cricket players is found to be more than the Baseball players.
- The psychomotor ability of Baseball and Cricket players is found to be almost same.
- The level of concentration of the Cricket players is more than that of Baseball players.
- A significant difference has been observed in the speed, cardiovascular endurance, Explosive Strength and concentration of the Baseball and Cricket players.
- No significant difference is observed in the psychomotor ability of the Baseball and Cricket players.

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