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## Exploring the level of flexibility of volleyball and cricket players of Jammu division

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### Abstract

The study was intended to explore the level of flexibility of volleyball and cricket players. 400 volleyball and football players were selected with due representation of type of course. The age groups of the subjects were ranged 23-25 years. Whole data was selected by using Random Sampling Technique (RST). The "Sit and Reach Test" were employed for measuring selected physical fitness the respondents. The data was subjected to statistical treatment by using Mean, S.D and 't' value. The results revealed that there exist no significant differences between volleyball and cricket players on their flexibility component of physical fitness. Besides, the results revealed that there exist no significant differences between arts and medical/science players on their flexibility component of physical fitness.

**Keywords:** Flexibility, volley ball players, cricket players, arts players and medical/science players

### Introduction

General fitness implies the ability of a person to live most effectively with his/her potentials, which depend upon the physical, mental, emotional, social and spiritual components of fitness which are highly interrelated. Fitness is dynamic quality that allows one to satisfy all needs regarding mental and emotional stability, social consciousness and adoptability, spiritual and moral fibre and organic health consistent with the individual heredity, fitness has become a national concern. Health related physical fitness includes this aspect of physiological function that offers protection from diseases resulting from sedentary lifestyle. It can be improved or maintained through regular programme of physical activities that adheres to the principles of exercise. Specific components of health related physical fitness include muscular strength, power, speed, agility, balance, flexibility and endurance etc. The departure from the traditional notion of fitness as a result in a clear differentiation between physical fitness related to functional health and well-being. The primary components of physical fitness identified by the president's council on physical fitness and sports were muscular strength, muscular endurance and cardio respiratory endurance. However, later on the president council also included some other motor performance components namely agility, speed, flexibility and balance in physical fitness. The components of the physical fitness are reported as under:

- **Endurance:** A muscles ability to perform a maximum contracture time after time. (Continuous explosive rebounding through an entire Basketball game).
- **Strength:** The extent to which muscles can exert force by contracting against resistance (holding or restraining an object or person).
- **Power:** The ability to exert maximum muscular contraction instantly in an explosive burst of movements (Jumping, sprint/ starting).
- **Agility:** The ability to perform a series of explosive power movements in rapid succession in opposing directions.
- **Balance:** The ability to control the body position, either stationery or while moving.
- **Flexibility:** The ability to achieve an extended range of motion without being impeded by excess tissue, i.e. fat or muscle (Executing a leg split).
- **Local muscle endurance:** A single muscles ability to perform and sustains work.
- **Cardiovascular Endurance:** The heart ability to deliver blood to working muscle and their ability to use it.
- **Coordination:** The ability to integrate the above listed components, so that effective.

Therefore, fitness refers the ability to live a full and balanced life. The importance of physical fitness is well exemplified since the beginning of the human civilisation. Hilman, S. D. (2017) [24] remarked “The wealth of a nation does not depend much in its economical and natural resources but more decidedly in the kind and quality of the health of its children and youth. It is they who will be the creators and shapers of a nation’s tomorrow. The children of today will be the adults of tomorrow. Their quality and personality will determine the kind of destiny that the nation will have. Therefore, it becomes mandatory for every nation and every society to nurture a strong, healthy and intellectual youth. It is the responsibility of the adults to direct the youth in the desired direction”. Indeed, large number of research studies has been conducted on physical fitness. There results have been revealed in contrary approach. Some studies report that impact of locality is significant and some studies argued insignificant like; Carlson, J. J., Dejong, G. K., Robison, J. I., & Heusner, W.W. (1994) [14], Tomik, R. (2008) [38], Trudeau, F., and Shephard, R. J. (2008) [39], Henning, B., Stark, T. (2001) [23] and Rahil, A. G. (2013) [31], Wright, J. (1996) [40]. Accordingly, the investigator feels it pertinent to explore the level of physical fitness of the female respondents in relation to their type of school. The detailed statement of the problem is as under:

**Statement of the Research Problem:** The statement of the research problem is as under:  
“Exploring the Level of Flexibility of Volleyball and Cricket Players of Jammu Division”

**Objectives of the Study:** The objectives of the present study are as under:

1. To explore the level of Flexibility of Volleyball and Cricket Players.
2. To explore the level of flexibility of Volleyball and Cricket Players on the basis of their subject stream.

**Hypothesis:** Following hypothesis has been framed for the present study:

1. There exists no significant difference between Volleyball and Cricket Players on their level of flexibility.
2. There exists no significant difference between arts and medical/Science Players on their level of flexibility.

**Operational Definition:** The operational definitions of terms and variables are as under:

1. **Flexibility:** Flexibility in the present study refers the set

of score obtained by the respondents on their Sit and Reach Test.

2. **Volley ball players:** Volley ball players in the present study refers those players who are reading in university in arts and science faculties and are playing volleyball game since last four years in any outstanding team. All required volleyball players were selected within the age group of 23-26 years.
3. **Volley ball players:** Cricket players in the present study refers those players who are reading in university in arts and science faculties and are playing cricket game since last four years in any outstanding team. All required cricket players were selected within the age group of 23-26 years.
4. **Arts players:** Arts players in the present study refers those players who are reading in arts faculties and are pursuing Master of Arts (MA) in any discipline. Besides, all required arts players were selected within the age group of 23-26 years in this domain.
5. **Medical/Science players:** Medical players in the present study refer those players who are reading in science faculties and are pursuing Master of Science in any discipline. Besides, all required Medical players were selected within the age group of 23-26 years in this domain.

**Delimitations of the Study:** The present study will be confined to the following aspects:

1. The presents study will be delimited to selected four universities of Jammu division viz, university of Jammu, Central university of Jammu, Cluster University Jammu and Shri Mata Vashino Devi university Jammu.
2. The study will be delimited to only flexibility component of the physical fitness of the respondents.

**Methodology:** The intention behind the present study was to explore the flexibility level of the respondent in current setting. The investigator found it suitable to go through descriptive survey method. Accordingly, present study was carried with the help of descriptive method. The parameters involved in methodology and procedure are as under:

- **Sample:** The sample for the present study consists of 400 respondents with due representation of type of course they pursued. The age groups of the subjects were ranged 23-25 years. Whole data was selected by using Random Sampling Technique (RST). The below mentioned table indicates the precise explanation of sample:

**Table 1:** Showing the selection of sample with dichotomy representation in selcted sampling sites.

S. N.	Code	Name of Sampling Site	Cricket		Volley Ball		Total
			Medical	Arts	Medical	Arts	
1	UJ	University of Jammu	25	25	25	25	100
2	CLUJ	Cluster university Jammu	25	25	25	25	100
3	CUJ	Central university Jammu	25	25	25	25	100
4	SMVDUJ	Mata Vaishno Devi University Jammu	25	25	25	25	100
TOTAL			100	100	100	100	400

**Test Used:** Sit and reach test for flexibility was employed for measuring the level of flexibility of the respondents.

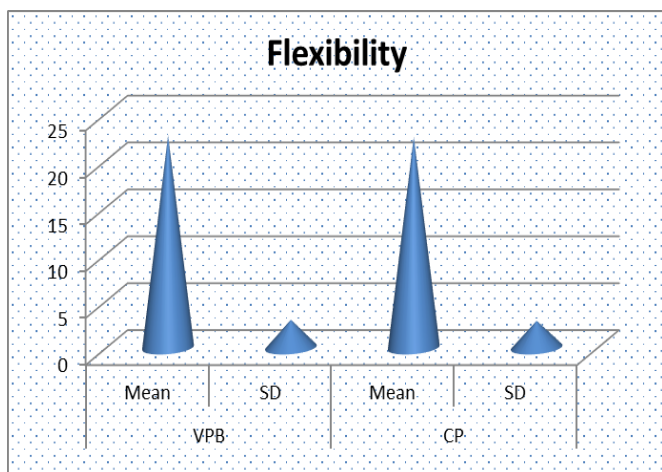
**Statistical Technique Employed:** The collected data was put to suitable statistical treatment by using Mean, SD and ‘t’ value. The detailed procedure of statistical treatment is analysed as under:

**Table 2:** Showing the mean significant difference of volley ball and cricket players on flexibility level of physical fitness. (N=200 each)

Variable	VPB		CP		't' value
	Mean	SD	Mean	SD	
Flexibility	22.64	2.98	22.49	2.87	0.51###

Index:

- VBP= Volley ball players
- CP= Cricket players
- ###= Insignificant at 0.01 level of confidence



Index:

- VBP= Volley ball players
- CP= Cricket players

**Fig 2:** Showing the graphical representation of volley ball and cricket players on flexibility component of physical fitness. (N=200 each)

**Interpretation**

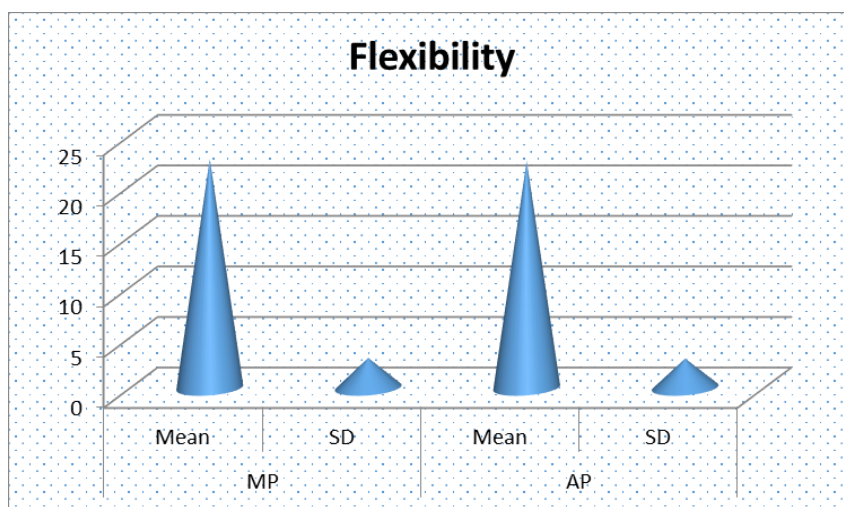
**Interpretation:** The results presents in table 1.2 (Please Refer, Table 2, Fig. 2) gives information about the mean significant difference between volley ball and cricket players on their level of flexibility component of physical fitness. The calculated results reveal that the mean score of volley ball was reported to 22.64 and the mean score of cricket players was found 22.49. When the both groups were comparatively analysed, the calculated 't' value came out to be 0.51, which is not significant at 0.01 level of confidence. Thus, the statistical analysis indicates that impact of type of game played by players was reported insignificant on the level of flexibility of selected players. Identical level of flexibility was reported between volley ball and cricket players. Both the group of respondents under discussion were reported with same range of movement through which a joint or sequence of joints can move. Whereas frequent movement helps retain the range of movement was reported among both group of respondents.

**Table 3:** Showing the mean significant difference of medical and arts players (M&AP) on flexibility component of physical fitness. (N=200 each)

Variable	MP		AP		't' value
	Mean	SD	Mean	SD	
Flexibility	22.67	2.96	22.45	2.89	0.70###

Index:

- MP= Medical players
- CP= Arts players
- ###= Significant at 0.01 level of confidence



Index:

- MP= Medical players
- CP= Arts players

**Fig 3:** Showing the graphical representation of medical and arts players (M&AP) on flexibility component of physical fitness. (N=200 each)

**Interpretation**

**Interpretation:** Coming towards the results revealed in table 1.3 (Please Refer, Table 3, Fig. 3) gives information about the mean significant difference between volley ball and cricket players with subject background science and arts on their level of flexibility component of physical fitness. The attained results justify that the mean score of Medical stream players was reported to 22.67 and the mean score of Arts stream players was found 22.45. When the both groups were comparatively analysed, the calculated 't' value came out to be 0.70, which is insignificant at 0.01 level of significance.

Thus, the statistical analysis indicates that impact of type of subject stream opted by players was reported insignificant on the level of flexibility of volleyball and cricket players. Identical level of physical fitness was reported between medical stream aspirants and arts stream aspirants. Both the group of respondents under discussion were reported with same range of movement through which a joint or sequence of joints can move. Whereas frequent movement helps retain the range of movement was reported among both group of respondents.

**Conclusions of the Study:** The study was intended to explore the level of flexibility of players with special reference to their type of game and type of stream. In connection to same, it was found that there exists no significant difference between volleyball and football players on their level of flexibility. Identical level of flexibility was reported among volleyball and cricket players. Besides, no significant difference was reported between arts and medical payers. The results are carried in consonance of host of the research like; Wilson, A. K. (2010), Sahil, A. D. (2005), Carlson, J. J., Dejong, G. K., Robison, J. I., Aashiq Thoker (2017) & Heusner, W.W. (1994) <sup>[14]</sup>, Tomik, R. (2008) <sup>[38]</sup>, Trudeau, F., and Shephard, R. J. (2008) <sup>[39]</sup>, Henning, B., Stark, T. (2001) <sup>[23]</sup> and Rahil, A. G. (2013) <sup>[31]</sup>.

**Conflict of Interests:** Keeping the results of the present study under consideration, no any conflict of interest has been declared.

**Suggestions of The Study:** The present study was has produced a fund of knowledge for the further research. Some of them are as under:

1. It was observed while surveying the related literature, that hygienic environment and physical fitness is positively correlated so that hygienic environment should be provided by the school administration in schools so that level of physical fitness may be enhanced.
2. Classroom-based physical activity, recess, active transportation policies that encourage safe walking or biking to and from school, intramural, club, and sports activity programs and other types of before and after school physical activity opportunities should supplement physical activity provided through physical education.
3. Shared use policies that make physical activity facilities available to the community during out-of-school time should also be in place to facilitate physical activity outside of school hours. Increasing other school-based physical activity should not be an excuse to cut or substitute for the quantity of physical education.
4. "Khalo India" initiative should be strictly implemented in the school. So that it will provide opportunities for sublimation of instincts.
5. Games and sports should be made availed in each and every educational institution.
6. Physical education teachers should coordinate the physical activity initiatives that are integrated throughout the school day. Teachers should use physical education homework to extend time spent in physical activity and improve knowledge gain.
7. Physical education should be made as a core academic subject, so that students may get ample opportunity to avail physical activities in schools.

**Recommendations for Further Research:** The present study is not an exception rather it opens certain opportunities for further research in the field of present investigation. However, following few suggestions are recommended as per the results reported in the study.

1. Present study explored the impact of locality on the physical fitness. Keeping in view, a comparative study may be conducted on the level of physical fitness among male and female students. So that the impact of gender may get explored.
2. Present study was limited to physical fitness; a study may be conducted to explore the level of physical fitness

among respondents in relation to their attitude towards organisation of physical type of activities.

3. A study may be conducted to explore the level of physical fitness of the adolescents in relation to their level of stress management.
4. A study may be conducted to analyse the level of physical fitness of the secondary school adolescents in relation to their level of sports participation.

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