

CONSTRUCTION OF RATING SCALES FOR FOREHAND AND BACKHAND OVERHEAD CLEAR IN BADMINTON

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ABSTRACT

The purpose of the study was to construct the rating scales for Forehand and Backhand Overhead Clear in badminton. Thirty men badminton players, who participated in the M. P. state university badminton tournament conducted by Vidya Niketan Samiti College, Bhopal (M.P.) from 8th - 10th September 2008, were randomly selected to serve as subjects for this study. Validity of the rating scales was established by correlating the scores on forehand (0.795) and backhand overhead clear (0.78) in badminton with the scores obtained by administering the Lockhart and McPherson Badminton Test. Inter class correlation coefficient by analysis of variance method was employed to compute the reliability of the rating scales for forehand (0.829) and backhand overhead clear (0.892) through three trials administered by the same tester. Objectivity of the rating scales for forehand overhead clear was 0.728 and was 0.768 for backhand overhead clear through three trials administered independently by three different testers.

Key Words: Rating Scale, Forehand Overhead Clear, Backhand Overhead Clear

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INTRODUCTION

Badminton at its best; a game of swift and graceful movement of power play contrastingly highlighted by a delicacy of touch, of wrong footing deception, of incredible retrieving and lightening interception, and of varied chess-like tactics of singles, doubles and mixed doubles each an absorbing and different game in its own. Rating scales are, in fact, a means of objectifying subjective evaluations. In other words with the rating scale, the teacher can assign a numerical value to qualitative judgments. The purpose of the study was to construct the rating scales for Forehand and Backhand Overhead Clear in badminton.

METHODOLOGY

Subjects:

Thirty men badminton players, who participated in the M. P. state university badminton tournament conducted by Vidya Niketan Samiti College, Bhopal (M.P.) from 8th – 10th September 2008, were randomly selected to serve as subjects for this study.

Criterion measures:

The criterion measures for this study was the playing ability scores obtained by administering the Lockhart and McPherson Badminton Wall Volley Test. On the basis of opinion empirical views of experts and after carefully examining the related literature, the skills i.e. forehand and backhand overhead clear were ascertained for the construction of rating scales.

The coaches and managers of the teams were consulted at personal level to conduct the test on Badminton players, and a rapport was established with them for the testing programme. All those incharge of teams, coaches and managers were made fully conversant with the study. Tentative times were finalized with them. The researcher approached each player after giving proper and timely information before the test was conducted.

Administration of Tests:

Before administering the test, the subjects were briefed about the purpose of the study and details of the test were explained to them. The subjects were given sufficient number of trials to enable them to become absolutely familiar with the test. To ensure uniform testing conditions, the subjects were tested in the morning and evening sessions after warming-up during practice sessions. The duration of test administration was set in a manner so that fatigue may not occur. Though no special technique was used to motivate the subjects, the subjects were very co-operative throughout the test.

Collection of Data:

The skills (forehand and backhand overhead clear) for which the rating scales have been prepared were further subdivided into ten components in consultation with the experts including physical education teachers, selectors, officials and the N.I.S. trained coaches. The details of each component were prepared and then the rating scales were distributed to the experts for further comments, views and suggestions for improvement. The experts were consulted personally by the research scholar, and modified the rating scales based on their views and suggestions before finally preparing the rating scales. Each of the components of forehand and backhand overhead clear in badminton was scored on 5-4-3-2-1 basis.

RESULTS AND DISCUSSION

Data using the prepared rating scales were obtained independently from three badminton experts on all the subjects. The subjects were asked to perform the selected skills i.e. forehand and backhand overhead clear in a non-competitive situation. The judges were given five point rating scales to evaluate the performance on the forehand and backhand overhead clear in badminton. The average of the score assigned independently by each of the three badminton experts was the final score of the rated player on forehand and backhand overhead clear. A maximum score of fifty was possible on each rating scale. Validity of the rating scales was established by correlating the score on forehand and backhand overhead clear in badminton with the scores obtained by administering Lockhart and McPherson Badminton Test. Results thus obtained has been presented in Table-1.

Interclass correlation by analysis of variance method was employed to compute the reliability of the rating scales for forehand and backhand overhead clear through three trials administrated by the same tester. Analysis of Variance for reliability estimates and the obtained reliability coefficient (R) values for the rating scales have been presented in Table-2.

The data obtained as a result of the administration of rating scales separately and judged by three badminton experts who noted the performance of the subjects independently were correlated in order to obtain objectivity coefficients. Analysis of variance for objectivity estimates for the rating scales and the objectivity coefficient (R) values have been presented in Table-3.

TABLE 1
RELATIONSHIP OF THE RATING SCALE SCORES FOR FOREHAND AND BACKHAND OVERHEAD CLEAR TO THE CRITERION

S. No.	Variable Correlated with Criterion	Correlation 'r'	Coefficient
1	Forehand Overhead Clear	0.795*	
2	Backhand Overhead Clear	0.780*	

*Significant at 0.05 level, $r_{0.05}(28) = 0.361$

Table-1 revealed that there was significant relationship between independent variables i.e. forehand and backhand overhead clear rating scale scores and the criterion i.e. Lockhart and McPherson Badminton Wall Volley Test scores. Therefore it is evident that independent variables were highly related to the criterion.

TABLE 2
ANALYSIS OF VARIANCE FOR RELIABILITY ESTIMATE FOR THE RATING SCALES
ON FOREHAND AND BACKHAND OVERHEAD CLEAR IN BADMINTON

Skill	Source of Variance	Sum of Squares	Degree of Freedom	Mean Squares	F - Ratio	Inter - Class Correlation
Forehand Overhead Clear	Subjects	701.156	29	24.178		
	Trials	20.689	2	10.344	2.50*	0.829**
	Interaction	239.978	58	4.136		
	Total	961.823	89			
Backhand Overhead Clear	Subjects	942.989	29	32.517		
	Trials	0.822	2	0.411	0.117*	0.892**
	Interaction	203.178	58	3.503		
	Total	1146.989	89			

*Insignificant at 0.05 level, ** Significant at 0.05 level, tab F 0.05(58,2) = 3.15, $R_{0.05}(28) = 0.361$,

Table-2 revealed that the obtained inter class correlation values for the rating scales were 0.829 and 0.892, significant at 0.05 level because required value with 28 degree of freedom was 0.361. Hence the scales have been considered reliable.

TABLE 3
ANALYSIS OF VARIANCE FOR OBJECTIVITY ESTIMATE FOR THE RATING SCALES
ON FOREHAND AND BACKHAND OVERHEAD CLEAR IN BADMINTON

Skill	Source of Variance	Sum of Squares	Degree of Freedom	Mean Squares	F - Ratio	Inter - Class Correlation (R)
Forehand Overhead Clear	Subjects	344.900	29	11.893		
	Trials	10.067	2	5.033	1.533*	0.728**
	Interaction	187.933	58	3.240		
	Total	542.900	89			
Backhand Overhead Clear	Subjects	702.100	29	24.210		
	Trials	11.667	2	5.833	1.037*	0.768**
	Interaction	326.333	58	5.626		
	Total	1040.100	89			

*Insignificant at 0.05 level $F_{0.05}(2, 58) = 3.15$

** Significant at 0.05 level $R_{0.05}(28) = 0.361$ N = 30

Table-3 revealed that the obtained inter class correlation values for the rating scales were 0.728 and 0.768, significant at 0.05 level because required value with 28 degree of freedom was 0.361. Hence the scales have been considered objective.

DISCUSSION

Analysis of data on forehand and backhand overhead clear in badminton indicated that the constructed rating scales were found to be reliable. The findings of the study further reveal that the rating scales for forehand and backhand overhead clear in badminton were also found to be objective. The significant values showed that the directions for administration of the test were specific and clear for performance as well as evaluation.

CONCLUSIONS

Within the limitations of the present study, the following conclusions were drawn: -

1. The rating scales for forehand and backhand overhead clear in badminton showed significant relationship with the criterion.
2. The newly developed rating scales for forehand and backhand overhead clear in badminton meet the criterion of scientific authenticity i.e. the scales were reliable, objective and valid.

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A STUDY OF DOCTORAL DISSERTATIONS IN PHYSICAL EDUCATION AND SPORTS SCIENCES IN INDIA

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INTRODUCTION

During the recent past, quite a number of research activities have been carried out in the universities and research institutions in various parts of the world. In India, due to the establishment of University Grants Commission, and other similar bodies and their active support, many students are carrying out Ph.D. degrees.

During pre-independence, there were only few doctorate degree holders, but after independence the research output increased drastically in every field. In India about 125 universities and research institutions are offering Ph. D. programs in physical education and Sciences. Considering the available data, attempt was made to analyse research productivity of the various universities in India.

Recent research has shown that degenerative diseases begin in early childhood. "There's increasing evidence in youngsters of high cholesterol in the blood, high blood pressure, obesity and other conditions that are associated with heart disease, stroke and other disorders". The medical specialists blame deaths due to heart disease, cancer, and stroke largely on "changes in lifestyle characterized by factors over which doctors have little or no control".

Research suggests that regular physical activity, begun in childhood, may help prevent degenerative diseases. "The necessity of physical activity for a growing child is well-documented in terms of growth and fitness needs. Physical activity increases muscle tone, improves respiration and circulation, benefits digestion, aids in controlling obesity, promotes rehabilitation after illness and surgery, and stimulates proper growth and development. Physical benefits alone could be sufficient reason for supporting physical education programs. To know the growth of the research productivity (doctoral theses) in India and to identify the most predominant subject areas in the field of Physical education and sports sciences research, researcher surveyed the Doctoral dissertations in physical education and sports sciences in India.

Kanwal (1985) traced the development of physical education in India since 1947 with special reference to Punjab, and collected the viewpoints of personnel engaged in the physical education programme about the present status of physical education in India. The study revealed: 1. After independence an India National Association for Physical Education and a Nation Discipline Scheme were established. 2. Training centres were opened at various places to train instructors in physical education. 3. The national plan of physical education and recreation was started to improve the physical education programme in schools and colleges. 4. A national physical education drive was started to promote physical fitness among youngsters. 5. The Lakshmibai College of Physical Education was started at Gwalior as a model institute to train and educate physical education teachers. 6. Games at the

international level like the 9th Asian Games were organized to promote awareness among the general public about physical education. 7. Various awards for youth were also introduced so as to provide motivation to young persons to strive for physical fitness. 8. In Punjab, departments of sports was started in all the universities. 9. A separate sports department was organized by the Government of Punjab to promote sports activities in the state. This department organized sports festivals at village, district and state levels. 10. Various sports associations were also organized at block and village levels to promote competition in sports. 11. Sports stadia were built, one for each district, so as to provide sports grounds for the common people. 12. Voluntary agencies and the Nehru Yuvak Kendras also came forward to develop sports in Punjab. 13. The subjects who were administered the questionnaire opined that sports and physical education could not be separated and that trends in sports and physical education were quite healthy, meaningful and planned.

Silverman & Manson (2006) analysed all physical education dissertations with a teaching focus that were completed between 1985 and 1999. Most research on teaching dissertations addressed issues related to teacher effectiveness and focused on motor skill learning and attitude. There was an increase in qualitative methods from those reported in a previous study. While there were methodological advances, many dissertations still used methods that were not informed by the research methods literature.

Yaman, & Atay (2007) evaluated the characteristics of PhD theses in sports sciences. They concluded that most theses were prepared in Institutes of Health Sciences, but the subjects covered the field of training and movement sciences. The unique and multi-disciplinary nature of sports sciences seems to warrant the foundation of an Institute of Sports.

METHODOLOGY

Sources of Data

The main source of data was from the Bibliography of Doctoral Dissertations published by A.I.U New Delhi (Social Sciences and Humanities) which periodically lists out the doctoral theses accepted by different universities in India and other sources. These doctoral dissertations were listed out and analysis was made. The year wise distribution of categories during the study period was also been made. All the doctoral dissertations awarded during the period of fifteen years by Indian universities were considered for the study.

Design of the Study

The present study is structured as follows:

1. Chronological distribution of doctoral thesis in Physical Education and Sports Sciences.
2. State wise distribution of doctoral thesis in Physical Education and Sports Sciences.
3. University-wise of doctoral research. in Physical Education and Sports Sciences.
4. Top five ranking of the guides in Physical Education and Sports Sciences.
5. Language wise distribution of research. in Physical Education and Sports Sciences.
6. Gender-wise distribution of doctoral thesis in Physical Education and Sports Sciences.
7. Profession-wise distribution of doctoral thesis in Physical Education and Sports Sciences.

8. Experimental and non-experimental distribution of doctoral thesis in Physical Education and Sports Sciences.
9. Subject-wise distribution of doctoral thesis in Physical Education and Sports Sciences.
10. Guide wise analysis of doctoral thesis in Physical Education and Sports Sciences.

Collection & Presentation of Data

The data for the present study was collected from two authoritative sources. The first one is the data published in the University News: a weekly from the Association of Indian Universities available in the nearest universities and second one is from the doctoral dissertations published by A.I.U New Delhi, Internet web sites also by personal visits. and chronological list of doctoral degrees awarded in Indian universities during 1976 to 1990 published by the Association of Indian Universities, New Delhi. have also refer to obtain pertinent data.

The data were presented in the tabular form under 10 heads viz. chronological growth, , state-wise, university-wise, subject-wise distribution, language-wise, guide-wise, profession-wise, gender-wise, language-wise, experimental and non-experimental distribution of doctoral theses and top five ranking of research guides.

DATA ANALYSIS AND INTERPRETATION

There are as many as 96 doctoral degrees awarded so far in the physical education and sports sciences. The authors have made an attempt to consolidate all the doctoral degrees awarded by various universities in India. The data were analysed by using percentage statistics and presented in Table 1 to 10

TABLE 1
CHRONOLOGICAL GROWTH OF Ph. D. THESES IN PHYSICAL EDUCATION AND SPORT SCIENCES

S. N0	Academic Session	Number of Ph. D theses	Percentage
1	1976	01	01.042 %
2	1977	02	02.083 %
3	1978	02	02.083 %
4	1979	00	00.00 %
5	1980	03	3.125 %
6	1981	03	3.125 %
7	1982	00	00.00 %
8	1983	00	00.00 %
9	1984	00	00.00 %
10	1985	03	3.125 %
11	1986	07	07.291%
12	1987	15	15.625 %
13	1988	19	19.791 %
14	1989	16	16.644 %
15	1990	25	26.041 %
	Total	96	100 %

It is clearly evident from the Table 1 that research activity was quite rare till 1985 and all of a sudden, the research productivity increased from the year 1987. This was due to the need and emphasis on recruiting qualified physical education teacher and sports officers mainly in the universities and colleges. It was also true that University Grants Commission started giving preference to the candidates who have done research in Physical Education and sport Sciences. The present situation is that on an average 16.40 % doctoral theses are being awarded Ph.D. degrees every year. During the period 1986 to 1990. From this it is clear that there is sudden increase of research output in Physical Education and sport Sciences starting from the year 1986 and steadily increased again up to the year 1990.

TABLE 2

**STATE-WISE DISTRIBUTION OF Ph. D. THESES IN PHYSICAL EDUCATION AND
SPORT SCIENCES**

S. NO	State	Number of Ph. D.s	Percentage
1	Assam	01	01.042 %
2	Andhra Pradesh	01	01.042 %
3	Bihar	02	02.083 %
4	Delhi	02	02.083 %
5	Haryana	18	18.750 %
6	Kerala	01	01.042 %
7	Karnataka	01	01.042 %
8	M.P.	34	35.416 %
9	Maharashtra	05	05.208 %
10	Madras	03	03.125 %
11	Punjab	18	18.750 %
12	Uttar Pradesh	02	02.083 %
13	West Bengal	01	01.042 %
Total		96	100 %

Table 2 shows state-wise distribution of research output in Physical Education and sport Sciences. It is clearly evident from the table that the Madhya Pradesh State which is situated in central region of India has contributed 34 doctoral research work, representing 35.416 percent of the overall output of research in India followed by Punjab (18.750%), Haryana (18.750%), Maharashtra (05.208 %), Madras (03.125 %), Delhi(02.083 %), Uttar Pradesh(02.083 %), Bihar(02.083 %), Assam(01.042 %), A. P. (01.042 %) Kerala (01.042 %), Karnataka (01.042 %) and West Bengal (01.042 %). This is more significant, worth taking into considering as regards the overall contribution to the research productivity.

TABLE 3

UNIVERSITY-WISE DISTRIBUTION OF Ph. D. THESES IN PHYSICAL EDUCATION AND SPORT SCIENCES

S. NO	University	Number of Ph. D.s	Percentage
1	Punjab University,	14	14.583 %
2	Punjabi University	04	04.166 %
3	University of Patna	01	01.042 %
4	Amravati University	04	04.166 %
5	Gwahati University	01	01.042 %
6	Kurukshetra University	18	18.750 %
7	University of Delhi	01	01.042 %
8	Jiwaji University	33	34.375 %
9	Calcutta University	01	01.042 %
10	Osmania University	01	01.042 %
11	Meerut University	01	01.042 %
12	Dr. B. A. Marathwara University	01	01.042 %
13	Annamalai University	03	03.125 %
14	Pt Ravishanker University, Raipur	01	01.042 %
15	Andhra University	01	01.042 %
16	Kalyani University	01	01.042 %
17	Bhartihar University, Koyamtoor	01	01.042 %
18	Banglore University	01	01.042 %
19	Bakresi University, Mumbai	01	01.042 %
20	Jaffer Khan Patel University, Madras	01	01.042 %
21	University of Kerala	01	01.042 %
22	Madras Uuniversity, Madras	02	02.083 %
23	Nagpur University	01	01.042 %
24	Kanpur University	01	01.042 %
25	Vansthal Vidhyapeeth	01	01.042 %

Table 3. depicts the university-wise research output in the form of Ph.D theses. Among the top 25 Indian universities, considering the number of doctoral degrees, Jiwaji University stands first with 34 Ph.D theses, representing 34.375 percent of the total out put. Next to Kurukshetra University with 18 theses occupies the second place, representing 18.750 percent. Next to Punjab University with 14 theses occupies the third place, representing 14.583 percent. However, the three top universities in India i.e. Jiwaji University, Kurukshetra University and Punjab University have contributed 66 Ph.D. theses, representing 68.75 percent in the over-all out put of research. Here, it is worth mentioning that though the number of universities and posts of physical education teacher are at large in these States, the research productivity in Physical Education and sport Sciences is comparatively in high than other 22 universities in the state of India .

TABLE 4
TOP FIVE RANKING OF THE GUIDES

S.NO.	Ranking of Guides	Name of the Guides	Name of State	Number of Ph. D.s awarded
1.	01	Dr. G. S. Chaudhery	Kurukshetra	06
2.	02	Dr. A. K. Uppal	M. P.	05
3.	02	Dr. (Mrs) S. Talwar	Kurukshetra	05
4.	02	Dr. T. S. Brar	M. P.	05
5.	03	Dr. G. S. Sandhu	Chhandigarh	04
6.	03	Dr. N. N. Mall	M. P.	04
7.	03	Dr. R. N. Dey	M. P.	04
8.	03	Dr. (Mrs) T. Mall	M. P.	04
9.	03	Dr. B. S. Brar	M. P.	04
10.	04	Dr.(Mrs) S. Bambah	Chhandigarh	03
11.	04	Dr. S. H. Deshpande	Amaravti	03
12.	04	Dr.(Mrs) J. Bhullar	Chhandigarh	03
13.	05	Dr. J. S. Narooka	M. P.	02
14.	05	Dr. K. K. Verma	Kurukshetra	02
15.	05	Dr. C. L. Kundu	Kurukshetra	02
16.	05	Dr. A. K. Dutta	M. P.	02
17.	05	Dr. S. P. Malhotra	Kurukshetra	02

Table 4 projects the guide-wise output of doctoral theses. Dr. G. S. Chaudhery has successfully guided for 6 doctoral degrees. Dr. A. K. Uppal, Dr. (Mrs) S. Talwar and Dr. T. S. Brar are in the second place with 5 doctoral theses by each. It is worth nothing here that among the top seventeen guides, faculty guides are five from the state of Kurukshetra, seven from M. P., four from Chandigarh and one from Amaravati. This clearly indicates that research guides from M. P. state are more involved in carrying out research programmes with their research scholars and hence the output is also considerably more.

TABLE 5
LANGUAGE-WISE DISTRIBUTION OF Ph. D. THESES IN PHYSICAL EDUCATION AND SPORT SCIENCES

S.NO.	Language	Number of Ph. D. s	Percentage
1.	Hindi	00	00.00%
2.	English	96	100%
	Total	96	100

Table 5 reveals the language wise distribution of Ph.D. theses. It was found that, out of 96 theses, all the 96 theses were awarded in English language and none of them in Hindi language in the field of physical education and sports sciences.

TABLE 6
GENDER-WISE DISTRIBUTION OF Ph. D. THESES IN PHYSICAL EDUCATION AND SPORT SCIENCES

S.NO.	Gender	Number of Ph. D. s	Percentage
1.	Males	79	82.292%
2.	Female	17	17.708 %
	Total	96	100 %

Table 6 reveals the Gender-wise distribution of PhD theses. It was found that, out of 96 theses 79 theses (82.292%) were awarded for male researchers and rest of 17

theses(17.108%) were awarded for female researchers in the field of physical education and sports sciences.

TABLE 7

PROFESSION-WISE DISTRIBUTION OF Ph. D. THESES GUIDE IN PHYSICAL EDUCATION AND SPORT SCIENCES

S.NO.	profession	Number of Guides	Percentage
1.	Non-Physical educationists	24	43.636 %
2.	Physical Educationists	31	56.364 %
	Total	55	100 %

Table 7 reveals the Profession-wise distribution of PhD theses. It was found that, out of 96 theses, 24 theses (46.636%) were awarded under the guidance of non-physical educationists and rest of 31 theses (56.364%) were awarded under the guidance of physical educationists in the field of physical education and sports sciences.

TABLE 8

EXPERIMENTAL AND NON-EXPERIMENTAL BASIS DISTRIBUTION OF Ph. D. THESES IN PHYSICAL EDUCATION AND SPORT SCIENCES

S. NO	Type of Study	Number of Ph. D. s Awarded	Percentage
1	Experimental Study	29	30.208 %
2	Non-Experimental Study	67	69.792 %
	Total	96	100 %

Table 8 reveals the experimental and non-experimental basis distribution of PhD theses. It was found that, out of 96 theses, 29 theses (30.208%) were experimental study and rest of 67 theses (69.792%) were non-experimental type of study awarded in the field of physical education and sports sciences.

TABLE 9

SUBJECT-WISE DISTRIBUTION OF Ph. D. THESES IN PHYSICAL EDUCATION AND SPORT SCIENCES

S. NO	Subject	Number of Ph. D. s Awarded	Percentage
1	Game specific	15	15.625 %
2	Allied sports Sciences & Physical Education	81	84.375%
	Total	96	100 %

Table 9 reveals the subject wise distribution of successful doctorates awarded in the field of academic libraries. All 96 theses have been distributed in 19 subject areas. Out of 96 theses, 15 theses (15.625%) were awarded in the field of game-specific study and 81 theses (84.375%) were awarded related to allied sports sciences and physical education.

TABLE 10
GUIDE--WISE DISTRIBUTION OF Ph. D. THESES IN PHYSICAL EDUCATION AND
SPORT SCIENCES

S. NO	Name of Guide	University	Number of Ph. D.s
1	Dr. G. S. Chaudhery	Kurukshetra University, Kurukshetra	06
2	Dr. A. K. Uppal	Jiwaji University, Gwalior	05
3	Dr. (Mrs) S. Talwar	Kurukshetra University	05
4	Dr. T. S. Brar	Jiwaji University, Gwalior	05
5	Dr. G. S. Sandhu	Punjab University, Chandigarh	04
6	Dr. N. N. Mall	Jiwaji University, Gwalior	04
7	Dr. R. N. Dey	Jiwaji University, Gwalior	04
8	Dr. (Mrs) T. Mall	Jiwaji University, Gwalior	04
9	Dr. B. S. Brar	Jiwaji University, Gwalior	04
10	Dr. (Mrs) S. Bambah	Punjab University, Chandigarh	03
11	Dr. S. H. Deshpande	S. G. B. Amravati University, Amravati	03
12	Dr. (Mrs) J. Bhullar	Punjab University, Chandigarh	03
13	Dr. J. S. Narooka	Jiwaji University, Gwalior	02
14	Dr. K. K. Verma	Kurukshetra University, Kurukshetra	02
15	Dr. C. L. Kundu	Kurukshetra University, Kurukshetra	02
16	Dr. A. K. Dutta	Jiwaji University, Gwalior	02
17	Dr. S. P. Malhotra	Kurukshetra University, Kurukshetra	02
18	Dr. B. L. Gupta	Punjab University, Chandigarh	01
19	Dr. J. Joshi	Punjab University, Chandigarh	01
20	Dr. S. B. Kakkar	Punjab University, Chandigarh	01
21	Dr. R. L. Prasad	Patna University, Patna	01
22	Dr. S. W. Ganokar	S. G. B. Amravati University, Amravati	01
23	Dr. (Mrs) Renu Devi	Gauhati University, Gauhati	01
24	Dr. Y. P. Aggarwal	Kurukshetra University, Kurukshetra	01
25	Prof. Uday Shanker	Kurukshetra University, Kurukshetra	01
26	Dr. J. Mohan	Jiwaji University, Gwalior	01
27	Dr. G. P. Mehrotra	University of Delhi	01
28	Dr. J. C. Sharma	Punjab University, Chandigarh	01
29	Dr. Pallav Sengupta	Calcutta University	01
30	Dr. C. Giri	Punjabi University, Patiala	01
31	Dr. Viswanatha Muddu	Osmania University, Hyderabad	01
32	Dr. M. L. Kamlesh	Punjabi University, Patiala	01
33	Dr. M. Robson	Jiwaji University, Gwalior	01
34	Dr. L. K. Oad	Banisthali University, Banisthali	01
35	Dr. P. Rama Rao	Madras University, Madras	01
36	Dr. G. P. Mehrotra	University of Delhi	01
37	Dr. V. A. Vaidhya	S. G. B. Amravati University, Amravati	01
38	Dr. (Mrs) A. Sandhu	Jiwaji University, Gwalior	01
39	Dr. (Mrs) S. V. Kaldate	Dr. B. A. Marathwara University	01
40	Dr. R. D. Helodae	Pt. Ravi Shanker Shukla University, Raipur	01
41	Dr. A. K. Bhattacharaya	Kalyani University, Kalyani	01

S. NO	Name of Guide	University	Number of Ph. D.s
42	Dr. S. Purshothaman	Bhartihar University, Koyamtoor	01
43	Dr. S. C. B. Rangan	Banglore University, Bangalore	01
44	Dr. N. K. Upasani	Mumbai University, Mumbai	01
45	Dr. H. S. Shodhi	Punjabi University, Patiala	01
46	Dr. J. David Manual Raj	Madras University, Madras	01
47	Dr. A. Sukumaran Nayar	University of Kerala, Thiruvanthpuram	01
48	Dr. G. C. Sharma	Jiwaji University, Gwalior	01
49	Dr. N. N. Laha	Jiwaji University, Gwalior	01
50	Dr. S. L. Kaushik	Punjab University, Chandigarh	01
51	Dr. P. Anatha Krishanan	Madras University, Madras	01
52	Dr. M. Gharota	Nagpur University, Nagpur	01
53	Dr. L. P. Mehrotra	Kanpur University, Kanpur	01
54	Dr. Haman Singh	Punjab University, Chandigarh	01
55	Dr. S. R. Gangopadhaya	Jiwaji University, Gwalior	01

Table 10 indicates that 96 research scholars were guided by as many as 55 guides. Dr. G. S. Chaudhery guided 06 research scholars, which is highest number and 05 research scholars were guided by the Dr. A. K. Uppal followed by Dr. (Mrs) S. Talwar and Dr. T. S. Brar. Dr. G. S. Sandhu, Dr. N. N. Mall, Dr. R. N. Dey, and Dr. (Mrs) T. Mall who have guided 4 research scholars by each. Dr. (Mrs) S. Bambah, Dr. S. H. Deshpande, and Dr. (Mrs) J. Bhullar have guided 3 research scholars by each. Dr. J. S. Narooka followed by Dr. J. S. Narooka, Dr. C. L. Kundu, Dr. A. K. Dutta, and Dr. S. P. Malhotra have guided 2 research scholars by each. Rest of the guide have guided only one research scholar by each. Co-guides were very few and are not included in the list.

CONCLUSIONS

Research is the key to academic achievement and it is also a base for further study. As per previous work and on the basis of collected data, it is found that, research activities are increasing every year. We hope to see this trend continue in the years to come. For the benefit of the student and research scholars of physical education and sports sciences full text databases of PhD theses should be compiled by the universities through cooperative efforts. We hope it will be possible in future.

Within the limitations of the study and on the basis of analysis of data the following conclusions may be drawn:

1. During the period 1986 to 1990, it was clear that there was sudden increase of research output in Physical Education and sport Sciences starting from the year 1986 and steadily increased again up to the year 1990.
2. It is clearly evident from the table that the Madhya Pradesh State which is situated in central region of India has contributed overall more doctoral research work than other states. This is more significant, worth taking into considering as regards the overall contribution to the research productivity.
3. The research productivity in Physical Education and sport Sciences was found comparatively high in Jiwaji University than other 22 universities of India.
4. Dr. G. S. Chaudhery from kurukshetra has successfully guided more doctoral

degrees in comparison to their top ranking guides. but the out put of research guides from M. P. state were more involved in carrying out research programmers with their research scholars.

5. All the doctoral theses from 1976 to 1990 were awarded in English language and none of them in Hindi language.
6. Males were more involved in research work than their counter parts in the field of physical education and sports sciences.
7. Nearest fifty percent doctoral theses were awarded under the guidance of non-physical educationists, where as and more than fifty percent were awarded under the guidance of physical educationists.
8. More attention was given by the guides on non-experimental research work performed by the researcher in the field of physical education and sports sciences.
9. The game-specific study were found less than the allied sports sciences and physical education.
10. Guides from very few states i.e. Kurukshetra, Chandigarh, M. P. and Maharastra were involved to increase the research productivity in the field of sports sciences and physical education.

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A COMPARISON OF LEADERSHIP BEHAVIOUR OF INTER-UNIVERSITY AND ALL INDIA LEVEL FEMALE VOLLEYBALL PLAYERS

Dr. Ranjeet Singh Pawar

INTRODUCTION

In the modern age of scientific knowledge, man is, making rapid progress in all walks of life including that of sports and games. The progress in sports and games may be attributed to the scientific investigations for the better performance of sportsmen and sportswomen, improved scientific and specific training methods and also to the better understanding of the human organism.

The leader is required to be have in certain ways by the demand and constraints placed by the demand and member's preferences for specific leader behaviours are largely a function of the individual characteristics of the group members. Personality variables such as need for achievement, need for affiliation, cognitive structure and competence in the task influence a member's performances for coaching and guidance, social support and feedback. In addition the situation characteristics also affect member's preferences. For example, if there is an organisational expectation, which a leader will behave in a specific manner, this expectation is held jointly by both leaders and members (Singer, Murphy & Tennat, 1993).

The participation in sports contributes to building up self confidence, enhance intellectual level. personality development a no. outgoing tendency or extraversion as such proficiency leads to enhanced success in sports activities is highly valued in one's group (Simon, 1964).

Success in athletics seems to be dependent in part on psychological status and traits. The use of an athlete's personality profile, in concern with knowledge of their past experience, coach's rating, anatomic and physiological characteristics and so one can enhance the accuracy of prediction in a number of sports (Morgan, 1986).

REVIEW OF RELATED LITERATURE

Terry and Howe (1984) also reported that team sports athletes preferred significantly more training and instruction, autocratic behaviour, and positive feedback, but less democratic behaviour and social support, than individual sports athletes. Lee and Lee (1993) found that these groups differed among themselves in all dimensions except in preferred training and instruction. In general, the combative sports athletes preferred and perceived more autocratic, social support, and positive feedback behaviours from their coaches than did the other groups, individual sports athletes preferred and perceived more democratic behaviour from their coaches than did the other two groups. Riemer and Chelladurai (1995) showed that defensive players preferred and perceived greater amounts of democratic behaviour, autocratic behaviour, and social support than did offensive players. Sherman and Fuller (2000) revealed an overwhelmingly high level of similarity in the coaching preferences between all athletes regardless of gender. Athletes from all three sports indicated that positive feedback, training and instruction and democratic behavior were preferred

coaching behaviors. Social support, and autocratic behavior were not preferred. Loughead and Hardy (2004) indicated that coaches exhibited training and instruction and autocratic behaviors to a greater extent than peer leaders. Conversely, peer leaders exhibited more social support, positive feedback, and democratic behaviors than coaches.

The Purpose of the study was to analyse and compare the leadership behaviour of inter-university and All India level women's Volleyball players. It was hypothesized that significant differences in their leadership preferences may exist among Inter-university & All India Inter-university level women volleyball players.

METHODOLOGY

Subjects

One hundred (Inter-university level =64, All India level=36)) women volleyball players representing their respective university in East zone Inter-university and All India Inter-university Volleyball competitions held in Pt. Ravi Shanker University, Raipur 2009-2010 were selected to serve as subjects for this study. The subjects were in age ranged from 19 to 24 years. The subjects were selected randomly from amongst the East zone Inter-university Volleyball competition who could not qualified for the All Inter-university women Volleyball Competition.

Instrumentation

Leadership Scale for Sports developed by P. Chelladurai (1994) was selected as a criterion tool to measure preferred behaviour preferences of inter-university level athletes of different individual games. The Leadership Scale for Sports (L.S.S.) is a valid and reliable instrument. The scale consists of 40 items for athlete's perception of coach's behaviour and 40 items for preference version representing five dimensions of leadership behaviour i.e. training and instruction, democratic behaviour, autocratic behaviour, social supports and positive feedback (Rewarding behaviour). The scale had test-retest reliability 0.72 for training behaviour, 0.82 for democratic behaviour, 0.76 for autocratic behaviour, 0.71 for social supports, and 0.79 for positive feedback.

Administration of Questionnaire

The necessary permission from the organizing secretary of All India and East zone Inter-university women volleyball Competitions was obtained by the research scholar to conduct this study on women volleyball players during competitions held during the session 2009-2010 in Pt. Ravi Shanker University, Raipur (CG).

The coaches and subjects were contacted at the site competition personally and their sincere cooperation was solicited. Necessary instructions were given to the subjects before the administration of each test. Confidentiality of responses was guaranteed so that the subjects would not camouflage their real feelings. No time limit for filling the questionnaire was set but subjects were made to respond as quickly as possible. As soon as a group of players completed the questionnaire, it was collected from the athletes and verified that no questionnaire was left without being answered.

RESULTS AND DISCUSSION

To assess the preferences on five dimensions of leader behaviour of East zone Inter-university and All India level women volleyball players, mean and standard deviation, one way analysis of variance and t-ratio on five dimensions of preferred leader behaviour with all the subjects were computed and data pertaining to this have been presented in Table 1 to 6.

TABELE 1

DESCRIPTIVE STATISTICS OF PREFERENCES ON FIVE DIMENSIONS OF LEADER BEHAVIOUR OF INTER-UNIVERSITY AND ALL INDIA LEVEL WOMEN VOLLEYBALL PLAYERS

S.NO.	Leader Behaviour Dimensions	Inter-university level		All India level	
		M	SD	M	SD
1.	Training & Instruction	4.287	0.399	4.476	0.455
2.	Democratic Behaviour	3.971	0.544	3.678	0.523
3.	Autocratic Behaviour	3.238	0.893	2.950	0.816
4.	Social Support	3.985	0.525	3.495	0.594
5.	Positive Feedback	4.006	0.985	4.404	0.593

The mean scores of five dimensions of leader behaviour as preferred by East zone Inter-university and All India level women volleyball players have been depicted in figures 1 to 5.

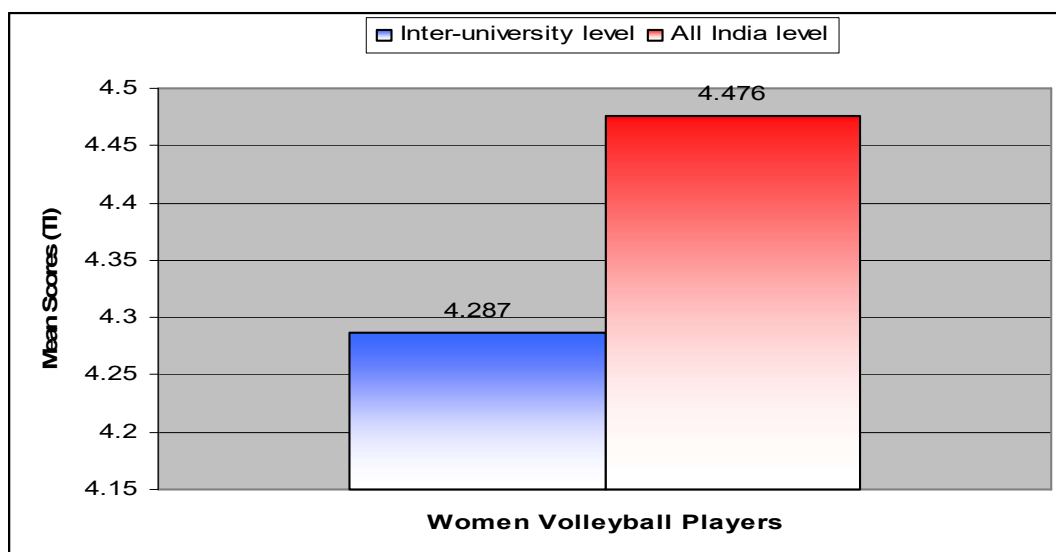


Fig. 1: Mean Scores of Inter-university and All India Level Women Volleyball Players on Training and Instruction Dimension of preferred Leadership.

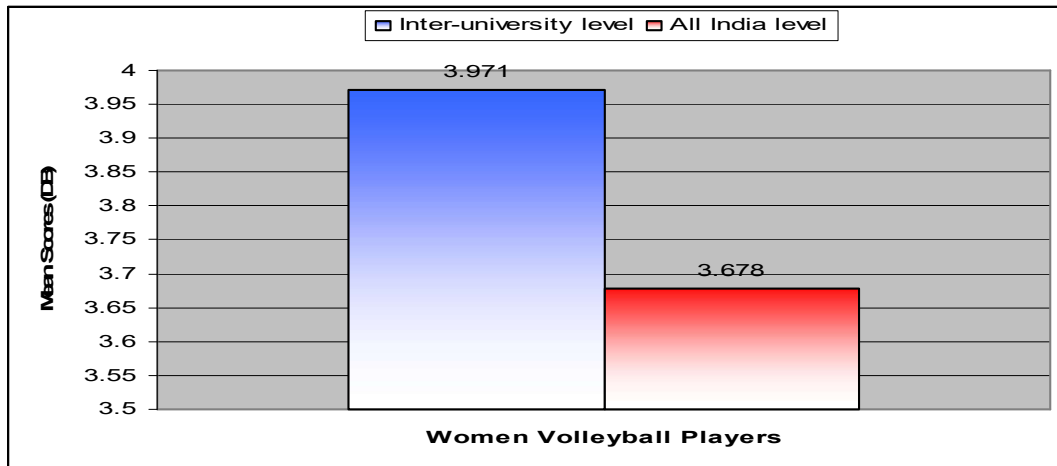


Fig. 2: Mean Scores of Inter-university and All India Level Women Volleyball Players on Democratic Behaviour Dimension of preferred Leadership .

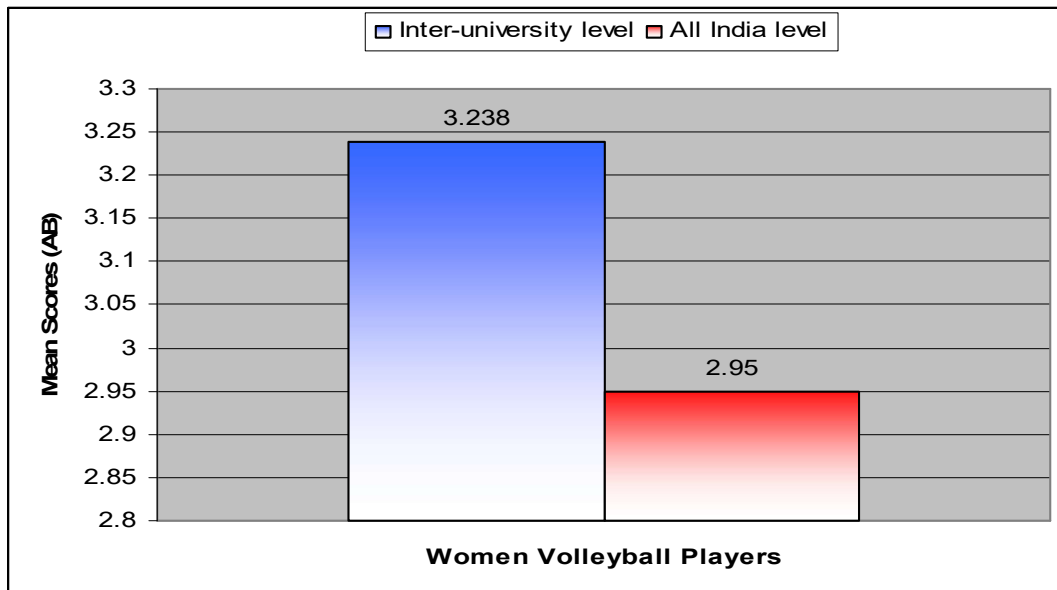


Fig. 3: Mean Scores of Inter-university and All India Level Women Volleyball Players on Autocratic Behaviour Dimension of preferred Leadership Behaviour.

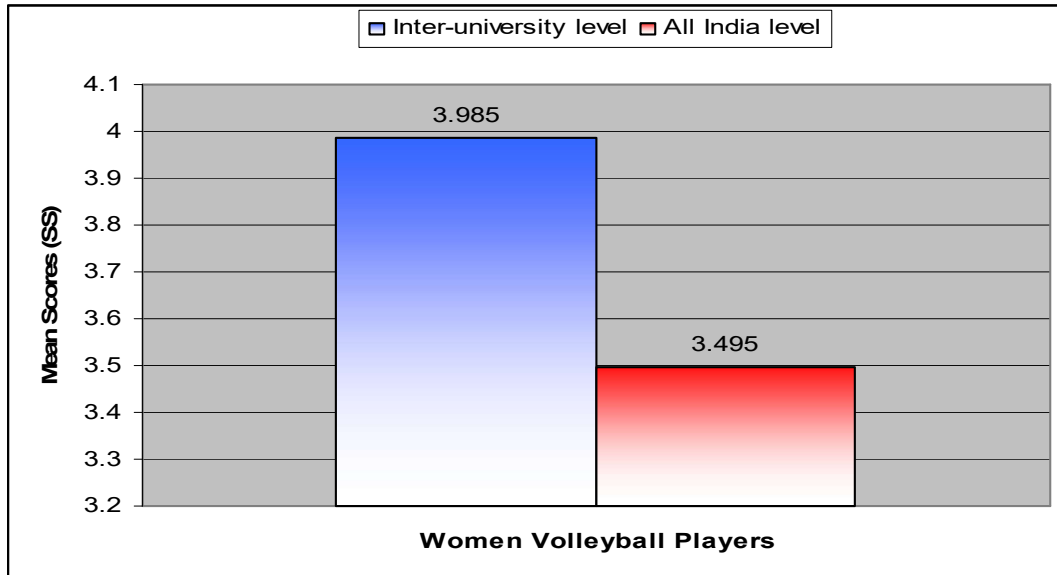


Fig. 4: Mean Scores of Inter-university and All India Level Women Volleyball Players on Social Supports Dimension of preferred Leadership Behaviour.

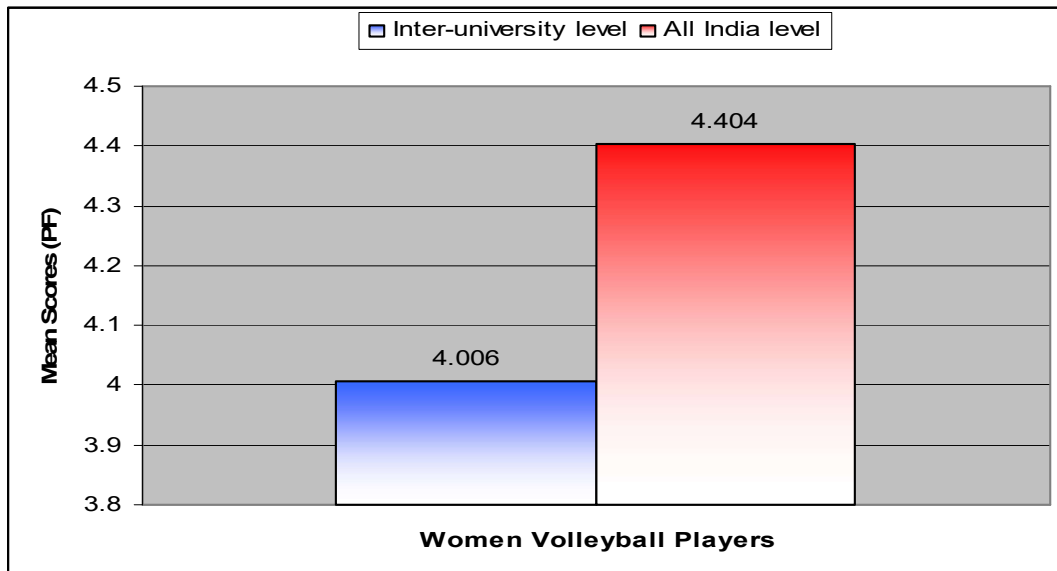


Fig. 5: Mean Scores of Inter-university and All India Level Women Volleyball Players on Positive Feedback Dimension of preferred Leadership Behaviour.

TABELE 2

ANALYSIS OF VARIANCE FOR PREFERRED LEADERSHIP OF INTER-UNIVERSITY LEVEL WOMEN VOLLEYBALL PLAYERS

Source of Variance	df	Sum of Squares	Mean Square	F-ratio
Between Groups	4	47.19	11.79	
Within Groups	315	157.43	0.50	23.61*
Total	319	204.62		

*Significant at .05 level., $F_{.05}(4, 315) = 2.40$.

From Table 2, It is evident that the statistically significant difference existed among inter-university level women Volleyball players on preferred leadership, as the obtained F-value of 23.61 was much higher than the required $F_{.05}(4, 315) = 2.40$.

As the F-ratio was found to be significant, Scheffe's Test of Post-hoc comparison was applied to study the significance of differences among Inter-university level women Volleyball players on five dimensions of leader behaviour of preferred leadership and the data pertaining to this have been presented in Table 3.

TABLE 3

SIGNIFICANCE OF DIFFERENCES AMONG INTER-UNIVERSITY LEVEL WOMEN VOLLEYBALL PLAYERS BETWEEN ORDERED PAIRED MEANS ON FIVE DIMENSIONS OF PREFERRED LEADERSHIP

T I	DB	AB	SS	PF	Paired mean difference	Confidence Interval (C. I.)
4.287	3.971	-	-	-	0.457*	0.443
4.287	-	3.328	-	-	1.190*	
4.287	-	-	3.985	-	0.444*	
4.287	-	-	-	4.006	0.422	
-	3.971	3.328	-	-	0.733*	
-	3.971	-	3.985	-	0.014	
-	3.971	-	-	4.006	0.035	
-	-	3.328	3.985	-	0.746*	
-	-	3.328	-	4.006	0.768*	
-	-	-	3.985	4.006	0.021	

*Significant at .05 level.

It is quite obvious from the table 3, that there were significant differences on preferred leadership among Inter-university level women Volleyball players between training and instruction -democratic behaviour followed by autocratic behaviour, and social supports; democratic behaviour - autocratic behaviour; autocratic behaviour- social support followed by positive feedback, as the paired mean differences of 0.457, 1.19, 0.444, 0.733, 0.746 and 0.768 respectively were higher than the confidence interval

(C.I.) of 0.443. But the mean differences between training and instruction- positive feedback; democratic behaviour - social support followed by positive feedback and social support - positive feedback respectively were not significant at 0.05 level, as the confidence interval of 0.443 was higher than the mean differences.

TABELE 4

ANALYSIS OF VARIANCE FOR PREFERRED LEADERSHIP OF ALL INDIA LEVEL WOMEN VOLLEYBALL PLAYERS

Source of Variance	df	Sum of Squares	Mean Square	F-ratio
Between Groups	4	50.48	14.87	
Within Groups	175	64.77	0.37	40.18*
Total	179	124.45		

*Significant at .05 level., $F_{.05}(4, 175) = 3.04$.

From Table 4, It is evident that the statistically significant difference existed among All India level Volleyball players on preferred leadership was very high as the obtained F-value of 40.18 was much higher than the required $F_{.05}(4, 175) = 3.04$.

As the F-ratio was found to be significant, Scheffe's Test of Post-hoc comparison was applied to study the significance of differences among All India level women Volleyball players on five dimensions of leader behaviour of preferred leadership and the data pertaining to this have been presented in Table 5.

TABLE 5

SIGNIFICANCE OF DIFFERENCES AMONG ALL INDIA LEVEL WOMEN VOLLEYBALL PLAYERS BETWEEN ORDERED PAIRED MEANS ON FIVE DIMENSIONS OF PREFERRED LEADERSHIP

T I	DB	AB	SS	PF	Paired mean difference	Confidence Interval (C. I.)
4.476	3.678	-	-	-	0.796*	0.436
4.476	-	2.950	-	-	1.526*	
4.476	-	-	3.495	-	0.981*	
4.476	-	-	-	4.404	0.072	
-	3.678	2.950	-	-	0.728*	
-	3.678	-	3.495	-	0.183	
-	3.678	-	-	4.404	0.725*	
-	-	2.950	3.495	-	0.544*	
-	-	2.950	-	4.404	1.453*	
-	-	-	3.495	4.404	0.909*	

*Significant at .05 level.

It is quite obvious from the table 5, that there were significant differences on preferred leadership among All India level women Volleyball players between

training and instruction -democratic behaviour followed by autocratic behaviour, and social supports; democratic behaviour - autocratic behaviour followed by positive feedback; autocratic behaviour- social support followed by positive feedback, and social supports- positive feedback, as the paired mean differences of 0.797, 1.526, 0.981, 0.728, 0.725, .544, 1.453 and 0.909 respectively were higher than the confidence interval (C.I.) of 0.436. But the mean differences between training and instruction- positive feedback and social support - positive feedback respectively were not significant at 0.05 level, as the confidence interval of 0.436 was higher than the mean differences.

TABELE 6

SIGNIFICANCE OF DIFFERENCES BETWEEN MEAN SCORES OF INTER-UNIVERSITY AND ALL INDIA LEVEL WOMEN VOLLYBALL PLAYERS ON FIVE DIMENSIONS OF PREFERRED LEADERSHIP

Leader Behaviour Dimensions	Participation Level	Mean	MD	σ DM	t-ratio
Training & Instruction	Inter-university	4.287	.047	.087	.542
	All India	4.476			
Democratic Behaviour	Inter-university	3.971	.293	.111	2.622*
	All India	3.678			
Autocratic Behaviour	Inter-university	3.238	.288	.181	1.598
	All India	2.950			
Social Support	Inter-university	3.985	.490	.115	4.271*
	All India	3.495			
Positive Feedback	Inter-university	4.006	.398	.180	2.205*
	All India	4.404			

Significant at .05 level, $t_{.05(98)} = 1.98$

It is evident from table 14, that there were statistically significant differences between the preferences of Inter-university level and All India level women volleyball players in training and instruction, positive feedback and social support dimensions of leader behaviour, as the obtained t-value of 2.622, 4.271, and 2.205 respectively were higher than the required t-value of $t_{.05(98)} = 1.98$. But the significant differences were not found in training and instruction and autocratic behaviour dimensions of leader behaviour, as the obtained t-value of 0.542, and 1.598 respectively were lesser than the required t-value of $t_{.05(98)} = 1.98$.

DISCUSSION

Findings of descriptive data of Inter-university level women volleyball players on five dimensions of preferred leadership behaviour indicated that women volleyball players preferred more democratic behaviour, autocratic behaviour and social support from their coaches than did All India level women volleyball respondents. In case of All India level women volleyball players, they preferred more training and instruction and positive feedback from their coaches than their counter parts.

The results of one way analysis of variance (ANOVA) for Inter-university level women volleyball players on five dimensions of preferred leadership behaviour expressed significant differences among Inter-university level women volleyball players in their preferences for preferred leadership which may be due to variation in practice method, coaching style, Inter personal relationship and reinforcement. The Scheffe's Test of Post-hoc comparisons showed that Inter-university level women volleyball players preferred more training and instruction followed by Positive feedback, democratic behaviour, social support and autocratic behaviour from their coaches.

In case of All India level women volleyball players on five dimensions of preferred leadership behaviour, they also expressed significant differences among women volleyball players in their preferences for preferred leadership. The Scheffe's Test of Post-hoc comparisons showed that women volleyball players also preferred more training and instruction followed by positive feedback, democratic behaviour, social support and autocratic behaviour from their coaches.

When the Inter-university and All India level women volleyball players were compared together on five dimensions of leader behaviour, they exhibited significant differences in their preferences for democratic behaviour, social support and positive feedback dimensions of leader behaviour. But They had no significant differences in their preferences for training and instruction and autocratic behaviour dimensions of leader behaviour, which showed that Inter-university and All India level women volleyball players preferred their coaches equally in these dimensions of leader behaviour and differently in other dimension of leader behaviour. The findings are partially supported by Chefladurai and Saleh, 1978.

It was hypothesized that there would be significant difference among Inter-university and All India level women volleyball players on five dimensions of preferred leadership behaviour. This hypothesis has been partially accepted, as the Inter-university level women volleyball players had significant difference in their preferences between training and instruction -democratic behaviour followed by autocratic behaviour, and social supports; democratic behaviour - autocratic behaviour; autocratic behaviour- social support followed by positive feedback But the mean differences between training and instruction- positive feedback; democratic behaviour - social support followed by positive feedback and social support - positive feedback respectively were not significant

In case of All India level women volleyball players, they had significant difference in their preferences between training and instruction -democratic behaviour followed by autocratic behaviour, and social supports; democratic behaviour - autocratic behaviour followed by positive feedback; autocratic behaviour- social support followed by positive feedback, and social supports- positive feedback. But the mean differences between training and instruction- positive feedback and social support - positive feedback respectively were not significant.

CONCLUSIONS

Within the limitation of present study, the following conclusions are enumerated :

1. Inter-university and All India level women volleyball players exhibited different preferences on five dimensions of leader behaviour.
2. Inter-university level women volleyball players preferred their coaches more on training and instruction followed by Positive feedback, democratic behaviour social support, and autocratic behaviour dimensions.
3. All India level women volleyball players preferred their coaches more on training and instruction followed by positive feedback, democratic behaviour, social support and autocratic behaviour) dimensions .
4. Inter-university and All India level women volleyball players expressed different preferences on democratic behaviour, social support and autocratic behaviour) dimensions of leader behaviour. They had similarity in Training and instruction and autocratic behaviour.

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INVESTIGATION OF LEADERSHIP PREFERENCES OF INTER- UNIVERSITY LEVEL TRACK AND FIELD ATHLETES

Jai Shanker Yadav

ABSTRACT

INTRODUCTION

Leadership is the behavioural process of influencing the activities of an organized group toward specific goals and achievement of those goals. But leadership is often for more complex attempt to understand leadership should be concerned with why people comply as well as with how one person influence another.

The leader is required to be have in certain ways by the demand and constrains placed by the demand and member's preferences for specific leader behaviours are largely a function of the individual characteristics of the group members. Personality variables such as need for achievement, need for affiliation, cognitive structure and competence in the task influence a members performances for coaching and guidance, social support and feed back. In addition the situation characteristics also affect member's preferences. For example, if there is an organisational expectation, which a leader will behave in a specific manner, this expectation is held jointly by both leaders and members.

The participation in sports contributes to building up self confidence, enhance intellectual level. personality development a no. out going tendency or extraversion as such proficiency leads to enhanced success in sports activities is highly valued in one's group.

Success in athletics seems to be dependent in part on psychological status and traits. The use of an athlete's personality profile, in concern with knowledge of their past experience, coach's rating, anatomic and physiological characteristics and so one can enhance the accuracy of prediction in a number of sports.

The personality make-up of an individual plays a vital role in his achievements in every field of life. "Human personality refers to the unique expression of the characteristics of an individual and it must be studied with in the social context in which it develops. It is not an isolated phenomenon, separate from the environment. Although it is often perceived in such a way. Personality is expressed through the complex and interdependent relationship formed between an individual and environment.

The Purpose of the study was to investigate and compare the leadership preferences of inter-university level male and female athletes of Track and Field. It was hypothesized that the significant differences in their leadership preferences. may exist among male and female athletes of Track and Field.

METHODOLOGY

Selection of Subjects:

Two hundred and Eight (Males=108, Females= 100)) All Inter-university level athletes of Track and Field representing their respective university in various inter-university competitions and who volunteered to participate in this study, were selected to serve as subjects for this study. The subjects were in age group of 19 to 25 years. All the subjects have taken part in All India Inter-university Track and Field, competitions during the 2008-2009 session.

Instrumentation:

Leadership Scale for Sports developed by P. Chelladurai was selected as a criterion tool to measure preferred behaviour preferences of inter-university level athletes. The Leadership Scale for Sports (L.S.S.) is a valid and reliable instrument. The scale consists of 40 items for athlete's perception of coach's behaviour and 40 items for preference version representing five dimensions of leadership behaviour i.e. training and instruction,

democratic behaviour, autocratic behaviour, social supports and positive feedback (Rewarding behaviour).

The scale consisted of 40 items for five dimensions in which training and instruction (13 items), democratic behaviour (9 items), autocratic behaviour (5 items), social support (8 items), and positive feedback (Rewarding behaviour) had 5 items on which there were no negative responses. Each question had five responses namely 1. Always, 2 Often, 3 Occasionally, 4 Seldom, 5 Never. According to above stated responses, scoring was carried out for preferred leader behaviour of athletes.. The score tabulated for all the items under dimensions of leadership behaviour were averaged out to get score for each dimension. The scale had test-retest reliability 0.72 for training behaviour, 0.82 for democratic behaviour, 0.76 for autocratic behaviour, 0.71 for social supports, and 0.79 for positive feedback.

Administration of Questionnaire:

The necessary permission from the organizing secretary of. All India Inter-university competitions was obtained by the research scholar to conduct this study on athletes during competitions. The coaches and subjects were contacted at the site championships personally and their sincere cooperation was solicited. Necessary instructions were given to the subjects before the administration of test. Confidentiality of responses was guaranteed so that the subjects would not camouflage their real feelings. No time limit for filling the questionnaire was set but subjects were made to respond as quickly as possible. As soon as a group of players completed the questionnaire, it was collected from the athletes and verified that no questionnaire was left without being answered.

RESULTS AND DISCUSSION

To assess the preferences on five dimensions of leader behaviour of Inter-university level male and female athletes of Track & field, mean and standard deviation, one way analysis of variance and t-ratio on five dimensions of preferred leader behaviour with all the subjects were computed and data pertaining to this have been presented in Table 1 to 5.

TABELE 1
DESCRIPTIVE STATISTICS OF PREFERENCES ON FIVE DIMENSIONS OF LEADER
BEHAVIOUR OF INTER-UNIVERSITY LEVEL MALE AND FEMALE
ATHLETES OF TRACK & FIELD

S.NO.	Leader Behaviour Dimensions	Male		Female	
		M	SD	M	SD
1.	Training & Instruction	4.393	0.522	4.391	0.389
2.	Social Support	3.820	0.617	3.685	0.634
3.	Positive Feedback	3.987	0.810	3.993	0.717
4.	Autocratic Behaviour	2.877	0.862	3.014	0.826
5.	Democratic Behaviour	3.671	0.887	3.642	0.527

The mean scores of five dimensions of leader behaviour as preferred by male and female athletes of different games and sports i. e. Cross country, Track & field and Gymnastics of inter-university level have been depicted in figures 1 to 5.

TABELE 2**ANALYSIS OF VARIANCE FOR PREFERRED LEADERSHIP OF INTER-UNIVERSITY MALE ATHLETES OF TRACK & FIELD**

Source of Variance	df	Sum of Squares	Mean Square	F-ratio
Between Groups	4	124.131	31.033	
Within Groups	535	327.149	0.011	50.749*
Total	539	451.280		

*Significant at .05 level, $F_{.05}(4, 425) = 2.39$.

From Table 2, It is evident that the statistically significant difference existed among inter-university male athletes of Track & Field on preferred leadership was very high as the obtained F-value of 50.749 was much higher than the required $F_{.05}(4, 539) = 2.39$.

As the F-ratio was found to be significant, Scheffe's Test of Post-hoc comparison was applied to study the significance of differences among inter-university male athletes of Track & Field on five dimensions of leader behaviour of preferred leadership and the data pertaining to this have been presented in Table 3.

TABLE 3**SIGNIFICANCE OF DIFFERENCES AMONG INTER-UNIVERSITY MALE ATHLETES OF TRACK & FIELD BETWEEN ORDERED PAIRED MEANS ON FIVE DIMENSIONS OF PREFERRED LEADERSHIP**

T I	SS	PF	AS	DB	Paired mean difference	Confidence Interval (C. I.)
4.393	3.820	-	-	-	.573*	0.342
4.393	-	3.987	-	-	.406*	
4.393	-	-	2.877	-	1.516*	
4.393	-	-	-	3.671	.722*	
-	3.820	3.987	-	-	.167	
-	3.820	-	2.877	-	.943*	
-	3.820	-	-	3.671	.149	
-	-	3.987	2.877	-	1.110*	
-	-	3.987	-	3.671	.316	
-	-	-	2.877	3.671	.794*	

*Significant at .05 level.

It is quite obvious from the table 3, that there were significant differences on preferred leadership among inter-university male athletes of Track and field between training and instruction - social support followed by positive feedback, autocratic behaviour and democratic behaviour; social supports - democratic behaviour; positive feed back - autocratic behaviour and autocratic behaviour - democratic behaviour, as the paired mean differences of .573, 406, 1.516, .722, .943, and .794 respectively were higher than the confidence interval (CI) of 0.342. But the mean differences between social support - positive feedback followed by democratic behaviour; and autocratic

behaviour - democratic behaviour respectively were not significant at 0.05 level as the confidence interval of 0.342 was higher than the mean differences.

TABELE 4
ANALYSIS OF VARIANCE FOR PREFERRED LEADERSHIP OF INTER-UNIVERSITY FEMALE ATHLETES OF TRACK & FIELD

Source of Variance	df	Sum of Squares	Mean Square	F-ratio
Between Groups	4	136.594	34.148	
Within Groups	495	252.597	0.510	66.919*
Total	499	389.191		

*Significant at .05 level, $F_{.05}(4, 495) = 2.40$.

From Table 4, It is evident that the statistically significant difference existed among inter-university male athletes of Track & Field on preferred leadership was very high as the obtained F-value of 66.919 was much higher than the required $F_{.05}(4, 495) = 2.40$.

As the F-ratio was found to be significant, Scheffe's Test of Post-hoc comparison was applied to study the significance of differences among inter-university male athletes of Track & Field on five dimensions of leader behaviour of preferred leadership and the data pertaining to this have been presented in Table 5.

TABLE 5
SIGNIFICANCE OF DIFFERENCES AMONG INTER-UNIVERSITY FEMALE ATHLETES OF TRACK & FIELD BETWEEN ORDERED PAIRED MEANS ON FIVE DIMENSIONS OF PREFERRED LEADERSHIP

T I	SS	PF	AS	DB	Paired mean difference	Confidence Interval (C. I.)
4.391	3.685	-	-	-	.706*	0.313
4.391	-	3.999	-	-	.392*	
4.391	-	-	3.014	-	1.377*	
4.391	-	-	-	3.642	.749*	
-	3.685	3.999	-	-	.314*	
-	3.685	-	3.014	-	.671*	
-	3.685	-	-	3.642	.643*	
-	-	3.999	3.014	-	.985*	
-	-	3.999	-	3.642	.357*	
-	-	-	3.014	3.642	.628*	

*Significant at .05 level.

It is quite obvious from the table 5, that there were significant differences on preferred leadership among inter-university male athletes of Track and field between training and instruction - social support followed by positive feedback, autocratic behaviour and democratic behaviour; social supports - positive feedback followed by autocratic behaviour and democratic behaviour; positive feedback - autocratic behaviour followed by democratic behaviour and autocratic behaviour - democratic behaviour, as the paired mean differences of .706, .392, 1.377, .749, .314, .671, .643, .985, .357 and .628 respectively were higher than the confidence interval (CI) of 0.313.

TABLE 6

**SIGNIFICANCE OF DIFFERENCES BETWEEN MEAN SCORES OF INTER UNIVERSITY
MALE AND FEMALE ATHLETES OF TRACK AND FIELD ON LEADER
BEHAVIOUR DIMENSIONS OF PREFERRED LEADERSHIP**

Leader Behaviour Dimensions	Sex	Mean	MD	DM	t-ratio
Training & Instruction	Male	4.393	.002	.064	.031
	Female	4.491			
Social Support	Male	3.820	.135	.089	1.516
	Female	3.685			
Positive Feedback	Male	3.987	.006	.109	.055
	Female	3.993			
Autocratic Behaviour	Male	2.877	.134	.141	.950
	Female	3.014			
Democratic Behaviour	Male	3.671	.029	.101	.287
	Female	3.642			

Non-significant at .05 level, $t_{.05(204)} = 1.97$

It is evident from table 6, that there were no statistically significant differences between the preferences of inter-university level male and female athletes of Track and Field for the set of five dimensions of leader behaviour, as the obtained t-value of .031, 1.516, 0.055, 0.950, and .287 respectively were less than the required t-value of $t_{.05(206)} = 1.97$.

DISCUSSION

Findings of descriptive data of Inter-university level male and female athletes of track and field on five dimensions of preferred leadership behaviour indicated that male athletes preferred more training and instruction, social support, and democratic behaviour from their coaches than did female respondents.

The results of one way analysis of variance (ANOVA) for inter-university level male athletes of track and field on five dimensions of preferred leadership behaviour, they also expressed significant differences among male athletes of track and field in their preferences for preferred leadership. The Scheffe's Test of Post-hoc comparisons showed that male athletes of track and field also preferred more training and instructions behaviour in comparison of other dimensions of preferred leadership, but the significant differences exhibited by male athletes of track and field in their preferences between training and instruction - social support followed by positive feedback, autocratic behaviour and democratic behaviour; social supports - democratic behaviour; positive feed back - autocratic behaviour and autocratic behaviour - democratic behaviour.

In case of inter-university level female athletes of track and field on five dimensions of preferred leadership behaviour, they also expressed significant differences among female athletes of track and field in their preferences for preferred leadership. The Scheffe's Test of Post-hoc comparisons showed that female athletes of track and field also preferred more training and instructions behaviour in comparison of other dimensions of preferred leadership, but the significant differences exhibited by female athletes of track and field in their preferences

between training and instruction - social support followed by positive feedback, autocratic behaviour and democratic behaviour; social supports - positive feedback followed by autocratic behaviour and democratic behaviour; positive feedback - autocratic behaviour followed by democratic behaviour and autocratic behaviour - democratic behaviour.

When the inter-university level male and female athletes of track & field were compared together on five dimensions of leader behaviour, they had no significant differences in their preferences for the set of dimensions of leader behaviour, which showed that all the athletes both sexes at inter-university level preferred their coaches equally in all of the dimensions of leader behaviour.

It was hypothesized that the significant differences in their leadership preferences may exist among male and female athletes of Track and Field. This hypothesis has been partially accepted, as the of track and field athletes had no significant difference in their preferences between social support - positive feedback followed by democratic behaviour; and autocratic behaviour - democratic behaviour and between positive feedback - democratic behaviour. The female track and field athletes had significant difference in their preferences between all dimensions of preferred leadership behaviour as indicated by scheffe's test of post-hoc comparison.

CONCLUSIONS

Within the limitation of present study, the following conclusions are enumerated :

1. Inter-university level male and female track and field athletes exhibited different preferences on five dimensions of leader behaviour.
2. Male and female track and field athletes of Inter-university level preferred more training and instruction followed by positive feedback, social support, democratic behaviour and autocratic behaviour.
- 3.. Significant difference was not found between Male and female track and field athletes of Inter-university level on the set of five dimensions of preferred leadership behaviour.

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INVESTIGATION OF SOCIO-ECONOMIC STATUS AND PARTICIPATION MOTIVES IN SPORTS OF INTER-UNIVERSITY LEVEL PLAYERS

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INTRODUCTION

Sports have always been one of the primary means of civilizing the human being and inculcating the character traits, which a society desires (Kokate, 1997). The trend of declining physical activity and sports participation is alarming considering the widespread acceptance that exercise can provide both physical and psychological benefits, including increased fitness, decreased heart rate and blood pressure, relief of stress and depression and enhanced satisfaction. Sports psychologists have in recent years, shown increased interest in assessing the motives of young people involved in sports. Infact, determining the reasons that motivate children to participate in sports has been recognized as one of the most critical areas of youth sport results (Stem et. al., 1990). In a philosophical discussion concerned with why men pursue sports, Weiss (1973) stated that accomplished excellence provides acceleration pleasure and challenge. One of the many ways that man can demonstrate excellence is through mastery of his body. Young men find it easier to master their bodies than to become excellent in other way, and this is why they occupy themselves in sports without the degree of excellence and mastery of body, he suggests that as a motivating factor.

Motivation in general refers to the intensity and direction of behavior, the direction of behavior indicates whether an individual approaches or avoids a particular situation, and the intensity of behavior relates to the degree of effort put forth to accomplish the behavior (Singer, 1993).

Based upon numerous investigations, the youth sport participation motives has been identified as motives to learn new skills and to improve an existing sport skill, motives to have fun and to enjoy participating in youth, motives to become physically fit and to enjoy good health, motives to enjoy the challenges and excitements of sports participation and competition, motives to enjoy a team atmosphere and to be with friends.

A number of conclusions can be derived from the research on participation motives of young athletes. First, young athletes have diverse motives for participating in sports they may want to have fun, seek affiliation, demonstrate power, improve skills, pursue excellence, exhibit aggression, have something to do, experience thrills or excitement, be independent, receive rewards, fulfill parental expectations, and win. Moreover, most young athletes have not one but several motives for participation. Second, of the various motives identified for participation, those consistently rated as most important are improving skills, having fun, being with friends, making new friends, experiencing thrill or excitement, achieving success or winning, and developing fitness. Third, gender differences have been found in participation motives of young athletes. Females for example rate fun and friendship as more important motives than males do. Although no gender differences emerged on the achievement or excellence items. Fourth, a number of sports, experience, and age difference also showed up in participation motives but no consistent patterns emerged. Finally, while the results reveal that consistent patterns of participation motives are found across youngsters.

The purpose of the study was to assess and investigate the socio-economic status and participation motives in sports of Inter-university level players. It was hypothesized that the male and female players of inter-university level in different game and sports will significantly differ in their Socio-economic status and their perception of motivational factors for competition.

METHODOLOGY

Subjects:

One hundred and Sixty Six (141 male and 25 female) inter-university level players of different games and sports belong to colleges affiliated to R D. University, Jabalpur (M.P.) and volunteered to participate in the study were the subjects of this study. The age of subject ranged from 17 to 25 years of age.

Instrumentation:

1. Participation Motivation Questionnaire :The participation motivation questionnaire prepared by Gill, Gross and Huddleston (1983) consists of 30 items reflecting possible reasons for taking part in a sports (e.g. want to improve ray skill) and was adapted by making minor changes to the wording of some items (without altering the meanings) to reflect the sport of wrestling for example "my parents and close friends want me to play game " subjects were requested to indicate on a 3 point Likert-type scale (1=not at all important. 2=some what, important, and 3= very important) the relative value of each motive influencing their participation.

2. Socio-economic Status Scale: Socio-economic Status Scale was prepare and developed by L. N. Dubey and B. Nigam (2005). The SES scale consisted of 30 items and each item has 4 alternatives. The scoring of the four alternatives was 4 (First choice) to 1 (Fourth choice) by using scoring key. The reliability coefficient of correlation and validity of scale are 0.81, and .62 respectively. The raw scores for the class of SES are 100 and above -Upper class, 80-99 – Upper Middle class, 60-79- Middle class, 40-59- Lower Middle class and 39 and less-Lower class

Administration of Questionnaire:

In order to ensure full co-operation from the subjects, the scholar had a meeting with them in presence of their respective coaches, the purpose of the study was explained to them and doubts if any were clarified. All the subjects voluntarily extended their full co-operation and the coaches of respective teams ensured that the subjects were made available for the collection of data.

RESULTS AND DISCUSSION

To assess the preferences on eight factors of participation motivation of inter-university level male and female players of different games, means and standard deviations for all the subjects were computed and data pertaining to this have been presented in Table 1 & 2.

TABELE 1
DESCRIPTIVE STATISTICS AND RANK ORDER FOR EIGHT FACTORS OF
PARTICIPATION MOTIVATION OF INTER-UNIVERSITY LEVEL
MALE PLAYERS OF DIFFERENT GAMES AND SPORTS

Participation Motivation Factors	Means	SD	Rank order
Skill (SKL)	2.815	.287	1 Most important
Achievement /status (AS)	2.780	.341	2
Other(OTH)	2.776	.304	3
Fitness(Fit.)	2.704	.317	4
Team work (TW)	2.695	.395	5
Energy release (ER)	2.668	.328	6
Friend (FRD)	2.588	.456	7
Fun (FN)	2.541	.405	8 Least important

The mean scores of eight factors of participation motivation of inter-university level male players of different games and sports have been depicted in figures 1.

TABELE 2
DESCRIPTIVE STATISTICS AND RANK ORDER FOR EIGHT FACTORS OF
PARTICIPATION MOTIVATION OF INTER-UNIVERSITY LEVEL
FEMALE PLAYERS OF DIFFERENT GAMES AND SPORTS

Participation Motivation Factors	Means	SD	Rank order
Skill (SKL)	2.866	.304	1 Most important
Achievement /status (AS)	2.792	.428	2
Fitness(Fit.)	2.705	.396	3
Other(OTH)	2.612	.629	4
Energy release (ER)	2.586	.393	5
Team work (TW)	2.571	.476	6
Fun (FN)	2.516	.419	7
Friend (FRD)	2.280	.541	8 Least important

The mean scores of eight factors of participation motivation of inter-university level female players of different games and sports have been depicted in figures 2.

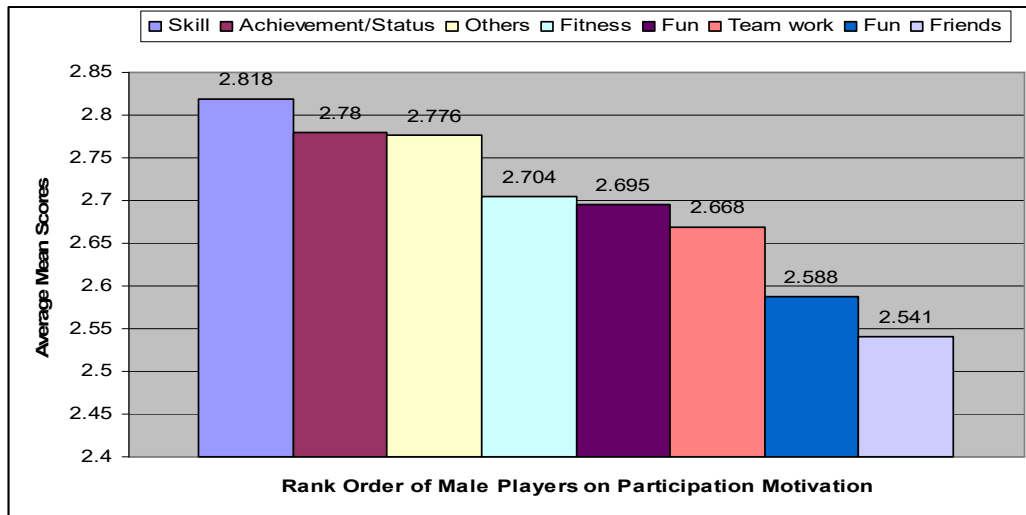


Fig. 1: Average Mean Scores of Inter-university Level Male Players of Different Games and Sports on Eight Factors of Participation Motivation.

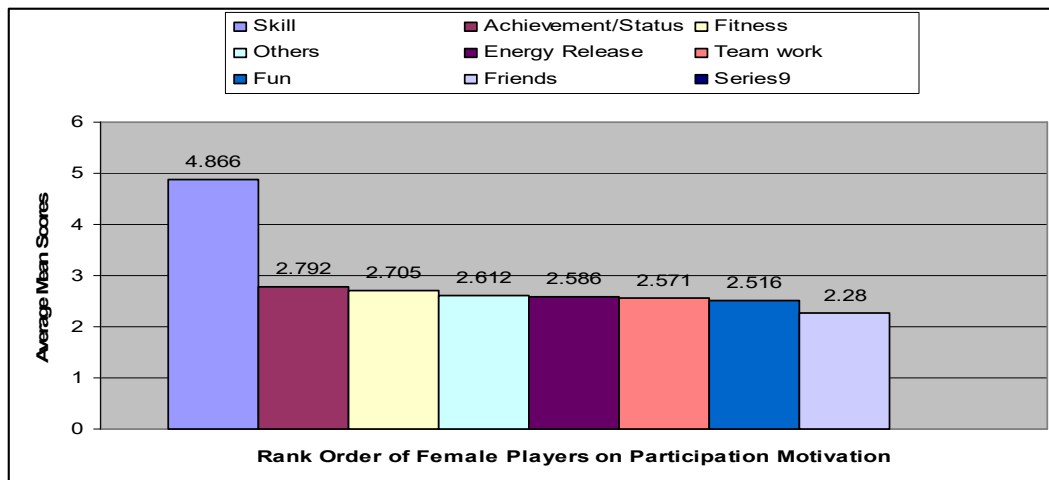


Fig. 2: Average Mean Scores of Inter-university Level Female Players of Different Games and Sports on Eight Factors of Participation Motivation

To assess the significance of difference between inter-university level male and female players of different games and sports on eight factors of participation motivation and socio-economic status, t-ratios were computed and data pertaining to this have been presented in table 3.

TABLE 3
SIGNIFICANCE OF DIFFERENCES BETWEEN MEAN SCORES OF INTER- UNIVERSITY MALE AND FEMALE PLAYERS OF DIFFERENT GAMES AND SPORTS ON EIGHT FACTOR OF PARTICIPATION MOTIVES

Participation Motives	Sex	Mean	MD	σ DM	t-ratio
Achievement /status (AS)	Male	2.780	.012	.089	0.134
	Female	2.792			
Team work (TW)	Male	2.695	.124	.088	1.410
	Female	2.570			
Fitness(Fit.)	Male	2.704	.001	.017	0.017
	Female	2.705			
Energy release (ER)	Male	2.668	.082	.073	1.117
	Female	2.586			
Other(OTH)	Male	2.776	.164	.080	2.045*
	Female	2.612			
Skill (SKL)	Male	2.815	.050	.063	0.805
	Female	2.866			
Friend (FRD)	Male	2.588	.308	.101	3.028*
	Female	2.280			
Fun (FN)	Male	2.541	.023	.088	0.272
	Female	2.516			

*Significant at .05 level, $t_{.05}(164) = 1.97$

It is evident from table 5, that there were statistically significant differences between the inter-university level male and female players of different games and sports in others and friends factors of participation motivation, as the obtained t-values of 2.045 and 3.028 respectively were higher than the required t-value of $t_{.05}(164) = 1.97$. But the insignificant differences existed between inter-university level male and female players of different games in their achievement status, team work, fitness energy release, skill and fun factors of participation motivation, as the obtained t-values of .134, 1.410, .017, 1.117, .805 and .272 respectively were less than the required t-value to be significant.

To assess the socio-economic status of male and female inter-university level players as a whole of different game and sports, SES class-wise and Game-wise percentage were computed and data pertaining to this have been presented in table 4 & 5.

TABLE 4
SOCIO-ECONOMIC STATUS OF INTER-UNIVERSITY LEVEL PLAYERS AS A WHOLE OF BOTH GENDER OF DIFFERENT GAMES AND SPORTS

S.NO.	Class of SES	Number of Players	Percentage (%)
1	Upper Class	16	09.64%
2	Upper Middle Class	31	18.67%
3	Middle Class	59	35.54%
4	Lower Middle Class	45	27.55%
5	Lower Class	15	09.04%

It is clearly evident from table 4, that the maximum number of inter-university players as a whole were found under middle class (35.54%) followed by Lower Middle Class (27.55%), Upper Middle Class (18.67%), Upper Class (9.64%) and Lower Class (9.04%) in their socio-economic status.

TABLE 5
GAMEWISE SOCIO-ECONOMIC STATUS OF INTER-UNIVERSITY LEVEL PLAYERS AS A WHOLE OF BOTH GENDER

Games	Upper Class		Upper Middle Class		Middle Class		Lower Middle Class		Lower Class	
	N	%	N	%	N	%	N	%	N	%
Baseball (N=13)	01	06.25	03	06.67	02	03.37	03	06.67	04	26.67
Basketball (N=19)	04	25.00	06	13.35	04	06.76	04	08.88	01	06.66
Volleyball (N=23)	03	18.75	02	06.44	05	08.45	09	20.00	04	26.67
Cricket (N=22)	04	25.00	08	25.76	06	10.14	04	08.88	00	00.00
Kabaddi (N=30)	01	06.25	00	00.00	17	27.73	09	20.00	03	20.00
Kho-Kho (N=31)	03	18.75	04	12.88	15	24.45	09	20.00	00	00.00
Badminton (N=08)	00	00.00	03	06.67	01	01.69	04	08.88	00	00.00
Athletics (N=20)	00	00.00	05	16.13	09	15.21	03	06.67	03	20.00

It is evident from table 5, that the 26.67% of inter-university level Baseball players were related to lower class, followed by 6.67% players belong to upper middle and lower middle class, 6.25% players of upper class and 3.37% belong to Middle class in their socio-economic status.

Whereas, 25 % of inter-university level Basketball players were related to upper class, followed by 13.35 % players belong to upper middle class, 8.88% of lower middle class, 6.76% of middle class and 6.66% belong to lower class in their socio-economic status.

The inter-university level Volleyball players (26.67 %) were related to lower class followed by 20.00 % players belong to lower middle class, 18.75% of upper class, 8.45% of middle class and 6.44% belong to upper middle class in their socio-economic status.

The inter-university level Cricket players (25.76 %) were related to upper middle class followed by 25 % players belong to upper class, 10.14% of middle class, and 8.88% belong to lower middle class in their socio-economic status.

The inter-university level Kabaddi players (27.73 %) were related to middle class followed by 20 % players belong to lower middle and lower class, and 6.25% belong to upper class in their socio-economic status.

The inter-university level Kho-Kho players (24.45 %) were related to middle class followed by 20 % players belong to lower middle class, 18.75% belong to upper class and 12.88% of upper middle class in their socio-economic status.

The inter-university level Badminton players (8.88 %) were related to lower middle class, followed by 6.67 % players belong to upper middle class and 1.69% belong to middle class in their socio-economic status.

The inter-university level Athletes (20%) were related to lower class, followed by 16.13 % players belong to upper middle class 15.21% of middle class and 6.67 % belong to lower middle class in their socio-economic status.

To assess the significance of difference between inter-university level male and female players of different games and sports on socio-economic status, t-ratio was computed and data pertaining to this have been presented in table 8.

TABELE 6
SIGNIFICANCE OF DIFFERENCES BETWEEN MEAN SCORES OF INTER- UNIVERSITY
MALE AND FEMALE PLAYERS OF DIFFERENT
GAMES AND SPORTS SOCIO-ECONOMIC STATUS

Sex	Mean	MD	σ DM	t-ratio
Male	70.09	. 2.085	. 4.554	0.458
Female	68.00			

Insignificant at .05 level, $t_{.05}(164) = 1.97$

It is evident from table 6, that there were no statistically significant differences between the inter-university level male and female players of different games and sports in their socio-economic status, as the obtained t-value of 0.458 was less than the required t-value of $t_{.05}(164) = 1.97$.

DISCUSSION

Ranking of reasons for participation in different games and sports as expressed by Inter University level male and female players indicated that reasons rated most highly (highly ranked five reasons) important were same to some extent with little difference in ranking. Significant differences between inter-university level male and female players was observed in others and friends factor of participation motivation.

Findings of descriptive data of inter-university level male and female players on eight factors of reason of participation in sports indicated that inter-university level male players of different games and sports preferred more of skill development followed by achievement /status, others, fitness, team work, energy release, friendship and fun from most important to least important rank order. In case inter-university level female players of different games and sports, they preferred more of skill development followed by achievement /status, fitness, others, energy release, team work, fun and friendship from most important to least important rank order.

To assess the percentage of different classes of socio-economic status of male and female inter-university level players as a whole of different game and sports indicated that the maximum number of inter-university players were found under middle class followed by Lower Middle Class, Upper Middle Class, Upper Class, and Lower Class in their socio-economic status.

To assess the percentage of different classes of socio-economic status game-wise of male and female inter-university level players of different game and sports indicated that inter-university level Baseball players were related to lower class, followed by upper middle and lower middle class, upper class and Middle class in their socio-economic status. The inter-university level Basketball players were more related to upper class, followed by upper middle class, lower middle class, middle class and lower class in their socio-economic status. Incase of inter-university level Volleyball players, they were more of them related to lower class followed by lower middle class, upper class, middle class and upper middle class in their socio-economic status. Inter-university level Cricket players were related more to upper middle class followed by upper class, middle class, and lower middle class in their socio-economic status. Inter-university level Kabaddi players were related more to middle class followed by lower middle and lower class, and upper class in their socio-economic status. Whereas, more of inter-university level Kho-Kho players were related to middle class followed lower middle class, upper class and upper middle class in their socio-economic status. More of inter-university level Badminton players were related to lower middle class, followed by upper middle class and middle class in their socio-economic status. Maximum number of inter-university level athletes were related to lower class, followed by upper middle class, middle class and lower middle class in their socio-economic status.

The results of t-ratio on socio-economic status expressed insignificant difference between inter-university level male and female players of different games and sports.

It was hypothesized that: the inter-university level male and female players of different games and sports would significantly differ in their sports participation motives and socio-economic status is partially accepted.

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A STUDY OF PARTICIPATION MOTIVATION OF UNIVERSITY STUDENT AND PHYSICAL ACTIVITY STAGES OF CHANGE

Ashish Pandey* & Aradhana Saxena**

INTRODUCTION

According to physical activity among adults: one in five adults engage in high levels of activity, but one in four are largely inactive. This report, along with many others including the Surgeon General's Report that identified physical inactivity as a major health risk factor, document the magnitude of health problems that are compounded by the lack of physical activity. Daily physical activity on a moderate basis is recommended for people of all ages. (United States Department of Health and Human Services, 2003).

Adults have knowledge of traditional physical activities but have little understanding of life style physical activities. They concluded that there is a need for more education about the latest physical activity and exercise recommendations. To reach the United State's goals for healthy people, programs to promote the adoption of healthful physical activity are essential. There is a gap in the research concerning how to maximize the effectiveness of programs to foster individual exercise adherence. Several public health initiatives have begun to address this issue (Morrow et. al., 2004)

The most common motives identified are to improve or maintain health, improve physical appearance, experience enjoyment, enjoy a social experience, and obtain psychological benefits. Adherence to motives that are extrinsically motivated (i.e. improving physical appearance) may not be as enduring as those that are intrinsic (i.e. enjoyment, social, and psychological). The individual's perception of autonomy is a determining factor. If the individual perceives that he/she lacks control and free choice, then the likelihood of adherence decreases (Ryan, et al., 1997).

The changing of stages does not occur in a linear fashion, rather individuals may progress and regress through the stages. As individuals attempt to adopt change, they either succeed or fail in those efforts, affecting their cognitive and behavioral processes of change, which also causes the decisional balance to shift. For most behavioral changes, it is difficult to adhere because the sacrifices (cons) are immediate and the benefits (pros) are not. During pre-contemplation, an individual may be easily persuaded by the cons of not exercising. They may feel that exercise is too hard and not worth the effort. As one begins to exercise and progresses from preparation to action, the pros for exercising begin to outweigh the cons on the decisional balance scale. Finally, as one moves toward maintenance, one has to concentrate on the pros of exercising to keep the scale tipped in favor of the activity or one might increase their risk of relapse (Plotnikoff, Blanchard, Hotz, & Rhodes, 2001).

The purpose of this study was to assess and examine the Participation motives of university students for physical activity as a function of stages of change. It was hypothesized that Motives may vary as a function of stages of change.

METHODOLOGY

Selection of Subjects

Two hundred and Ninety eight students from a Maharshi Mahesh Yogi Vedic Vishwavidyalaya, Jabalpur (M. P.) were invited to participate in the study. Two hundred and eight students initiated the survey, but only 153 (100 male and 53 female) students completed

the questionnaires. This was a 73.50 % return rate of the total subjects studying in physical education and general education faculty. The mean age of the students was 19.47 years old.

Selection of Variables

The Participation Motivation as a psychological dependent variables and stages of change as a independent variable were chosen to know the motivation of physical education and general education students studying in Maharshi Mahesh Yogi Vedic Vishwavidyalaya, Jabalpur (M. P.) for the physical activity.

1. Participation Motives
2. Physical Activity Stages of Change

DESCRIPTION OF QUESTIONNAIRES

1. Motives For Physical Activity Measure – Revised : Motives For Physical Activity Measure – Revised (MPAM-R) is revised and prepared by Fredrick, Lepes, Ryan, Rubio and Sheldon (1997) consisted of 30- item questionnaire that assesses five motives for participating in physical activity. These motives are interest/enjoyment (“Because it’s fun”), competence (“Because I like engaging in activities which physically challenge me”), appearance (“Because I want to look or maintain weight so I look better”), fitness (“Because I want to be physically fit”), and social (“Because I want to be with my friends”). Scores are assessed on a seven-point Likert scale ranging from one (not at all true for me) to seven (very true for me).

5. Physical Activity Stages of Change Questionnaire (PASCQ) : The PASCQ (Marcus & Simkin, 1993) consists of four items representing the five stages of change in the trans-theoretical model. The student was asked to answer four questions which reflected their current exercise behaviors. For example, physical activity was defined and then the student was asked to reply yes or no to “I am currently physically active” and “I intend to become more physically active in the next 6 months.” Regular physical activity was then defined and the student was asked to answer yes or no to “I currently engage in regular physical activity” and “I have been regularly physically active for the past 6 months.” The answers were assessed by a scoring algorithm. For example, a student would be in the pre-contemplation stage if they answered no to the first two questions. For a student to be in the maintenance stage, they had to answer yes to questions one, three, and four. The scoring algorithm determined the students’ particular stage at the time they completed the questionnaire, however, this questionnaire has been shown to be stable over a 2-week period (Marcus & Forsyth, 2003).

ADMINISTRATION OF QUESTIONNAIRES

The university, where data were collected is located in a small city in the Madhya Pradesh. It is a liberal university that has a religious affiliation also. The enrollment is typically around 10,000 students. A majority of students live outside the campus. The largest majors on campus are Computer Science, Management, Education, yoga, Vedic science and physical education and is open from 10 AM to 6 PM. The fitness/health facility is owned and contains a 400 meters Track, two volleyball court, one handball court, badminton hall, one basketball court, weight training room, an outdoor walking/running track, and health centre etc.

Data was collected during the months of August and September, 2009 in the university campus through a personal contact with the respondents in university campus with the permission of Head of the university as well as departments. Respondents were

informed of the purpose of the study. Students were assured that participation in the study was completely voluntary. Questionnaires were given one after another to the students to access at their leisure. Individuals were informed that the questionnaires examine reasons for exercising and their motivation to exercise. Personal data information was also collected.

RESULTS AND DISCUSSION

To assess the participation motives and physical activity stages of change of university students, means, standard deviations, and Analysis of Variance were computed. and data pertaining to this have been presented in Table 1 to 10.

TABELE 1

DESCRIPTIVE STATISTICS OF DIFFERENT FACTORS OF MPAM AND PHYSICAL ACTIVITY STAGES OF CHANGE OF UNIVERSITY STUDENTS

Variables	Mean (N=153)	SD
MPAM		
Interest/Enjoyment	4.89	1.51
Competence	4.95	1.63
Appearance	5.11	1.44
Fitness	5.75	1.25
Social	3.44	1.53
Stages of change		
Pre-Contemplation/ Contemplation (N=28)	27.64	19.95
Preparation (19)	39.21	19.44
Action (22)	45.36	17.67
Maintenance (84)	69.78	25.87

The mean scores of MPAM and physical activity physical activity by stages of change of university students have been depicted in figure 1

TABELE 2

ANALYSIS OF VARIANCE OF PHYSICAL ACTIVITY BY STAGES OF CHANGE OF UNIVERSITY STUDENTS

Source of Variance	df	Sum of squares	Mean Square	F-ratio
Between Groups	3	46090.71	15363.57	28.73*
Within Groups	149	79666.82	534.67	

Significant at .01 level, $F_{01}(3,149)=3.91$

From Table 2 revealed that activity levels did vary across stages of change, as the obtained F-ratio of 28.73 was much high than the required $F_{01}(3,149)=3.91$ to be significant.

As the F-ratio was found to be significant, Scheffe's Test of Post-hoc comparison was applied to study the significance of differences in physical activity by four stages of change among university students and the data pertaining to this have been presented in Table 3.

TABLE 3

SIGNIFICANCE OF DIFFERENCES AMONG UNIVERSITY STUDENTS BETWEEN ORDERED PAIRED MEANS ON FOUR STAGES OF CHANGE OF PHYSICAL ACTIVITY

Mean Score of Contemplation	Mean Score of Preparation	Mean Score of Action	Mean Score of Maintenance	Paired mean difference	Confidence Interval (C. I.)
27.64	39.21			11.57*	8.63
27.64	-	45.36		17.72*	
27.64	-		69.78	42.14*	
-	39.21	45.36		6.15	
-	39.21		69.78	30.57*	
-	-	45.36	69.78	24.42*	

*Significant at .01 level,

It is quite obvious from the table 3, that there were significant differences on stages of change of physical activity among university students between contemplation – preparation followed by action and maintenance; preparation – maintenance; and action-maintenance, as the paired mean differences of 11.57, 17.72, 42.14, 30.57 and 24.42 respectively were higher than the confidence interval (C.I.) of 8.63. But the mean differences of 6.15 was not significant at 0.01 level.

TABELE 4

GROUP MEANS AND STANDARD DEVIATIONS OF PARTICIPATION MOTIVES AND STAGE OF CHANGE OF UNIVERSITY STUDENTS

Stage	Interest /Enjoyment		Competence		Appearance		Fitness		Social	
	M	SD	M	SD	M	SD	M	SD	M	SD
Contemplation (N=28)	3.48	1.78	3.33	1.76	4.13	1.93	4.49	1.65	2.76	1.51
Preparation (N=19)	4.23	1.39	4.25	1.28	5.15	1.31	5.83	1.14	2.54	1.04
Action (N=22)	4.73	1.17	4.29	1.13	5.18	1.43	5.43	1.09	3.09	1.35
Maintenance (N=84)	5.51	1.11	5.74	1.22	5.44	1.12	6.25	.79	3.91	1.50

The mean scores of five factor of participation motives by stages of change of university students have been depicted in figures 2 to 6.

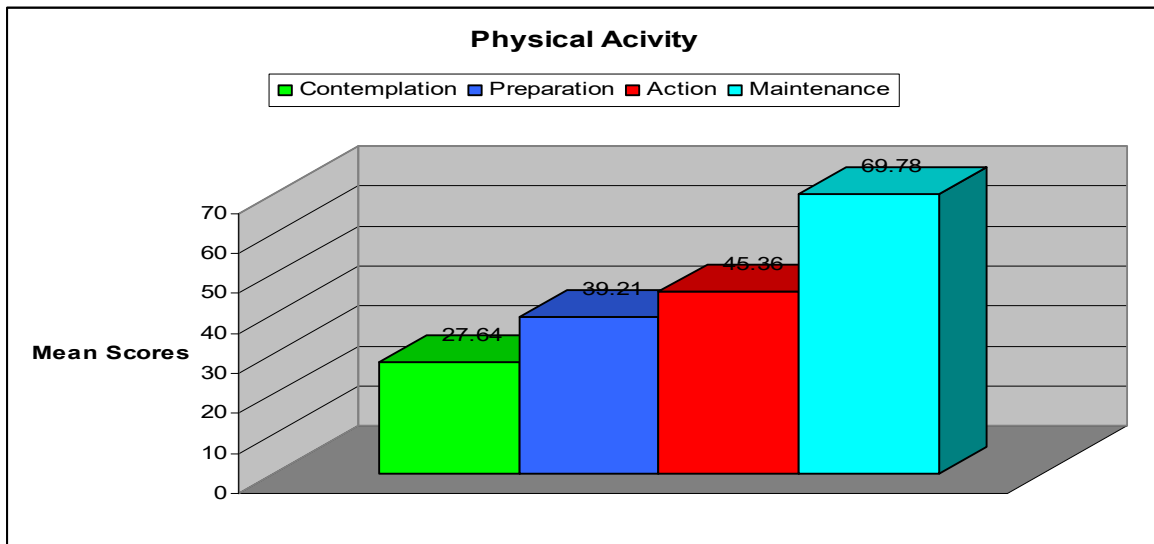


Fig. 1: Mean Scores of Physical Activity by Four Stages of Change of University Students

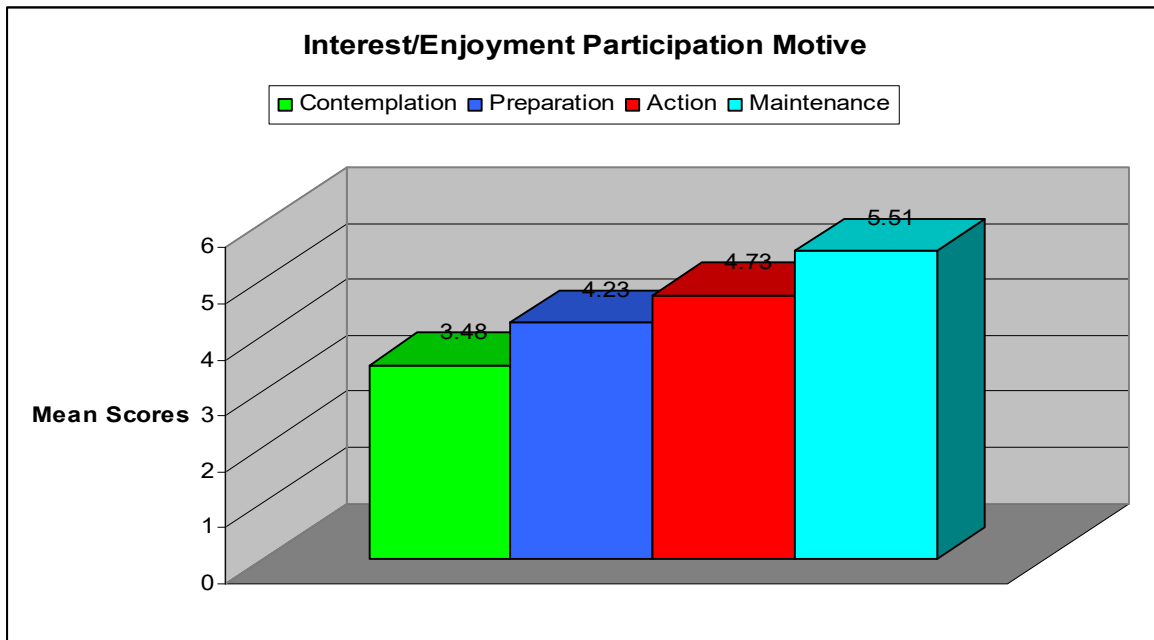


Fig. 2: Mean Scores of Interest/enjoyment Participation Motives by Four Stages of Change of University Students

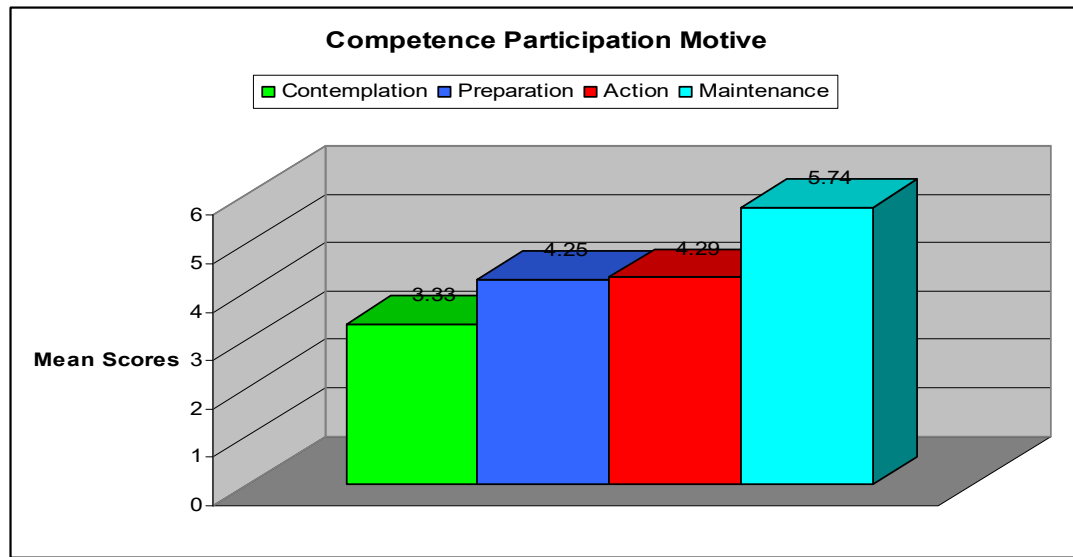


Fig. 3: Mean Scores of Competence Participation Motives by Four Stages of Change of University Students

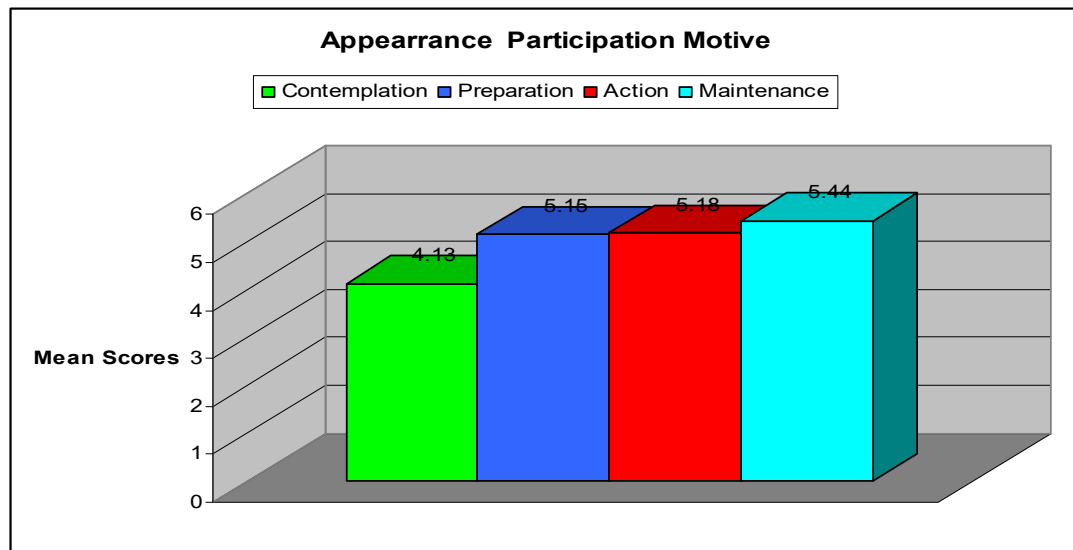


Fig. 4: Mean Scores of Appearance Participation Motives by Four Stages of Change of University Students

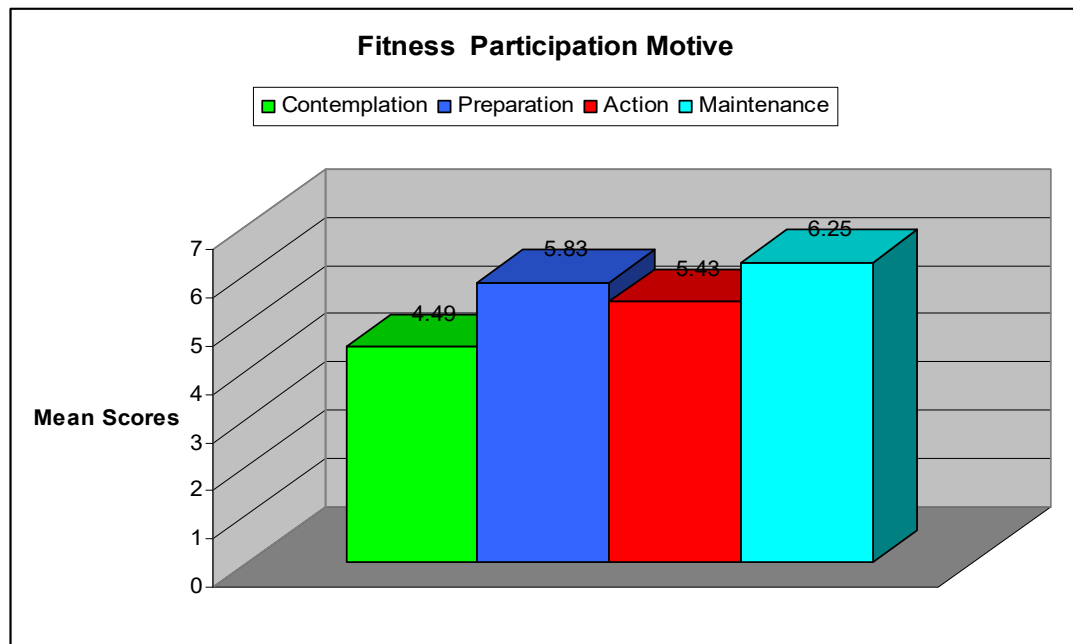


Fig. 5: Mean Scores of Fitness Participation Motives by Four Stages of Change of University Students

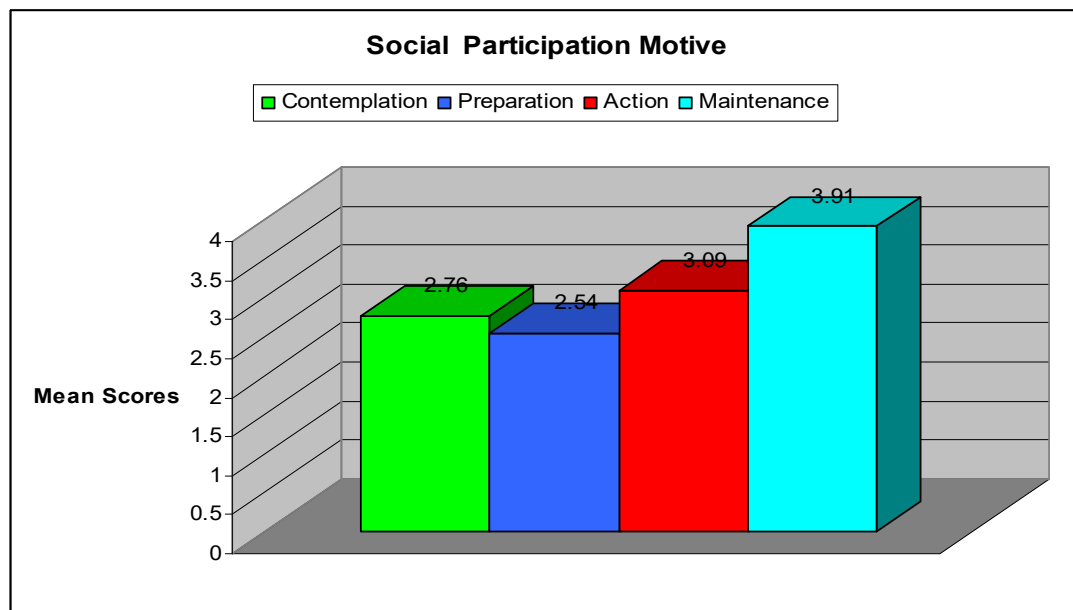


Fig. 6: Mean Scores of Social Participation Motives by Four Stages of Change of University Students

TABELE 5**ANALYSIS OF VARIANCE OF PARTICIPATION MOTIVES BY STAGES OF CHANGE OF UNIVERSITY STUDENTS**

Participation Motives	Source of Variance	df	Sum of squares	Mean Square	F-ratio
Interest/Enjoyment	Between Groups	3	1101.47	33.82	20.47*
	Within Groups	149	246.18	1.65	
Competence	Between Groups	3	156.20	52.07	31.19*
	Within Groups	149	248.69	1.67	
Appearance	Between Groups	3	34.63	11.54	6.15*
	Within Groups	149	279.51	1.88	
Fitness	Between Groups	3	65.71	21.90	18.83*
	Within Groups	149	173.35	1.16	
Social	Between Groups	3	53.84	17.95	8.79*
	Within Groups	149	304.43	2.04	

Significant at .01 level, $F_{01}(3,149)=3.91$

From Table 5, It is evident that the statistically significant difference existed among university students on five factor of participation motives i. e. interest/enjoyment, competence, appearance, fitness and social, as the obtained F-values of 20.47, 31.19, 6.15, 18.83 and 8.79 respectively were higher than the required $F_{01}(3, 149) = 3.91$.

As the F-ratio was found to be significant, Scheffe's Test of Post-hoc comparison was applied to study the significance of differences among university students on five factor of participation motives and the data pertaining to this have been presented in Table 6 to 10.

TABLE 6**SIGNIFICANCE OF DIFFERENCES AMONG UNIVERSITY STUDENTS BETWEEN ORDERED PAIRED MEANS ON STAGES OF CHANGE BY INTEREST/ENJOYMENT MOTIVE**

Contemplation	Preparation	Action	Maintenance	Paired mean difference	Confidence Interval (C. I.)
3.48	4.23	-	-	.75*	0.48
3.48	-	4.73	-	1.25*	
3.48	-	-	5.51	2.03*	
-	4.23	4.73	-	0.50*	
-	4.23	-	5.51	1.28*	
-	-	4.73	5.51	0.78*	

*Significant at .01 level,

It is quite obvious from the table 6, that there were significant differences on stages of change of interest/enjoyment motive among university students between contemplation – preparation followed by action and maintenance; between preparation-action followed by maintenance; and between action- maintenance, as the paired mean

differences of .75, 1.25, 2.03, .50, 1.28 and .78 respectively were higher than the confidence interval (C.I.) of 0.48

TABLE 7
SIGNIFICANCE OF DIFFERENCES AMONG UNIVERSITY STUDENTS BETWEEN ORDERED PAIRED MEANS ON STAGES OF CHANGE BY COMPETENCE MOTIVE

Contemplation	Preparation	Action	Maintenance	Paired mean difference	Confidence Interval (C. I.)
3.33	4.25	-	-	.92*	0.48
3.33	-	4.29	-	.96*	
3.33	-	-	5.74	2.41*	
-	4.25	4.29	-	.04	
-	4.25	-	5.74	1.49*	
-	-	4.29	5.74	1.45*	

*Significant at .01 level,

It is quite obvious from the table 7, that there were significant differences on stages of change of competence motive among university students between contemplation – preparation followed by action and maintenance; between preparation – maintenance; and between action- maintenance, as the paired mean differences of .92, .96, 2.41, 1.49, and 1.45 respectively were higher than the confidence interval (C.I.) of .48 But the mean differences of .04 was not significant at 0.01 level.

TABLE 8
SIGNIFICANCE OF DIFFERENCES AMONG UNIVERSITY STUDENTS BETWEEN ORDERED PAIRED MEANS ON STAGES OF CHANGE BY APPEARANCE MOTIVE

Contemplation	Preparation	Action	Maintenance	Paired mean difference	Confidence Interval (C. I.)
4.13	5.15	-	-	1.02*	0.51
4.13	-	5.18	-	1.05*	
4.13	-	-	5.44	1.31*	
-	5.15	5.18	-	0.03	
-	5.15	-	5.44	0.29	
-	-	5.18	5.44	0.26	

*Significant at .01 level,

It is quite obvious from the table 8, that there were significant differences on stages of change of appearance motive among university students between contemplation – preparation followed by action and maintenance; as the paired mean differences of 1.02, 1.05, and 1.31 respectively were higher than the confidence interval (C.I.) of .51 But the mean differences of .03, .29, and .26 were not significant at 0.01 level.

TABLE 9
SIGNIFICANCE OF DIFFERENCES AMONG UNIVERSITY STUDENTS BETWEEN
ORDERED PAIRED MEANS ON STAGES OF CHANGE BY
FITNESS MOTIVE

Contemplation	Preparation	Action	Maintenance	Paired mean difference	Confidence Interval (C. I.)
4.49	5.83	-	-	1.34*	0.41
4.49	-	5.43	-	0.94*	
4.49	-	-	6.25	1.76*	
-	5.83	5.43	-	0.40	
-	5.83	-	6.25	0.42	
-	-	5.43	6.25	0.82	

*Significant at .01 level,

It is quite obvious from the table 9, that there were significant differences on stages of change of fitness motive among university students between contemplation – preparation followed by action and maintenance; preparation – maintenance; and action-maintenance, as the paired mean differences of 1.34, .94, 1.76, .42 and .82 respectively were higher than the confidence interval (C.I.) of .41. But the mean differences of .40 was not significant at 0.01 level.

TABLE 10
SIGNIFICANCE OF DIFFERENCES AMONG UNIVERSITY STUDENTS BETWEEN
ORDERED PAIRED MEANS ON STAGES OF CHANGE BY
SOCIAL MOTIVE

Contemplation	Preparation	Action	Maintenance	Paired mean difference	Confidence Interval (C. I.)
2.76	2.54	-	-	0.22	0.53
2.76	-	3.09	-	0.33	
2.76	-	-	3.91	1.15*	
-	2.54	3.09	-	0.55*	
-	2.54	-	3.91	1.37*	
-	-	3.09	3.91	0.82*	

*Significant at .01 level

It is quite obvious from the table 10, that there were significant differences on stages of change of social motive among university students between contemplation – maintenance; preparation – action; followed by maintenance; and action- maintenance, as the paired mean differences of 1.15, .55, 1.37, and .82 respectively were higher than the confidence interval (C.I.) of .53. But the mean differences of .22 and .33 were not significant at 0.01 level.

DISCUSSION OF FINDINGS

The purpose of this study was to investigate university student's motivations to be physically active and to examine the effects of a required physical activity course on university students' levels of physical activity.

Physical Activity and Stages of Change

Students in the pre-contemplation/ contemplation stages are just considering becoming active while those in the maintenance have been active for at least 6 months. This finding is not unique, and is in agreement with previous studies (Cardinal et al., 2004). ANOVA also revealed that physical activity did vary across stages of change .

Motives and Stages of Change

Motives were hypothesized to vary as a function of stages of change, and those hypotheses were supported. Participants in the maintenance, action, and preparation stages had higher scores on decisional balance than those in pre-contemplation/contemplation, meaning they had more pros than cons.

All five motives were found to differ across the stages of change. Specifically, those students in the pre-contemplation/contemplation stages rated all motives except social as less important than the other stages. The ratings of all motives increased across the stages from pre-contemplation/contemplation to the maintenance stage.

Physical Activity, Motivation and Activity level

A secondary purpose of this study was to examine the effect of a required physical activity on students' motivation and activity levels. There were no significant differences between students who had taken the course and those who had not on the stages of change, self-reported physical activity, self-determination, decisional balance, or self-efficacy. There was, however, a trend to suggest group differences for the motives might vary based on course participation. The follow-ups test revealed that the students who had taken the course rated interest/enjoyment, competence, and social motives higher than those who had not. This could be a positive result of the course, in that the students felt more confident to participate in physical activity and enjoyed it. There were also no differences in the self-reported physical activity levels.

DEVELOPMENT OF PHYSICAL EDUCATION IN INDIA AND THAILAND (SIAM): AN OVERVIEW

Michael Bingamin Dhan*

ABSTRACT

The objective of the present study, titled “Development of Physical Education in India and Thailand: A Philosophical Overview,” is to establish cultural and emotional unity through the teachings of Indian sages, reduce regional disparities, and promote human dignity. Physical education is an educational process through which human beings study their physical activities and, through physical exercise, yoga, sports, recreation, and mental, spiritual, and social development, achieve a healthy, capable, and balanced lifestyle. Through physical education and yoga, individuals acquire knowledge, skills, and values that help them attain the fourfold objectives of life—dharma, artha, kama, and moksha.

Therefore, while defining health, the World Health Organization (WHO) has stated that health does not merely mean the absence of disease or infirmity, but a state of complete physical, mental, spiritual, and social well-being. In the modern era, human development is viewed through various dimensions, such as:-Curative and Preventive, Environmental. Physical, Mental, Spiritual, Social, Coordinational, Vocational, Emotional, Educational, Nutritional and Well-being dimensions

Keywords: Physical Education, Sports, development, India, Thailand

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1. INTRODUCTION

Keeping these facts in view, eminent Indian sages and thinkers such as Dhanvantari, Charaka, Sushruta, Vagbhata, Patanjali, and the Saptarishis—Vashishtha, Kashyapa, Atri, Jamadagni, Vishwamitra, Gautama, and Bharadwaja—made significant contributions to human welfare and physical–mental development. A major link in this tradition is the propagation of Buddha's Dharma Chakra, which remains influential even today.

Thailand (Siam) stands as a living example where Buddhism has continued uninterrupted, unlike India, which faced repeated invasions and destruction during medieval times. Even today, historical examples remain that testify to these events.

2. PHYSICAL EDUCATION IN INDIA

In the development of physical education, the contributions of Western educationists such as Charles A. Bucher, C. C. Cowell, Cassidy, J. B. Nash, Williams, and R. A. Seaman cannot be ignored. In India, from ancient times, special emphasis was laid on physical education in Gurukuls and royal courts.

Archery of Dronacharya, Patanjali's yoga system, wrestling, mace fighting, swordsmanship, dance, music, and athletic excellence described in epics like the Ramayana, Mahabharata, and the works of Valmiki and Kalidasa are globally renowned. Characters such as Rama, Lakshmana, Arjuna, Karna, and Ekalavya were experts in archery, while Hanuman, Bhima, and Duryodhana excelled in wrestling and mace combat.

In 1859, the British established gymnastic institutions in India to promote physical training. In 1920, H. C. Buck founded the YMCA to provide physical education training. In 1914, the Hanuman Vyayam Prasarak Mandal was established by Ambu and Pant brothers at Amravati (Maharashtra) for the promotion of physical education, inaugurated by Mahatma Gandhi. This institution revived and promoted Mallakhamb and indigenous physical practices worldwide.

Later, government colleges of physical education were established in Hyderabad (1931) and Patiala (1932). After independence, the Government of India made continuous efforts to promote physical education, yoga, and sports. Institutions such as Lakshmibai National Institute of Physical Education (1957) at Gwalior and Morarji Desai National Institute of Yoga, Delhi, have played a vital role. The Government of India, through the Ministry of AYUSH, provides substantial financial support for these initiatives.

Today, the world recognizes that solutions to many global problems lie in education, yoga, and value-based physical activity. As a result, 177 countries unanimously accepted June 21 as the International Day of Yoga, promoting human values and ecological balance.

3. PHYSICAL EDUCATION AND SPORTS IN THAILAND

Thailand, surrounded by Myanmar, Laos, Malaysia, and Cambodia, has access to coastal regions where swimming, boating, wrestling, archery, and other physical activities have flourished. Performing arts, sculpture, temple architecture, and dance are deeply embedded in Thai culture.

The Ramayana is artistically depicted in Thailand, Cambodia, and Indonesia during auspicious occasions. Buddhism spread widely in Thailand, yet no violent conflict occurred with the earlier established Sanatan Brahmanical culture.

Thailand's National Sports University integrates education systems, expands sports science, implements health protection policies, and operates under the Ministry of Tourism and Sports. The Institute of Physical Education (IPE), established in 1935 and later developed

into the Thailand National Sports University (TNSU), has played a key role in promoting sports and research throughout the country.

Thailand has also developed national activity plans to combat non-communicable diseases (NCDs) and improve public health. Community education centers actively involve youth, women, and the elderly in fitness, life skills, and wellness programs. Thailand has successfully hosted several international sporting events and produced internationally recognized athletes.

In 2025, Thailand imposed a complete ban on corporal punishment of children. The country represents a harmonious blend of Sanatan and Buddhist cultural values, offering lessons not only to India but to the entire world.

4. CONCLUSION

Despite achieving immense material progress, modern humans have become physically, mentally, spiritually, and socially weaker. The present research attempts to address this imbalance. The true impact of this research will be assessed by future generations; however, it is evident that this work has completely transformed the researcher's own lifestyle, daily routine, and values in accordance with ancient wisdom.

The research was initiated with the aspiration of "self-welfare," and that aspiration has been fulfilled. Today, the cordial relations between India and Thailand continue to bless humanity with mutual goodwill and cooperation.

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