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TIME SERIES STUDY AND THE RESULTING TREND OF SPORTS PERFORMANCE AT VARIOUS LEVELS OF COMPETITIONS OF PROMINENT COLLEGES OF MANGALORE UNIVERSITY

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ABSTRACT

Physical Education and Sports have played a major role in shaping the personality of a child. In colleges, sports play an important role in the physical and mental development of students. Intercollegiate competitions form the major sports programs which can be participated in by a majority of the students and this leads them to being selected for inter university competitions. Like in many other universities, in Mangalore University also there is the fight for sports supremacy by many of the colleges. This study has selected a few of the icon colleges of Mangalore University and has studied the trend in their performances over the years. The investigator has observed that some of the colleges have left their years of sports excellence behind them while some are struggling in the face of other emerging colleges. Since these colleges have existed for more than 50 years, there was a need to document the trend in their sports performances. The data has been gathered over 20 years and is presented in the form of trend line charts to give a clear picture to the readers.

Keywords : Sports, Colleges, Interuniversity, State, National, Sports, Performance.

1. INTRODUCTION

Every human being has the fundamental right of access to physical education and sport, which are essential for the full development of his personality. The freedom to develop physical, intellectual and moral powers through physical education and sport must be guaranteed both within the educational system and in the other aspects of social life. Everyone must have full opportunities, in accordance with his national tradition of sport, for practicing physical education and sports, developing the physical fitness and attaining level achievements in sport which corresponds to his gifts

The concept of physical education has undergone a radical change, it is strongly recommended to consider it as a compulsory subject for students. It is stressed by the educationist that physical education should be given an important place in the daily programs of educational institution. The talented students are given specific training to enable them to take part at different levels. This wider range of activities requires skillful handling by efficient person.

Every human being has the fundamental right of access to physical education and sport, which are essential for the full development of his personality. The freedom to develop physical, intellectual and moral powers through physical education and sport must be guaranteed both within the educational system and in the other aspects of social life. Everyone must have full opportunities, in accordance with his national tradition of sport, for practicing physical education and sports, developing the physical fitness and attaining level achievements in sport which corresponds to his gifts. Sports for all, is not about elitism it is not only about young people, it is about the whole of society. If you believe that society must do all it can to bring the same opportunities to the widest possible market.

Athletics at the collegiate level is undergoing a continual metamorphosis. This ever-present change places an increased importance on the leadership ability of the athletic administrator. Leadership ability impacts a variety of organizational outcomes, including subordinate satisfaction. **Davis (2001)** conducted an analysis to examine the perceived leadership styles of selected junior college athletic directors at two-year colleges in New York and Vermont and the reported levels of satisfaction of the head coaches who report to them. It was concluded that variables like age, gender, experience, and education have little impact on the perception of satisfaction by coaches. If given the resources and support to produce a successful programme, coaches will be satisfied.

Department size and complexity was determined by the number of faculty in the department, the number of program majors offered by the department, the number of service program course sections offered by the department, and the level of the department's degree program, either undergraduate only or undergraduate and graduate **(Mccaffrey, 2007).** Close to 500 institutions are now members of the National Junior College Athletic Association and many have joined in the past few years. Some of the recent interest in community college intercollegiate athletics may be partially generated by the desire to provide a traditional college experience for 18- to 22-year-olds at the community college; but many of the new or expanded athletics programs come from a desire among college officials to attract more students **(Mccaffrey, 2007).**

Shoun (1980) conducted a study, whose purpose was to collect and analyze the data needed to evaluate the status of the physical education programmes in the six four-year institutions of higher education under the control of the Tennessee State Board of Regents. The six areas were instructional staff, facilities, programme (organization), programme (activities),

administration, and professional education curricula. Three sources were used to gather the data which included: Personal interviews--each of the six campuses was visited so that personal interviews could be held with each physical education department chairperson, athletic director, and intramural director **(Mccaffrey,2007)** faculty questionnaire--each faculty member was requested to complete a questionnaire concerning his/her professional background and **Shoun, (1980)** catalogues were reviewed to ascertain specific course offerings at the undergraduate, master's, and doctoral levels. **Grant (1981)** conducted a study to determine the current status of the physical education, intercollegiate athletic and intramural programmes in community colleges in the State of Ohio. Comparisons and analyses were made regarding Ohio's ten community colleges in areas such as **Davis (2001).** The physical education service programme. **(Mccaffrey, 2007).** The professional preparation programme (**Shoun, 1980)**. The intramural and recreational programme. **(Grant,1981).** The intercollegiate athletic programme. Information pertaining to the ten Ohio Community Colleges was collected by means of a questionnaire and a follow-up interview with the chairmen of the physical education departments.

Briggs (1984) investigated the current status of physical education programmes in the community colleges and junior colleges in Tennessee. The following areas were selected for study: characteristics of the institution; physical education faculty; physical education curriculum (service/activity classes); programme evaluation procedures; physical education curriculum (professional); and facilities. A questionnaire was sent to ten community colleges and five junior colleges. The following conclusions were drawn from the study **(Davis, 2001).** Each institution has a required service/activity programme and the vast majority has a one-year requirement **(Mccaffrey, (2007).** Community colleges use the quarter system while junior colleges use the semester academic calendar (**Shoun, 1980).** The letter grade system is the method used for assigning grades. (**(Grant,1981).** The majority of full-time faculty possess the master's degree. (5) The vast majority of institutions schedule service/activity classes two days per week for fifty-minute periods. (6) Interest in fitness activities, recreational activities, and individual and dual sports has increased during the past five years. (7) There has been a decrease in interest in gymnastics, team sports, and rhythms and dance activities during the past five years. (8) Professional physical education courses are offered in the vast majority of the institutions. (9) Intramural activities and intercollegiate sports are provided in the vast majority of the institutions.

Bamigboye (1985) did an appraisal study of the physical education programme in the teachers' colleges in the Kwara State on the four components pertaining to curriculum, faculty, administrative practices, and facilities and equipment; and make recommendations for improving the physical education programme to the Kwara State government. The Findings indicated: (1) Physical education curriculum in the teachers' colleges in the Kwara State needed a reform. (2) Qualified physical education faculty were to be posted to the teachers' colleges to teach prospective elementary schools physical education teachers. (3) Some administrators in the teachers' colleges saw physical education as an unimportant part of the total education programmes in the college **(Grant,1981).** Provision of adequate facilities and equipment was a significant factor in the production of competent and effective physical education teachers for the elementary schools in the Kwara State.

Beaver (2000) conducted a survey of physical education programmes in the Community Colleges of North Carolina during the 1996-1997 academic school year. This study provides descriptive data on the physical education programmes of the community colleges of North Carolina as of 1996. **Dean (1996)** conducted an analysis of the Pomona Women's Intercollegiate

athletics. Eighty-three personal interviews were conducted with current and past athletic directors, coaches, deans, presidents and athletes. The interviews included questions about the person's background, the five-college system, finances, personnel, coaching, administration, facilities, recruiting, competitiveness, specific sport participation, gender equity and the various athletic management structures.

Kelley (2002) examined the demographic characteristics of interscholastic athletic directors. Descriptive statistics indicate that the majority of interscholastic athletic directors are 49; 50-year-old males who have more than 10 years of experience and administer athletics at schools that have a large enrolment. Bachelor's degrees in physical education and Master's degrees in educational administration are the most popular terminal degree disciplines for athletic directors. **Khasawneh (2003)**, examined the current as well as the future of sport and physical education in Jordan as envisioned by Jordanian educators. The findings and results of this study indicate that this study may serve as a model in order to plan for the future to improve the movement of Jordanian sports and physical education.

In Masters unpublished dissertations, **Shubha (2002)** and **Eshwara (2003)** have evaluated the intramural and intercollegiate sports competitions in the colleges of Mangalore University respectively. It was found that though there was only one Physical Education Director in almost all the colleges, the intramural sports programmes were conducted regularly. The intercollegiate sports programmes were evaluated based on the facilities provided, officiating, accommodation to the teams, food and refreshments provided and the technical modalities followed. The opinions were collected from the participants and information also gathered by the investigator by personal observation. It was found that of the twenty events conducted for men and sixteen for women, only a few events succeeded in satisfying the participants with regard to the above-mentioned parameters. **Shanthala (2003)**, in her study on the attitudes of principals of colleges affiliated to Mangalore University, towards sports and games concluded that the principals possessed a positive attitude towards participation of their students in sports and games, and also that they sported a healthy attitude towards sports. **Moras (2002)** has done a study on sports and games in the colleges of Mangalore city from a women's perspective, highlighting the women' needs and attitudes towards sports participation at the collegiate level.

1.1 Research problem

From the review lot of studies has been done on physical education at international, national and regional level. Among the studies done on subjects related to physical education programme, structure, facilities and management of physical education programmes at the school level, there is a shortage of studies at the college levels in the Indian scenario. This study attempts to build a longitudinal development of physical education in selected traditional colleges in this area.

2. METHODOLOGY

Data is collected from the selected colleges by using structured questionnaire and interview method. The researcher has used Time series analysis for finding the trend performance within the groups of colleges in Intercollegiate, Inter- university, state and national level.

The popular icon colleges are St. Aloysius College, Mangalore. SDM College Ujire, St. Philomena College, Puttur,St. Agnes College, Mangalore and MGM College, Udupi. The research is done for a long - term time period and the stretch considered for the same is from the year 1990-91to the year 2009-10.

The colleges are selected on the basis of years of existence, student population, Courses offered and history of sports participation. The performances are assessed based on the points for participation and positions earned in competitions, and points tabulated on the basis of points awarded by the university for intercollegiate and sports performance consideration for academic seats.

3. RESULT AND DISCUSSION

The first objective of the paper is to know the trend performance of the colleges in collegiate, inter- university, state and national level. The second objective of the paper is to identify the variations of performance among icon colleges. Time series analysis is used for analyzing the performance among the colleges. The results shown in the graph below shows the output based on Time series analysis and whether we have a statistically significant difference between among icon colleges.

3.1 COLLEGE LEVEL MEN'S PERFORMANCE

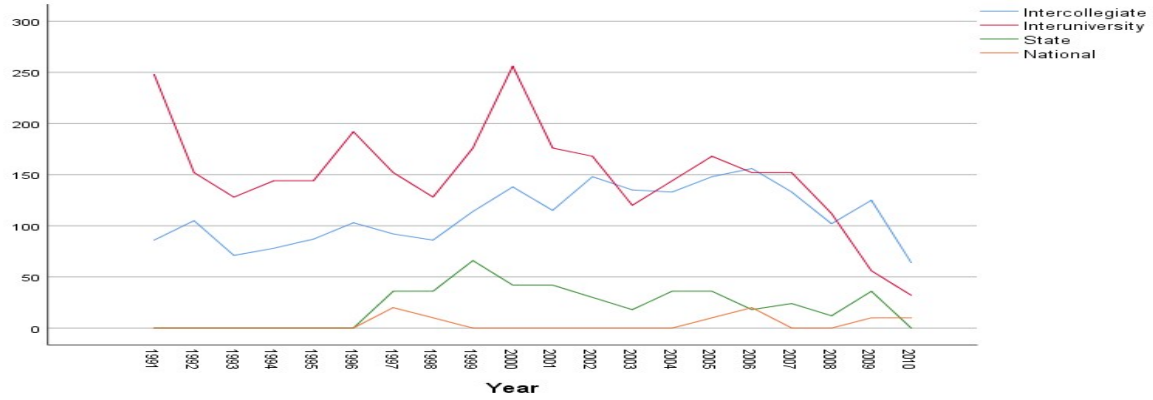

Figure 1. Performance Evaluation- St Aloysius College, Mangalore

The above figure 1, shows that level of performance of St. Aloysius college in Inter-collegiate, Inter university, State level and National level. It indicates a good and steady performance till about 2007 while it declines after that. Being a icon college, the level of performance is above 100 for most of the years, while it dips below that after 2007. The inter university and intercollegiate performances move proportionately throughout the period of study.

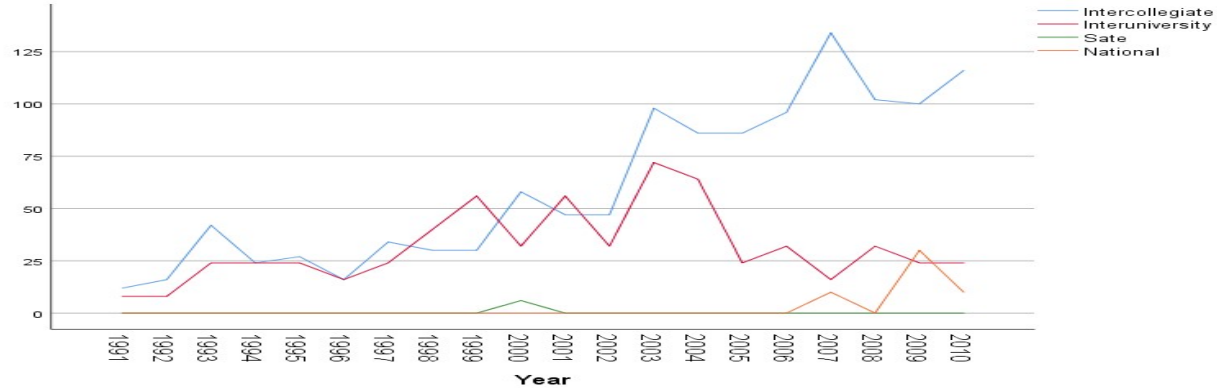

Figure 2. Performance Evaluation- SDM College, Ujire

The above figure 2 shows that level of performance of SDM college in Inter-collegiate, Inter university, State level and National level. The figure indicates a consistent performance in inter university competitions and there is a sharp rise in performance after 2002. This indicates that SDM College has been making steady progress over the years.

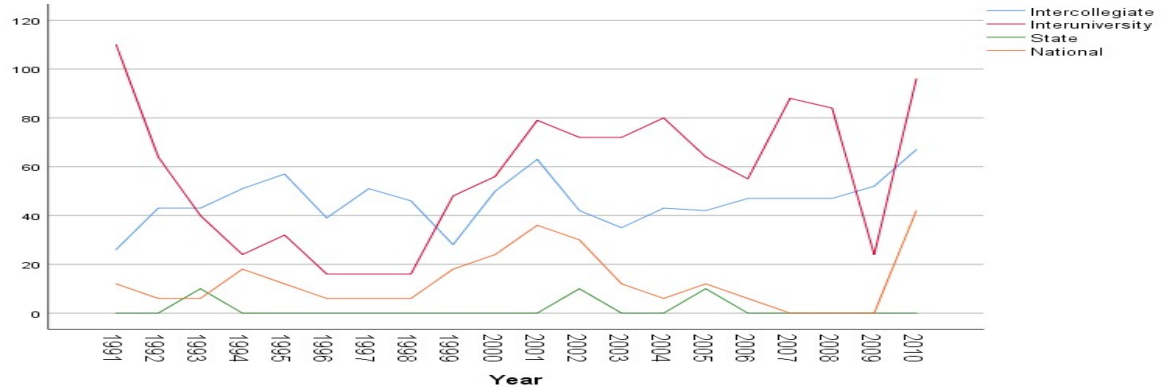

Figure 3. Performance Evaluation- St. Philomena College, Puttur

The above figure 3 shows the level of performance of St. Philomena college in Inter-collegiate, Inter university, State level and National level in the men section. There is consistent performance in inter collegiate and inter university competitions, while there is decent performance in national competitions. From the above figure, it is clear that in 1991-92 highest participation in in Inter- University level, remaining years a decline from 1992-93 to 1997-98, followed by an increase in their performance in successive years.

Figure 4 shows that level of performance of MGM college in Inter-collegiate, Inter university, State level and National level in the men section. It shows relatively poor performance except for a spike in the last year. This could indicate that there has been a excellent performance most likely by a few individuals. Consistent performance indicates that there has been a good team at play which carries over the performance over successive years.

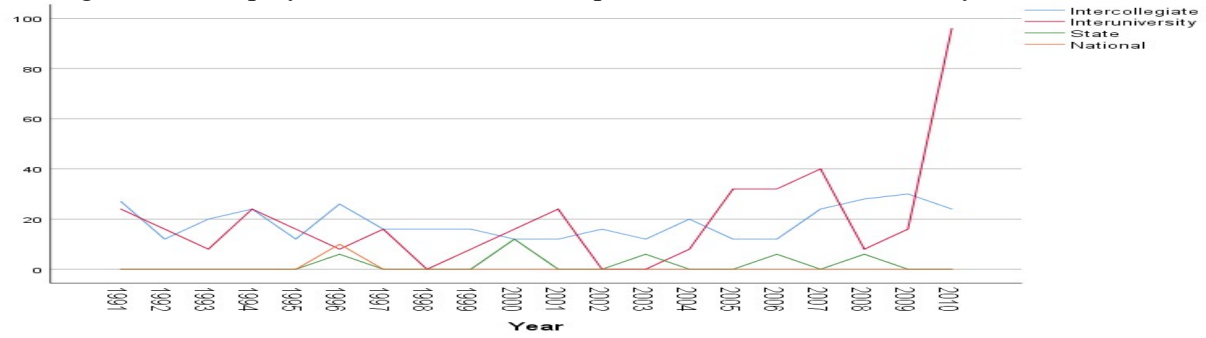

Figure 4. Performance Evaluation- MGM College, Udupi

3.2 COLLEGE LEVEL WOMEN PERFORMANCE

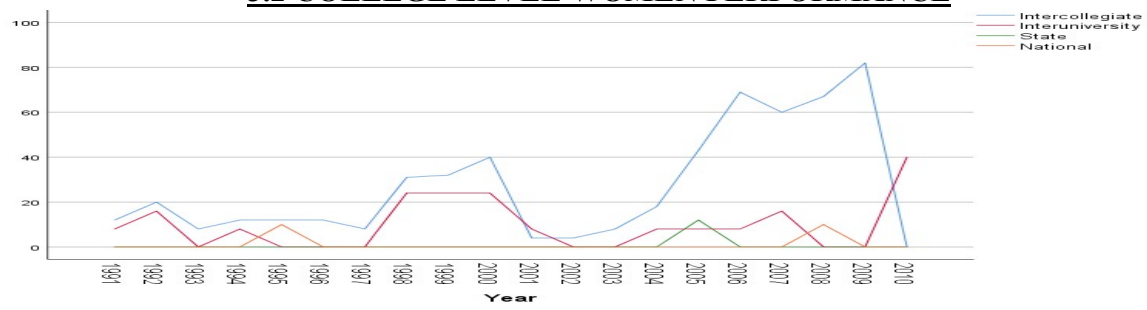

Figure 5. Performance Evaluation- St Aloysius College, Mangalore

The above graphs shows that level of performance of St. Aloysius college in Inter-collegiate, Inter university, State level and National level. St. Aloysius college being a

predominantly boys college in the early years of study, shows a rise in performance in the women section after 2004. It exhibits good performance in inter collegiate competitions.

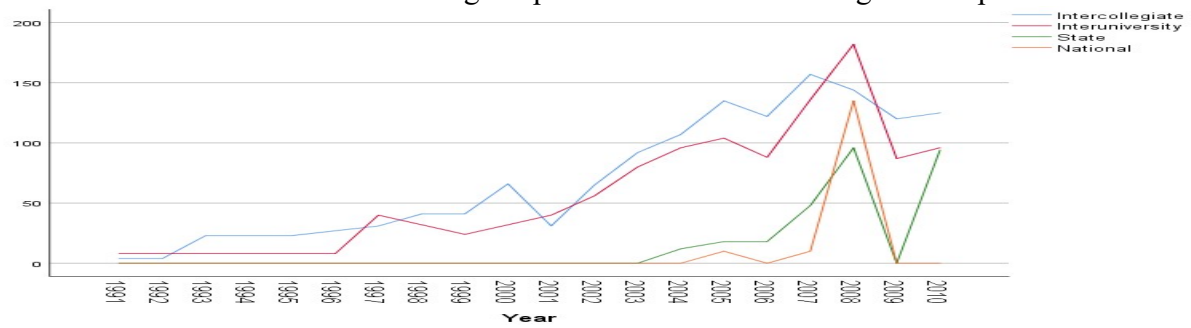

Figure 6. Performance Evaluation- SDM College, Ujire

The above graph shows that level of performance of St. SDM college in Inter-collegiate, Inter university, State level and National level. The figure indicates that SDM College, Ujire shows continuous improvement over the years of study, but drops off in the las two years. It shows proportionate performances in all the four levels of competitions. It shows a near linear improvement for below 50 points before 2000 to above 150 points in 2007-2008.

Figure 7 shows that level of performance of St. Philomena college in Inter-collegiate, Inter university, State level and National level. This shows that fluctuating level of performance in 4 different level competition. Figure 7 displays the fact the St. Philomena college shows good performance at inter university and inter collegiate competitions, sporadically. The maximum points it scores is 30 in 2001 for inter university performance.

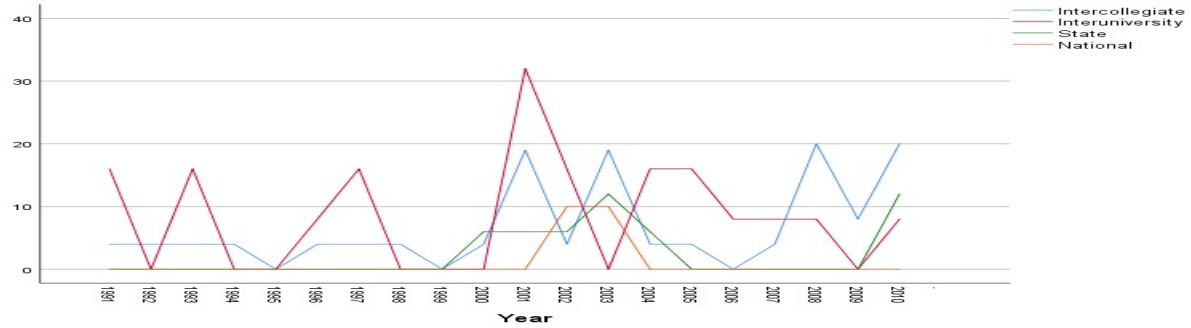

Figure 7. Performance Evaluation- St Philomona College, Puttur

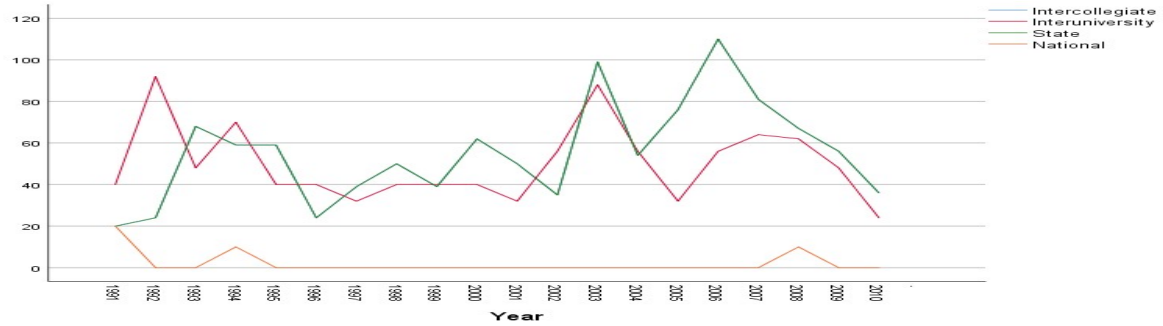

Figure 8. Performance Evaluation- St Agnes College, Mangalore

Figure 8 shows that level of performance of St. Agnes college in Inter-collegiate, Inter university, State level and National level. This shows that fluctuating level of performance in 4 different level competition. From the above figure, it is clear that in 1990-91 to 2009-10a constant level of participation and performance in all four level competition.

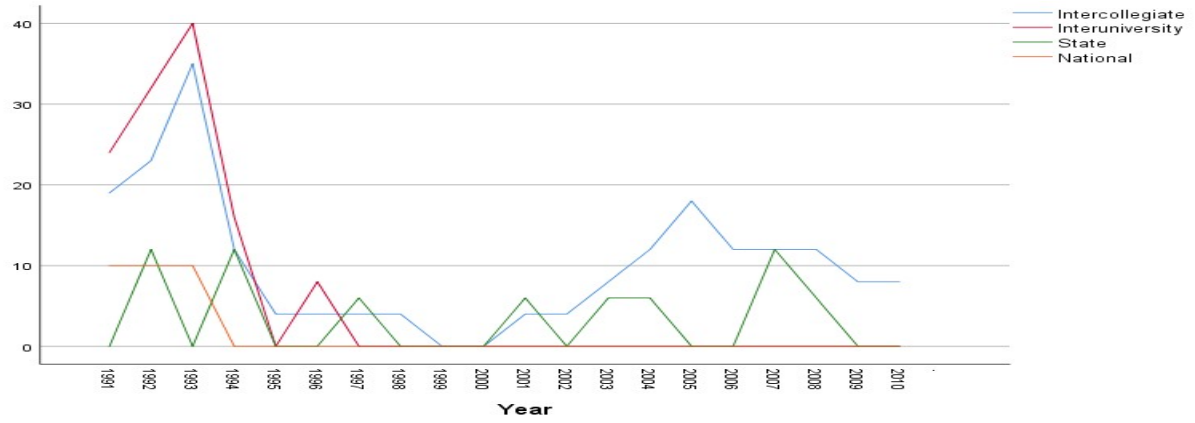

Figure 9. Performance Evaluation- MGM College, Udupi

The above graphs shows that level of performance of MGM college in Inter-collegiate, Inter university, State level and National level. It shows that fluctuating level of performance in 4 different levels of competition. From the above figure, it is clear that in 1994-95 highest participation in in Inter- University level, remaining years a sharp decline from 1992-93 to 1997-98, the after going to increase in their performance. In the last few years of study there has been slightly better performance in Inter collegiate competitions.

4. CONCLUSION

Physical education is an integral phase of education concerned with the physical mental and social growth. Development and adjustment of individual through guided instruction and participation in sports, rhythms, gymnastics and related activities, by which the various unique needs of the learner are served.

All the colleges do reasonably well in intercollegiate and inter university competitions, while they lag behind in national and state competitions. It is understandable because there are few tournaments at the state and national levels where they can participate as a college team, so they have to rely on performances in individual events at those levels.

This study throws useful insights into the trend of performances over the years. Causes for the decline or increase in performances could be looked into in similar studies.

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FITNESS ASSESSMENT AND EFFECT OF NUTRITION INTERVENTION IN 12-14 YEARS OLD (MALE) FOOTBALL PLAYERS DURING TRAINING DAYS

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ABSTRACT

Poor nutrition intake, dehydration, and fatigue are some of the most common causes of a decrease in the performance during the football training sessions. This study analyzed the food intake pattern and measured the effect of an 8-week nutrition intervention to improve the performance of 12-14 years old male players playing at club level during training days. A 3-Day dietary recall estimated that the 13 players had poor energy intake, excessive protein intake, and optimal fat and carbohydrate intake. Fitness assessments comprising of 20 m shuttle test (endurance), test for muscle endurance (plank), functional test (Glute Bridge), and test for speed (10 m sprint) were conducted (152.6 ± 8.1 cm, 39.2 ± 6.23 kgs, and 16.6 ± 1.65 kg/m2) before and after the intervention. The nutrition intervention comprised of pre, during and post-training meals in the form of sports drinks (6% CHO), dates and bananas for carbohydrates and cottage cheese and egg whites for proteins as the 2-hour training sessions included warm-up, functional training, skill training, and small durations of a practice match. At the end of 8 weeks the aerobic capacity improved from 40.4 ± 6.01 to 45.0 ± 2.7 ml O2/kg/min and the muscle endurance improved from 96.8 ± 52.9 to 165 ± 76.5 seconds.

Keywords – Fitness, Performance, Endurance, Nutrition, Carbohydrate, and Protein

1. INTRODUCTION

The evolution of football took place in Britain as early as the 19th century (FIFA, 2018) and is said to be the most popular sport worldwide with approximately 240-265 million amateur players and 200,000 professional players (Briggs et.al., 2015).

Football is a game of intermittent work and players generally perform low-intensity activities for more than 70% of the game, but heart rate and body temperature measurements suggest that the total energy demand is high due to the repeated high-intensity efforts that players are called upon to perform and thus, leading to an energy expenditure of about 2522 ± 252 Kcals (Morehead, 2018). which is considerably different from training days.

During the game there are incidences of high-intensity bouts involving sprints and running, hence the training for the matches involves warm-ups, drills such as high knees, German drill, Nine point challenge, attack vs. defense, and a lot more contributing to an energy expenditure of about 3566 585 Kcals (Anderson, et.al., 2017) in four and a half hours. The sweat rate quantified for 100 minutes of training is 1167 ± 662 ml (Laitano , Runco, & Baker, 2014). Additionally, as the training takes place in groups and there are numerous activities, the opportunities for numerous small breaks are possible.

A top-class player performs about 150-250 brief intense actions during a game and these efforts place high demands on the anaerobic energy systems which ultimately lead to the exhaustion of muscle and liver glycogen and thus, lead to fatigue that occurs at all stages of the game (Maughan et.al., 2018).

Hard work in training is essential, but a well-chosen diet can offer many benefits such as optimum gains from the training program, enhanced recovery within and between workouts and events, achievement and maintenance of an ideal body weight and physique, a reduced risk of injury and illness, confidence in being well-prepared for match play and consistency in achieving high-level performances in matches. Despite these advantages, many players do not meet their nutrition goals due to common problems and challenges that include poor knowledge of foods and drinks, poor choices when shopping or dining out, poor or outdated knowledge of sports nutrition, inadequate finances, busy lifestyle leading to inadequate time to obtain or consume appropriate foods, and frequent travel(Maughan et.al., 2018). Additionally, energy balance and adequate nutrition is all the more important for the young adolescents to sustain optimal growth and development with an increased energy cost of high-level training and competition (Briggs et.al., 2015).

Thus, the aim of the study was to design a nutrition intervention that could help the young aspiring football players to change their eating habits which would have a positive impact on their performance.

2. MATERIAL AND METHOD

2.1 Subjects

Thirteen professional soccer players (Hero Sub-Junior I-League) were chosen with the help of purposive sampling who gave informed consent to participate in the study.

2.2 Experimental Design

The study was experimental and involved the use of an intervention trial. It fell under the category of pre-experimental design studies. It was one group pre-test and post-test design where the dependent variables such as the fitness assessment and the nutrition assessment were assessed before the intervention and re-assessed post-intervention for one group of subjects only.

The study was divided into phases. The first phase comprised of a session with the players and their parents to introduce them to the field of nutrition, to provide them insights on the study,

and the written consent form was signed. The second phase comprised of the fitness assessment across various parameters - anthropometry, muscle strength and endurance, functional testing, cardiorespiratory fitness test (endurance), and speed test. The third phase involved the nutrition assessment which was conducted with the help of a 3-Day Dietary Recall spread over a 1 weekend and 2 weekdays (one training day and one non-training day).

After the submission of the 3-Day Dietary Recall Sheets, customized plans were made for each player across training days and non-training days considering their age, food preferences, school and practice timings, and ethnic background. However, the diet prescription was predominantly focused on pre-during-post training meals. The guidelines for the same were adopted from various sports nutrition studies.

During the fourth phase, the subjects were then asked strictly to follow the diet plan for 8 weeks and maintain a food and training monitoring sheet that will emphasize on the pre-during-post meals.

In the last phase, the fitness parameters were re-assessed to observe the outcome of post-8-weeks of intervention.

2.3 Quality and Quantity of the Pre, During and Post Training Meals:

2.3 Quality and Quantity of the Pre, During, and Post Training Meals: To improve the performance, a high glycemic index meal in the form of dried dates was prescribed along with the intake of water as a part of the hydration strategy 20 – 30 minutes prior to the training. During training, a sports drink made from 50 g of Glucon-D and 21.8 g (1 sachet) of electoral was suggested to meet the carbohydrate and electrolyte requirement for a 2-hour moderate to high-intensity work-out. Separate meals for vegetarians and non-vegetarians were prescribed in the form of 100 g Banana and 100 g Paneer or 100 g Banana and 100 g Egg Whites respectively. At the end of the training total energy consumed by vegetarian and non-vegetarian participants was about 793 Kcals and 512 Kcals representing around 29.5 % and 19.1 % of the total recommended energy by the Indian Council of Medical Research for the age group of 12–13-year-old boys with vigorous activity respectively. The meal composition is described in Table 1.

TABLE 1

NUTRITIVE VALUE OF PRE, DURING AND POST TRAINING MEALS

	Exchange	Amount(g)	Energy	CHO (g)	Protein (g)	Fat (g)	Sodium (mg)	Potassium (mg)
Pre	Dates*	20	62	14.5	0.4	0	0.6	156
	Water	400 ml	-	-	-	-	-	-
During	Glucon-D**	50	184	46	0	0	-	-
	Electral**	21.8	54	13.5	0	0	75 mOsmol/L	20 mOsmol/L
		Total	238	59.5	0	0	1725	780
	Dates*	20	62	14.5	0.4	0	0.6	156
		Total	**300**	**74**	**0.4**	**0**	**1725.6**	**936**
Post (veg)	Banana*	100	106	23.41	1.49	0.35	1	335
	Paneer*	100	325	23.5	15	19	18	63.5
		Total	431	46.91	16.49	19.35	19	398.5
Total			**793**	**135.41**	**17.29**	**19.35**	**1745.2**	**1490.5**
Post (Non-veg)	Banana*	100	106	23.41	1.49	0.35	1	335
	Egg Whites*	100	44	0	10.84	0	147	144
		Total	150	23.41	12.33	0.35	148	479
Total			**512**	**111.91**	**13.13**	**0.35**	**1874.2**	**1571**

*Source- Indian Food Composition Table by National Institute of Nutrition , ** From Nutrition Label on the packet of Glucon-D and Electral. 75 mOsmol/L = 1.725 g and 20 mOsmol/L = 0.78 g

2.4 Statistical Analysis:

Microsoft Excel was used to tabulate mean and standard deviation of parameters. The Statistical Package for Social Sciences (SPSS) was used to obtain the value of significance for paired t-test between the participants pre and post intervention.

3. RESULT AND DISCUSSION

Out of the 13 players, ten (77%) participants were non-vegetarians, whereas three players (23%) were vegetarians. Additionally, the average time spent in playing football by the participants was around one hour for three participants (23%), two hours for eight participants (62%), and three hours for two participants (15%).

The 3-Day Dietary Recall concluded that the average energy intake on a non-training day was about 1789 Kcals, 1714 Kcals on a training day, and 1756 Kcals on a weekend, leading to an average of 1753 Kcals for all the three days for all the 13 subjects. This average energy intake was 34.6 % lesser when compared to the actual requirement of 2680 Kcals suggested as Recommended Dietary Allowances (RDA) given by the Indian Council of Medical Research (ICMR) for a boy in the age group of 12-13 years engaging in vigorous activity (8). A Canadian study conducted on 33 female soccer athletes in the age group of 15.7 ± 0.7 years also reported an energy deficit in the consumption compared to the daily requirement (Gibson, et.al. 2011).

The mean and Standard Deviation of the Energy and Macronutrient Consumption on Different Days across Vegetarian (n=3) and Non-Vegetarian Participants (n=10) is shown in Table 2. The mean carbohydrate intake in all the participants was about 239.4 g (54.5 % of total energy) on a non-training day, 238.9 g (56.7 % of total calories) on a training day, and 222.8 g (52.4 % of total energy) on a weekend, and leading to an average of 233.6 g (54.6 % of total energy). Additionally, 23 % of the participants consumed less than 5 g per kg body weight of carbohydrate per day, about 46.2 % consumed in the range of 5 – 7 g per kg body weight per day and the remaining 30.8 % of them consumed more than 7 g per kg body weight on an average. According to the International Society of Sports Nutrition, for Moderate- to high-intensity training (2-3 hours/day, 5-6 times a week), the carbohydrate requirement must be about 5-8 g per kg body weight per day, which has been met by the most of the participants on the study (Potgieter, 2013).

On the other hand, the mean protein intake in all the participants was about 57.2 g (13.2 % of total energy) on a non-training day, 56.2 g (13.8 % of total energy) on a training day, and 64 g (14.5 % of total energy) on a weekend, contributing to an average of 59.1 g (13.7 % of total energy) for all the three days. Moreover, at least 15.4 % of the participants consumed less and 1.2 g per kg body weight of protein per day, about 30.7 % consumed between 1.2 – 1.5 g per kg body weight of protein per day, and the remaining 53.9 % consumed more than 1.5 g per kg body weight of total protein per day on an average. According to the RDA given by the ICMR, the protein requirement for a boy in the age group of 12-13 years is 1.15 g per kg body weight per day which contributes to 38 g per day ((National Institute of Nutrition, 2009). When compared to the current dietary intake, nearly 84.6 % of the participants have consumed about 64.4 % excess protein on a daily basis. Out of vegetarian subjects, 66.6 % of them consumed less than 1.2 g/kg body weight of protein, and 33.4% consumed about 1.5 g/kg of protein on an average

TABLE 2
MEAN AND STANDARD DEVIATION OF THE ENERGY AND MACRONUTRIENT CONSUMPTION ON DIFFERENT DAYS ACROSS VEGETARIAN AND NON-VEGETARIAN PARTICIPANTS

	Vegetarian Participants (n=3)				Non – Vegetarian Participants (n=10)			
Day	Energy (Kcals)	Protein (g)	Fat (g)	CHO (g)	Energy (Kcals)	Protein (g)	Fat (g)	CHO (g)
Non-Training Day	1694 ± 238	45.9 ± 12.2	55.2 ± 10.9	241.5 ± 26	1817 ± 445	60.6 ± 14.1	64.3 ± 3.7	238.7 ± 89.8
Training Day	1649 ± 249	47.9 ± 10	55.2 ± 15	231.3 ± 35.3	1734 ± 371	58.6 ± 13.6	54.5 ± 12.9	241.1 ± 61.6
Weekend	1618 ± 81	52.7 ± 6.5	53 ± 6.8	233.2 ± 11.4	1798 ± 366	67.4 ± 14.1	68.1 ± 20.5	219.7 ± 58.9
Player (Individual) Average	1653 ± 126	48.8 ± 5.8	54.4 ± 10.2	235.3 ± 8.2	1783 ± 350	62.2 ± 11.7	62.3 ± 13.7	233.2 ± 61.1

Lastly, the fat intake among all the participants on a non-training day was about 62.2 g (32.3 % of total energy), 54.6 g (29.5 % of total energy) on a training day, and 64.6 g (33.1 % of total energy) on a weekend, thus leading to a mean intake of 60.5 g (31.7 % of total energy) for all the three days. According to the American College of Sports Medicine, the daily requirement of fat for athletes should be 20-35% of total energy intake and that fat intake should not decrease below 20% of total energy intake (10). The guideline by the ICMR states that at least 25% of total energy must come from fat, and the minimum level of visible fat in children and adolescents should range between 25-30 and 35-50g / day respectively (National Institute of Nutrition, 2009).

Thus, with respect to the fat intake, the participants are in compliance to the recommendation. The physical characteristics of the pre and post the intervention of subjects that participated in the study are listed in Table 3. The anthropometric measurements improved at the end of 8 weeks and the values observed stated no significant improvement in height, a significant change in mean weight to 40.66 ± 6.69 kg (p= 0.008), and thereby a significant change in BMI to 17.2 ± 1.98 kg/m2 (p= 0.011) (Figure 1). The height, weight, and BMI when compared to the Indian Academy of Pediatrics (IAP) growth charts, the height of the participants was at 50th percentile, whereas the weight of the participants was between 25th and 50th percentile and BMI was between 50th and 75th percentile (Hospital, Hospital, Mahavidyalaya, 2015). Additionally, the mean waist circumference measured 64.8 ± 5.06 cm which according to the Alpha Fitness Test Battery for children and adolescents, comes in the category of low for its age (Santosh & Mota, 2009).

Significant improvements were found in the right and left calf circumference as the values improved to 29.84 ± 2.31 cm and 29.65 ± 2.20 cm respectively (p= 0.0061 and p=0.018).

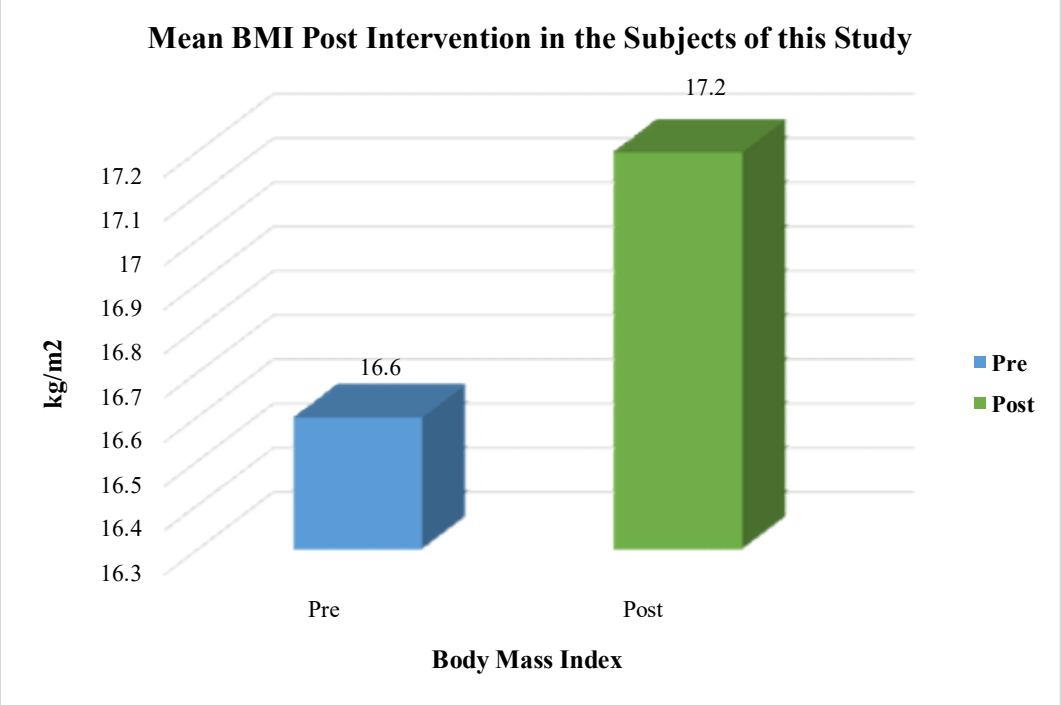

Figure 1 Mean BMI Post Intervention in the Subjects of this Study

Duration of plank improved from 96.84 ± 52.9 to 165.69 ± 76.59 seconds (p= 0.000), side plank right and left improved from 73.69 ± 33.5 to 86.0 ± 35.01 seconds (p=0.014) and from 63.76 ± 26.74 to 90.15 ± 37.49 seconds (p=0.007) respectively and lastly, glute bridge right and left side improved to 114.38 ± 38.74 seconds (p=0.002) and 102 ± 39.92 seconds (p=0.000) respectively. (Figure 2). The mean VO2 Max observed at the end of the intervention was significantly higher with a value of 45.06 ± 2.7 ml O2/kg/min (p=0.003) which according to the Alpha Fitness Test Battery for children and Adolescent comes in the category of very high (≥8 .0) for their age ((Santosh & Mota, 2009). (Figure 3). This when compared to a study conducted in Turkey on 12 years (n=15) and 13 years (n=12) old boys which concluded an average VO2 max 29.94 ± 4.64 ml O2/kg/min and 32.02 ±7.16 ml O2/kg/min respectively, reflected that the participants had a much better endurance (Aktug, Çelenk, & Yilmaz, 2014). The mean value for the speed test significantly increased to 2.72 ± 0.12 seconds from 2.41 ± 0.17 (p=0.000) which was undesirable as the longer t the time taken to cover the distance, the poorer is the speed of an individual.

TABLE 3

COMPARISON OF FITNESS ASSESSMENT PRE-INTERVENTION (WEEK 1) AND POST-INTERVENTION (WEEK 8)

Parameter	Week 1	Week 8	'p' value
Height (cm)	152.61 ± 8.10	152. ± 8.02	0.054
Weight (kg)	39.26 ± 6.23	40.66 ± 6.69	**0.008***
BMI (kg/m2)	16.66 ± 1.85	17.2 ± 1.98	**0.011***
Waist Circumference (cm)	64.8 ± 5.06	65.8 ± 4.7	0.67
Right Thigh Circumference (cm)	41.03 ± 3.80	41.57 ± 3.50	0.45
Left Thigh Circumference (cm)	40.57 ± 3.55	41.57 ± 3.40	0.06

Parameter	Week 1	Week 8	'p' value
Right Calf Circumference (cm)	29.46 ± 2.20	29.84 ± 2.31	**0.0061***
Left Calf Circumference (cm)	29.30 ± 2.11	29.65 ± 2.20	**0.018***
Plank (sec)	96.84 ± 52.9	165.69 ± 76.59	**0.000***
Side Plank - Right (sec)	73.69 ± 33.5	86.0 ± 35.01	**0.014***
Side Plank - Left (sec)	63.76 ± 26.74	90.15 ± 37.49	**0.007***
Glute Bridge - Right (sec)	78.61 ± 41.94	114.38 ± 38.74	**0.002***
Glute Bridge - Left (sec)	64.15 ± 25.8	102 ± 39.92	**0.000***
10 m Sprint Test (Speed) (sec)	2.41 ± 0.17	2.72 ± 0.12	**0.000***
20 m shuttle test (ml O_2/kg/min)	40.43 ± 6.01	45.06 ± 2.7	**0.003***

**P value is significant*

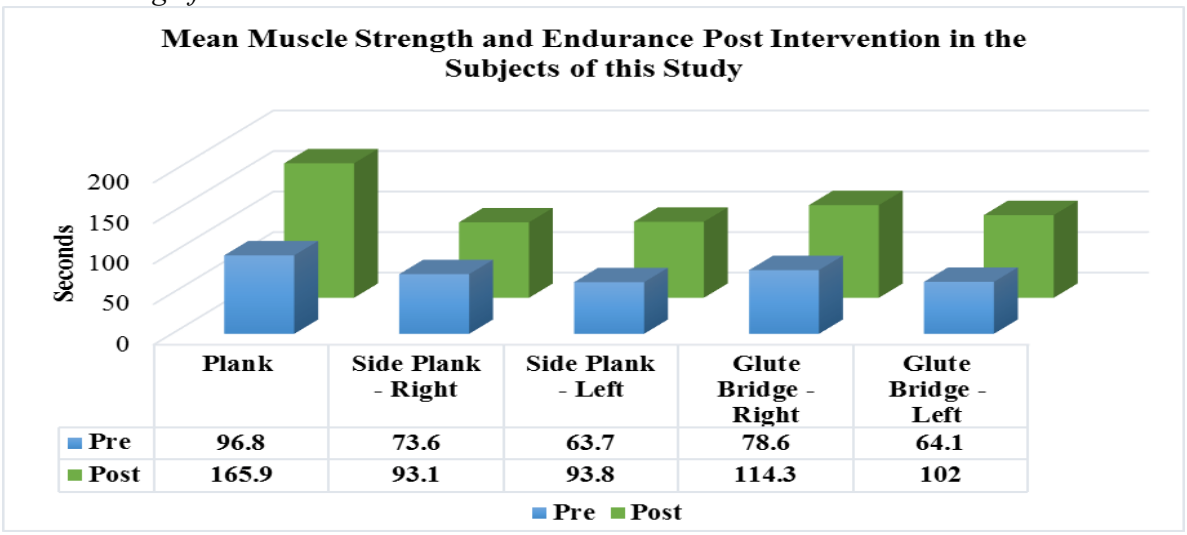

Figure 2 Mean Muscle Strength and Endurance Post Intervention in the Subjects of this Study

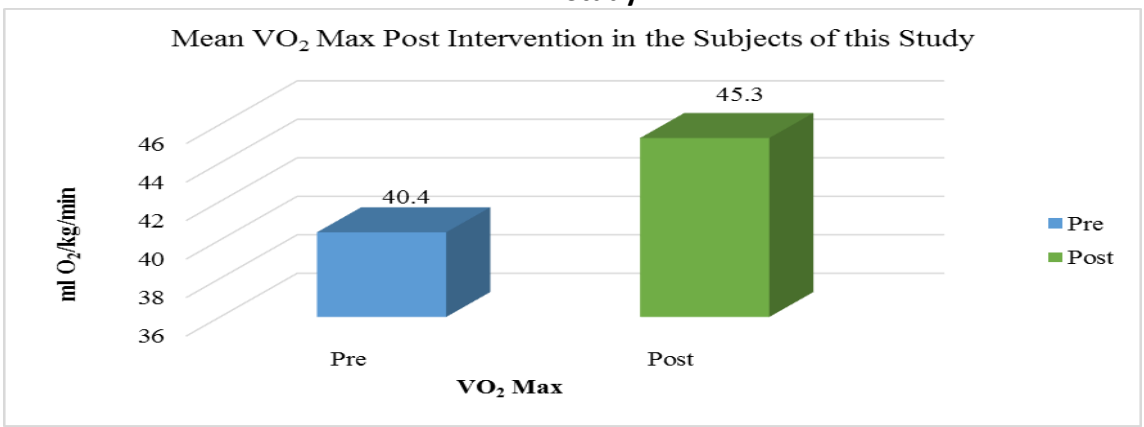

Figure 3 Mean VO_2 Max Post Intervention in the Subjects of this Study

4. CONCLUSION

The analysis of the 3-Day Dietary Recall concluded that the subjects were deficient in energy consumption, adequate in carbohydrate and fat consumption, and excess in protein consumption. The 8-week nutrition intervention concluded that it has a positive effect for both vegetarian and the non-vegetarian participants of this study with significant improvement in the

calf circumference, muscle strength, and functional tests, and lastly, endurance which are important for football players.

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EFFECT OF SURYANAMASKAR YOGA NIDRA AND PRANAYAMA ON BODY MASS INDEX AND ANXIETY OF CHILDRENWITH ALEXITHYMIA

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ABSTRACT

Pranayama on body mass index and anxiety of children with Alexithymia. Materials and Methods: 42 girl children with alexithymia disorder, aged from 8 to 12 were selected as subjects from the girls' hostel at Krishna district during the year 2021. The subjects were divided into experimental group and control group, consisting twenty one subjects in each group, namely experimental group and control group. The experimental group underwent Suryanamaskar, Yoga Nidra, and Pranayama practices for 5 days per week for 9 weeks. The control group was not given any training during the study. The selected subjects with alexithymia were analyzed using Children Alexithymia Measuring Scale (CAMS). Before and after the training period, the subjects were tested on body mass index (BMI) and anxiety. BMI was measured by using Karadascan Body Composition Monitor and anxiety was measured by using GAD7 measuring scale. Statistical analysis: Independent sample t-test and Analysis of Covariance (ANCOVA) was used as a statistical tool to examine any improvement after the training period for the experimental group and also to find out any difference between the experimental and control groups.Results: The result of the study shows that there is a decrease found in BMI and anxiety variables of children with alexithymia by practicing Suryanamaskar, Yoga Nidra, and pranayama. Conclusion: The experimental group practice of Suryanamaskar, Yoga Nidra, and pranayama has changed the BMI and anxiety positively after comparing with the control group and the results also indicated that there was a significant difference identified between the experimental group and control group on BMI and anxiety.

Keywords: Suryanamaskar, Yoga, Pranayama, BMI, Anxiety and Alexithymia

1. INTRODUCTION

Alexithymia is a personality trait that manifests as a subclinical failure to recognise and explain one's own feelings **(Sifneos, 1973; Bagby,1994; Preece, 2017).** Alexithymia is defined by significant impairments in emotional awareness, social attachment, and interpersonal relationships. [4] Furthermore, people with high levels of alexithymia may have trouble detecting and appreciating others' feelings, which is thought to contribute to unempathic and inefficient emotional responses **(FeldmanHall, Dalgleish , & Mobbs, 2013).** Alexithymia affects about 10% of the population and can be associated with a variety of psychiatric conditions as well as any neurodevelopmental disorder **(Taylor , Bagby, & Parker, 1999).**

It has previously been proposed that age, pubertal status (i.e. stage of maturation), and pubertal timing may all have a role in the emergence of psychopathology and elevated levels of subclinical sadness and anxiety (i.e. stage of maturation relative to same-aged peers **(Dorn et. al.,2017).** In terms of age, research show that depressive symptoms grow with age **(Hankin, et. al.1998; Hankin et al. 2015; Lewinsohn, et.al. 2000).** whereas anxiety symptoms appear to diminish in early adolescence in ages 10 to 13–14 years and then rise again in late adolescence in ages 14–15 years **(Costello, et. al. 2003; Van Oort, et.al. 2009).**

Multiple studies have found that pubertal status and pubertal timing are linked to depressive and anxiety symptoms **(Alloy, et.al. 2016; Hankin, 2009; Nolen-Hoeksema 1999)** as well as the initiation of clinical depression and anxiety disorders (**Tondo, et.al. 2017; Schuch, et.al. 2014; Kessler., et.al. 1994; Grant, 2005).** When studying the impact of adolescence on mental symptoms, these findings underscore the need of accounting for pubertal stage and pubertal timing in addition to age.

Children Alexithymia Measuring Scale (CAMS) measures alexithymia in children and adolescents. The concept of alexithymia has been defined various ways. Simply stated, it is a lack of words for feelings more complexly stated, it is defined as having “difficulty identifying and describing feelings, difficulty distinguishing between feelings **(Nemiah& Sifneos1970; Nemiah, et.al.1976)** and bodily sensations, a lack of imaginative ability, and a focus on the external world rather than internal feelings. The Children’s Alexithymia Measure has a unidimensional factor structure and measures difficulties expressing feelings.

Discontentment, dissatisfaction, and frustration are all linked to psychological ill-health, as are other psychological issues. Such people's lives may appear miserable, insecure, and meaningless, and they may experience negative affect and psychological conflict as a result. One of yoga's most important accomplishments is physical and mental cleansing and strengthening **(Satyananda, 2008).** Asanas are specific posture patterns that use static stretching to help the mind and body relax **(Gharote and Ganguly, 2001).** Asanas also help to relieve physical stress, which is very important for today's busy people. Although many people consider themselves to be relaxed, their muscles are still tense.

Surya Namaskara, or Sun Salutation, is an important aspect of the yogic approach to these issues, and it is simple to incorporate into our everyday lives because it only takes five to fifteen minutes of practise per day to see positive outcomes. Surya Namaskara is a set of twelve asanas (physical postures). The spinal column and limbs are flexed and strengthened through their full range of motion in these alternating backward and forward bending asanas. The pingala nadi (right nostril) is regulated by regular sun salutation practise, whether it is underactive or overactive, resulting in a balanced energy system at both the mental and physical levels **(Vivekananda, 2005).** Surya Namaskara also has an effect on the pineal gland and the hypothalamus, which helps to avoid degeneration and calcification of the pineal gland

Satyananda, 2003). Surya namaskara practise affects the entire endocrine syste **(YogaMag, Brain: The Controller, 1991)** and boosts willpower **(Saxena, 2010).**

Yoga nidra is also known as "psychic sleep" or "conscious sleep." The body sleeps while the mind remains awake during yoga nidra, which is why it is referred to be a resting or sleeping practise that cultivates inner consciousness. Yoga nidra is based on the Tantric practise of nyasa, in which a mantra is mentally repeated while focusing on specific regions of the body **(Satyananda, 1984).** In the 1960s, Swami Satyananda Saraswati adapted and delivered yoga nidra in a systematic and scientific manner **(Bhushan & Sinha, 2001).** Yoga nidra encourages physical and mental relaxation, as well as improved circulation and a reduction in tension and anxiety. Researchers (**Chinmayananda, 1984; Nagendra & Nagarathna, 1997)** proposed that a combination of "activating" and "pacifying" techniques, such as yoga interspersed with rest while supine, may help achieve mental stability. In terms of mental health, yoga nidra has both preventive and curative benefits: it may be used to treat psychological disorders including depression, anxiety, sleeplessness, and drug dependence, as well as physical diseases like asthma, hypertension, and coronary heart disease.

2. MATERIALS AND METHODS

The main aim of the study was to examine the Effect of Suryanamaskar, Yoga Nidra, and pranayama practices on BMI and Anxiety among children with alexithymia.

2.1 Selection of Subjects

Forty-two children with alexithymia subjects were selected for this research study. The children residing at various residential schools around Krishna district, Andhra Pradesh. They were ranged from 8 to 12 years.

2.2 Training Process

The subjects selected for the present study were classified into two equal groups, each group consisted of twenty-one subjects, in which group - I experimental group underwent Suryanamaskar, Yoga Nidra and Pranayama and group - II acted as the control group, which did not undergo any practice. The intervention was conducted 5 days (Monday to Friday) per week for 9 weeks. The experimental group underwent their respective programs from 6.30 am to 7.30 am under the guidance of yoga experts for the period of nine weeks.

2.3 Yoga Practice Schedule

Morning 6.30am to 7.30 am

Starting prayer	**5min**
Suryanamaskar	**12 rounds**
Pranayama	
Analomvilom	**6 rounds**
bhramari	**6 rounds**
Yoga nidra	**20 min**
Ending prayers	**5 min**
conversation	**10 min**

2.4 Procedure

The researcher chosen the criterion variables as follows: BMI and Anxiety. The BMI was measured with karadascan body composition monitor and Anxiety were measured by a GAD 7 scale (Robert et.al 2006) The data collection was conducted by asking the subjects to assemble at early morning, A data collection was done immediately after the 9 weeks training period completed. The subject of the present study were explained about the training and assured about their willingness of the study.

2.5 Statistical Analysis

The paired dependent - 't' test, and ANCOVA (Analysis of Covariance) was applied to find out the significant difference if any, between the experimental group and control group on selected criterion variables separately. In all the cases, .05 Significant level was fixed at 05 level fo confidence, which was considered as appropriate. Whenever the 'F' ratios for post-test means were found significant, the Scheffe's test of post-hoc comparison was applied, The data were compiled and analyzed using the Statistical Package for the Social Science (SPSS) for windows computer software (Version 16).

3. RESULTS

The data collected on BMI and anxiety between experimental and control groups were analyzed and the results were presented.

3.1 Body Mass Index

An analysis of covariance (ANCOVA) was conducted to test for mean differences between experimental and control group on body mass index after controlling initial mean difference effect. Table - 1 shows unadjusted and covariate adjusted descriptive statistics for body mass index in Alexithymia children.

TABLE - I

UNADJUSTED AND COVARIATE ADJUSTED DESCRIPTIVE STATISTICS FOR BODY MASS INDEX

Group	Pre-Test		Post-Test (Unadjusted)		Post-Test (Adjusted)	
	N	Mean	SD	Mean	SD	Mean	Standard Error
Experimental	21	44.31	9.32	43.50	8.82	43.11	0.25
Control	21	43.50	7.58	43.80	7.58	44.19	0.25

Levene's test was not significant, F (1, 40) = 2.326, $p > 0.05$, indicating that the assumption of homogeneity of variance had been met. Therefore, the null hypothesis is rejected.

TABLE - II

ANALYSIS OF COVARIANCE FOR BODY MASS WITH PRE-TEST AS COVARIATE

Source	SS	*df*	*MS*	*F value*	*P value*	*ηp2*
Pre-Test as Covariate	2658.181	1	2658.181	2032.822	0.000	0.981
Groups	12.155	1	12.155	9.295	0.004	0.192
Error	50.998	39	1.308			

In table - II the results of ANCOVA, however, indicated that there was a significant difference between groups on adjusting post-test means, F (1, 39) = 9.295, $p < 0.05$, $\eta p2$ = 0.192. The adjusted means displayed difference between experimental group (M = 43.11, SE = 0.250) and control group (M = 44.19, SE = 0.250) on body mass this difference may be due to nine weeks of intervention in experimental group. Therefore, the null hypothesis is rejected and it displayed a significant difference between groups and elicited a modification of large effect size ($\eta p2$ = 0.192). The covariate was also significant, F (1, 39) = 2032.822, $p < 0.05$, $\eta p2$ = 0.981, indicating that pre-test score had a significant effect on body mass index after nine weeks of intervention.

TABLE - III

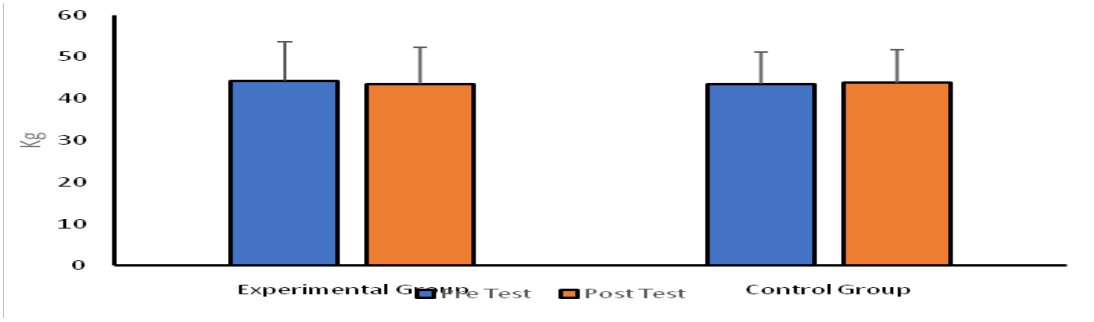
DEPENDENT T TEST AND PERCENTAGE OF ALTERATION IN BODY MASS INDEX

Group	Pre-Test (Mean ± SD)	Post-Test (Mean ± SD)	*MD*	*t* value	*p* value	*% of alteration*
Experimental	44.31 ± 9.32	43.50 ± 8.82	0.81	2.932	0.008	5.60
Control	43.50 ± 7.58	43.80 ± 7.58	-0.30	0.536	0.598	0.77

Table - III also explains the modifications within the group on body mass index. The alexithymia children in experimental group undergone modification in body mass index from pre to post test, nine weeks of Surya namaskar, Yoga nidra and pranayama intervention that significantly reduced their body mass, $t = 2.932$, $p = 0.008$, & recorded 5.60% of decrement. In contrast, alexithymia children in control group failed to show significant modification in their body mass index, $t = 0.536$, $p = 0.598$, & recorded 0.77%. The changes in body mass index in both experimental and control group are presented in figure - I.

FIGURE - I

EXPERIMENTAL AND CONTROL GROUP MODIFICATION IN BODY MASS INDEX



3.2 Anxiety

An analysis of covariance (ANCOVA) was conducted to test for mean differences between Experimental and Control group on anxiety after controlling initial mean difference effect. Table 4 which clearly shows unadjusted and covariate adjusted descriptive statistics for anxiety in Alexithymia children.

TABLE - IV

UNADJUSTED AND COVARIATE ADJUSTED DESCRIPTIVE STATISTICS FOR ANXIETY

Group	Pre-Test			Post-Test (Unadjusted)		Post-Test (Adjusted)	
	N	Mean	SD	Mean	SD	Mean	Standard Error
Experimental	21	15.57	1.80	8.19	1.03	8.165	0.264
Control	21	15.42	1.80	15.04	1.62	15.07	0.264

Levene's test was not significant, F (1, 40) = 0.087, $p > 0.05$, indicating that the assumption of homogeneity of variance had been met. Therefore, the null hypothesis is rejected.

TABLE - V

ANALYSIS OF COVARIANCE FOR ANXIETYWITH PRE-TEST AS COVARIATE

Source	SS	*Df*	*MS*	*F value*	*P value*	*ηp2*
Pre-Test as Covariate	17.162	1	17.162	11.736	0.001	0.231
Groups	500.386	1	500.386	342.197	0.000	0.898
Error	57.029	39	1.462			

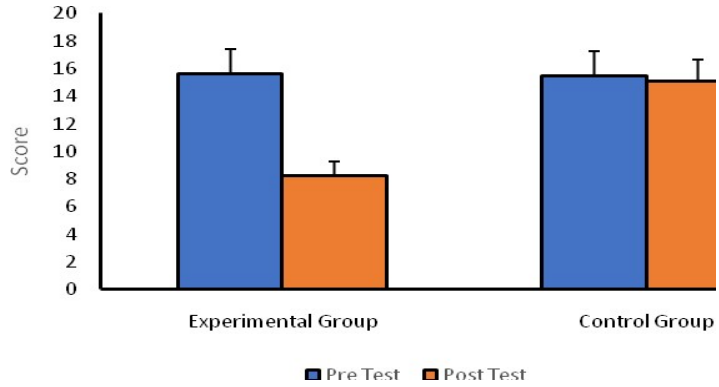
In table -V the results of ANCOVA, however, indicated that there was a significant difference between groups on adjusting post-test means, F (1, 39) = 342.197, $p < 0.05$, $\eta p2$ = 0.898. The adjusted means displayed difference between experimental group (M = 8.165, SE = 0.264) and control group (M = 15.07, SE = 0.264) on anxiety this difference may be due to nine weeks of intervention in experimental group.. Therefore, the null hypothesis is rejected and it displayed a significant difference between groups and elicited a modification of large effect size ($\eta p2$ = 0.898). The covariate was also significant, F (1, 39) = 11.73, $p < 0.05$, $\eta p2$ = 0.231, indicating that pre-test score had a significant effect on anxiety after nine weeks of intervention.

TABLE - VI
DEPENDENT T TEST AND PERCENTAGE OF ALTERATION IN ANXIETY

Group	Pre-Test (Mean ± SD)	Post-Test (Mean ± SD)	*MD*	*t* value	*p* value	*% of alteration*
Experimental	15.57 ± 1.80	08.19 ± 1.03	7.38	17.47	0.000	47.39
Control	15.42 ± 1.80	15.04 ± 1.62	0.38	1.321	0.202	2.46

Table – VI also explains the modifications within the group on anxiety. The alexithymia children in experimental group undergone modification in anxiety from pre to post test, nine weeks of suryanamaskar and Yoga nidra intervention that significantly reduced their anxiety, t = 17.47, p = 0.000, & recorded 47.39% of decrement. In contrast, alexithymia children in control group failed to show significant modification in their anxiety, t = 1.321, p = 0.202, & recorded 2.46%. The changes in anxiety in both experimental and control group are presented in figure – II.

Figure - II
Experimental and control group modification



4. DISCUSSION

Yoga, when practiced regularly and under the supervision of a qualified instructor, has a different effect on obesity that is more long-lasting than other weight-loss methods **(Bhardwaand Bhardwaj, 2015).** Even low-intensity action, such as 10 minutes of Om chanting and kapalabhati, has been shown to cause psycho-physiological changes in the body (**Bhogal et.al. 1993; Chander, et.al. 2011).** As a result, it's probable that Surya namaskar's moderate workout will result in physical alterations. **Murugavalavan and Jayanthi (2019)** found that there was a significant decrease in BMI after the surya namaskar among obese working women. In a study the obese person has lost their body weight for four kilograms when compared with the control grou **(Nautiyal, 2016).** Various researchers has found that yoga offers a flexible approach to a wide range of physical and psychological issues, with surprisingly positive results in the reduction of anxiety, stress, fatigue, and irritability **(Miller, et.al. 1995; Sakai, 1997; Khasky, & Smith, 1999; Takeichi & Sato, 2000; Stetter& Kupper, 2002; Shenbagavalli & Divya, 2010).**

Previous studies have suggested that yoga may impact on health reducing in body mass and anxiety among varied clinical population (**Shirley , Vaishali and Balkrishna, 2009).** A researcher found 5-month multi component behavioral intervention with yoga was associated with significant decreases in BMI it was reported that there was a decrease in anxiety (**Adam, 2014).** In current study hypothesized that 9 weeks of suryanamaskar, pranayama and Yoga nidra has reduced the anxiety level and body mass index of the children with alexithymia.

5. CONCLUSIONS

As per the current research, the surya namaskar, yoga nidra and pranayama was achieved a significant decrease in selected criterion variables such as anxiety and BMI among the children with alexithymia. Moreover, the surya namaskar, yoga nidra and pranayama practice group was significant differed when compared with the control group.

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EFFECT OF PLYOMETRIC TRAINING ANDPLYOMETRIC COMBINED WITH WEIGHT TRAINING ON SELECTED SKILL PERFORMANCE VARIABLES OF KABADDI PLAYERS

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ABSTRACT

To achieve the purpose of the study, forty-five men native Kabaddi players were selected as subjects. The age, height, and weight of the subjects ranged from 16 to 18 years, 1.63 to 1.76meters and50 to 65 kilograms respectively. The subjects selected were randomly assigned into three equal groups of Fifteen subjects each. Group I (P.T) underwent plyometric training, group II (CPW) underwent plyometric training combined with weight training and group III (CG) acted as a control. The independent variable in the present study was Plyometric training (PT), Plyometric training Combined with Weight Training (CPW). The dependent variable in the present study was Moving Toe touch performance. Based on the pilot study the training schedule for plyometric training and combined plyometric training with weight training with 1rm respectively. The experimental groups underwent their respective training program 3 days for a week for twelve weeks in addition to their regular lifestyle activities. Group–II involved on plyometric training (P.T), Intensity starting from low to high at 60-foot contact to at 110-foot contact with 10 to 14 repetitions and 2 to 3 sets followed from the first week to twelve weeks. the data collected from the three groups prior to and post experimentation on selected dependent variables were statistically analyzed to find out the significant difference if any, by applying analysis of covariance (ANCOVA). Since three groups were involved, whenever the obtained 'F' ratio for adjusted post-test means was found to be significant, the Scheffe's test was applied as a post hoc test to determine the paired mean differences. In all the cases level of confidence was fixed at 0.05 for significance. The plyometric training combined with weight training was good enough to develop the Moving Toe touch skill performance.

Keywords: Plyometric training, weight training, Kabaddi Players, Toe touch performance.

1. INTRODUCTION

It should be understood on a broad intelligence that physical exercises square measure doubtless to principle suggests that to boost performance. However the sports performance is enhanced by alternative suggests that additionally, that ought to be enclosed within the idea of sports coaching. Such means, that square measure most ordinarily used together within the workup, square measure academic directions, consultation, tasks of interpretation, therapy live for revitalization from fatigue, sufferer regulatory measure and then on. These suggest that and also the workup, actual coaching method is employed during an advanced incorporated manner. In reality, we have a tendency to cannot separate work up from alternative suggestions that. Thus the idea of sports coaching should embody all suggestions that for the advance of the performance. Sports coaching, therefore, is that the total method of preparation of a sport, through completely different suggests that and forms for higher performance.

Plyometrics is a method of developing explosive power, an important component of the athletic performances. From a practical point of view, plyometric training is relatively easy to teach and learn, and it places fewer physical demands on the body than strength or endurance. From a physiological perspective. Practical experience supports its value, yet we do not fully understand how it works. Although some of the basic neuromuscular processes underlying plyometrics are known, little research has been done on what actually occurs at this level and very few types of research are done on combine plyometric training with weight training so to bring out the positive and negative effects of these training. By considering the above literature, an attempt has been made to find out the effect of plyometric training and combined plyometric training with weight training on the selected skill performance of Kabaddi players. Throughout sports science literature, combination coaching has generally brought up the mix of resistance and plyometric coaching.

Studies have consistently found that while both resistance and plyometric training alone may potentially increase power output in the form of the vertical jump, the combination of the two yields the most beneficial results **(Adams et al., 1992; Ebben & Watts, 1998; Fatouros et al., 2000; Kotzamanidis et al., 2005).** A study by **Tricoli et al., (2005)** found that combination training improved subjects' countermovement performed more than those who performed just plyometrics (6.6% to 5.7%, respectively). Moreover, only the combination group improved in the squat jump (9.5%). Another study found that those who performed combination training improved their countermovement , squat jump, and 30-meter dash times significantly better than groups that trained for strength alone **(Kotzamanidis et al., 2005).** As plyometrics are considered the bridge to explosive movements, its combination with resistance training enhances power production **(Tricoli et al., 2005).**

Researchers agree that enhancements ar thanks to improved neuromuscular variations and coordination **(Cronin, et al., 2002; Bobbert et al., 1996). Fleck & Kraemer, (2004)** studies have really performed the exercises on an identical day with many hours between plyometrics and fourteen resistance (**Fatouros et al., 2000).** this can be sometimes thought of advantageous but because it makes it troublesome to make sure adequate recovery and energy restoration of the muscle **(Baechle & Earle, 2000)** Another design of combined training involves combining upper body resistance with lower-body plyometrics and vice versa **(Baechle & Earle, 2000)**. With this program, upper and lower body regions take turns alternating between high and low intensities.

Nurper (2015) Sprint, countermovement jump, standing broad jump, peak power, and kicking speed test values were all significantly improved in the Plyometric Training Group, as compared with the Control Group. The results indicated that safe and effective Plyometric

Training can be useful to strength and conditioning for explosive strength. **Saeed (2015)** assessed the effects of short-term plyometric training programs on sprint, strength, and power and agility performance in non-athletic men. The result of the study shows that plyometric training has been effective on the physical preparation indices and can improve the nonathletes performance. **Ramesh and Others (2015)** compared the effects of 6 weeks of vertical, horizontal, or combined vertical and horizontal plyometric training on muscle explosive, endurance, and balance performance. The study is incontestable that vertical, horizontal, and combined vertical and horizontal jumps evoked purposeful improvement in explosive actions, balance, and intermittent endurance capability. However, combining vertical and horizontal drills appears a lot of advantageous to induce larger performance enhancements. **Senthil (2015)** find out the effects of 12 weeks of a plyometric training program on selected physical and physiological variables among high school boys. The results of the study showed that there was a major distinction between the plyometric training cluster and therefore the management cluster. And also, the plyometric training cluster showed vital improvement in Power, Abdomen muscle strength, Cardio-respiratory endurance, and Resting pulse compared to the control cluster. **Jaswant and Others (2016)** The purpose of the study was to find out the comparative effect of Plyometric and weight training on vertical jumping ability. On the basis of the findings of the study, it may be considered that Plyometric training could be a very much useful method of training for sportsmen to improve vertical jumping ability and to retain the same for a longer duration. **Sharma and Banne (2015).** revealed that the twelve weeks systematic training programme consisting of plyometric exercises had contribute effect on anaerobic capacity of football players. But the plyometric exercises did not have any significant effect for improving the aerobic capacity of football players

Skill Performance Variable

Kabaddi, our terribly own autochthonic sport. the sweetness of this sport lies within the indisputable fact that players need a particular set of skills to perform proficiently, whether or not compete on a mat or mud. Associate in Nursing agile body, sharp mind, fearless perspective, and a spotlight to tiny details build one a foremost kabaddi player. Fitness is another crucial side that helps the players to beat powerful spells in kabaddi. however fitness alone does not outline success in kabaddi, players should possess special skills to face out from the heap.

Toe Touch: Toe bit in kabaddi is one amongst the foremost common kabaddi skills within the raider's arsenal during which the raider tries to the touch the defender victimization his toe and grab a degree. The success of this move depends majorly on the speed and unpredictability of the raider to perform it before the defender anticipates the move.

2. METHODOLOGY

2.1 Selections of subjects

Forty-five men, native kabaddi players were selected as subjects. The age, height, and weight of the subjects ranged from 18 to 21 years, 1.63 to 1.76 meters and50 to 65 kilograms respectively. The subjects were divided into three equal groups of 15 subjects in each. Group I (P.T) underwent plyometric training, group II (CPW) underwent plyometric training combined with weight training and group III (CG) acted as a control.

2.2 Selection of variable

In the present study, the investigator selected the skill-based performance variable namely moving toe touch. The selected criterion variable was measured in Seconds.

2.3 Statistical technique

The collected data were statistically analyzed for the significant difference if any, by applying Analysis of Covariance (ANCOVA) among the groups. Since, three groups were compared, whenever, the obtained 'F' ratio for adjusted post-test was found to be significant, the Scheffe's test was applied to find out the significant paired mean differences, if any. The level of significance was set at a 0.05 level of confidence, which was considered as an appropriate.

3. RESULTS AND DISCUSSION

The influence of plyometric training and plyometric training combined with a weight training program on moving toe touch was analyzed and the results are presented below.

Analysis of Moving Toe touch performance on Training Effect

The mean and standard deviation values on Moving Toe touch performance of control group, Plyometric training group, and Combined Plyometric weight training group during twelve weeks of training and testing periods have been presented in table-1.

TABLE 1

ANCOVA RESULTS ON MOVING TOE TOUCH PERFORMANCE OF THE THREE GROUPS

Test	Control Group	P.L.Training Group	C.P.W.Training Group	SoV	SS	Df	MS	'F'
Pre test	12.93	13.00	13.13	B	0.31	2	0.15	0.20
Mean SD	0.79	0.92	0.91	W	32.66	42	0.77	
Posttest	13.00	16.20	17.00	B	134.40	2	67.20	99.38*
Mean SD	0.92	0.56	0.92	W	28.40	42	0.67	
Adjusted Post test Mean	12.98	16.19	17.02	B	135.49	2	67.74	101.75*
				W	27.29	41	0.66	

*** Significant of 0.05 level**

Table-1 shows that the pretest means on moving Toe touch performance of control group, P.T.G and CPW group are 12.93, 13.00 and 13.13 respectively. The obtained 'F' ratio value of 0.20 for pretest mean is lesser than the required table value of 3.22 for significance at 0.05 level. The posttest mean on moving Toe touch performance of control group, P.T.G and CPW training group are 13.00, 16.20 and 17.00 respectively. The obtained 'F' ratio value of 99.38 for post-test data is greater than the required table value of 3.22 for significance at 0.05 level. The adjusted posttest mean on moving Toe touch performance of control group, P.T.G and CPW, are 12.98, 16.19, and 17.02 respectively. The obtained 'F' ratio value of 101.75 for adjusted post-test data is greater than the required table value of 3.22 for significance at 0.05 level. It reveals that there is a significant difference among the groups on moving Toe touch performance as a result of Plyometric training and combined weight training group. Since, the obtained 'F' ratio for adjusted means is significant, the Scheffe'S posthoc test was applied to find out the significant paired mean difference, and it is presented in table - 2.

TABLE 2

SCHEFFE'S POST-HOC TEST TO FIND PAIRED MEAN DIFFERENCE

Adjusted Post Test Means			MD	CI
Control Group	Plyometric Training	Combined Plyometric with weight Training		
12.98	16.19		3.21*	0.86
12.98		17.02	4.04*	0.86
	16.19	17.02	0.83*	0.86

*** Significant of 0.05 level**

Table-2 shows that the mean differences on moving Toe touch performance between the control group and PT group is 3.21; between P.T.G and CPW group is 0.83; Control and CPW group is 4.04 are significant, since the obtained mean difference are higher than the confidence interval value of 0.05 level of significance.

4. DISCUSSION

The data were analyzed by applying Analysis of Covariance (ANCOVA) among the three groups. Whenever, the obtained 'F' ratio for adjusted post-test was found to be significant, the Scheffe's test was applied to find out the significant paired mean differences, if any. The level of significance was set at a 0.05 level. Results indicated the statistically insignificant difference among control and P.T.G and CPW group on moving toe touch before the commencement of plyometric training and Combined weight training. Results also reveals that both experimental groups have significantly increased the moving Toe touch performance as compared to the control group. Further, the improvement of moving Toe touch performance is significantly higher for P.T.G and CPW compared to the control group but the CPW group was slightly better than P.T.G.

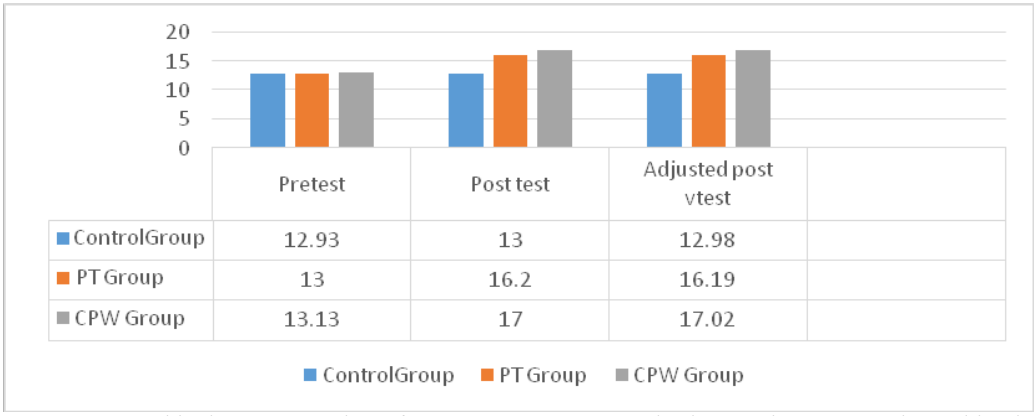

Figure- I: Graphical Representation of Pretest, Posttest Control, Plyometric group, and Combined Plyometric with weight Training Groups on Moving Toe Touch performance

5. CONCLUSION

The major finding of this study was both plyometric training and plyometric combined with weight training regiments contributed to the enhancement of the selected dependent variable. But the plyometric training combined with weight training was better than the plyometric training. The plyometric training combined with weight training was good enough to develop the Moving Toe touch skill performance.

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A COMPARATIVE STUDY ON COPING SKILLS OF HIGH AND LOW ACHIEVER NATIONAL FEMALE HOCKEY PLAYERS

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ABSTRACT

The present study aimed to compare the coping skills of high and low achiever national female hockey players. The sample for the present study includes 50 high achievers and 50 low achievers female field hockey players. The selection of high achiever female hockey players was done from the first three ranked teams in a national level hockey tournament. The selection of low achiever female hockey players was done from the bottom three ranked teams in a national level hockey tournament. The sample was selected through purposive sampling with an average age of the sample was 23.11 years. To assess the coping skills of female hockey players, inventory prepared by Smith et al. (1995) was considered appropriate. It was found that the coping skills of high achiever (medal winner) national female hockey players were significantly superior as compared to low achiever (non-medal winner) national female hockey players. It was concluded that high achiever national female hockey players have more sustained and better cognitive and behavioural efforts to overcome the requirement of that particular circumstance or event as compared to low achiever national female hockey players.

Keywords: Coping skills, Female, Hockey, National level, High and Low Achiever

1. INTRODUCTION

How do people cope with a stressful situation or what are the determinants of coping skills? This question always interested the psychologist. A person often employs psychological and behavioural strategies to cope and minimize the impact of stressful events and stress arising out of them. The popular strategy to cope with stress is problem-solving and the other being emotion-based techniques **(Folkman and Lazarus, 1980).** In sports coping is a term used for athletes cognitive and behavioural efforts to overcome the requirement of that particular circumstance or event. The word coping is used extensively in sports psychology because performing constantly at the highest level with the same amount of consistency comes with pressure. Stress and emotion-related bad effects on performance are observed due to environmental factors such as spectators or internal such as inability to enhance own skill ability etc. or before facing a tougher and stronger opponent. It is essential for a sportsperson to effectively manage the demands of the game along with their response to these situations by psychological techniques. Lazarus propounded a model named CMRT in this regard. This is a process-oriented model. It is a relational theory of emotions that is based on cognition and motivation. Crying or shouting during a tense match is not coping but a defense mechanism. The coping strategies that are described under sports psychology deal with arousal, motivation, positive attitude, meaningful use of mental imagery, self-talk, making notes on opponents strengths and weaknesses etc.

The coping strategies help an athlete to gain knowledge regarding stressors or difficult situations so that they channelize their emotional thoughts towards effective management employing better planning. Sports psychologists have demonstrated that psychological status affects the motor skills of a sportsperson. This is true at the highest level of competition. **Smith, Schutz, Smoll and Ptacek (1995)** described having a better understanding of coping skills.

The first point is performing at best under pressure. Good coping skills are required to consume the pressure of competition and performing to their best when it matters most. The second point in coping skills is the management of worrying thoughts. An athlete with good coping skills manages to clear his mind regarding failure or unforeseen mistakes or views of other people regarding performance. The coping skills come in handy when a situation is tough during a match. Even if the situation is severely adverse during a match or competition, an athlete with good coping skills can remain optimistic and emotionally controlled. The coping skills are also important when not performing to the best of potential or setbacks in a career. Coping skills enable an athlete to come back strongly with more intensity. Coping skills are associated with concentration. An athlete with good coping skills is not distracted by stressors. Even in a game situation, he is focused on his job. Goal setting and mental preparations are also part of coping skills. These two factors prepare athletes to overcome obstacles because he is mentally prepared to face them. Coping skills get better with confidence and achievement motivation. An athlete with good achievement motivation is confident that he will cross all the difficulties come that may achieve his goal. Coping skills enhances the ability of a sportsperson to hear positive criticism.

Despite knowing the importance of coping skills and their association with sports performance none of the researchers has addressed this issue in terms of female hockey although vast literature is available. **Pensgaard and Ursin (1998), Waples (2003), O'Neil and Steyn (2007), Bois et al. (2009), Esfahani and Ghezelseflo (2013) evaluated the coping skills of elite athletes from various sports other than field hockey. Similarly, psychological studies on field hockey players are conducted by Karp (2000), Eloff et al. (2011), Agashe and**

Chaurasiya (2013), Khan (2014), Vijay Francis Peter (2014), Night (2015), Walker (2016), Vurho et al. (2017), Nachum (2018) and Nas Kazim and Temel Veysel (2019). These studies have explored the wide range of psychological factors that are responsible for the sports performance of hockey players. One thing is noticeable though that research on performance correlates such coping skills of female hockey players are very limited.

The objective of the present study was to compare coping skills and their sub-scales between high and low achiever national female hockey players. It was also hypothesized that the coping skills in high achiever national female hockey players will be significantly better as compared to low achiever national female hockey players.

2. METHODOLOGY

The following methodological steps were taken to conduct the present study.

2.1 Sample

The sample for the present study includes 50 high achievers and 50 low achievers female field hockey players. The selection of high achiever female hockey players was done from the first three ranked teams in a national level hockey tournament. The selection of low achiever female hockey players was done from the bottom three ranked teams in a national level hockey tournament. The sample was selected through purposive sampling with an average age of the sample was 23.11 years.

2.2 Description of Tool

To assess coping skills of national female hockey players inventory prepared by **Smith et al. (1995)** was considered appropriate. The ACSI-28 is a sports-specific inventory to assess the coping style of a sportsperson. This inventory has 28 items in which the respondent give their opinion on five points Likert scale i.e. Strongly disagree, Disagree, Undecided, agree and strongly agree respectively. The numerical weightage for Likert scale is 00, 01, 02, 03 and 04 respectively for the above items. The inventory uses sub-parameters for an overall assessment of the coping behaviour of sportspersons. The item-wise distribution of this scale is Coping with adversity, Peaking under pressure, Goal setting and mental preparation, Concentration, Freedom from worry, Confidence and achievement motivation and Coach-ability. The test-retest reliabilities of sub-scales and overall inventory was 0.87 which indicate that this inventory is highly reliable. The inventory is validated against several other scales such as the Ways of Coping Checklist and Mental Health Test.

2.3 Procedure

100 national-level female hockey players with 50 representing medal-winning teams and 50 representing non-medal-winning teams were selected as samples. Athletic Coping Skills Inventory was administered to each selected female hockey player. Responses were tabulated and put to statistical treatment. Results are given in table 1 and table 2.

3. RESULTS

TABLE 1

COMPARISON OF COPING SKILL BETWEEN HIGH(MEDAL WINNER) AND LOW ACHIEVER(NON-MEDAL WINNER) NATIONAL FEMALE FIELD HOCKEY PLAYERS

Variable	National Female Field Hockey Players						t-ratio
	High Achiever			Low Achiever			
	N	M	SE_M	N	M	SE_M	
Coping Skills	50	82.58	1.16	50	69.64	1.05	**8.22***

*Significant at .01 Level

t.05 (98) = 1.98

Comparative statistics as shown in table 1 regarding the coping skills of female field hockey players with different achievement credentials indicate noteworthy results at .01 level of statistical significance.

The mean score of the high achiever group on the coping skills inventory was 82.58 while the mean score of the low achiever group was 69.64. The mean scores of respective groups showed that athletic coping skills of medal winner high achiever female field hockey players were considerable better as compared to non-medal winner national female field hockey players.

When 't' value was computed it was 8.22 denoting that the finding is significant at .01 level as per the table value at 98 degree of freedom.

TABLE 2

COMPARISON OF SUB-SCALES OF COPING SKILL BETWEEN HIGH(MEDAL WINNER) AND LOW ACHIEVER(NON-MEDAL WINNER) NATIONAL FEMALE FIELD HOCKEY PLAYERS

Sub-scales	National Female Field Hockey Players						t-ratio
	High Achiever			Low Achiever			
	N	M	SE_M	N	M	SE_M	
Coping with Adversity	50	12.94	.26	50	8.48	.28	11.42*
Peaking under Pressure	50	12.60	.28	50	9.86	.40	5.60*
Goal Setting and Mental Preparation	50	10.78	3.13	50	10.22	.37	0.96
Concentration	50	11.88	.38	50	11.82	.36	0.11
Freedom from worry	50	11.54	.35	50	10.04	.37	2.92*
Confidence and Achievement Motivation	50	10.52	.36	50	8.22	.21	5.43*
Coachibility	50	10.72	.41	50	10.04	.33	1.26

*Significant at .01 Level

t.05 (98) = 1.98

Comparative statistics as shown in table 2 regarding ability of national female field hockey players to cope with adverse situations with different achievement credentials indicate noteworthy results at .01 level of statistical significance. The mean score of the high achiever group on the coping with adversity sub-scale was 12.94 while the mean score of the low achiever group was 8.48. The mean scores of respective groups showed that the ability of medal winner high achiever female field hockey players to cope with the adverse situation was considerably better as compared to non-medal winner national female field hockey players. When 't' value was computed it was 11.42 denoting that the finding is significant at .01 level as per the table value at 98 degree of freedom.

Comparative statistics as shown in table 2 regarding the ability to peak perform under pressure was considerably better in medal winner national female field hockey players as compared to non-medal winner female field hockey players. The mean score of high achiever group on "peaking under pressure" sub-scale was 12.60 while the mean score of the low achiever group was 9.86. When 't' value was computed it was 5.60 denoting that the finding is significant at .01 level as per the table value at 98 degree of freedom.

The goal setting and mental preparation for competition in high and low achiever female field hockey players displayed non-significant variation. The mean score of the high achiever group on "goal setting and mental preparation" sub-scale was 10.78 while the mean score of the low achiever group was 10.22. When 't' value was computed it was 0.96 denoting that the finding is non-significant as per the table value at 98 degree of freedom.

The concentration as a subscale for coping skills in high and low achiever female field hockey players displayed non-significant variation. The mean score of the high achiever group on "concentration" sub-scale was 11.88 while the mean score of the low achiever group was 11.82. When 't' value was computed it was 0.11 denoting that the finding is non-significant as per the table value at 98 degree of freedom.

Comparative statistics as shown in table 2 regarding freedom from worry did differ between high and low achievers in a national female hockey tournament at .01 level. The mean score of the high achiever group on "freedom from worry" sub-scale was 11.54 while the mean score of the low achiever group was 10.04. When 't' value was computed it was 2.92 denoting that the finding is significant at .01 level as per the table value at 98 degree of freedom.

Comparative statistics as shown in table 2 signifies that high achiever national female field hockey players were more motivated and confident about their skills and other performance-related abilities as compared to low achiever national female field hockey players with weightage of 99% statistical probability. The mean score of the high achiever group on "confidence and achievement motivation" sub-scale was 10.52 while the mean score of the low achiever group was 8.22. When 't' value was computed it was 5.43 denoting that the finding is significant at .01 level as per the table value at 98 degree of freedom.

The mean score of the high achiever group on "coachability" sub-scale was 10.72 while the mean score of the low achiever group was 10.04. When 't' value was computed it was 1.26 denoting that the finding is non-significant as per the table value at 98 degree of freedom.

4. DISCUSSION

Coping skills in medal winner national female field hockey players was found to be considerably better as compared to low achiever non-medal winner national female field hockey players. Ability to perform under pressure and at the appropriate moment was found to be significantly high in medal winner high achiever female field hockey players as compared to non-medal winner national female field hockey players. Mean score on goal setting and mental preparation, concentration and coach-ability sub-scales between high and low achiever female hockey players did not reveal any variation in mean scores. High achiever national female hockey players were found to be less worried about their performance outcome as compared to low achiever national female hockey players. High achiever national female field hockey players were more motivated and confident about their skills and other performance-related abilities as compared to low achiever national female field hockey players with weightage of 99% statistical probability. Mean score on goal setting and mental preparation, concentration and coach-ability sub-scales between high and low achiever female hockey players did not reveal any variation in mean scores.

It was also reported by **Meyers et al. (1999)** that anxiety control and finest concentration were the two most important aspects of sports performance. Similarly, certain sub-factors of coping skills are also reported to be essential for a high level of performance in sports. **Waples (2003)** placed special emphasis on coping with adversity, pre-game psychological preparation along with self-belief as far as sports performance is concerned. Researchers like **Sotoodeh et al. (2012)** also supported superior psychological status in elite sportspersons. Hence results are consistent with previous findings.

5. CONCLUSION

It was concluded that high achiever national female hockey players have more sustained and better cognitive and behavioural efforts to overcome the requirement of that particular circumstance or event as compared to low achiever national female hockey players.

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COMPARATIVE STUDY ON MOTOR ABILITIES AMONG SPORTSMEN AND NON-SPORTSMEN OF KANPUR UNIVERSITY, UTTAR PRADESH

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ABSTRACT

Physical Fitness is one's richest possession; it cannot be purchased but can be earned through a daily routine of physical exercise. As it is self-evident that fit citizens are nation's best asset and weak ones its liability. Therefore it is the responsibility of every country to promote the physical fitness of its citizens because it is the basic requirement for most of the tasks to be undertaken by an individual in his daily life. The purpose of this study, physical fitness is understood to comprise of Motor abilities namely Speed, Endurance, Flexibility, Agility, Strength, and cardiovascular endurance. among Sportsmen and Non- Sportsmen of Kanpur University, Uttar Pradesh. The present study was carried out of 80 students (Physical Education) college 40 sportsmen and 40 Non-sportsmen selected sample's motor fitness was measured in five motor ability tests like Speed, Endurance, Flexibility, Agility, and Strength. The score for each test item was collected for all subjects. The comparison of the performance of subjects of various test items of the AAHPER Youth Fitness Test, t-Test was used to analyze the data with the level of significance at 0.05 Level. The results revealed that there was a significant difference in a motor test of speed, agility, between before and after training, trained samples both sportsmen and non-sportsmen has significantly higher performance in a speed test. There was a significant effect of training on the motor test of endurance and flexibility of both groups. There was a significant difference between sportsmen and non-sportsmen in their all motor components like Speed, Endurance Flexibility, Agility, and Strength.

Keywords- Speed, Endurance, Flexibility, Agility, Strength, sportsman, non-sportsman, males.

1. INTRODUCTION

Physical fitness is more than cardiovascular fitness. Most experts agreed that fitness has many different components of which cardiovascular fitness is simply one. From a public health perspective strength, muscular endurance flexibility and body composition additionally benefit thought.

When properly instructed, education for physical activity , with its stress on building a physically, showing emotion, mentally, and socially fit society, plays a vital role within the instructed educational process **(Bucher and Wuest, 1976).**

Main aims of Physical education is to guage good body condition, has become a continuing challenge to the current profession. General test norms are evolved to assess physical or motor fitness throughout the globe. Vried normative studies ensure the requirement for norms for specific target populations. Physical fitness is on positive quality, extending on a scale from death to "abundant life" All living people, therefore have an some amount of fitness, that varies significantly in several humans and within the same person from time to time. good condition is an important quality of man **(Clarke, 1976).**

The world's leading philosophers have stressed the importance of good condition in living a productive and meaningful life. The Greek thinker, Aristotle expressed that the body is that the temple of the soul, and to achieve harmony of body, mind, and spirit, the body should be physically fit. A sound mind in exceedingly in a sound body briefly was wrote by an English thinker (John Locke) for the total description of a contented state during this universe. **(https://www.johnlocke.org/a-sound-mind-in-a-sound-body).**

Physical fitness indicates the general health of a human, but the physical demands in competitive sports is highly required professions. As a results of current work, significantly within the field of applied science and physical education, it's changing into more and more obvious although, not usually appreciated that the action and maintenance of high levels of physical fitness manufacture vital efforts on the operating of the human body **(Williams , 1962).**

Physical fitness could be a ability and capability for daily routine works with alertness while not fatigue and with ample energy to entertain leisure-time activity and to satisfy unforeseen emergencies **(Clarks , 1976).**

Physical fitness as the capability of an individual to perform a given physical task involving muscular effort **(Mathews and Fox ,1973).**

Physical fitness in on a time and is commonly outlined in relevancy a person's lifestyle and energy wants. Physical fitness is usually outlined because the ability to handle normal physical demands of life, to own ample energy to perform a spread of time off activities, and still be able to operate effectively in emergency conditions **(Swegin et. al. 1989).**

The AAHPER defines fitness as a state. that characterizes the degree to that someone is in a position to operate expeditiously. Fitness is a personal matter. It implies the flexibility of every person to measure most effectively among his potentialities. the flexibility to operate depends upon the physical, mental, emotional, social, moral, and non secular elements of fitness all of that are associated with one another and are mutually interdependent **(AAHPER, 1967).**

Cardiovascular fitness is one amongst the foremost vital elements of physical fitness as mentioned in agreement with most of the consultants in world . From a public health perspective, strength muscular endurance flexibility, and body composition additionally benefit consideration **(AAHPER, 1980).**

For the purpose of this study, physical fitness is understood to comprise of Motor abilities namely Speed, Endurance, Flexibility, Agility, Strength, and cardiovascular endurance. among

Sportsmen and Non- Sportsmen of Kanpur University, Uttar Pradesh. It was also hypothesized that there is a significant difference between the motor abilities among Sportsmen and Non-Sportsmen of Kanpur University, Uttar Pradesh.

2. METHODOLOGY

2.1 Sample

The present study was carried out of 80 students (Physical Education) college 40 sportsmen and 40 Non-sportsmen selected sample's motor fitness was measured in five motor ability tests like Speed, Endurance, Flexibility, Agility, and Strength. The sample was given training for four weeks. After the training motor fitness was again measured in terms of the performance of the players in the five motor ability tests used in pre-training conditions. The performance of the sample before and after the training conditions was taken to assess the motor fitness ability. The data of pre and post-training conditions were analyzed statistically.

2.2 Tools and Technique

Motor ability tests were used to analyzed the data.

Sl. No.	Motor Ability	Test	Unit of Measure
1.	Speed	50 yard dash	Time
2.	Endurance	12 min. Run & Walk	Distance
3.	Flexibility	Sit & Reach Test	Inches
4.	Agility	Shuttle Run 10x4 yards	Time
5.	Strength	Pull-ups	Score

2.3 Statistical Analysis

The score for each test item was collected for all subjects. The comparison of the performance of subjects of various test items of AAHPER Youth Fitness Test, t-Test was used to Analysis of Variance with the level of significance at 0.05 Level

3. RESULTS

To assess the performance of subjects of various test items of AAHPER Youth Fitness Test, t-Test was used to Analysis of Variance with the level of significance at 0.05 Level and data pertaining to this has been presented in table 1 and 2.

TABLE 1

MEAN SD AND T-VALUES OF MOTOR FITNESS TESTS OF SPORTSMEN AND NON SPORTSMEN GROUPS (PRE- TRAINING)

Groups		Speed	Endurance	Flexibility	Agility	Strength
Sportsmen	M	10.00	417.4	2.10	12.50	16.30
	SD	1.40	150.8	1.01	1.21	2.61
Non-Sportsmen	M	9.48	310.9	2.13	11.50	14.40
	SD	1.59	155.6	1.68	1.59	2.16
t-values		2.13*	2.78*	0.19	2.11*	2.74*

*Significant at 0.05 level, t.05 (118)=1.98

Table-1 clearly reveals that the mean scores of both sportsmen and non sportsmen in all the five motor ability tests pre-training were given. It shows that the endurance of the sportsmen and agility test non-sportsmen have is significantly higher than the sportsmen.

TABLE 2
MEAN SD AND T-VALUES OF MOTOR FITNESS TESTS OF SPORTSMEN AND NON SPORTSMEN GROUPS (POST-TRAINING)

Groups		Speed	Endurance	Flexibility	Agility	Strength
Sportsmen	M	11.50	221.3	3.39	17.44	11.70
	SD	1.23	173.3	1.21	2.23	2.45
Non-Sportsmen	M	10.48	201.4 151.6	3.49	16.40	10.41 2.22
	SD	1.70		1.36	1.78	
t-values		3.18*	4.30*	0.366	2.57*	2.31*

*Significant at 0.05 level
t.05 (118)=1.98

Table-2 clearly reveals that there were significant differences in the motor ability test like speed, endurance, agility, and strength after training. T-values on these tests are significant differences in the ability.

4. DISCUSSION

The statistical analysis of data collected on 80 male students of colleges of Kanpur, Uttar Pradesh has been presented in two sections, pre and post-training. The purpose of the study has been compared in different items of physical fitness test using analysis. The score for each test item were collected for all subjects separately. The compare the performance of subjects of different test items of AAHPER Youth Fitness Test, Analysis of Variance was used with the level of significance at 0.05

5. CONCLUSIONS

1- There is a significant difference in a motor test of speed between before and after training, trained samples of both sportsmen and non-sportsmen have significantly higher performance in a speed test.
2- There is a significant effect of training on the motor test of endurance of both groups.
3- There is a significant difference in a motor test of agility between pre and post-training; sportsmen have significantly higher performance in agility than non-sportsmen.
4- There is a significant effect of training on the motor ability test of the flexibility of the samples.
5- There is a significant difference in motor ability test of strength between sportsmen and non-sportsmen.
6- There is a significant difference between sportsmen and non-sportsmen in their all motor components like Speed, Endurance Flexibility, Agility, and Strength.

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COMPARISION OF TASK AND EGO-ORIENTATION OF MALE PLAYERS KABADDI AND KHO-KHO PLAYERS

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ABSTRACT

The purpose of the study was to assess and compare the task and ego orientation of male Kabaddi and Kho-Kho players of inter-university level. For this purpose, one hundred and twenty male Kabaddi (N=60) and Kho-Kho (N=60) players of inter-university level were selected as the subject of the study and ages ranged between 18 to 27 years. The Task and Ego Orientation in sports Questionnaire (TEOSQ) prepared by Duda and Nicholls was used to measure goal orientation. To determine the significance of difference between the scores on sports orientation of Kabadi and Kho-Kho players, mean, standard deviation, and t-ratio were computed. The results of the study revealed that the male Kabaddi and Kho-Kho players of inter-university level differed significantly in their task orientation and ego orintation. Results of the study also revealed that the male Kabaddi players are more involved in goal orientation than male Kho-Kho players.

Keywords: Kabaddi, Kho-Kho, Task orientation, Ego Orientation, Interuniversity level

1. INTRODUCTION

Psychometric research on task and ego orientation has provided an interesting insight into the nature of a task and ego orientation in the athletic environment. First, it has been demonstrated empirically that regardless of whether a task or ego orientation predominance, a high task or ego-oriented individual can be considered competitive. Although intrigued with competition, task versus ego-oriented persons would probably vary in why they approach competitive situations as well as in terms of the objective of the competitive experience. Despite the fact that they are both interested in "winning", it is the relative importance of the competitive outcomes in relation to the competitive process and the psychological devastation associated with "losing" that seem to discriminate between the two-goal orientation. Secondly, the people who tend to emphasize on involved goals had similar equal goal orientations. What distinguishes these groups are the perceptions and criteria underlying subjective goal attainment. Lastly, whether high in a task or ego orientation, such individuals are interested in playing well in 'sports contests, It is commonly assumed by the practitioner (and same sports researchers that task-oriented people simply want to have fun and have a deep interest in the sports contest (outcome or otherwise.

Likewise, it's usually assumed that ego-oriented people don't care concerning taking part in furthermore as they will and solely are involved concerning who wins or loses. it's the sensory activity basis for terminal whether or not one competes well or not that differs among robust task and ego-oriented athletic participants. Athletes high in task orientation were less likely to feel that sports showed leads to high social rank. Conversely, ego orientation was absolutely related to the idea that enhancing socialization is a vital operation of sports. Ego-bound athletes additionally tend to believe that sports ought to create individuals feel necessary and be a lot of competition. **(Singer et.al.,1993).**

Task-oriented male and female high school athletes feel that the aim of sports was to boost vanity, teach individuals to do their best, co-operate and be honest citizens. Ego-oriented athletes feel that the aim of sports was to boost self-esteem and social status; except for low ego-oriented high school students, the aim of physical education was to increase mastery and cooperation, develop a full of life, promote competitiveness, enhance self-esteem, teach health and fitness, develop motor talent, learn rules and supply fun. The college students collaborating in physical education activity categories, task orientation was associated with the reader that the aim of sports was to market social responsibility and lifelong health, and ego-orientation to achieving standing through sports. In assessing goal views and fairness angle and therefore the perceived legitimacy of aggression..

Duda, Olson, and Templing (1991) completed that male and female high school basketball players with an occasional task and high ego orientation supported cheating behaviours and non-sportsmen-like play. Also, a high ego orientation was absolutely associated with perceiving acts of aggression as a lot of legitimate. In competitive level and goal orientation, they reported that ego-oriented athletes had motives accentuation competition and standing, whereas task-oriented athletes stressed talent development, fitness affiliation, team membership, and competition **(Carpenter & Yates, 1997).**

Nicholls distinction between ego and task concerned perceived ability has nevertheless to be operationalized. analysis on expectancy, like self-efficacy, has developed multitudinous scales for the myriad of things during which expectancy is of interest. primarily based upon this past analysis, it appears that a legitimate, ungenerous operationalization of certainty would permit a lot of consistent prediction of behaviours across totally different sports things.

Nicholls distinction between ego involved and task involved perceived ability has yet to be operationalized. Research on expectancy, like self-efficacy, has developed countless scales for the myriad of situations in which expectancy is of interest. Based upon this past research, it seems that a valid, parsimonious operationalization of self-confidence would allow more consistent prediction of behaviours across different sports situations. Self-confidence is often viewed because the most crucial psychological characteristic influencing sports performance fascination with their construct is burning by the dramatic influences that certainty has on performance, furthermore because of the usually stable and unpredictable nature of certainty over an amount of your time **(Vealey, 1986).**

Research in certainty in sports psychological science has been conducted with numerous theoretical frameworks and has mostly targeted mediating the impact of confidence on psychological feature impact and behaviour in sports and motor performance contexts **(Bandura,1997).**

The purpose of the study was to assess and compare the task and ego orientation of male Kabaddi and Kho-Kho players of inter-university level. It was also hypothesized that there will be a significant difference in goal orientation between male Kabaddi and Kho-Kho players of inter-university level

2. METHODOLOGY

2.1 Selection of Subjects

One hundred and twenty (Kho-Kho=60, Kabaddi=60) male players of Chhattisgarh were selected for the purpose of the study. A purposive sampling technique will be taken into consideration for male players in both team games. All the selected male player shall be included in the study.

2.2 Instrumentation

Task and Ego-orientation Questionnaire is a reliable and valid tool by Duda and Nicholls, was used for the aim of measurement task and ego orientation. The questionnaire had consisted of thirteen items of which seven belong to Task orientation and six belong to Ego Orientation. The player answered each item using 05- point Likert-type scale ranging from strongly disagree to strongly agree. he 07 items of task orientation subscale assess the extent with that a private defines success in terms of learning, whereas the 06 things of ego-orientation subscale assess the extent with that success is viewed in terms of outperforming others.

2.3 Research Design

A purposive sampling technique will be taken into consideration for male players both team games.

2.4. Statistical Analysis

To compare the male Kabaddi and Kho-Kho players on task orientation and ego-orientation, means, standard deviations, and t-ratio were computed

3. RESULTS

To find out the significance of difference between male Kabaddi and Kho-Kho players on task orientation and ego-orientation, means, standard deviations, and t-ratio were computed and data pertaining to this have been presented in Table 1 to 3 and depicted in figure 1 to 2.

TABLE 1
DESCRIPTIVE STATISTICS OF TASK ORIENTATION AND EGO ORIENTATION,OF MALE KABADDI AND KHO-KHO PLAYERS

S.No.	Variables	Category	N	Mean	SD
1.	Task Orientation	Kabaddi Players	60	4.09	0.51
		Kho-Kho Players	60	3.81	0.38
1.	Task Orientation	Kabaddi Players	60	3.19	0.54
		Kho-Kho Players	60	3.84	0.63

The mean scores of task orientation, and ego orientation of male Kabaddi and Kho-Kho players belong to inter-university and inter-college levels respectively have been depicted in figures 1 to 2.

TABLE 2
SIGNIFICANCE OF DIFFERENCE BETWEEN MALE KABADDI AND KHO-KHO PLAYERS ON TASK ORIENTATION

S.No.	Category	N	Mean	Mean Difference	Standard Error of Difference of Mean	t-ratio
1	Kabaddi Players	60	4.09	0.28	0.08	3.50*
2	Kho-Kho Players	60	3.81			

*Significant at .05 Level,
t.05 (118)=1.98

Table 4.2 indicates that statistically significant difference existed between male Kabaddi and Kho-Kho players on task involvement , as the calculated t-value of 3.50, was high than the required t.05 (118)=1.98. So, it is clear evident from the analysis of data that the male Kabaddi players are more in task involvement than male Kho-Kho players.

TABLE 3
SIGNIFICANCE OF DIFFERENCE BETWEEN MALE KABADDI AND KHO-KHO PLAYERS ON EGO-ORIENTATION

S.No.	Category	N	Mean	Mean Difference	Standard Error of Difference of Mean	t-ratio
1	Kabaddi Players	60	3.19	0.647	0.107	6.05*
2	Kho-Kho Players	60	3.84			

*Significant at .05 Level,
t.05 (118)=1.98

Table 4.3 indicates that statistically significant difference existed between male Kabaddi and Kho-Kho players on ego involvement, as the calculated t-value of 6.05, was high than the required t.05 (118)=1.98. So, it is clear evident from the analysis of data that the male Kabaddi players are more in ego involvement than male Kho-Kho players.

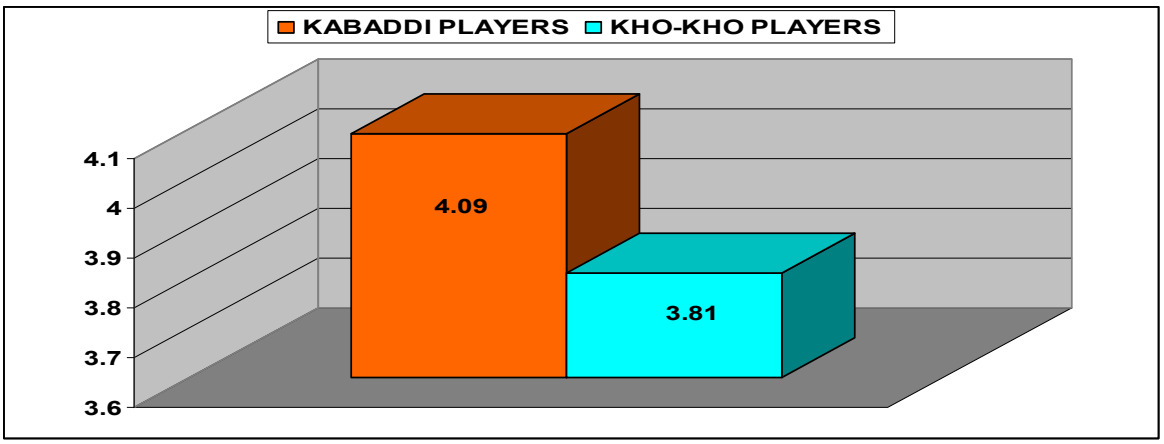

Fig. 1: Mean Scores of Task Orientation of Inter-university Level Male Kabaddi and Kho-Kho of Inter-university Level .

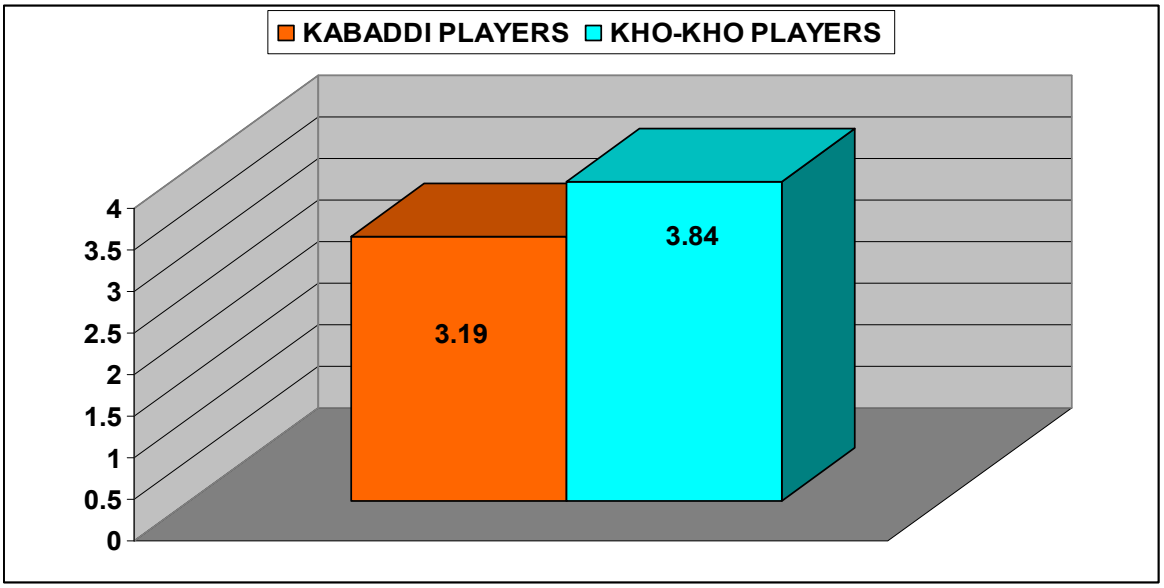

Fig. 2: Mean Scores of Ego Orientation of Inter-university Level Male Kabaddi and Kho-Kho of Inter-university Level.

4. DISCUSSION

Psychometric research on task and ego orientation has provided an interesting insight into the nature of a task and ego orientation in the athletic environment Goal orientation is a strong psychological attribute to any sports denotes a firm determination in their task and ego involvement It was observed that highly confident players were highly task involved entails that perception of high ability and subjective success is based on the experience of learning. It means that increase in self-confidence is associated with success in competence-based upon task mastery and personal improvement. The further highly task-oriented players will believe that team game players should enhance cooperative skills and desire for personal mastery. It is negative to the view that sports should improve social status. It was hypothesized that "there will be significant difference in goal orientation between male Kabaddi and Kho-Kho players of

inter-university level" is accepted, as the significant difference was observed in goal orientation between male Kabaddi and Kho-Kho players of inter-university level.

5. CONCLUSIONS

1. A significant difference was found between male Kabaddi and Kho-Kho players of inter-university level on task involvement ,
2. Male Kabaddi and Kho-Kho players of inter-university level had Statistically significant difference on ego involvement
3. The male Kabaddi players of inter-university level are more in task involvement than male Kho-Kho players of inter-university level
4. The male Kabaddi players of inter-university level are more in ego involvement than male Kho-Kho players. of inter-university level

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A COMPARISION OF SELF ESTEEM OF STATE LEVEL MALE AND FEMALE SPORTSPERSONS OF HIGHER SECONDARY SCHOOLS

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ABSTRACT

Physical education activities and sports contribute not only to physical fitness and health but also to physical effectiveness , internal alertness, and the development of certain rates like perseverance, team spirit, and numerous other values of life processes and high achievements. In the last twenty years, great attention has been paid to the psychoanalytic and psychotherapeutic issues associated with physical exertion . The purpose of the present investigation was to compare the self-esteem between state-level male and female sportspersons belonging to secondary school children. One hundred and forty male (N=70) and female (N=70) sportspersons who belong to secondary schools of shadow districts who represented their respective schools in state-level competitions during the year 2020- 2021, were selected to serve as the subjects of this study. To assess the self Esteem of male and female sportspersons of State level, means, standard deviations, and t-ration were computed. The results of the investigation revealed that Male and female sportspersons of state-level participation insignificant differences were found between male and female sportspersons at state-level participation in Self Esteem. Self-esteem was also found higher in female sportspersons of state-level than their male sportspersons of state-level.

Keywords: Males, Females, Sportspersons, State level, Self-esteem, School Children

1. INTRODUCTION

Scientific research within the field of sports education may be a boon to the athletes, trainers, and coaches. Sports scientists have been trying to attain advanced situation of performance in sports and games.

The psychological preparation on the basis of psychological characteristics of the sport, the competition conditions, and the personality structure (profile) of the sportsmen, is planned and carried out with the end of enabling the sportswomen to be in an optimum psychic state at the time of competition so that he can achieve the maximum possible performance.

Participation in Sports contributes to putting together self-assurance, enhancing intellectual level, personality development, and outgoing tendency or extroversion in and of itself proficiency results in increased success in sports activities that are extremely valued in one's group. Human life may be a complicated of physical, intellectual, emotional, and social development patterns sports and physical activities are integral elements of those patterns. individuals contend in sports owing to the chance provided to guage their competency in interacting with one's atmosphere. Competition provides individuals of all levels of ability .with the chance to hunt out their enforcements enticing to them and gain sure measures of self-evaluation **(Sinha, 1986) .**

In basic terms, vanity is an enclosed belief system that an individual possesses concerning one's themself. The conception of self-esteem has been researched by many social scientists. **Branden (1969)** outlined self-esteem as a regular by that someone judges her/himself. and a feeling. This self-evaluation is that the one most significant key to behavior, that affects the thinking processes, emotions, desires, values, and goals.

This self-evaluation is that the single most vital key to behavior, that affects the thinking processes, emotions, desires, values, and goals.

Gender-based Self-esteem and level of self-esteem. It was found higher in females than their counterparts **(Naderi et al., 2009).** Elite athletes have a better self-esteem than nonathletes. Women have slightly higher self-esteem than men **(Patterson, 1993).** Significant differences were noticed between male and female students in self-esteem and achievement goals orientation **(Rahmani, 2011).** The similarity was found between men and women National Volleyball Players in regard to Self-esteem **(Ajeesh, 2013).**

Self-esteem may be a term utilized in scientific discipline to replicate an individual's overall emotional analysis of his or her own value. It's a judgment of oneself furthermore as an angle toward the self. Self-esteem encompasses beliefs and emotions such as triumph, despair, pride, and shame. Self-esteem is that the experience of being competent to take care of the basic challenges of life and being have to be compelled to have happiness.

Self-esteem has long been thought of a vital part of an excellent psychological state and a focus in recent years. Self-esteem consists of a person's self Assessment and a mixture of his/her self-concept of characteristics and skills **(Pope and McHales, 1988., Flouri 2006 & Osborn, 1997).**

The gender difference was observed in self-esteem and the level of self-esteem was found higher in females than their counterparts **(Naderi et al. 2009).** Self-esteem affects the thinking method, emotions, desires, values, and goals in an exceedingly person **(Sandra 2009).** Positive (high self-esteem) ends up in larger happiness or negative (low self-esteem) and timorousness, probably ends up in depression **(Baumeister et al,2003).**

The purpose of the present investigation was to compare the self-esteem between state-level male and female sportspersons belonging to secondary school children..

2. METHODOLOGY

2.1 Selection of Subjects

One hundred and forty male (N=70) and female (N=70) sportspersons who belong to secondary schools of shadow districts who represented their respective schools in state-level competitions during the year 2020- 2021, were selected to serve as the subjects of this study. The mean age and SD of male and female sportspersons were 16.40 ± 1.48 and 17.16 ± 2.66

2.2 Instrumentation

Self-esteem rating Scale -After consultation with physical education experts of India and availability of the questionnaires, suitability of Indian condition, and legitimate time for the study, the self-esteem rating Scale prepared and developed by **Nugent and Thomas (1993)**. will be used to measure the self-esteem of male and female school children. The seven-point Scale of self-esteem consisted of 40-items to assess the self-esteem of male and female school children.

2.3 Statistical Analysis

To assess the self Esteem of male and female sportspersons of State level, means, standard deviations, and t-ration were computed. The SPSS computer programs were also utilized to analyze the collected data.

3. RESULTS

In order to find out the significant difference between male and female sportspersons of state-level on self-esteem, means, standard deviations, and t-ratios were computed and data pertaining to this , has been presented in Table 1 & 2 and depicted in Figure 1

TABLE 1

DESCRIPTIVE STATISTICS OF SELF ESTEEM OF STATE-LEVEL MALE AND FEMALE SPORTSPERSONS

S.No.	Psychological Factors	Sex	N	Mean	SD
1	Self Esteem	Male Female	70 70	165.33 175.11	26.27 6.87

The mean scores on self Esteem, of male and female sportspersons of State level, have been depicted in figure 1.

Figure 1

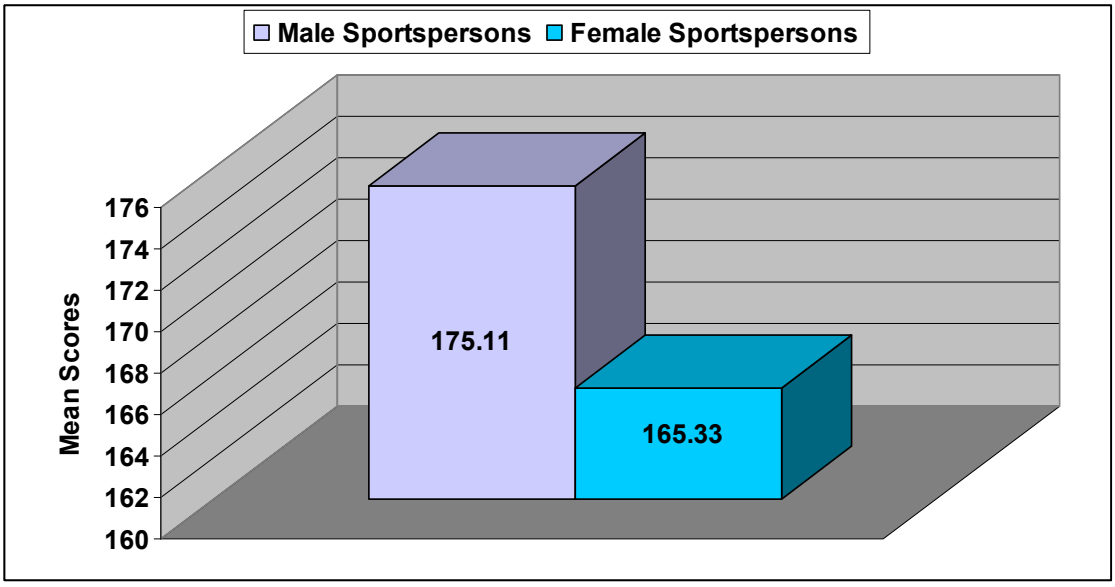

TABLE 2
SIGNIFICANT DIFFERENCE IN SELF ESTEEM BETWEEN STATE-LEVEL MALE AND FEMALE SPORTSPERSONS

Psychological Factors	**Sex**	**N**	**Mean**	**MD**	**σ DM**	**t-ratio**
Self Esteem	Male Female	70 70	165.33 175.11	9.78	3.25	3.01*

Table 2 reveals that a significant difference was found between male and female sportspersons at state-level participation in Self Esteem, as the obtained t-value of 3.01, was high than the required t.05(138)=1.98.

4. DISCUSSION

Education means modifications in behavior. This statement peruses to the various alteration and modifications which may be conducted with the help of education, environment, and teaching or training. The education may only be achieved, when the various body systems are engaged and involved in a coordinative and systematic form. The educational concept of the all-round development of a human being refers to various dimensions in which the physical dimension plays an important role to provide the practical shape to the education process.

Self-esteem has long been considered an essential component of good mental health and attention in recent years. Self-esteem consists of a person's self Assessment and a mixture of his/her self-concept of characteristics and skills. This self-evaluation is that the one most significant key to behavior, that affects the thinking processes, emotions, desires, values, and goals (Branden, 1969). **(Branden, 1969).**

Self-esteem affects the thinking method, emotions, desires, values, and goals in an exceeding person **(Sandra 2009).** Positive (high self-esteem) ends up in larger happiness or negative (low self-esteem) and timorousness, probably ends up in depression **(Baumeister et al,2003).** When the male and female sportspersons were compared together on self-esteem, t-ratio resulted in dissimilarity among them. This was supported by **Rahmani, (2011).** Female sportspersons of state-level had higher self-esteem than their counterparts, as the obtained mean score of female gender was found high than male sportspersons, This study is supported by **Naderi et al., (2009). and Patterson, (1993).**

5. CONCLUSIONS

1. Male and female sportspersons of state-level participation insignificant difference was found between male and female sportspersons at state-level participation in Self Esteem.
2. Self-esteem was found higher in female sportspersons of state-level than their male sportspersons of state level.

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QUALITATIVE STUDY OF AVAILABLE LIBRARY RESOURCES IN SELECTED STATE UNIVERSITIES OF CHHATTISGARH

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ABSTRACT

Libraries will play a vital role in providing an honest education and data of top quality. people around the world, despite however poor they'll be, will access no matter data and data they have by visiting libraries via the web, like the library of congress. The purpose of the present study was to find out the quality of the available various types of library resources in selected state universities of Chhattisgarh. Three hundred and sixty P. G. level male (N=180) and female (N=180) students of selected six of university library belong to different zones of India were selected for the purpose of Study. To assess the responses obtained through a self-constructed questionnaire survey from male and female students were carefully and systematically compiled. The Frequency and percentage of the responses were calculated. The results of the study revealed that almost all male and female students visit the university library to prepare for college assignments. Almost all male and female student indicated that the available primary and secondary resources was found of good quality in the university library. The male and female students also indicated that the available tertiary resources were found of average quality in the university library.

Keywords: Quality, Library, Resources, University, Quantitative study.

1. INTRODUCTION

Education has been outlined as a complex social process of effort information and skill, formally or otherwise. Ogunsheye (1981) states that it involves the general instrumentality used for the event of the individual. The library allows the individual to get religious, sacred, and recreational activity through reading, and thus the chance of interacting with the society's wealth and accumulated information (Omojuwa 1993) . The library is often seen as an extension of education.

Education cannot exist alone inside the absence of a library and therefore the library has no means that if it cannot impart education. an honest well-equipped library is also a function qua non for the intellectual, moral, and non-secular advancement and elevation of the people of a community**.** it's an imperative part of absolutely the well being of the voters which of the state at massive. individuals acquire education through sure establishments, schools, agencies, welfare bodies, museums and organizations, and also the library is that the most eminent of such establishments. A school, a club, and enterprise of society will ne'er alone impart education; every one of them is dependant upon a library – a centre of wholesome education, and also the quencher of thirst for concrete, fathomless, final knowledge.

A Web definition for Education Development is that the method of rising the effectiveness of instructional provision through a current review of relevant factors in the least levels from teaching techniques and materials to institutional structures and policies, and therefore the provision of mechanisms for progressive modification.

Web-based data sources perpetually will increase, libraries area unit managed in an exceedingly a lot of democratic approach, have a lot of versatile communication system and work for the organization, and their service development is predicated on the standard and user-orientation of services. within the modern data society libraries have a brand new role and their area unit varied kinds of library models i.e. ancient library as a memory establishment, library as a learning and analysis centre, library as a cultural and communication centre, electronic library, digital library and virtual library as a library while not walls.

The history of the library in the African nation isn't avoided mentioning the primary library known as "town Library" that in line with Oyegade, Nassarawa and Mokogwe (2003) was supported in 1879. The Libraries produce acquisition among the individuals, provide public lectures. Library services improve knowledge and skills for positive productivity as a tool for national development. Library services are required to modify the individual to develop full potentials and widen the horizons of perception, interests and skills (Metzger,1991).

Onshwakpor, J. E. summed up the requirement for library services from the perspective of class once he ascertained that, "If a class is to own a bigger share within the moulding and building of a happier individual and a stronger society, the suppliers of the class should transcend their roles as acquisition facilitators to a lot of sensible role of providing libraries for sustaining the freshly acquired skills of adult learners.

Libraries had been performed several necessary roles within the past farming and industrial societies. however, those roles were restricted in scope. within the twenty-first century, libraries got to perform crucial roles in spreading and sharing the culture of data. during this age, knowledge| of libraries ought to be repositories of all of the knowledge and data accumulated by humankind. they're going to got to store every kind and variety of material and data and circulate beyond the geographical boundaries. Today's advanced info technology is sanctioning libraries to accomplish this huge task.

Libraries will play a vital role in providing an honest education and data of top quality. people around the world, despite however poor they'll be, will access no matter data and data they have by visiting libraries via the web, like the library of congress.

The importance of the library within the service of course can't be overestimated. Akinpelu (1994) describes books as, "the shrines wherever the saint is believed to be, associate degreed having designed an ark to avoid wasting learning from the deluge, be in conduct any new instrument or engine whereby learning ought to be advanced." Libraries area unit considered one in every one of the establishments that have a job in advancing attainment and education in society.

The purpose of the present study was to find out the quality of the available various types of library resources in selected state universities of Chhattisgarh

2. METHODOLOGY

2.1 Sample

Three hundred and sixty P. G. level male (N=180) and female (N=180) students of selected six of university library belong to different zones of India were selected for the purpose of Study.

2.2 Source of Data

The present study surveyed the quality of available resources of selected libraries of universities i.e. Bilaspur University, Bilaspur, Pt. Ravishankar University Raipur, Rani Durgawati Vishwa Vidyalaya, Jabalpur, Barktulla University, Bhopal through visits by postgraduate level male and female students.

2.3 Statistical Analysis

To assess the responses obtained through a self-constructed questionnaire survey from male and female students were carefully and systematically compiled. The Frequency and percentage of the responses were calculated.

3. RESULTS

. The percentage analysis of the surveyed information of one hundred and eighty male and one hundred and eighty female students from six universities of five different zones through obtained frequencies of responses are presented in Tables 1 to 7

TABLE 1
PERCENTAGE INDICATION OF MAIN PURPOSE OF VISIT OF UNIVERSITY LIBRARY

Items	Sex	Frequency	Percent
College Assignment	Male students	168	93.33
	Female Students	158	87.77
Research	Male students	01	00.55
	Female Students	00	00.00
Job or Career	Male students	05	02.77
	Female Students	12	06.66
Practical information	Male students	06	03.33
	Female Students	10	05.55

Table-1 indicates that the main purpose of 93.33 % of male students was to visit for a college assignment, 00.55% for research, 2.77% for a career and 3.33% for practical information. Whereas, the main purpose of female students was to visit for a college assignments, 6.66% for a career and 5.55 % for practical information

TABLE 2
RATING OF MALE AND FEMALE STUDENTS OF AVAILABLE PRIMARY RESOURCES IN UNIVERSITY LIBRARY

Type of Response	Rank order of Male Students (N=180)	Percent (%)	Rank order of Female Students (N=180)	Percent (%)
Good	1	63.89%	1	67.78%
Average	2	18.33%	2	16.67%
Poor	3	17.78%	3	15.55%

Table-2 indicates that 63.89% of male students ranked the available primary resources in university library from good to average (18.33%), and poor (17.78%), while 67.78% of female students ranked the available primary resources in university library from good to average (16.67%), and poor (15.55%).

TABLE 3
RATING OF MALE AND FEMALE STUDENTS OF AVAILABLE SECONDARY RESOURCES IN UNIVERSITY LIBRARY

Type of Response	Rank order of Male Students (N=180)	Percent (%)	Rank order of Female Students (N=180)	Percent (%)
Good	1	93%	1	98%
Poor	2	6%	2	01%
Average	3	1%	3	01%

Table-3 indicates that 93% of male students ranked the available secondary resources in university library from good to poor (6%), and average(1%) , while 98% of female students ranked the available secondary resources in university library from good to poor (1%), and average(1%).

TABLE 4
RATING OF MALE AND FEMALE STUDENTS OF AVAILABLE TERTIARY RESOURCES IN UNIVERSITY LIBRARY

Type of Response	Rank order of Male Students (N=180	Percent (%)	Rank order of Female Students (N=180)	Percent (%)
Average	1	64.44%	1	66.11%
Poor	2	18.33%	2	21.67%
Good	3	17.23%	3	12.22%

Table-4 indicates that 64.44% of male students ranked the available tertiary resources in university library from average to poor (18.33%), and good (17.23%) and bad(5.56%), while 66.11% of female students ranked the available tertiary resources in university library from average to poor (21.67%), and good (12.22%).

4. DISCUSSION

The main purpose to visit the university library of almost all male and female students was to search for a college assignment, while the visit of very few percent of male and female students of the university library was to search research material, job career, and practical information.

More than sixty percent of male and female students indicated that the available primary resources in the university library were sufficient and of good quality. while the very few percent of male and female students mentioned that the quality of primary resources was below average and poor. not

More than ninety percent of male and female students indicated that the available secondary resources in the university library were sufficient and of good quality, while more than forty percent of male and female students mentioned that the quality of secondary resources was poor and more than twenty percent indicated average quality.

More than sixty percent of male and female students indicated that the available tertiary resources in university libraries were average. while the very few percent of male and female students mentioned that the quality of tertiary resources was good.

5. CONCLUSIONS

1. Most of the male and female students visit the university library to prepare for college assignments.
2. The male and female students indicated that the available primary resources were found of good quality in the university library
3. Almost all male and female student indicated that the available secondary resources was found of good quality in the university library.
4. The male and female students indicated that the available tertiary resources were found of average quality in the university library

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A COMPARATIVE STUDY OF ADJUSTMENT BETWEEN NORMAL AND DEAF STUDENTS

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ABSTRACT

The problems of adjustment have become therefore very important in our complicated and civilized society that psychologists have turned their deep interest in understanding the concepts in the real sense. The present analysis was to compare the adjustment between male and female students belonging to higher secondary schools of Bilaspur district. A sample of Fifty (Males=25, Females= 25)) students' happiness to degree faculty of education of Bilaspur district and who volunteered to participate during this study, were designated to function subjects for this study. AICS by Sinha & Singh in Hindi was implemented to all the respondents. Questionnaire consisted of 102 questions to live 5 dimensions of adjustment viz., Home (l6), Health (15), Social (19), Emotional(31), and educational (21) and total adjustment. To find the difference between male and female students, mean, SD, and t-ratio were computed. The SPSS 16.0 computer program was used to investigate the collected data. The results of the study revealed that the significance difference was found between deaf boys and girls in four dimensions of adjustment i.e. Home, Health, Social, and emotional adjustment, Significance difference was not found between deaf boys and girls in four dimensions of adjustment i.e. Home, Health, Social, and emotional adjustment, The normal boys and Deaf boys; Normal girls and Deaf girls; Deaf boys and Normal girls; Normal boys and Deaf girls and deaf students and normal students had statistically significance of difference in three dimensions of adjustment i.e. Home, Health, and emotional dimensions of adjustment, as the obtained. The normal boys and Deaf boys; Normal girls and Deaf girls; Deaf boys and Normal girls; Normal boys and Deaf girls and deaf students and normal students did not differ significantly in social type of adjustment.

Keywords: Deaf, Normal, Students, Boys, Girls, Adjustment, Schools

1. INTRODUCTION

As people normally could have totally different views on the character of psychological adjustment, therefore is that the case with psychologists. Some psychologists view 'adjustment as a method by that people are regularly growing and meeting life's challenges. different psychologists read adjustment as "a fixed state or goal that involves sure fascinating characteristics (such as satisfaction in social relationship, in wedding, in an exceeding career, or goal achievement) that has got to be achieved".

The systematic study of the complete man is undertaken in 2 indivisible fields, known because of the science of adjustment and therefore the science of personality. Adjustment and personality are unifying conceptions as a result of they embrace the assorted subordinate processes of motivation, feeling, and cognition. as an example, adjustment is accomplished through the exercise of cognitive activities like perception and thought processes by that the person has transactions with the globe concerning him.

There is a variety of things concerning an adjustment scenario that have psychological significance. First, a need should exist. If there's no need there's no would like for adjustment. Second, adjustment is that the satisfaction of a need. once a need is glad and adjustment has been created. Even the sharp stop of a need constitutes an adjustment. Third, difficulties that interfere with the satisfaction of necessities represent adjustment issues or personality disorders. If changes might be created simply, habits of adjustment would be comparatively unimportant.

It should be recognized that the satisfaction of all human needs is not possible. The difficulties that fill in the means of satisfying some needs are too nice to be controlled. After all, men are mortal with all the restrictions of mortality. once human needs square measure on the far side human limitations they have to be recognized as not possible to induce them glad that is a personality disorder. To still need the moon is to make a permanent adjustment downside. Human needs should be restricted to the boundaries of attainable satisfaction.

If a gaggle of psychologists were to induce to understand an individual quite well, or were provided sufficient information a few person's behavior, there would presumably be a general accord among them concerning however adjusted or however poorly adjusted that person is. One's considering adjustment is decided by one's perspective that's by one's overall means of viewing social and psychological phenomena.

What will we really mean by a perspective on adjustment ? basically, it's an organized means of viewing individuals within the method of formulating their life goals and managing and resolving their psychological issues. A perspective is comprehensive; that's, it always takes under consideration the overall development of the person, together with emotional, cognitive, social, and social development, the motivation that explains why we tend to behave the means we tend to do, and therefore the criteria for booming adjustment, together with a read concerning anxiety, a theory of a maladjustive behavior, and a system of psychotherapy that comes from all preceding factors. There are four main views : The psychoanalytical, the behavioral, the cognitive, and therefore the humanistic.

The children who received proper attention from their parents and teachers were well adjusted within the society, as they didn't hesitate and felt shy in meeting strangers **(Nadir, Akhtar, and Ali (2006).** Most of the adolescents with disablement in Special-Needs School have their social adjustment within the medium category. additionally, the results are obtained from the extra variety of an summary of social adjustment supported age and gender **(Daulay and Rahmawati, 2016).**

Satapathy (2008). showed that stress had a big inverse correlation with the educational performance of non-impaired students, whereas the connection was low positive within the case of hearing-impaired students. While social-emotional adjustment enhanced the educational performance of both groups.

Deafness may be a condition that causes someone couldn't to be ready to catch a spread of stimuli, especially through the senses of hearing . The deaf has particular characteristics that are different from normal people. **(Somantri, 2007).** The deaf people tend to be egocentric, have more anxiety feelings, are more enthusiastic about others familiar, difficult to be distracted, more focused on concrete things, poor fantasy, nature plain, simple but tend to be irritable or quick to require offense, and lacked the concept of the link. **(Heryati, 2010).**

According to **Schneiders (1964)** -Social adjustment is that the capacity to react adequately to social realities, situation, and relations". According to **Spence (2003),** social adjustment is defined because the ability or capacity of the individual to react effectively and appropriately to the truth of true, and social relations in order that the stress of social life are met during a way that's acceptable and satisfactory.

Jameel, Nabeel, and Batool (2019) revealed that hearing-impaired children have an occasional level of social adjustment and visual impaired children had a high level of social adjustment. there's a major difference among children in their social adjustment on the idea of the category of disability and on the premise of their living areas but no major difference was found among the social adjustment of special needs children regarding their age, gender, and birth order

Polat (2003) found a positive relationship between psychosocial variables and a few of the independent variables, like the utilization of hearing aids, intelligibility, academic achievement, parental hearing status, and communication methods used in school. He suggested that it had been not deafness, but some environmental factors were also influential on the psychosocial adjustment of deaf students. **Rekkedal (2017)** expressed that a hearing impairment may impact students' ability to provide speech sounds, hear and understand language, produce oral language, acquire and use background across a variety of topics, access information presented within the classroom, understand new concepts – particularly language-based concepts and interact with others

The present analysis was to research and compare the adjustment between male and female student belonging to higher secondary schools of Chhattisgarh

2. METHODOLOGY

2.1 Sample

A sample of Fifty (Males=25, Females= 25)) students' happiness to degree faculty of education of Bilaspur district and who volunteered to participate during this study, were designated to function subjects for this study. The age of subject was between 14 to 17 years.

2.2 Instrumentation

Sinha & Singh's AICS has been ready in Hindi furthermore as in English and it's 102 things to live 5 dimensions of adjustment viz., Home (l6), Health (15), Social (19), Emotional(31), and educational (21) and total adjustment. . Item analysis was done by hard bi-serial correlation of every item (i) with the overall score of the Inventory and (ii) with the realm total scores. the utilization of little a, b, c, d, e corresponding to the 5 measures of adjustment, furthermore as numbers, alter the check used to find without delay the actual question relating live. the overall score is also taken to point to the overall adjustment. Scoring: the subjects are often classified into 5 classes in accordance with the raw scores obtained by them on the

inventory. The 5 totally different classes of adjustment are : 'A' that stands for wonderful, 'B' that stands permanently, 'G' that stands for average, 'D' that stands for unsatisfying, and 'E' that stands for terribly unsatisfying adjustment.

2.3 statistical Analysis

To find the difference between male and female students, mean, SD, and t-ratio were computed. The SPSS 16.0 computer program was used to investigate the collected data. The level of significance was set at .05 level.

3. RESULTS

To assess the significant difference between normal and deaf male and female students, mean, SD, and t-ratio were computed and data pertaining to this, has been presented in Table 1 to 7

TABLE 1
DEAF GIRLS & DEAF BOYS

Dimensions of Adjustment	Sex	Mean	MD	σ DM	t-ratio
Home Adjustment	Girls Boys	19.24 18.04	1.19	1.16	1.04
Health Adjustment	Girls Boys	14.00 14.96	0.96	1.74	0.55
Social Adjustment	Girls Boys	17.72 16.83	0.89	1.24	0.72
Emotional Adjustment	Girls Boys	17.04 16.00	1.04	1.65	0.63

Insignificant at .05 level, t.05 (48)=2.01

It is clearly evident from Table 1 that there was no statistically significance difference between deaf boys and girls in four dimensions of adjustment i.e. Home, Health, Social, and emotional adjustment, as the obtained t-values of 1.04, 0.55, 0.72 and 0.63 respectively were lesser than the required t .05 (48)=2.01 to be significant.

TABLE 2
NORMAL GIRLS AND NORMAL BOYS

Dimensions of Adjustment	Sex	Mean	MD	σ DM	t-ratio
Home Adjustment	Girls Boys	10.48 10.16	0.68	1.14	0.59
Health Adjustment	Girls Boys	7.88 7.24	0.64	1.36	0.47
Social Adjustment	Girls Boys	17.56 17.00	0.56	1.07	0.53
Emotional Adjustment	Girls Boys	11.40 12.04	0.64	1.63	0.39

Insignificant at .05 level.
t.05 (48)=2.01

It is clearly evident from Table 2 that there was no statistically significance difference between Normal boys and girls in four dimensions of adjustment i.e. Home, Health, Social, and emotional adjustment, as the obtained t-values of 0.59, 0.47, 0.43 and 0.39 respectively were lesser than the required t .05 (48)=2.01 to be significant.

TABLE 3
NORMAL BOYS AND DEAF BOYS

Dimensions of Adjustment	Sex	Mean	MD	σ DM	t-ratio
Home Adjustment	Normal Boys Deaf Boys	11.16 18.00	6.84	1.01	6.74*
Health Adjustment	Normal Boys Deaf Boys	7.24 14.88	7.64	1.38	5.52*
Social Adjustment	Normal Boys Deaf Boys	17.00 16.80	0.20	1.08	0.19
Emotional Adjustment	Normal Boys Deaf Boys	12.04 15.88	3.84	1.71	2.24*

*Significant at .05 level, t.05 (48)=2.01

It is evident from Table 3 that the statistically significance of difference existed between Normal boys and Deaf boys in three dimensions of adjustment i.e. Home, Health, and emotional adjustment, as the obtained t-values of 6.74, 5.52 and 2.24 respectively were higher than the required t .05 (48)=2.01. But the significance difference was not found between Normal boys and Deaf boys in social adjustment dimensions, as the obtained t-value of 0.19 was less than the required t .05 (48)=2.01.

TABLE 4
NORMAL GIRLS AND DEAF GIRLS

Dimensions of Adjustment	Sex	Mean	MD	σ DM	t-ratio
Home Adjustment	Normal Girls Deaf Girls	10.48 19.24	8.76	1.24	7.05*
Health Adjustment	Normal Girls Deaf Girls	7.88 14.00	6.12	1.68	3.64*
Social Adjustment	Normal Girls Deaf Girls	17.56 17.72	0.16	1.20	0.13
Emotional Adjustment	Normal Girls Deaf Girls	11.40 17.04	5.64	1.53	3.69*

*Significant at .05 level, t.05 (48)=2.01

It is evident from Table 4 that the statistically significance of difference existed between Normal girls and Deaf girls in three dimensions of adjustment i.e. Home, Health, and emotional adjustment, as the obtained t-values of 7.05, 3.64, and 3.69 respectively were higher than the required t .05 (48)=2.01. But the significance difference was not found between Normal girls and Deaf girls in social adjustment dimensions, as the obtained t-value of 0.13 was less than the required t .05 (48)=2.01.

TABLE 5
DEAF BOYS & NORMAL GIRLS

Dimensions of Adjustment	Sex	Mean	MD	σ DM	t-ratio
Home Adjustment	Deaf Boys Normal Girls	18.00 10.48	7.52	1.12	6.74*
Health Adjustment	Deaf Boys Normal Girls	14.88 7.88	7.00	1.50	4.66*
Social Adjustment	Deaf Boys Normal Girls	16.80 17.56	0.76	1.01	0.75
Emotional Adjustment	Deaf Boys Normal Girls	15.88 11.40	4.48	1.36	3.29*

*Significant at .05 level, t.05 (48)=2.01

It is evident from Table 5 that the statistically significance of difference existed between Deaf boys and Normal girls in three dimensions of adjustment i.e. Home, Health, and emotional adjustment, as the obtained t-values of 6.74, 4.66 and 3.29 respectively were higher than the required t .05 (48)=2.01.

But the significance difference was not found between Deaf boys and Normal girls in social adjustment dimensions, as the obtained t-value of 0.75 was less than the required t .05 (48)=2.01.

TABLE 6
NORMAL BOYS & DEAF GIRLS

Dimensions of Adjustment	Sex	Mean	MD	σ DM	t-ratio
Home Adjustment	Normal Boys Deaf Girls	11.16 19.24	8.08	1.15	7.01*
Health Adjustment	Normal Boys Deaf Girls	7.24 14.00	6.76	1.58	4.28*
Social Adjustment	Normal Boys Deaf Girls	17.00 17.72	.72	1.26	0.57
Emotional Adjustment	Normal Boys Deaf Girls	12.04 17.04	5.00	1.85	2.70*

*Significant at .05 level, t.05 (48)=2.01

It is evident from Table 6 that the statistically significance of difference existed between Normal boys and Deaf girls in three dimensions of adjustment i.e. Home, Health, and emotional adjustment, as the obtained t-values of 7.01, 4.28 and 2.70 respectively were higher than the required t .05 (48)=2.01. But the significance difference was not found between Normal boys and Deaf girls in social adjustment dimensions, as the obtained t-value of 0.57 was less than the required t .05 (48)=2.01.

TABLE 7
DEAF STUDENTS & NORMAL STUDENTS

Dimensions of Adjustment	Sex	Mean	MD	σ DM	t-ratio
Home Adjustment	Deaf Students Normal Students	18.62 10.82	7.80	0.80	9.75*
Health Adjustment	Deaf Students Normal Students	14.42 7.56	6.88	1.08	6.36*
Social Adjustment	Deaf Students Normal Students	17.72 17.28	0.02	0.80	0.03
Emotional Adjustment	Deaf Students Normal Students	16.46 11.72	4.74	1.14	4.16*

*Significant at .05 level,
t.05 (98)=1.98

It is evident from Table 7 that the statistically significance of difference existed between deaf students and normal students in three dimensions of adjustment i.e. Home, Health, and emotional adjustment, as the obtained t-values of 9.75, 6.36 and 4.16 respectively were higher than the required t .05 (98)=1.98. But the significance difference was not found between deaf students and normal students in social adjustment dimensions, as the obtained t-value of 0.03 was less than the required t .05 (98)=1.98.

4. DISCUSSION

A number of researchers discerned the facilitative role of upper socio-economic background on psychological well-being and academic achievement of youngsters without impairment **(Ushasree, 1980; Srivastava, Singh and Thakur, 1980; Mishra, 1986; Krishnamacharlu, 1989; Das, 1994),** in addition as on adjustment **(Demorest & Erdman, 1989 and Calderon & Greenberg , 1999)** cognitive functioning **(Kapoor, 1990) and examination success (Powers, 1999)** of hearing-impaired students. children with hearing impairments are in danger of more social-emotional maladjustment than their hearing peers **(Krishnamacharlu, 1989; Prior, et.al., 1988 and Vostanis, Heys & DuFeu, 1997).** Contrary to those and other studies which found no significant difference between hearing-impaired and their normal-hearing counterparts on social-emotional adjustment **(Arnold &Atkins, 1991; Frustenberg & Doyal,**

1994 and Erdman & Demorest, 1998), this finding noted significantly better social-emotional adjustment in hearing-impaired students which thus lent support to the study by **Jyothi and Reddy (1996).**

When the deaf boys and girls were compared together on adjustment, t-ratio resulted significance difference in all dimensions of adjustment i.e. Home, Health, Social, and emotional dimensions of adjustment. But statistically significance difference was not observed between Normal boys and girls in all dimensions of adjustment. Normal boys and Deaf boys had statistically significance difference in their Home, Health, and emotional dimensions of adjustment, while the Normal boys and Deaf boys did not differ in social adjustment dimensions In case of Normal girls and Deaf girls, they had significance differences in their Home, Health, and emotional dimensions of adjustment, while the Normal boys and Deaf boys did not differ in social adjustment dimensions

The t- resulted significance difference between Deaf boys and Normal girls in . Home, Health, Social, and emotional dimensions of adjustment. But they did not differ in social adjustment dimension. In case of Normal boys and Deaf girls. They had also significant difference in Home, Health, and emotional dimensions of adjustment. But they did not differ in social dimension of adjustment. When the deaf students and normal students were compared together of varios dimensions of adjustment, the statistically significance was observed Home, Health, and emotional dimensions. Adjustment, But they did not differ in social dimension of adjustment. It was finally concluded that male and female school children existed significant difference in Home, Health, and emotional dimensions of adjustment. But they did not differ in social dimension of adjustment.

5. CONCLUSIONS

1. Significance difference was found between deaf boys and girls in four dimensions of adjustment i.e. Home, Health, Social, and emotional adjustment,
2. Significance difference was not found between deaf boys and girls in four dimensions of adjustment i.e. Home, Health, Social, and emotional adjustment,
3. The normal boys and Deaf boys; Normal girls and Deaf girls; Deaf boys and Normal girls; Normal boys and Deaf girls and deaf students and normal students had statistically significance of difference in three dimensions of adjustment i.e. Home, Health, and emotional dimensions of adjustment, as the obtained.
4. The normal boys and Deaf boys; Normal girls and Deaf girls; Deaf boys and Normal girls; Normal boys and Deaf girls and deaf students and normal students did not differ significantly in social type of adjustment.
5. In overall results of study indicated the significant difference between male and female school children in all the dimensions of adjustment except social dimension of adjustment..

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COMPARATIVE STUDY OF LEADERSHIP BEHAVIOUR OF INDIAN MALE AND FEMALE ATHLETES

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ABSTRACT

The aim of the present investigation was to compare the leadership behavior as preferred by Indian male and female athletes Two hundred Male (N=100) and Female (N=100) Indian athletes who volunteered to participate in this study, were selected to serve as subjects for this study. Leadership Scale for Sports developed by P. Chelladurai was selected to measure the leadership behavior of Indian athletes. The descriptive statistics, ANOVA, and student t-test were employed on five leadership behavior dimensions for Indian male and female athletes. The results of the study revealed that inter-university level male and female track and field athletes exhibited different preferences on five dimensions of leader behavior. Male and female track and field athletes of the Inter-university level preferred more training and instruction followed by positive feedback, social support, democratic behavior, and autocratic behavior. A significant difference was not found between Male and female track and field athletes on the set of five dimensions of preferred leadership behavior.

Keywords: Preference, Male, Female, Indian, Athletes, Leader behavior, Leadership.

1. INTRODUCTION

Leadership is that the behavioural process of influencing the activities of an organized group toward specific goals and also the achievement of these goals. But leadership is commonly for more complex attempts to know leadership should fret with why people comply moreover like how one person influences another. The leader is required to behave in certain ways by the demand and constraints placed by the demand and members' preferences for specific leader behaviours are largely a function of the individual characteristics of the group members. **(William, 1993)**

Personality variables like the necessity for achievement, need for affiliation, cognitive structure and competence within the task influence a members performances for coaching and guidance, social support and feedback. additionally, true characteristics also affect members' preferences. for instance, if there's an organizational expectation, which a leader will behave in an exceedingly specific manner, this expectation is held jointly by both leaders and members **(Chelladurai, 1990).**

Participation in sports contributes to assembling up self-confidence, enhancing intellectual level. personality development a no. outgoing tendency or extraversion per se proficiency results in enhanced success in sports activities is extremely valued in one's group **(Simon, 1964)**

Success in athletics seems to be dependent partially on psychological status and traits. the utilization of an athlete's personality profile, in concerned with knowledge of their past experience, coach's rating, anatomic and physiological characteristics so one can enhance the accuracy of prediction in a very number of sports **(Dureha, 1987).**

The personality make-up of a personal plays a significant role in his achievements in every field of life. "Human personality refers to the unique expression of the characteristics of a personal and it must be studied within the social context during which it develops. it's not an isolated phenomenon, become independent from the environment. Personality is expressed through the complex and interdependent relationship formed between an individual and therefore the environment **(Dureha, 1987).**

Sharma (2012) revealed that male and female gymnasts did not differ significantly in all the dimensions of preferred leader behaviour except positive feedback dimensions. Male gymnasts preferred a greater degree of preferences for coaching behaviour from their coaches than their counterparts. Sharma **(2014)** revealed that male and female gymnasts did not differ significantly in all the dimensions of preferred leader behavior except the positive feedback dimension. Male gymnasts preferred a greater degree of preferences for coaching behavior from their coaches than their counterparts. Further, male and female gymnasts preferred and perceived more training and instruction and least autocratic leader behaviour from their coaches.

Terry (1981) found that there have been no differences in preferred leadership among different nationalities. He noted that "the three viable subject groups (Canada, U.S., and Great Britain)" all share similar cultural backgrounds and sporting ideologies. **Chelladurai and Saleh (1978)** found that the congruence between preferred and actual behavior within the dimensions of autocratic behavior and positive feedback effected satisfaction with the coach during a curvilinear manner. **Challadurai (1984)** found that athletes involved in individual sports (independent task) or closed sports like swimming (non-variable task) preferred more democratic behavior than their respective counterparts, who preferred more autocratic behavior. **Lindauer (2000)** examined the preferred leadership behavior of athletes of individual and team sports and reported that individual sport athletes preferred a greater degree of democratic behavior and

positive feedback. **Chelladurai et al. (1988)** studied leadership in an exceedingly cross-national setting and located differences in leadership behavior and satisfaction with leadership among Canadian and Japanese athletes that arose from cultural differences. **Singh, Sharma, and Yadav, (2009).**revealed that the male players from the individual sports group had similar preferences altogether the leader behavior dimensions.

Kim et al (1990) reported that the individual sports athletes preferred more democratic behavior from their coaches than the opposite groups. They also found that individual sports, combative sports, and team sports differed among themselves altogether dimensions except in preferred training and instruction. **Sharma (2010)** expressed that the actual leader behavior of international male gymnasts toward coaches was found greater in democratic behavior, social support, positive feedback, and autocratic behaviour than females. It indicated that the majority of male gymnasts need more skill training and directions.**Shrivastava and Sharma (2015)** revealed state-level male players had a significant difference in their actual leader behaviour. They preferred a greater amount of positive feedback and a lesser amount of autocratic behaviour from their coaches. **Sharma (2015)** noted that the statistically significant differences among East-zone Inter-university level male as well as female Badminton players' preferences for specific coaching behaviour.

The Purpose of the study was to match the leadership behaviour of Indian male and feminine athletes. it absolutely was hypothesized that the many differences in their leadership preferences. may exist among Indian male and feminine athletes.

2. METHODOLOGY

2.1 Selection of Subjects:

Two hundred and Eight (Males=80, Females= 80)) National level athletes representing their respective state in National competition competitions and who volunteered to participate during this study, were selected to function subjects for this study. the subjects were within the age bracket of 21 to 26 years. All the subjects have taken part in National Athletic Competitions during the session 2019-2020

2.2 Instrumentation

Leadership Scale for Sports developed by **P. Chelladurai (1994)** was selected as a criterion tool to live preferred behaviour preferences of inter-university level athletes. The Leadership Scale for Sports (L.S.S.) may be a valid and reliable instrument. the size 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 feedback (Rewarding behaviour).

The scale consisted of 40 items for five dimensions during which training and instruction (13 items), democratic behaviour (9 items), autocratic behaviour (5 items), social support (8 items), and feedback (Rewarding behaviour) had 5 items on which there have been no negative responses. Each question had five responses namely- Always, Often, Occasionally, Seldom, Never. in line with the above-stated responses, scoring was administrated for the well-liked leader behaviour of athletes. The score tabulated for all the things under dimensions of leadership behaviour were averaged out to get a score for every dimension. the dimensions had test-retest reliability of 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.

2.3 Administration of Questionnaire:

The necessary permission from the organizing secretary of. National Athletic competitions were obtained by the investigator to conduct this study on athletes during

competitions. The coaches and subjects were contacted at the location championships personally and their sincere cooperation was solicited. Necessary instructions got to respondents before the administration of the test. Confidentiality of responses was guaranteed so respondents wouldn't camouflage their real feelings. No cut-off date for filing the questionnaire was set but subjects were made to retort as quickly as possible. As soon as a bunch of athletes completed the leadership scale, it had been collected from the athletes and verified that no questionnaire was left without being answered.

3. RESULTS

To assess the preferences on five dimensions of leader behaviour of Indian male and female athletes, descriptive statistics, ANOVA and t-ratio on preferred leader behaviour with all respondents were computed and data pertaining to this are presented in Table 1 to 5.

TABELE 1

DESCRIPTIVE STATISTICS OF FIVE DIMENSIONS OF PREFERRED LEADER BEHAVIOUR OF NATIONAL LEVEL INDIAN MALE AND FEMALE ATHLETES

		Male Athletes (N=80)		Female Athletes (N=80)	
S.N0.	**Leader Behaviour Dimensions**	**Mean**	**SD**	**Mean**	**SD**
1.	Training & Instruction	4.333	0.412	4.281	0.341
2.	Social Support	3.720	0.513	3.978	0.539
3.	Positive Feedback	3.887	0.720	3.523	0.779
4.	Autocratic Behaviour	2.777	0.469	3.013	0.913
5.	Democratic Behaviour	2.971	0.588	3 012	0.732

The mean scores of five dimensions of leader behaviour as preferred by Indian male and female athletes of national level have been depicted in figures 1 to 3

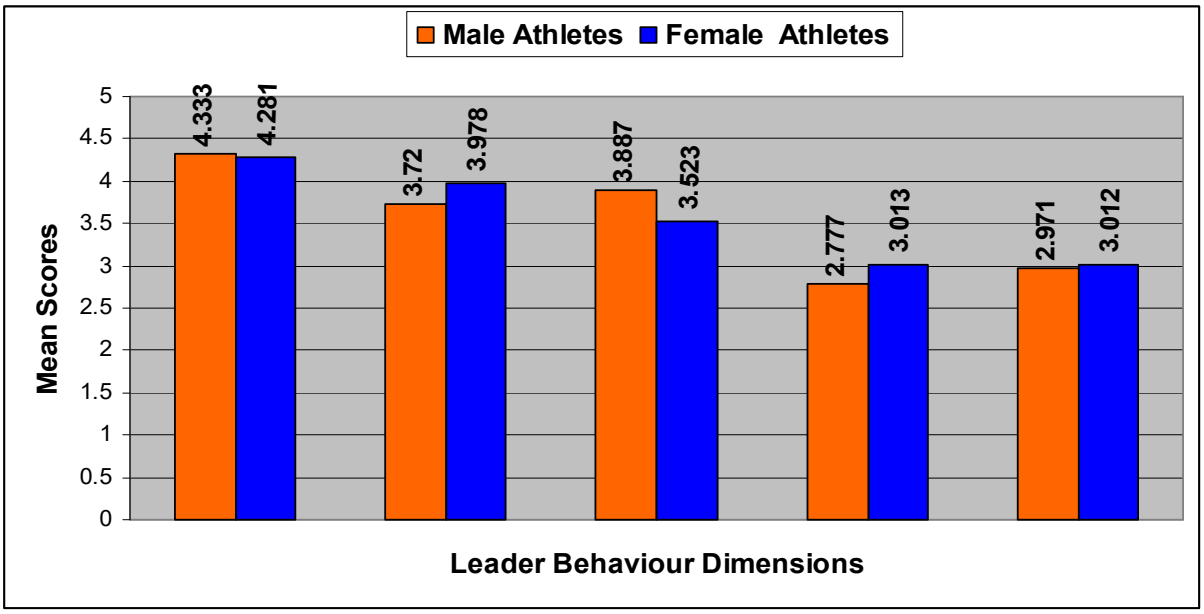

Figure: 1- Mean Scores of Five Dimensions of Preferred Leader Behaviour of National Level Male and Female Athletes

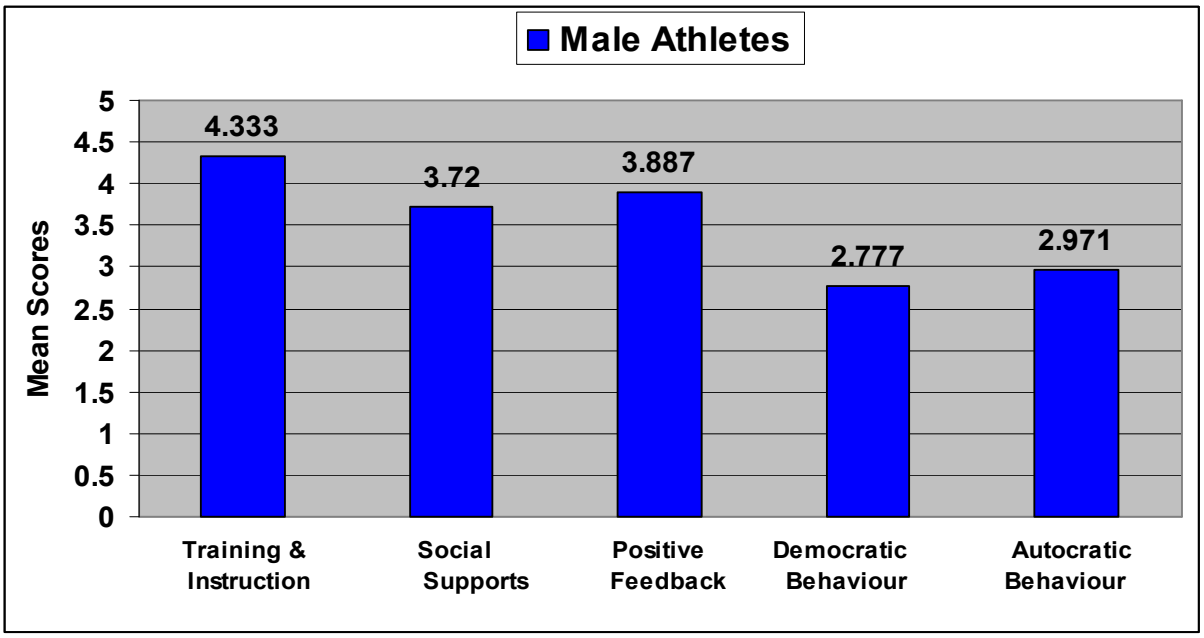

Figure: 2- **Mean Scores of Five Dimensions of Preferred Leader Behaviour of National Level Male Athletes**

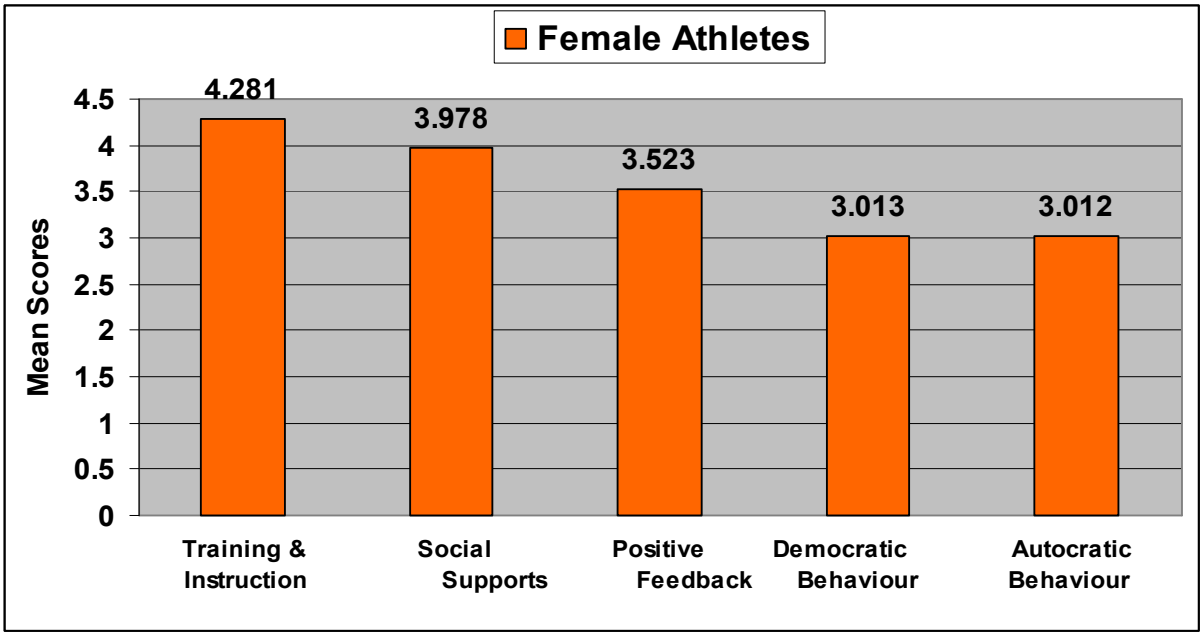

Figure: 3- **Mean Scores of Five Dimensions of Preferred Leader Behaviour of National Level Female Athletes**

TABELE 2
ANALYSIS OF VARIANCE FOR PREFERRED LEADERSHIP OF NATIONAL LEVEL INDIAN MALE ATHLETES

Source of Variance	df	Sum of Squares	Mean Square	F-ratio
Between Groups	4	114.17	28.54	
Within Groups	395	579.19	1.47	19.41*

*Significant at .05 level,
F.05 (4, 395) = 2.40.

From Table 2, It is evident that the statistically significant difference existed among national level male athletes on preferred leadership behaviour, as the obtained F-value of 19.41 was much higher than the required F.05 (4, 395) = 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 national level male athletes on five dimensions of preferred leadership behaviour and the data pertaining to this have been presented in Table 3.

TABLE 3
SINGNIFICANCE OF DIFFERENCES AMONG NATIONAL LEVEL MALE ATHLETES BETWEEN PAIRED MEANS ON PREFERRED LEADERSHIP DIMENSIONS

T I	SS	PF	AB	DB	Paired mean difference	Confidence Interval (C. I.)
4.333	3.720	-	-	-	0.613*	0.397
4.333	-	3.887	-	-	0.446*	
4.333	-	-	2.777	-	1.556*	
4.333	-	-	-	2.971	1.362*	
-	3.720	3.887	-	-	0.167	
-	3.720	-	2.777	-	0.943*	
-	3.720	-	-	2.971	0.749*	
-	-	3.887	2.777	-	1.110*	
-	-	3.887	-	2.971	0.916*	
-	-	-	2.777	2.971	0.194	

*Significant at .05 level.

It is quite obvious from the table 3, that there were significant differences on preferred leadership among national level male athletes between training and instruction - social support followed by positive feedback, autocratic behaviour and democratic behaviour; between social supports - autocratic behaviour followed by democratic behaviour; Between positive feed back - autocratic behaviour followed by democratic behaviour, as the paired mean differences of 0.613, 0.446, 1.556, .1.362, 0.943, 0.749, 1.11 and 0.916 respectively were higher than the confidence interval (Cl) of 0.397.

But the mean differences between social support - positive feedback followed by and between autocratic behaviour - democratic behaviour respectively were not significant, as the paired mean differences of 0.167, and 0.194 respectively were lesser than the confidence interval of 0.397.

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	119.24	29.81	
Within Groups	395	988.97	2.50	11.92*

*Significant at .05 level,
F.05 (4, 395) =2.40.

From Table 4, It is evident that the statistically significant difference existed among national level male athletes on preferred leadership behaviour, as the obtained F-value of 11.92 was much higher than the required F.05 (4, 395) = 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 national level male athletes on five dimensions of preferred leadership behaviour and the data pertaining to this have been presented in Table 5.

TABLE 5
SINGNIFICANCE OF DIFFERENCES AMONG NATIONAL LEVEL FEMALE ATHLETES BETWEEN PAIRED MEANS ON PREFERRED LEADER BEHAVIOUR

T I	SS	PF	AS	DB	Paired mean difference	Confidence Interval (C. I.)
4.281	3.978	-	-	-	0.303*	0.297
4.281	-	3.523	-	-	0.758*	
4.281	-	-	3.013	-	1.268*	
4.281	-	-	-	3.012	1.269*	
-	3.978	3.523	-	-	0.455*	
-	3.978	-	3.013	-	0.965*	
-	3.978	-	-	3.012	0.966*	
-	-	3.523	3.013	-	0.510*	
-	-	3.523	-	3.012	0.511*	
-	-	-	3.013	3.012	0.001	

*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, as the paired mean differences of ..303, .758, 1.268, 1.269, .455, .965, .966, .966, .510, and .511 respectively were higher than the confidence interval (Cl) of 0.297. But the mean differences between autocratic behaviour - democratic behaviour respectively was not significant, as the paired mean difference of 0.001 was less than the confidence interval of 0.297

TABLE 6
SIGNIFICANCE OF DIFFERENCES BETWEEN MEAN SCORES OF NATIONAL LEVEL MALE AND FEMALE ATHLETES ON PREFERRED LEADER BEHAVIOUR

Leader Behaviour Dimensions	Sex	Mean	MD	DM	t-ratio
Training & Instruction	Male Female	4.333 4.281	0.052	0.064	0.813
Social Support	Male Female	3.720 3.978	0.258	0.989	0.261
Positive Feedback	Male Female	3.887 3.523	0.364	0.409	0.889
Autocratic Behaviour	Male Female	2.777 3.012	0.235	0.241	0.975
Democratic Behaviour	Male Female	2.971 3.013	0.042	.101	0.416

Insignificant at .05 level,
t.05(158)= 1.98

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-values of .0.813, 0.261, 0.889, 0.975, and 0.416 respectively were less than the required t-value of t.05 (158) = 1.98.

4. DISCUSSION

Findings of descriptive data of national level level male and female athletes on five dimensions of preferred leadership behaviour indicated that male athletes preferred more training and instruction, and positive feedback from their coaches than female counterparts, while the female athletes preferred more social support, autocratic behaviour and democratic behaviour from their coaches than male counterparts. The individual sports athletes included in this study expressed the need for training and instruction and positive feedback from their coaches. It seems that the national level male and female athletes included in the study were more serious about their performance and were more goal-oriented. Their coaches should aim at improving the athletes' performance by emphasizing and facilitating hard and strenuous training, instructing the athletes in skills, techniques and tactics of the sport. They should recognize and reward their good performance. This contrasting result may be attributed to the fact that these athletes might not have been trained seriously and regularly by a qualified coach. Indian culture and sporting environment may also be one of the possible reasons for these leadership preferences.

The results of ANOVA for national level male and female athletes on five dimensions of preferred leadership behaviour, they also expressed significant differences among national level male athletes in their preferences for preferred leadership. The Scheffe's Test of Post-hoc comparisons showed that male athletes also preferred more training and instructions behaviour in comparison of other dimensions of preferred leadership. while the female athletes also preferred more training and instructions behaviour in comparison of other dimensions of preferred leadership.

The results of t-ratio indicated that the National level level male and female athletes had no significant differences in their preferences for the set of dimensions of leader behaviour,

which showed that all the national level male and female athletes preferred their coaches equally in all of the preferred leader behaviour dimensions. This was supported by **Sharma, (2001).**

5. CONCLUSIONS

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

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