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A study on the relationship between sports infrastructure facilities and levels of participation in inter-collegiate competition

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Abstract

The study was aimed at find the relationship between sports infrastructure facilities and level of participation in intercollegiate competition. Present study delimited to 10 top most sports performed colleges in each university with 20 or more years of existence. Total sixty (N=60) colleges are selected from 6 universities; Self-prepared questionnaire was used to collect the data. To analysis the collected data, appropriate statistical techniques such as mean, standard deviation and Pearson correlation with SPSS software. Table result revealed that there is a significant ($p < 0.01$) relationship between infrastructure facility and level of participation. Further, it showed that there is a positive relation ($r = +0.881$) between infrastructure facilities and level of participation. This means colleges with higher-level infrastructural facilities support student's high-level participation in university competition.

Keywords: Sports infrastructure, level of participation, College, Intercollegiate etc.

1. Introduction

Adequate sport infrastructure is needed to improve sports participation, which in effect can have a lasting impact on a country's sporting ecosystem. Sports infrastructure offers opportunities and tools for people to engage in sports and lead an active life. PWC, ASSOCHAM (2019) [1] published, providing access to sport facilities in India's urban and rural areas can greatly enhance citizen participation. The emphasis should be on improving grass-roots infrastructure, as this will allow for better detection and production of talent. It will also have access to a wider audience, thus increasing overall public involvement in sports [2]. Bucher C (1960) [2] justified that all organisations need to offer a domain that promotes the accomplishment of the aims and objectives of their sports association. The motivation behind this description of the offices and structure is to find out the space and system in schools and universities for physical education. Physical education includes facilities such as playing grounds for identifying diversions, equipment, swimming pools, classrooms, class furniture, laboratories, and libraries as primary sports.

According to Ankan Banerjee (2018) [3], sports infrastructure plays a crucial role in achieving excellence in the global arena of sports. It not only helps in producing sportspeople of international repute, but also encourages the young population of a country to participate in sporting activities to create a culture of sports. In India, the standard of sports infrastructure is not at a satisfactory level for a number of reasons.

Sport is known internationally as a catalyst for economic growth and as a separate sector to be managed in different economies. The sector includes sporting activities and infrastructure-related services, as well as training facilities and sports retail. Sports infrastructure was defined as "the primary physical and organizational construction necessary to facilitate the participation of sports. Sport infrastructure helps community members engage in sports from a practical point of view. This includes facilities, systems, goods, and services that allow sports and is vital for any organization or country to compete in the international sporting arena.

It has been acknowledged in recent years that the construction and renovation of sport infrastructure can stimulate economic development, whether it involves large facilities or small ones. Hence, the development of such infrastructure also plays an important role in sport's development.

1.1 Significance of the study

- The significance of the study was that it helps to understand the relationship between infrastructure facilities and the level of participation.
- This research helps to record the existing sports infrastructure facilities available in colleges in Karnataka.
- The significance of this study can help academic planners and government bodies take appropriate steps to give adequate importance to sports and physical education programmes in higher education.
- Research can be useful to determine the quality of a college's sports infrastructure and facilities.
- The significance of this research is that it helps to know the participation and excellence, or achievement, of students in the field of sports.

1.2 Hypothesis of the study

It was hypothesized that there is a positive correlation between sports infrastructure facilities and sports participation level in intercollegiate competition.

1.3 Delimitations of the study

- This study is delimited to under graduate and post graduate colleges in Karnataka state.
- This study is delimited to self-prepared questionnaire about available sports infrastructure facilities.
- This study is delimited to top 10 colleges that performed the best in inter-collegiate competition at each university.
- This study is delimited to last 5 years' achievements, which will be taken into consideration.
- This study is delimited to universities that have more than 20 years of existence under the government.

1.4 Limitations of the study

- This study does not consider the Visvesvaraya Technological University, Rajiv Gandhi University of Health and Sciences, University of Agricultural Sciences, Veterinary University, or professional universities of Karnataka State. This was the limitation of the study.
- This study does not take nutrition or the geographical location of the athletes into account. This was the limitation of this study.
- This study does not consider the academic performance and socio-economic status of the students at the college. This was the limitation of this study.
- This study is based on questionnaire responses. The responses obtained from the subjects are treated as correct and genuine. This was the limitation of this study.
- This study is limited to not considering their physical, physiological, and psychological preparation for the competition. This was the limitation of this study.

2. Methodology

2.1 Selection of Samples

The study was delimited to 10 top most sports performed colleges in each university with 20 or more years of existence. Total sixty (N=60) colleges are selected from 6 universities, namely: University of Mysore, Bangalore University, Mangalore University, Kuvempu University and Karnataka University, Dharwad.

2.2 Selection of test item

Self-prepared questionnaire was used to collect the data in this present study. The questionnaire construction was carried

out under the supervision of a guide, and suggestions were taken from the subject experts and coaches in the field of physical education and sports.

2.3 Data collection procedure

The researcher personally visited the concerned colleges and gave an explanation of the questionnaire in detail and asked them to provide their sincere opinions as per records and achievements. It assured confidentiality. The researcher provides a sufficient timeline to provide information. If any ambiguities arise about the questionnaire in language, the researcher has clarified and collected the filled questionnaire for further study.

2.4 Statistical Analysis

To analyze the collected data, appropriate statistical techniques such as mean, standard deviation and Pearson correlation tests were used with SPSS software.

3. Interpretation of data and result

Table 1: Outdoor sports facilities

		Responses		
		N	Percent	Percent of Cases
Outdoor facilities	Basketball	36	7.00%	60.00%
	Cricket Pitch	46	9.00%	76.70%
	Football	43	8.40%	71.70%
	Handball	44	8.60%	73.30%
	Hockey	25	4.90%	41.70%
	Kabaddi	56	11.00%	93.30%
	Kho-Kho	46	9.00%	76.70%
	Net ball	16	3.10%	26.70%
	Tennis	22	4.30%	36.70%
	Throw ball	57	11.20%	95.00%
	Volleyball	58	11.40%	96.70%
Softball	19	3.70%	31.70%	
Total		511	100.00%	851.70%

Table 1 shows that around 11% of the colleges have infrastructure facilities for Kabaddi, throw ball, and volleyball, and around 8% of the colleges have infrastructure facilities for football and handball. Further, it revealed that 7% of the colleges have basketball and 4.9% of the colleges have infrastructure facilities for hockey. It also revealed that around 3–4% of the colleges have infrastructure facilities for netball, tennis, and softball games. The MRR is showing 8.51 (851/100), which means each college has infrastructure facilities for 8-9 games.

Table 2: Indoor sports facilities

		Responses		
		N	Percent	Percent of Cases
Indoor Facilities	Badminton	35	10.60%	59.30%
	Basketball	13	4.00%	22.00%
	Chess	53	16.10%	89.80%
	Hand ball	8	2.40%	13.60%
	Kabaddi	20	6.10%	33.90%
	Multi Gym	49	14.90%	83.10%
	Net ball	1	0.30%	1.70%
	Table Tennis	50	15.20%	84.70%
	Volleyball	12	3.60%	20.30%
	Weight training room	34	10.30%	57.60%
	Wrestling	16	4.90%	27.10%
Yoga Hall	38	11.60%	64.40%	
Total		329	100.00%	557.60%

Note: A. Dichotomy group tabulated at value 1.

Table 4.2 reveals that 84.7% of the colleges have table tennis facilities and 89.8% of colleges have a chess game facility. It also revealed that 83.1% of the colleges have multi-gym facilities, and 59.3% of the colleges have badminton courts. Further, it showed that 57.6% of the colleges have weightlifting training room or hall and 33.9% of the colleges

have kabaddi indoor facilities. It also revealed that 27.1% of colleges have wrestling facilities and 20-22% have basketball and volleyball game facilities. Only, 1.7% of the colleges have facilities for Netball game and the MRR is 5.57 (557/100), which suggests that each college has 5–6 indoor game facilities.

Table 3: Participation in University Intercollegiate Competition

Events	Level of Participation									
	Men					Women				
	2014-15	2015-16	2016-17	2017-18	2018-19	2014-15	2015-16	2016-17	2017-18	2018-19
Athletics	55	54	55	57	58	55	54	55	57	58
Badminton	35	34	32	36	39	35	34	32	36	39
Ball Badminton	30	31	30	32	34	27	30	30	31	32
Basketball	28	29	32	33	35	25	24	28	30	31
Best Physique	20	22	18	18	20	0	0	0	0	0
Chess	38	37	32	36	38	38	36	30	30	30
Cricket	41	46	48	49	49	25	28	29	29	31
Cycling	0	0	0	0	0	0	0	0	0	0
Football	51	50	51	52	49	31	28	26	23	23
Gymnastic	0	0	0	0	0	0	0	0	0	0
Handball	43	42	44	46	47	32	31	30	30	31
Hockey	32	31	32	33	34	26	25	28	26	27
Kabaddi	50	52	53	54	57	45	47	46	48	49
Kho-Kho	48	47	43	42	47	35	34	36	38	36
Net ball	21	29	32	31	34	25	24	24	25	26
Power lifting	29	28	28	27	29	19	25	22	23	25
Swimming	36	35	33	33	37	21	24	26	28	31
Table Tennis	36	35	34	35	35	29	28	27	27	28
Tennis	25	26	27	28	30	21	19	23	21	22
Throw ball	0	0	0	0	0	45	46	46	45	46
Softball	30	32	33	34	35	20	21	23	19	22
Volleyball	51	55	52	53	52	35	34	36	37	38
Weight lifting	32	31	32	33	30	25	28	27	28	28
Wrestling	29	30	31	39	31	21	22	21	21	20
Yoga	30	32	33	35	36	30	33	35	34	36

Table 3 shows the details of student participation in intercollegiate competition and it reveals that around 55–58 colleges students participated in athletics both men and women section over the past five years and around 32–39 (both men and women) colleges' students participated in badminton. It also revealed that 27–32 (both men and women) college students participated in ball badminton game and 24–35 (both men and women) college students participated in basketball games. Furthermore, it was discovered that 30–38 college students played chess, and 41–40 college students (men) and 25–31 college students (women) played cricket over the years. Around 49–51 college students (men) and 23–31 college students (women) have participated in football games. It also revealed that handball games were played by 43–47 college students (Men) and 30–32 college students (women). It also revealed that 31–34 college students (men) and 25–28 college students (women) participated in a hockey game, 30–35 (Men) and 19–23 (women) colleges in softball, 21–34 (men) and 24–28 (Women) colleges in netball, 27–29 (Men) and 19–25 (women) colleges in power lifting, 30–33 (men) and 25–28 (Women) colleges in weight lifting, 34–36 (men) and 27–29 (women) colleges in table tennis, 33–37 (men) and 21–31 (women) colleges in swimming, 25–30 (men) and 19–23 (women) colleges in tennis, 51–55 (men) and 34–38 (women) colleges in volley ball 29–31 (Men) and 20–22 (women) colleges in wrestling and 30–36 (both men and women) colleges in yoga have participated in intercollegiate tournaments. Around 50–54 college students (men) and around 45–48 college students (women) have participated in

kabaddi games. Table 3 also indicated that 34–36 college women and 42–48 college men had participated in Kho-Kho. No college students competed in cycling, and gymnastics, however 45–46 colleges actively participated in the women's throw ball competition.

Table 4: Correlation between Infrastructure Facility and Level of Participation

		Level of Participation	Infrastructure Facility
Level of Participation	Pearson Correlation	1	.881**
	Sig. (2-tailed)		0
	N	60	60
Infrastructure Facility	Pearson Correlation	.881**	1
	Sig. (2-tailed)	0	
	N	60	60

Table 4 result revealed that there is a significant ($p < 0.01$) relationship between infrastructure facility and level of participation. Further, it showed that there is a positive relation ($r = +0.881$) between infrastructure facilities and level of participation. This means colleges with higher-level infrastructural facilities support student's high-level participation in university competition.

4.1 Discussions on findings

After analysis, it was clear that each college has outdoor infrastructure facilities for 8-9 games and 5-6 indoor game facilities. Most of the colleges participated in Athletics and Kabaddi in both the men's and women's sections. The results

show that there is a significant ($p < 0.01$) relationship between infrastructure facility and level of participation. Further, it showed that there is a positive relation ($r = +0.881$) between infrastructure facilities and level of participation, so the formulated hypothesis was accepted.

4.2 Conclusions

After the analysis, the following conclusions were drawn:

1. It was concluded that each college has outdoor infrastructure facilities for 8–9 games and 5–6 indoor game facilities.
2. It was concluded that colleges with higher-level infrastructural facilities support a greater number of students participating in university intercollegiate competition.

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