

## ***A Comparative Study on the Availability of Sports Infrastructure in Government-Aided and Self-Financed Colleges of Kanpur***

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### **Abstract**

Sports infrastructure plays a vital role in promoting holistic education by enhancing students' physical, mental, and social well-being. Although regulatory bodies prescribe minimum standards, their implementation often varies depending on institutional funding structures. The present study aims to evaluate and compare the availability of indoor and outdoor sports facilities in Government-Aided and Self-Financed colleges affiliated with CSJM University, Kanpur.

### **Methodology:**

A descriptive survey approach was adopted. Twenty colleges were selected through stratified random sampling, comprising 50 Government-Aided and 50 Self-Financed colleges. Data were collected using a researcher-developed checklist validated by subject experts, focusing on key Sports infrastructure.

### **Results:**

Analysis using percentage distribution and Chi-square tests indicated significant differences between the two categories. Government-Aided colleges were better equipped with outdoor facilities, while Self-Financed institutions showed relatively better provision and maintenance of indoor amenities.

### **Conclusion:**

The study highlights a clear imbalance in infrastructure distribution. While Government-

Aided colleges benefit from larger land resources, Self-Financed colleges require stricter compliance with infrastructure norms, particularly for outdoor sports.

**Keywords:** Sports Infrastructure, Government-Aided Colleges, Self-Financed Colleges, Physical Education, Kanpur

## 1. Introduction

Sports and physical education are essential components of higher education, contributing to students' overall personality development, discipline, and health. Regulatory bodies such as UGC and NAAC have established guidelines to ensure the availability of adequate sports infrastructure in educational institutions.

Kanpur, an important academic centre in Uttar Pradesh, hosts numerous colleges affiliated with CSJM University. In recent years, the rapid expansion of self-financed colleges has raised concerns about the adequacy of non-academic facilities, especially sports infrastructure. Government-Aided institutions, supported by public funding, generally possess established campuses, whereas Self-Financed colleges depend largely on private investment and student fees.

This study seeks to examine the current status of sports infrastructure in these two types of institutions and identify existing disparities.

## 2. Review of Literature

Previous studies reveal notable differences in sports infrastructure across institutional types:

- Singh (2021) observed that Government institutions typically have better outdoor facilities due to historically allocated land resources.
- Kumar and Sharma (2024) reported that a majority of colleges in Uttar Pradesh lack standard athletic tracks, particularly in privately managed institutions.
- Mishra (2023) pointed out that although Government colleges may have adequate infrastructure, maintenance and usability often remain concerns.

These findings suggest the need for a comparative analysis focusing on both availability and functionality.

## 3. Objectives of the Study

1. To examine the availability of outdoor sports facilities (such as cricket grounds, football fields, and athletic tracks) in both categories of colleges.
2. To assess the presence of indoor sports facilities (including badminton courts, gymnasiums, and yoga centres).

3. To compare infrastructural differences between Government-Aided and Self-Financed institutions.

#### 4. Methodology

##### Research Design:

A descriptive survey method was employed to assess the existing infrastructure.

##### Population:

All degree colleges in Kanpur district affiliated with CSJM University.

##### Sample:

Twenty colleges were selected using stratified random sampling:

- 50 Government-Aided colleges
- 50 Self-Financed colleges

##### Data Collection Tool:

A structured “Sports Infrastructure Checklist” consisting of 15 items with Yes/No responses was developed and validated by experts.

##### Statistical Techniques:

Data were analysed using frequency, percentage, and Chi-square test at a 0.05 level of significance.

#### 5. Results and Interpretation

Table 1:

##### 1- The College has suitable indoor sports facilities for Sports & P.E programs.

##### Observed frequencies ( $f_o$ )

| Colleges     | Yes | No | Total   |
|--------------|-----|----|---------|
| Govt. Aided  | 42  | 8  | 50      |
| Self-finance | 5   | 45 | 50      |
| Total        | 47  | 53 | N = 100 |

##### Expected Frequencies ( $f_e$ )

| Colleges     | Yes                               | No                                | Total   |
|--------------|-----------------------------------|-----------------------------------|---------|
| Govt. Aided  | $\frac{47 \times 50}{100} = 23.5$ | $\frac{53 \times 50}{100} = 26.5$ | 50      |
| Self-finance | $\frac{47 \times 50}{100} = 23.5$ | $\frac{53 \times 50}{100} = 26.5$ | 50      |
| Total        | 47                                | 53                                | N = 100 |

$$\chi^2 = \sum \frac{(f_o - f_e)^2}{f_e}$$

$$= 52.03.$$

### Interpretation of the Result

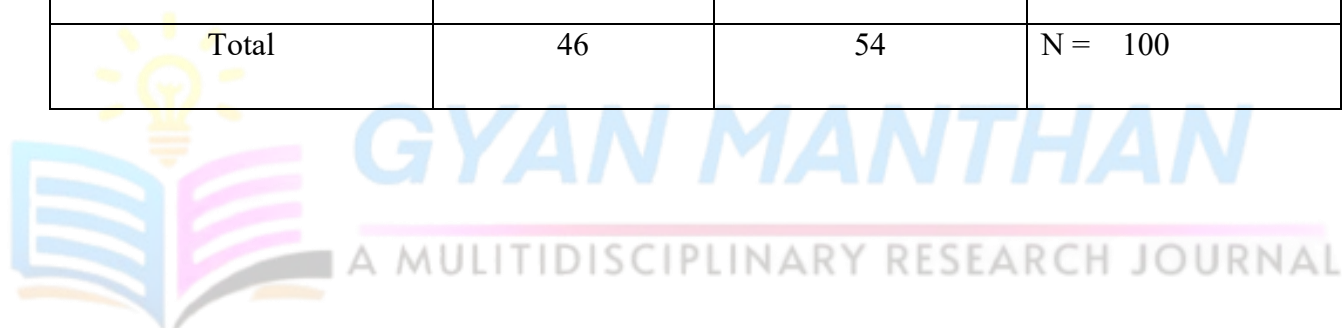
There is a **highly significant difference** between government-aided and self-financed colleges regarding the availability of suitable indoor sports facilities for Sports & Physical Education programs.

**Table 2:**

### 2. Does the sports equipment are kept well-maintained and safe?

#### Observed frequencies (f<sub>o</sub>)

| Colleges     | Yes | No | Total   |
|--------------|-----|----|---------|
| Govt. Aided  | 34  | 16 | 50      |
| Self-finance | 12  | 38 | 50      |
| Total        | 46  | 54 | N = 100 |



#### Expected Frequencies (f<sub>e</sub>)

| Colleges            | Yes                             | No                              | Total   |
|---------------------|---------------------------------|---------------------------------|---------|
| Govt. & Govt. Aided | $\frac{46 \times 50}{100} = 23$ | $\frac{54 \times 50}{100} = 27$ | 50      |
| Self-finance        | $\frac{46 \times 50}{100} = 23$ | $\frac{54 \times 50}{100} = 27$ | 50      |
| Total               | 46                              | 54                              | N = 100 |

$$\chi^2 = \sum \frac{(f_o - f_e)^2}{f_e}$$

$$= 17.75.$$

### Interpretation of the Result

There is a **significant difference** in responses between Govt. Aided and Self-finance colleges regarding whether sports equipment is well-maintained and safe.

**Table 3:**

**3 There are enough multipurpose halls for different sports activities.****Observed frequencies (f<sub>o</sub>)**

| Colleges     | Yes | No | Total   |
|--------------|-----|----|---------|
| Govt. Aided  | 44  | 6  | 50      |
| Self-finance | 9   | 41 | 50      |
| Total        | 53  | 47 | N = 100 |

**Expected Frequencies (f<sub>e</sub>)**

| Colleges     | Yes                               | No                                | Total   |
|--------------|-----------------------------------|-----------------------------------|---------|
| Govt. Aided  | $\frac{53 \times 50}{100} = 26.5$ | $\frac{47 \times 50}{100} = 23.5$ | 50      |
| Self-finance | $\frac{53 \times 50}{100} = 26.5$ | $\frac{47 \times 50}{100} = 23.5$ | 50      |
| Total        | 53                                | 47                                | N = 100 |

$$\chi^2 = \sum \frac{(f_o - f_e)^2}{f_e}$$

$$= 46.4.$$

**Interpretation of the Result**

There is a **significant difference** between Govt. Aided and Self-finance colleges regarding the availability of enough multipurpose halls for different sports activities.

- A large majority of participants from **Govt. Aided colleges** responded “Yes”, indicating adequate facilities.
- A large majority from **Self-finance colleges** responded “No”, indicating a lack of such facilities.

**Table 4: -****No.4 - Infrastructure supports both competitive and recreational sports equally?****Observed frequencies (f<sub>o</sub>)**

| Colleges | Yes | No | Total |
|----------|-----|----|-------|
|----------|-----|----|-------|

|                     |    |    |         |
|---------------------|----|----|---------|
| Govt. & Govt. Aided | 40 | 10 | 50      |
| Self-finance        | 16 | 34 | 50      |
| Total               | 56 | 44 | N = 100 |

#### Expected Frequencies ( $f_e$ )

| Colleges     | Yes                             | No                              | Total   |
|--------------|---------------------------------|---------------------------------|---------|
| Govt. Aided  | $\frac{56 \times 50}{100} = 28$ | $\frac{44 \times 50}{100} = 22$ | 50      |
| Self-finance | $\frac{56 \times 50}{100} = 28$ | $\frac{44 \times 50}{100} = 22$ | 50      |
| Total        | 56                              | 44                              | N = 100 |

$$\chi^2 = \sum \frac{(f_o - f_e)^2}{f_e}$$

$$= 21.47.$$

#### Interpretation of the Result

There is a **significant difference** between Govt. & Govt. Aided and Self-finance colleges regarding whether infrastructure supports both competitive and recreational sports equally.

- Most participants from **Govt. & Govt. Aided colleges** responded “Yes”, indicating better support.
- Most participants from **Self-finance colleges** responded “No”, indicating inadequate support.

**Table 5**

**NO.5-Is the college equipped with a Gymnasium Hall?**

#### Observed frequencies ( $f_o$ )

| Colleges     | Yes | No | Total   |
|--------------|-----|----|---------|
| Govt. Aided  | 22  | 28 | 50      |
| Self-finance | 30  | 20 | 50      |
| Total        | 52  | 48 | N = 100 |

#### Expected Frequencies ( $f_e$ )

| Colleges | Yes | No | Total |
|----------|-----|----|-------|
|----------|-----|----|-------|

|              |                                 |                                 |         |
|--------------|---------------------------------|---------------------------------|---------|
| Govt. Aided  | $\frac{52 \times 50}{100} = 26$ | $\frac{48 \times 50}{100} = 24$ | 50      |
| Self-finance | $\frac{52 \times 50}{100} = 26$ | $\frac{48 \times 50}{100} = 24$ | 50      |
| Total        | 52                              | 48                              | N = 100 |

$$\chi^2 = \sum \frac{(f_o - f_e)^2}{f_e}$$

$$= 1.96.$$

There is no significant difference between Govt. Aided and Self-finance colleges regarding the availability of a Gymnasium Hall.

- Responses from both types of colleges are relatively similar.
- Any observed difference is likely due to chance rather than a real effect.

Table 6:

6-Does the college have sufficient staff to run the programme satisfactorily?

Observed frequencies ( $f_o$ )

| Colleges     | Yes | No | Total   |
|--------------|-----|----|---------|
| Govt. Aided  | 31  | 19 | 50      |
| Self-finance | 21  | 29 | 50      |
| Total        | 52  | 48 | N = 100 |

Expected Frequencies ( $f_e$ )

| Colleges     | Yes                             | No                              | Total   |
|--------------|---------------------------------|---------------------------------|---------|
| Govt. Aided  | $\frac{52 \times 50}{100} = 26$ | $\frac{48 \times 50}{100} = 24$ | 50      |
| Self-finance | $\frac{52 \times 50}{100} = 26$ | $\frac{48 \times 50}{100} = 24$ | 50      |
| Total        | 52                              | 48                              | N = 100 |

$$\chi^2 = \sum \frac{(f_o - f_e)^2}{f_e}$$

$$= 3.24$$

There is no significant difference between Govt. Aided and Self-finance colleges regarding whether the college has sufficient staff to run the programme satisfactorily.

Both types of colleges show fairly similar responses.

The observed difference is not strong enough to be considered meaningful.

## 6. Discussion

The findings clearly indicate that institutional funding models significantly influence infrastructure development. Government-Aided colleges benefit from larger landholdings, making them suitable for outdoor sports. However, maintenance issues often reduce their effectiveness.

In contrast, Self-Financed colleges prioritize modern indoor facilities due to space and cost considerations. While these institutions provide better-maintained indoor amenities, they often lack essential outdoor infrastructure, limiting opportunities for field sports.

This imbalance affects the overall physical development opportunities available to students in both systems.

## 7. Conclusion

The study confirms a substantial disparity in sports infrastructure between Government-Aided and Self-Financed colleges in Kanpur.

1-Government-Aided Colleges: Strong in outdoor facilities but weaker in maintenance and modernization.

2-Self-Financed Colleges: Better indoor infrastructure but limited outdoor sports facilities due to space constraints.

## Recommendations

1. Regulatory bodies should strictly enforce minimum infrastructure requirements, especially for Self-Financed colleges.
2. Government-Aided institutions should improve maintenance through better fund utilization and partnerships.
3. Collaborative models such as Public-Private Partnerships (PPP) can help bridge infrastructure gaps.
4. Periodic audits should be conducted to ensure compliance with sports infrastructure standards.

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