



P-ISSN: 2394-1685  
E-ISSN: 2394-1693  
Impact Factor (ISRA): 5.38  
IJPESH 2016; 3(4): 82-84  
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www.kheljournal.com  
Received: 20-05-2016  
Accepted: 21-06-2016

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## Comparative analysis of physical fitness between hockey players of sports hostel and non-sports hostel of Himachal Pradesh

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### Abstract

The present study was designed to compare the selected physical fitness variables of sports hostel and non-sports hostel players of hockey. 96 male players of Himachal Pradesh (n=48 sports hostel, n=48 non-sports hostel) were selected as subjects. The age of the subjects ranged from 17 to 25 years. The physical fitness variables arm and shoulder strength, abdominal strength, agility, explosive strength, arm and shoulder strength, speed and endurance are selected as criterion variables. The variables were assessed by the standardized test items. The data were collected from each group and statistically analyzed by using dependent 't' test. The results shows that there is a significant difference exist on arm and shoulder strength, abdominal strength, agility, explosive strength, arm and shoulder strength, speed and endurance.

**Keywords:** physical fitness, hockey players, sports hostel, non-sports hostel

### 1. Introduction

Physical fitness is an essential quality in man. A person who is good in strength feels superior and tends to be well adjusted, while a person who is poor in strength feels inferior and show a tendency towards social difficulties and mal-adjustment. The famous Greek philosopher Aristotle stated: "Every individual should be physically fit to enjoy the life fully. In intellectual as well as physical work, a sound heart and lungs, good digestion, a well-developed physique, all are the great assets for living a happy and satisfying life." A physically fit individual is mentally alert, emotionally balanced and socially well adjusted. According to Clarke (1976), "Physical fitness is most appropriately considered as the ability to carry out daily tasks with vigour and alertness, without undue fatigue and with ample energy to enjoy leisure time pursuits and unforeseen emergencies.

The recent advancement in science and technology has resulted in innovations and inventions which had influenced human life style in many ways. The work hours have been reduced. Automation in factories, farms, household and many other areas of human Endeavour's have reduced physical involvement. This means that modern working conditions lead to a sedentary life. In light of the previous research, the aim of this study is to find out the physical fitness level of sports hostel and non-sports hostel hockey players of Himachal Pradesh.

### 2. Methodology

To achieve the purpose of the study in hand ninety six players of hockey practicing in sports hostel and non-sports hostel of Himachal Pradesh were selected as subjects. All the sports hostels were located at different districts of Himachal Pradesh (Sundernager of Mandi district, Nadaun of Hamirpur district and Bilaspur district) and non-sports hostel hockey players were also taken from the above mention District, (n=48 players from the sports hostels and n=48 players were selected from the non-sports hostel).

The pehysical fitness variables arm and shoulder strength, abdominal strength, agility, explosive strength, arm and shoulder strength, speed and endurance are selected as criterion variables. The variables were assessed by the standardized test items. arm and shoulder strength was assessed by pull ups, abdominal strength was assessed by sit ups, agility was assessed by shuttle run, explosive strength was assessed by standing broad jump, arm and shoulder strength was assessed by pushups, speed was assessed by 50 Yard Dash and

endurance was assessed by 600 Yard run and walk test. The data were collected from both groups and statistically analyzed by using dependent 't' test at 0.01 level of significance.

## 2.1 Analysis and interpretation of data

The data pertaining to the variables in this study were

examined by using dependent 't' test to find out the significant difference for each variables separately in order to determine the difference and tested at 0.01 level of significance. The analysis of dependent 't' test on data obtained for physical fitness level of sports hostel and non-sports hostel hockey players have been analyzed and presented in table 1 given below.

**Table 1:** Comparison of Mean, S.D, M.D and t-value of Sports Hostel and Non-Sports Hostel Hockey Players with respect to their Physical Fitness Variables

S.No.	Variables	Groups	N	Mean	S.D	M.D	t-value
1	Pull-Ups	Sports Hostel Players	48	13.8958	1.62742	6.3750	20.033*
		Non-Sports Hostel Players	48	7.5208	1.48739		
2	Sit-Ups	Sports Hostel Players	48	41.5625	6.13988	8.9375	6.715*
		Non-Sports Hostel Players	48	32.6250	6.88082		
3	Shuttle Run	Sports Hostel Players	48	9.0585	0.28678	0.8996	9.975*
		Non-Sports Hostel Players	48	9.9581	0.55514		
4	S. b. j	Sports Hostel Players	48	221.0417	10.54869	9.0625	3.694*
		Non-Sports Hostel Players	48	211.9792	13.32968		
5	Push-Ups	Sports Hostel Players	48	35.0625	7.37277	8.5000	6.139*
		Non-Sports Hostel Players	48	26.5625	6.13641		
6	50 Yard Dash	Sports Hostel Players	48	6.6529	0.22848	0.5448	6.332*
		Non-Sports Hostel Players	48	7.1977	0.55056		
7	600 Yard Run/Walk	Sports Hostel Players	48	115.7404	4.93707	16.4048	10.471*
		Non-Sports Hostel Players	48	132.1452	9.66698		

\*Significant at 0.01 level (The table value required for 0.01 level of significance with 94 is 2.63)

Table 1 S. No. 1 indicates the mean value of sports hostel and non-sports hostel hockey players in the variable of pull ups is 13.90 and 7.52 respectively. The obtained 't' value 20.03 was greater than the table value 2.63 at 0.01 level of confidence. Therefore calculated 't' value is statistically significant. Hence it may be interpreted that sports hostel players are superior to non-sports hostel players in arm and shoulder strength.

Table 1 S. No. 2 indicates the mean value of sports hostel and non-sports hostel hockey players in the variable of sit ups is 41.56 and 32.63 respectively. The obtained 't' value 6.715 was greater than the table value 2.63 at 0.01 level of confidence. Therefore calculated 't' value is statistically significant. Hence it may be interpreted that sports hostel players are superior to non-sports hostel players in abdominal strength.

Table 1 S. No. 3 indicates the mean value of sports hostel and non-sports hostel hockey players in the variable of shuttle run is 9.06 and 9.96 respectively. The obtained 't' value 20.03 was greater than the table value 2.63 at 0.01 level of confidence. Therefore calculated 't' value is statistically significant. Hence it may be interpreted that sports hostel players are superior to non-sports hostel players in agility.

Table 1 S. No. 4 indicates the mean value of sports hostel and non-sports hostel hockey players in the variable of standing broad jump is 221.04 and 211.98 respectively. The obtained 't' value 3.694 was greater than the table value 2.63 at 0.01 level of confidence. Therefore calculated 't' value is statistically significant. Hence it may be interpreted that sports hostel players are superior to non-sports hostel players in leg explosive strength.

Table 1 S. No. 5 indicates the mean value of sports hostel and non-sports hostel hockey players in the variable of push-ups is 35.06 and 26.56 respectively. The obtained 't' value 6.139 was greater than the table value 2.63 at 0.01 level of confidence. Therefore calculated 't' value is statistically significant. Hence it may be interpreted that sports hostel players are superior to non-sports hostel players in arm and shoulder strength.

Table 1 S. No. 6 indicates the mean value of sports hostel and non-sports hostel hockey players in the variable of 50 Yard Dash is 6.65 and 7.19 respectively. The obtained 't' value

6.332 was greater than the table value 2.63 at 0.01 level of confidence. Therefore calculated 't' value is statistically significant. Hence it may be interpreted that sports hostel players are superior to non-sports hostel players in speed.

Table 1 S. No. 7 indicates the mean value of sports hostel and non-sports hostel hockey players in the variable of 600 Yard run and walk is 115.74 and 132.14 respectively. The obtained 't' value 10.471 was greater than the table value 2.63 at 0.01 level of confidence. Therefore calculated 't' value is statistically significant. Hence it may be interpreted that sports hostel players are superior to non-sports hostel players in endurance.

## 3. Discussion

The result presented in the table 1 indicated that the sports hostel players are better in all the physical fitness variables i.e. arm and shoulder strength, abdominal strength, agility, explosive strength, arm and shoulder strength, speed and endurance than non-sports hostel players. There was significant difference established between the sports hostel and non-sports hostel players. As the sports hostel players undergo regular training of games and physical fitness components that's why they have more arms and shoulder strength, abdominal strength, agility, explosive strength, arm and shoulder strength, speed and endurance than non-sports hostel players.

## 4. Conclusions

There was significant difference between the sports hostel and non-sports hostel hockey players of Himachal Pradesh in the variables of pull ups, sit ups, shuttle run, standing broad jump, push-ups, speed and endurance.

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