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A Relative Estimation of Skill Efficiency of U-17 Hockey Players of Punjab

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ABSTRACT

The purpose of the study was to find out Relative Estimation of skill efficiency of U-17 year male hockey players of Punjab. This study tried to find out difference in Ball shooting ability, Ball control ability and Ball balancing ability of subjects. This study has been conducted on forty (40) U- 17 male hockey players which were selected through the trails for the different academies run by government and private associations of Punjab. There were four group formed for the study i.e. Punjab and Sind Bank Hockey Academy Jalandhar (PHA), Maharaja Ranjit Singh Hockey Academy Amritsar (MHA), Namdhari Hockey Academy Bhaini Sahib, Ludhiana (NHA), Surjit Hockey Academy Jalandhar (SHA). Data were collected with standardized tests, equipments and standard techniques (Tenner at al. 1969). Analysis of variance (ANOVA) one way and least significance difference Test were used as a statistical tool for find out the appropriate results. The basis of results of present study indicated that significant and insignificantly difference among players of hockey academies of Punjab in relation to skill efficiency variables Ball shooting ability, Ball control ability and Ball balancing ability were found significant different in under 17 F= 2.20, 47.42, and .732 respectively. In level of hockey skills i.e. ball control ability was found significant while compared all academies only under 17 years age group (F-47.42). Post hoc test indicates Surjit hockey academy players and Maharaja Rranjeet Singh hockey academy players similar in ball control ability.

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INTRODUCTION

The game of field hockey involves walking, jogging, sprinting in varied directions with and without ball. As the players have to cover a big area in the ground during attack and defense therefore, the game demands for aerobic as well as anaerobic fitness. A high number of accelerations and decelerations, associated with the large number of changes in direction of play create an additional load to the muscles involved as in field hockey, those players better suited to cope with the demands of the game reach the elite level. (Bloomfield et. al.1972)

A skill is the learned capacity to carry out pre-determined results often with the minimum outlay of time, energy, or both. Skills can often be divided into domain-general and domain-specific skills. For example, in the domain of work, some general skills would include time management, teamwork and leadership, self motivation and others, whereas domain-specific skills would be useful only for a certain job. Skill usually requires certain environmental stimuli and situations to assess the level of skill being shown and used. Hockey is one of the most popular games the world in general and India in particular. Hockey being most competitive sports, a player who is physically fit does not only enjoy more but he is also capable of using all the skills attained and mastered by him throughout, right from the beginning to the end of the game. The twin combination of both skills and physical fitness is indispensable for a player without either of which he will not be able to achieve much, specifically in order to play any ball game competently. If player much have the stamina to run for at least three hours at a stretch, strength to execute the skills like hitting, pushing, scooping more forcibly, speed to run quickly with or without the ball, power to execute any skill with maximum force in minimum possible time as for trying in shooting circle and clearing the ball from dangerous zone, agility to rapidly change body position and direction like in tackling and dodging, balance the ability to maintain body equilibrium during vigorous movement like shooting on wrong foot and a player should have good reaction during stopping, tackling and in goal keeping as well. To observe the contribution of selected motor fitness components in predicting the hockey playing ability and to evaluate the individual contribution of each component in the prediction of game performance. Forty three women hockey players having age of 17 to 22 years were selected as the subjects of the study. Seven motor fitness components were selected which contributed directly to the performance factor. It was based on the assessment of three judges. The study showed that the hockey performance was significantly related to speed, endurance, agility and power whereas strength, left hand grip strength, right hand grip strength and trunk flexion had no significant relationship. Multiple co-relation showed that 60% variability in hockey playing ability can be attributed to the selected motor fitness components. Multiple regressions showed that speed, endurance, agility and power contributed significantly in predicating of hockey playing ability. It may be concluded that it is possible to predict hockey playing ability on the basis of selected motor fitness components by Shergill (1992).

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METHODOLOGY

PURPOSE

The purpose of the study is to compare the different Skill Efficiency variables among the male hockey players of different hockey academies of Punjab.

SELECTION OF SUBJECTS

The Forty subjects from total One hundred subjects of U-17 age group male hockey players were drawn from following different four hockey academies of Punjab i.e. Punjab and Sind Bank Hockey Academy Jalandhar (PHA), Maharaja Ranjit Singh Hockey Academy Amritsar (MHA), Namdhari Hockey Academy Bhaini Sahib, Ludhiana (NHA), Surjit Hockey Academy Jalandhar (SHA) Ten players from each academy were selected through purposive sampling technique. Subjects were hosteller and regularly participated in training session of their academies and all were physically fit and thus were capable to performing all the tests efficiently. Decimal ages of the players were calculated as per the official record and matriculation certificate and according to method, (Tanner et al 1969).

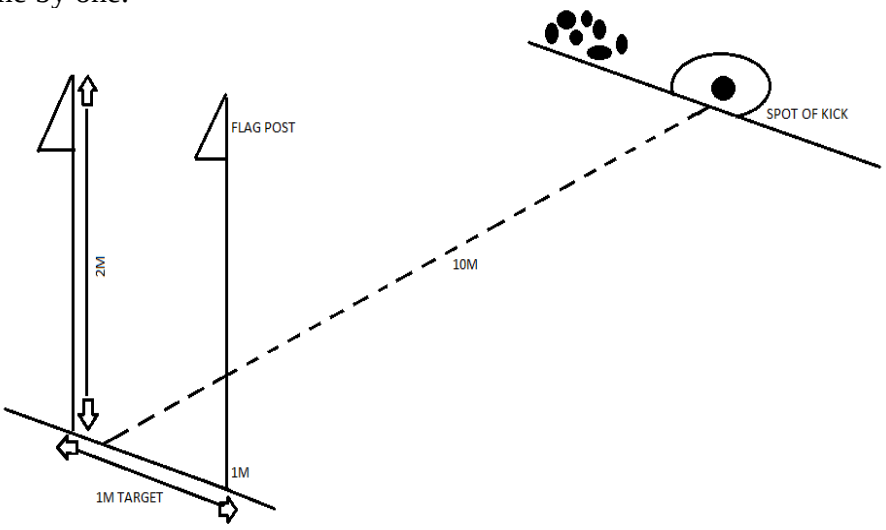
SKILL MEASUREMENTS

For skill level SAI hockey skill test was used .The three items of the hockey skill test was shooting the target, balancing the ball on the stick and Moving with the ball. (Kansal 1996)

1. **Shooting in the target** - This test item was aimed at measuring the ball shooting ability of the hockey player.

Equipment - Hockey Stick, Balls, Two flag posts, measuring tape, and marking powder.

Test Target Dimensions - A target was formed by passing two flags post each of 2 m. Height. At a distance of one meter from each other. A restraining line at a distance of 10m. From the target was market on the restraining line. The subject was asked to fit all the 10 balls into the target one by one.



Scoring and evolution- The number of accurate hit was evaluated with the help of SAI prescribed.

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2. Balancing the Ball on the Stick -The test item was aimed the measure the balancing ability of the hockey player.

Equipments- Hockey Stick, balls.

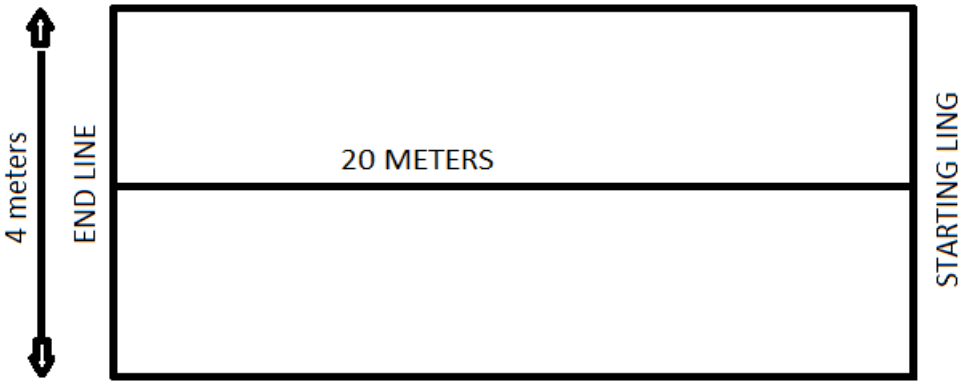
Test Procedure - The subject was asked to balance the ball on the blade of the hockey stick continuously for the maximum duration possible. The subject was be ball lifted from the ground by the subject with the help of the hockey stick, continuous balancing. The subject was move around. If needs maintain the balance for the longest duration. The moment the ball was placed on the stick on the lifted from the ground and brought under control on the stick, a stop watch was started, and the moment of ball falls down from the stick, stop watch stopped and the time is recorded. Accurate only up to second. Two trails was given.

Scoring and Evolution - Out of the two trails the better one, longest duration time was counseled two points with the help of SAI prescribed and listed.

3.Moving with the Ball - This test item was into measure the ball controlling ability of the hockey player when moving with the ball.

Equipment - A stop watch, a hockey stick, balls, tape, and marking powder. Test dimensions - Two horizontal lines, one called starting line, and the other end line, are marked at a distance of 20m.

Test Administration - The subject was stand behind the starting line by holding the hockey stick in both the hands, the hockey ball must be placed on the starting line, on the signal ready go, the subject moving forward by rolling the and try to cross the finish line with the ball as early as possible. The forward moment of the ball with the blade of the stick should be rolling moment a stop watch is started simultaneously to the signal go and is stopped as soon as the ball and the subject cross the finish line. A subject was given who trials and better of the two was considered for evaluation.



Scoring and Evolution - The subject time was took to reach the end line with ball was evaluating the help of SAI prescribed stands.

STATISTICAL TECHNIQUES

Statistical Analysis of all the values of anthropometric, physical fitness and skill variables were expressed as mean and standard deviation. Analysis of Variance with repeated measures followed by multiple comparison of least significance difference tests were

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performed to find out the significant difference in selected skill test variables among the phases. In each case the significant level was chosen at 0.05 levels. (Verma 2000)

Table 1.1: Analysis of Variance among Male Hockey Academies Related to Skill Variable Ball Shooting Ability

ANOVA					
Ball Shooting Ability					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.475	3	.825	2.200	.105
Within Groups	13.500	36	.375		
Total	15.975	39			

*Significant at 0.05 level

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Multiple Comparisons

Ball Shooting Ability

LSD

(I) Academies	(J) Academies	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Punjab & Sind Bank Hockey Academy	Maharaja Ranjit Singh Hockey Academy	.00000	.27386	1.000	-.5554	.5554
	Namdhari Hockey Academy	-.10000	.27386	.717	-.6554	.4554
	Surjit Hockey Academy	-.60000*	.27386	.035	-1.1554	-.0446
Maharaja Ranjit Singh Hockey Academy	Punjab & Sind Bank Hockey Academy	.00000	.27386	1.000	-.5554	.5554
	Namdhari Hockey Academy	-.10000	.27386	.717	-.6554	.4554
	Surjit Hockey Academy	-.60000*	.27386	.035	-1.1554	-.0446
Namdhari Hockey Academy	Punjab & Sind Bank Hockey Academy	.10000	.27386	.717	-.4554	.6554
	Maharaja Ranjit Singh Hockey Academy	.10000	.27386	.717	-.4554	.6554
	Surjit Hockey Academy	-.50000	.27386	.076	-1.0554	.0554
Surjit Hockey Academy	Punjab & Sind Bank Hockey Academy	.60000*	.27386	.035	.0446	1.1554
	Maharaja Ranjit Singh Hockey Academy	.60000*	.27386	.035	.0446	1.1554
	Namdhari Hockey Academy	.50000	.27386	.076	-.0554	1.0554

*. The mean difference is significant at the 0.05 level.

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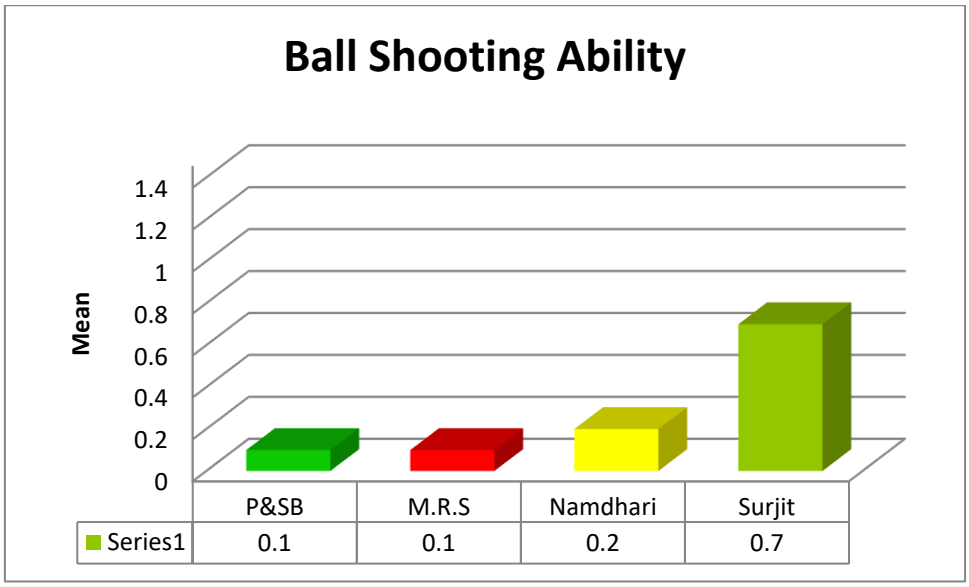

Figure1.1: Show The Mean Difference Among Male Hockey Academies Related to Ball Shooting Ability Under 17 Years Age Group.

The results depicted in table and figure 1.1 shows that the Comparison among male hockey academies related to ball shooting ability under 17 year age group the mean values of ball shooting ability were 0.1, 0.1, 0.2 and 0.7scores, respectively. The statistically result were found to be no significant at 0.05 levels (F- 2.20).

Table 1.2: Analysis of Variance among Male Hockey Academies Related to Skill Variable Ball Control Ability

ANOVA					
Ball Control Ability					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	49.800	3	16.600	47.429	.000
Within Groups	12.600	36	.350		
Total	62.400	39			

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*significant at 0.05 level

**significant at 0.01 level

Multiple Comparisons

Ball Control Ability

LSD

(I) Academies	(J) Academies	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Punjab & Sind Bank Hockey Academy	Maharaja Ranjit Singh Hockey Academy	-.50000	.26458	.067	-1.0366	.0366
	Namdhari Hockey Academy	2.20000*	.26458	.000	1.6634	2.7366
	Surjit Hockey Academy	-.50000	.26458	.067	-1.0366	.0366
Maharaja Ranjit Singh Hockey Academy	Punjab & Sind Bank Hockey Academy	.50000	.26458	.067	-.0366	1.0366
	Namdhari Hockey Academy	2.70000*	.26458	.000	2.1634	3.2366
	Surjit Hockey Academy	.00000	.26458	1.000	-.5366	.5366
Namdhari Hockey Academy	Punjab & Sind Bank Hockey Academy	-2.20000*	.26458	.000	-2.7366	-1.6634
	Maharaja Ranjit Singh Hockey Academy	-2.70000*	.26458	.000	-3.2366	-2.1634
	Surjit Hockey Academy	-2.70000*	.26458	.000	-3.2366	-2.1634
Surjit Hockey Academy	Punjab & Sind Bank Hockey Academy	.50000	.26458	.067	-.0366	1.0366
	Maharaja Ranjit Singh Hockey Academy	.00000	.26458	1.000	-.5366	.5366
	Namdhari Hockey Academy	2.70000*	.26458	.000	2.1634	3.2366

*. The mean difference is significant at the 0.05 level.

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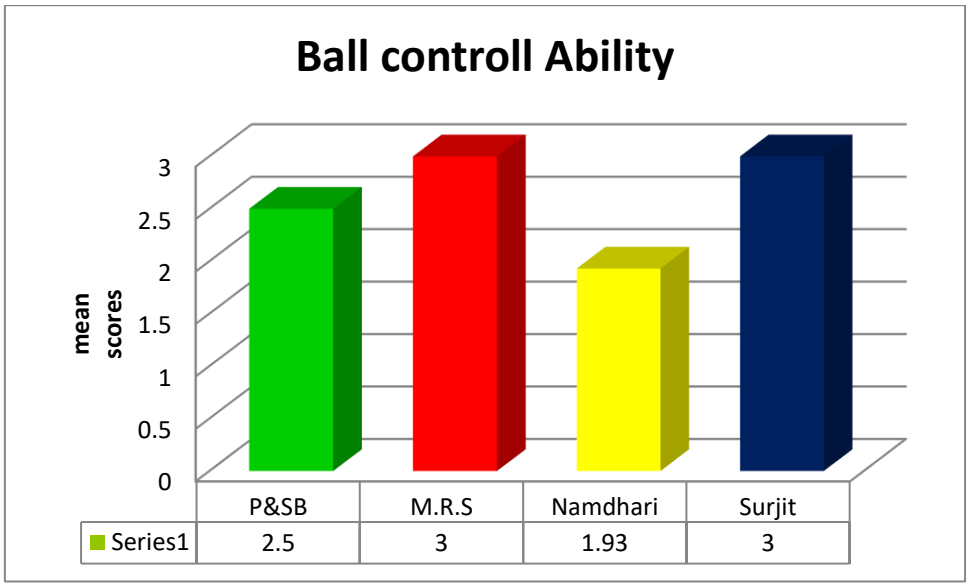

Figure1.2: Show the Mean Difference among Male Hockey Academies Related to Ball Control Ability Under 17 Years Age Group.

The results depicted in table and figure 1.2 shows that the Comparison among male hockey academies related to ball control ability under 17 years age group the mean values of ball control ability were 2.50, 3.0, 1.93 and 3.0scores, respectively. The statistically result were found to be highly significant at 0.01 levels (F-47.24.).

The post hoc test indicates that Surjit hockey academy players and Maharaja Ranjit Singh academy players were all most similar in ball control ability as compare to P&S.B, and Namdhari Hockey Academy players.

Table 1.3: Analysis of Variance among Male Hockey Academies Related to Skill Variable Ball Balancing Ability

ANOVA					
Ball Balancing Ability					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.275	3	.092	.733	.539
Within Groups	4.500	36	.125		
Total	4.775	39			

*Significant at 0.05 level

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Multiple Comparisons

Ball Balancing Ability

LSD

(I) Academies	(J) Academies	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Punjab & Sind Bank Hockey Academy	Maharaja Ranjit Singh Hockey Academy	.20000	.15811	.214	-.1207	.5207
	Namdhari Hockey Academy	.10000	.15811	.531	-.2207	.4207
	Surjit Hockey Academy	.00000	.15811	1.000	-.3207	.3207
Maharaja Ranjit Singh Hockey Academy	Punjab & Sind Bank Hockey Academy	-.20000	.15811	.214	-.5207	.1207
	Namdhari Hockey Academy	-.10000	.15811	.531	-.4207	.2207
	Surjit Hockey Academy	-.20000	.15811	.214	-.5207	.1207
Namdhari Hockey Academy	Punjab & Sind Bank Hockey Academy	-.10000	.15811	.531	-.4207	.2207
	Maharaja Ranjit Singh Hockey Academy	.10000	.15811	.531	-.2207	.4207
	Surjit Hockey Academy	-.10000	.15811	.531	-.4207	.2207
Surjit Hockey Academy	Punjab & Sind Bank Hockey Academy	.00000	.15811	1.000	-.3207	.3207
	Maharaja Ranjit Singh Hockey Academy	.20000	.15811	.214	-.1207	.5207
	Namdhari Hockey Academy	.10000	.15811	.531	-.2207	.4207

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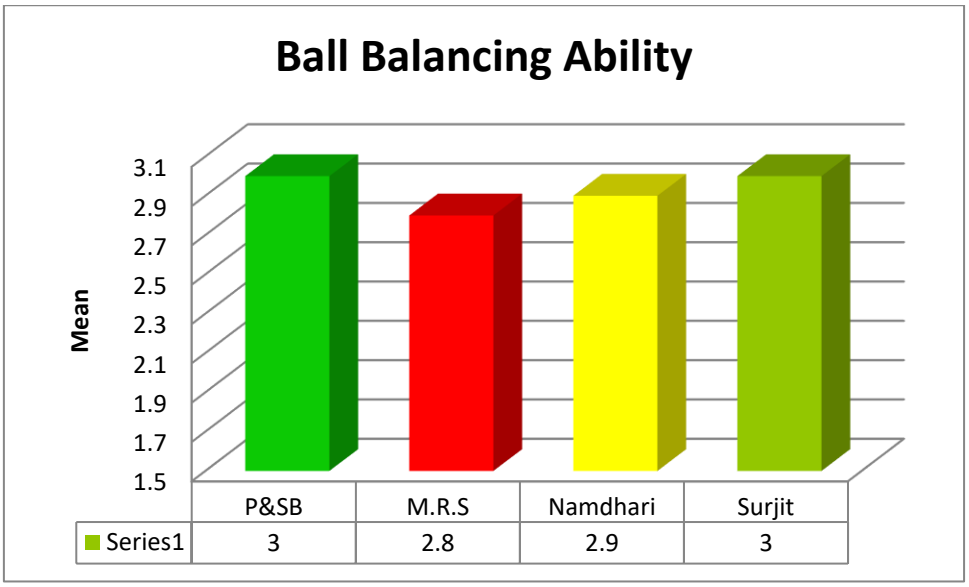

Figure 1.3 Show the Mean Difference Among Male Hockey Academies Related to Ball Balancing Ability Under 17 Years Age Group.

The results depicted in table and figure 1.3 shows that the Comparison among male hockey academies related to ball balance ability under 17 years age group the mean values of ball balance ability were 3.0, 2.80, 2.90 and 3.0 scores, respectively. The statistically result were found to be no significant at 0.05 levels (F- .73).

CONCLUSION

In level of hockey skills i.e ball control ability was found significant while compared all academies only under 17 years age group (F-47.42). The mean value show Surjit hockey academy players and Maharaja ranjeet singh hockey academy players similar in ball control ability and Surjit academy players were found better in all skills as compare to other academies

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