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Comparative study of selected motor fitness variables of attackers and set-uppers female volleyball players of inter-college

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Abstract
The purpose of this research work was to assess the motor fitness of Attackers and Set-uppers female Volley ball Player. Self-prepared test item was used to collect the data. The sample for the study comprised of 40 attacker and 40 set-upper of volley ball players belonging to different affiliated colleges of Punjabi university, Patiala was taken randomly. 't test was applied to find the significant difference between attacker and set-upper female Volley Ball players. Attacker and set-upper female Volley Ball players show almost equal level of motor fitness to variables.

Keywords: Motor fitness, shuttle run, attackers, set-uppers

Introduction

Although the term 'motor fitness (while often used synonymously with physical fitness) is coined to includes elements which involve motor abilities than merely those of basic components of physical fitness. Yet, it does not encompass the various neuromuscular coordination skills which make general motor ability. Motor fitness takes in to account efficiency or basic movements and therefore, would such elements as power, agility, speed and balance. Vivekananda stated, "If wealth is lost, something is lost, if health is lost everything is lost." Motor ability of a volley ball player may vary from individual to individual. It may not be same in every person. But practically any one can improve his motor ability fitness to an extent. To improve motor ability, a person has to train different elements of fitness. There is no short cut, it required daily attention.

Numerous research studies, conducted by experts, in the field of sports and physical education, have emphasized the importance of motor ability, technical and tactical efficiency, physical and mental qualities, for achieving top performance, (Matveyev, 1981 and Singh, 1991).Top form is a product of training state and interrelationship among the various components. Performance in a given sport is a complex combination of several factors. Certain factors are dominating factors and other supportive. The improvement and maintenance of these components are very important in sports training. Working hard and training all major components, in a systematic manner, can only achieve an increased performance level. Volleyball is one of the very popular sports in India and gaining popularity in the world. Performance in given sports are a complex combination of several factors. Certain factors are dominating and other supportive. Nevertheless, every factor has its own role to play. The complex nature of performance is not merely the product of physical, psychic, psychological prerequisites. It is the accrued result of training and competition, over a period of time, supported by the society in general. The teacher or coach will have to organize and lay stress and guide this process.

Volleyball is a dynamic sport that demands an intensive load of training to satisfy the high demands placed. Certain factors are dominating and other supportive. Nevertheless, every factor has its own role to play. The lower limbs muscle power is known one of the most important factors that determine a player's physical condition and as a result successful performance. Many team sports also require high level of motor fitness for success at elite level of competition.

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Successful performance at elite level of competition heavily demands motor abilities. At the professional level, the numerous tests and training program are being used to monitor the physical fitness, motor abilities and athletic performance of the players. Volley ball is a recreational game has present developed into highly competitive game, which requires a high level of fitness, skill efficiency, good physique etc. The performance of player now a days are largely influenced by motor fitness, skills and body composition, because the demands on technical execution of the game have considerably gone up. Player needs to be super fit to excel in completion. All the physical ability components are trained to the level of excellence. Today's sports and games demand optimum fitness, for higher degree of performance. If the level of fitness is far below the abilities and capabilities, performance tend to go low; despite the fact that the sports person is well versed in skill of particular sports.

Another area, which requires maximum attention, coordinative abilities; which are prerequisites for top class performance. Experts identify space orientation ability, differentiation ability, balance ability, rhythmic ability, coupling ability (Hirtz, 1985) [4]. Coordination is very complex biomotor ability, closely interrelated with conditional abilities namely speed, strength, endurance and flexibility. It is of determinant importance not only for the acquisition perfection of technique and tactics but also for their application in unfamiliar circumstances like the alteration of terrain, equipment, climatic condition, and opponents (Bompa, 1983) [2]. The popularity of the game increased rapidly because for volleyball a small field and less equipment is required. Physical fitness is an important factor of performance and in volleyball it has become focus point for the research. Physical fitness includes coordinative abilities (agility), flexibility, endurance, strength and speed (Singh, 1984, Harre, 1986) [6, 3]. The present study has been conducted with the aim of comparing Attacker and Set-upper with regard to motor abilities. Eighty female volleyball players (40 Attackers and 40 Set-uppers) of Punjabi University Patiala were taken as subject. Ten motor ability tests were conducted on the subjects to compare the motor fitness of attackers and set-uppers. Besides the motor abilities, age, height, body weight, standing reach was also taken. A team in volleyball consists of attacker, set-upper and all-rounder (those who are equally good for attack and setup).

Objectives of the Study
To find out the difference in the standing reach, standing vertical jump, the block jump, pushups, bent knee sit up sand shuttle run of attackers and set-uppers at inter college level female volleyball players of Punjabi University Patiala.

Table 1: Compa Rison in the Age of Attackers and Set-Uppers Female Volley Ball Players at Inter-College Level Punjabi University Patiala

Sr. No.	Variable	Subjects	N	Mean	S.D.	S.EM	t-Value
1.	Age	Attackers	40	19.75	1.49	.23	-3.25
		Set-Uppers	40	20.80	1.38	.21	

*Significant at 0.05 level. t < 1.98

It is obvious from table 1 that t-value of attackers and set uppers with regard to age came out to be -3.259, which is not significant at 0.05 level

Table 2: Comparison in the weight of attackers and set-uppers Female volley ball playes at inter-college level of Punjabi University Patiala

Sr. No.	Variable	Subjects	N	Mean	S.D.	S.EM	t-Value
2.	Weight	Attackers	40	77.35	1.73	.27	7.73*
		Set-Uppers	40	72.40	3.65	.57	

*Significant at 0.05 level.t < 1.98

It is obvious from table 2 that t-value of attackers and set uppers (inter college students) with regard to weight came out to be 7.73, which is significant at 0.05 level. It is evident that mean value of Attackers and set-uppers at inter college level with regard to weight came out to be 77.35 and 72.40 respectively, which indicates that attackers shows more motor fitness as compare to set-uppers Female volley ball players of Punjabi University Patiala.

Table 3: Comparison in the height of attackers and set-uppers female volley ball players at inter-college level Punjabi University Patiala

Sr. No.	Variable	Subjects	N	Mean	S.D.	S.EM	t-Value
3.	Height	Attackers	40	186.7	3.05	.48	3.301*
		Set-Uppers	40	184.6	2.46	.38	

*Significant at 0.05 level.t < 1.98

It is obvious from table 3 that t-value of attackers and set uppers (inter college students) with regard to height came out to be 3.301, which is significant at 0.05 level of confidence. It is evident that mean value of Attackers and set-uppers at inter college level with regard to height came out to be 186.7 and 184.6 respectively, which indicates that attackers shows more motor fitness level as compare to set-uppers female volley ball players of Punjabi University Patiala

Table 4: Comparison in the motor fitness variables of standing reach of attackers and set uppers female volleyballplayers at inter college level of Punjabi University Patiala

Sr. No.	Variable	Subjects	N	Mean	S.D.	S.EM	t-Value
4.	Standing Reach	Attackers	40	234.75	2.95	.46	5.452*
		Set-Uppers	40	231.55	2.25	.35	

*Significant at 0.05 level < 1.98

It is obvious from table 4 that t-value of attackers and set uppers with regard to standing reach came out to be 5.452, which is significant at 0.05 level. It is evident that mean value of Attackers and set-uppers at inter college level with regard to standing reach came out to be 234.75 and 231.55 respectively, which indicates that attackers shows more motor fitness level as compare to set-uppers female volley ball players of Punjabi University Patiala.

Table 5: Comparison in the motor fitness variable of standing vertical jump of attackers and set-uppers female volley ball players at inter college level of Punjabi University Patiala

Sr. No.	Variable	Subjects	N	Mean	S.D.	S.EM	t-Value
5.	Standing Vertical Jump	Attackers	40	304.4	3.12	.49	4.692*
		Set-Uppers	40	300.9	3.44	.54	

*Significant at 0.05 level. t < 1.98

It is obvious from table 5 that t-value of attackers and set uppers with regard to standing vertical jump came out to be 4.692, which is significant at 0.05 level. It is evident from table 4.5 that mean value of Attackers and set-uppers at inter college level with regard to standing vertical jump came out to be 304.4 and 300.9 respectively, which indicates that attackers shows more motor fitness level as compare to set-uppers female volley ball players of Punjabi University Patiala.

Table 6: Comparison in the Motor Fitness Variable of Standing Vertical Jump with Approach Run of Attackers and Set-Uppers Female Volley Ball Players at Inter College Level of Punjabi University Patiala

Sr. No.	Variable	Subjects	N	Mean	S.D.	S.EM	t-Value
6	Standing Vertical jump with appoarch run	Attackers	40	310.45	3.30	.52	3.016
		Set-Uppers	40	308.15	3.51	.55	

*Significant at 0.05 level.t < 1.98

It is obvious from table 6 that t-value of attackers and set uppers with regard to standing vertical jump with approach run came out to be 3.016, which is significant at 0.05 level.It is evident from table 4.6 that mean value of Attackers and set-uppers at inter college level with regard to standing vertical jump with approach run came out to be 310.45 and 308.15 respectively, which indicates that attackers shows more motor fitness level as compare to set-uppers female volley ball players of Punjabi University Patiala.

Table 7: Comparison in the motor fitnessvariable of block jump of attackers and set-uppers female volley ball players at inter college level of Punjabi University Patiala

Sr. No.	Variable	Subjects	N	Mean	S.D.	S.EM	t-Value
7.	BLOCK JUMP	Attackers	40	287.00	2.48	.39	4.396*
		Set-Uppers	40	284.40	2.79	.44	

*Significant at 0.05 level.t < 1.98

It is obvious from table 7 that t-value of attackers and set uppers with regard to block jump came out to be 4.396, which is significant at 0.05 level. It is evident from table that mean value of Attackers and set-uppers at inter college level with regard to block jump came out to be 287.00 and 284.40 respectively, which indicates that attackers shows more motor fitness level as compare to set-uppers female volley ball players of Punjabi University Patiala.

Table 8: Comparison in The Motor Fitness Variable of Sit Ups of Attackers and Set-Uppers female Volley Ball Players at Inter College Level of Punjabi University Patiala

Sr. No.	Variable	Subjects	N	Mean	S.D.	S.EM	t-Value
8.	SIT-UPS	Attackers	40	33.50	1.48	.2348	-2.98
		Set-Uppers	40	34.75	2.12	.3467	

*Significant at 0.05 level.t < 1.98

It is obvious from table 8 that t-value of attackers and set uppers with regard to sit ups came out to be -2.985, which is not significant at 0.05 level.

Table 9: Comparison in motor fitness variable of pushups of attackers and set-uppers female volley ball players at inter college level of Punjabi University Patiala

Sr. No.	Variable	Subjects	N	Mean	S.D.	S.EM	t-Value
9.	PUSH UPS	Attackers	40	38.25	1.58	.25	3.387*
		Set-Uppers	40	36.85	2.08	.32	

*Significant at 0.05 level.t < 1.98

It is obvious from table 9 that t-value of attackers and set uppers with regard to pushups came out to be 3.387, which is significant at 0.05 level. It is evident from table 4.9 that mean value of Attackers and set-uppers at inter college level with regard to pushups came out to be 38.25 and 36.85 respectively, which indicates which indicates that attackers shows more motor fitness level as compare to set-uppers female volley ball players of Punjabi University Patiala.

Table 10: Comparison in the Motor Fitness Variable of Shuttle Run of Attackers and Set-Uppers Female Volley Ball Players at Inter College Level of Punjabi University Patiala

Sr. No.	Variable	Subjects	N	Mean	S.D.	S.EM	t-Value
10.	SHUTTLE RUN	Attackers	40	10.68	.54	8.63	5.281*
		Set-Uppers	40	10.04	..54	8.58	

*Significant at 0.05 level.t < 1.98

It is obvious from table 10 that t-value of attackers and set uppers with regard to sit ups came out to be 5.281 which is significant at 0.05 level.It is evident that mean value of Attackers and set-uppers at inter college level with regard to shuttle run came out to be 10.68 and 10.04 respectively, which indicates which indicates that attackers shows more motor fitness level as compare to set-uppers female volley ball players of Punjabi University Patiala.

Conclusion
As per the table values motor fitness like weight, Height, Standing Reach, Standing Vertical Jump, Standing vertical Jump With approach Run, Block Jump, Push Ups and Shuttle Run attacker having more motor fitness level than set-uppers. In respect to the age and sit ups motor fitness variables attackers show more or less equal level of fitness.

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