

STUDY OF SELECTED KINANTHROPOMETRIC VARIABLES, PHYSICAL FITNESS AND SELF-CONFIDENCE OF UNIVERSITY VOLLEYBALL PLAYERS IN QUARTER-FINAL ROUND IN RELATION TO THEIR LEVEL OF PERFORMANCE

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Abstract

Today we are living in the highly advanced age of human civilization demanding very alert and tough human beings to face the different kind of challenges in all walks of life. Sports have therefore assumed immense importance as an integral part of the whole education process. Sports oriented educational system has helped the development of the balanced personality. The main purpose of the study was to determine the significant difference between the Kinanthropometric, physical fitness and psychological variable (Self-Confidence) of volleyball women players of Himachal Pradesh University. Physical fitness has been considered an essential element of ever day life, and strength, speed, endurance, agility and flexibility are an important aspect of physical fitness. The data of the study was collected during the inter college championship. It is not possible to collect the data of each and every volleyball players of Himachal Pradesh University players. A Selective type of sampling was adopted to collect the required data from different colleges. A list of 250 students was prepared out of which 96 students were selected. The performance was measured on the basis of fixture drawn by the Himachal Pradesh University for inter college volleyball championship. The Quarterfinal groups of the teams had been selected for the present study. These groups were analyzed on their performance basis. The data were analyzed by applying 't' test is find out the significant difference.

Keywords: *Kinanthropometric Variables, Physical Fitness, Self-Confidence, Volleyball Players, Level of Performance*



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Volleyball is one of the most played sports in the world and has several unique features. There are twelve players in the team six aside a volleyball court. Players demands. A volleyball game may be characterized as an integrated playing demands. A volleyball game may be characterized as an integrated playing action of main skills; serve, serve-reception, set, spike, block and dig. Volleyball is a game of skill and strategies. One skill is the ability to place the ball in the desired direction, with the right height, direction & speed. A-part-from the techno-tactical performance in the game, age, height, weight body composition and experience are external criteria, which indicate the performance capabilities of a team and its future. Volleyball is a complex -technical team game and performance differences between

players of varying ability level are different. Today men players over 2.00 meters tall and female players over 1.70 meters tall are no longer rarity.

Kinanthropometry is the scientific study of mankind. Man, the most intelligent species of the animal kingdom, has used his intelligence and skill in making his life creative, comfortable and institutionalized. Sports as an institution has been a source of play, work, celebration, exercise and fitness to encompassing larger goals in representing the state or national and international games, ringing pride to the nation besides, oneself and family. Anthropologists in their Endeavour in studying the physical structure, size and shape to the understanding of physiological functioning in the physical and socio-cultural environment of mankind have ventured to find the effect it has on the overall performance of a sportsman.

Self-confidence is the *sina qua non* of superior performance without it, people lack the confidence that is essential for taking on taught challenges. Self-confidence gives us the requisite self-assurance for planning ahead for stepping in as a leader, for those who lack self-confidence; every failure confirms a sense of incompetence. Self-confidence gives strength to make a tough decision. Even explicit disapproval from those in authority people with self-confidence are decisive without being arrogant or defensive and they stand by their decisions.

Objectives of the study

1. To compare the winner and loser players at quarter-final stage of H.P University Inter-College Women Volleyball Championship with respect to the following selected Kinanthropometric variables of upper lower and trunk extremities:

1. Height (cm)
2. Weight (kg)
3. Total Arm Length (cm)
4. Foot Length (cm)
5. Chest Circumference (cm)
6. Biceps (mm)
7. Triceps (mm)

2. To compare the winner and loser players at quarter-final state of H.P University Inter-College Women Volleyball Championship with respect to the following physical variables:

1. Flexed arm hang.
2. Sit up in 1 minute.
3. Shuttle run (sec).
4. Standing broad jump.

5. Six-Hundred-yard run (min)

3. To compare the winner and loser players at quarter-final stage of H.P University Inter-College Women Volleyball Championship with respect to their Self-Confidence.

Hypotheses of the study

1. The winner and loser players at quarter-final stage of H.P University Inter-College Women Volleyball Championship will differ significantly with respect to the Kinanthropometric variables:

2. The winner and loser players at quarter-final stage of H.P University Inter-College women Volleyball Championship will differ significantly with respect to the physical fitness variables:

3. The winners at quarter final stage of H.P University Inter-College Women volleyball Championship will exhibit significant greater self-confidence in comparison to loser.

Sampling

Sampling is an essential part of the scientific Research procedure. Selective type of sampling is adopted in this study. 21 total team were participated in this women inter college competition. The venue of the competition was DAV College Kotkhai on November 2005. Lists of 192 female volleyball players were prepared out of which 96 were selected as final sample. The performance was measured on the basis of winning & losing of the teams participated in Himachal Pradesh University for Inter-College Women Volleyball Championship.

Tools Used

1. Kinanthropometric measurements were taken by using standard weighing, anthropometric road, measurement tape, caliper and skin fold caliper.

2. AAHPER youth fitness battery consisting of five test items, pull up, sit up, standing broad jump, shuttle run and 600-yard run and walk was used to measure physical fitness test of women inter-college volleyball players.

3. Inventory Constructed and Standardized by M.Basavanna, is used for assessment of Self-Confidence is used.

Prior to the administration of tests, a meeting of the subjects was held in the presence of the volleyball coaches, of different teams. The requirements of the testing procedure were explained to them in detail. All the students and coaches of different teams agreed voluntarily to co-operate in test administration. The subjects were very enthusiastic and co-operative throughout the test.

Statistical Method

For finding out the significant difference and mean score dependent variables of the different groups ‘t’ test was used and for establishing the relationship the coefficient of correlation.

Analysis and interpretation

The results of t-test for the selected variables involving two groups of 96 (48 in each group) women volleyball players who participated in quarter final round of the H.P. University Inter-college Women volley ball Championship are presented along with their interpretations separately for each variable as under in Table 1:

TABLE -1 Complete summary of Mean and S.D. of women volleyball players who participated in Quarter Final Round of the Tournament

Sr. No	Variables	Group	N	Mean	S.D.	Mean Difference	t-Value
1	Height	winner	48	161.81	8.94	5.03	3.808*
		Loser	48	156.04	5.51		
2	Body Weight	Winner	48	52.60	7.17	4.06	3.478*
		Loser	48	48.54	3.74		
3	Total leg length	Winner	48	81.10	4.65	2.88	3.61**
		Loser	48	78.23	2.98		
4	Total arm length	Winner	48	71.79	3.52	1.94	3.117*
		Loser	48	69.85	2.48		
5	Foot length	Winner	48	23.29	2.04	0.42	1.11
		Loser	48	22.88	1.62		
6	Chest circumference	Winner	48	83.23	6.24	2.50	2.378*
		Loser	48	80.73	3.47		
7	Biceps(mm)	Winner	48	0.48	0.10	0.04	1.79
		Loser	48	0.52	0.12		
8	Triceps (mm)	Winner	48	0.61	0.32	0.06	0.82
		Loser	48	0.55	0.35		
9	Flexed arm hang	Winner	48	1.41	0.68	0.69	6.62
		Loser	48	0.73	0.25		
10	Sit up in 1 mint.	Winner	48	31.75	10.96	10.44	6.50
		Loser	48	21.31	1.88		
11	Shuttle run(sec)	Winner	48	19.08	2.58	2.03	5.39
		Loser	48	21.11	0.32		
12	Standing broad jump	Winner	48	1.60	0.40	0.40	6.60
		Loser	48	1.20	0.13		
13	600 yard run(min)	Winner	48	4.19	0.50	0.54	6.419
		Loser	48	4.47	0.29		
14	Self-confidence	Winner	48	63.94	11.96	6.02	2.916**
		Loser	48	57.94	8.32		

1. Table 1 reveals that t-value for winners and losers in quarter final round of H.P University Inter-College Women Volleyball Championship on the kinanthropometric variable of Height came out to be 3.808 which is significant at 0.01 level of volleyball players differ

significantly with respect to their height. Since the mean for the winner group (161.81) is greater than the mean for the loser group (156.04), it may be interpreted that winners are superior in height as compared to losers meaning thereby that height plays a significant role in superior performance by players in the game of volleyball.

2. Table 1 reveals that t-value for winner and losers in quarter final round of H.P. University Inter-College women Volleyball Championship on the kinanthropometric variable of Body Weight came out to be 3.478 which is significant at 0.05 level of confidence. This indicates that the winner and loser groups of volleyball players differ significantly with respect to their Body Weight. Since the mean for the winner group (52.60) is greater than the mean for the loser group (48.54), It may be interpreted that winners are superior in Body Weight as compared to losers meaning thereby that Body Weight plays a significant role in superior performance by players in the game of volleyball.
3. Table 1 reveals that t-value for winners and losers in quarter final round of H.P. University Inter-College women Volleyball Championship on the kinanthropometric variable of total Leg Length came out to be 3.61 which is significant at 0.01 level of confidence. This indicates that the winner and loser groups of volleyball players differ significantly with respect to their Total Leg Length. Since the mean for the winner group (81.10) is greater than the mean for the loser group (78.23), it may be interpreted that winner are superior in Total Leg Length as compared to losers meaning thereby that Total length plays a significant role in superior performance by players in the game of volleyball.
4. Table 1 reveals that t-value for winners and losers in quarter final round of H.P University Inter-College women Volleyball Championship on the kinanthropometric variable of Total Arm Length came out to be 3.117 which is significant at 0.01 level of confidence. This indicates that the winner and loser groups of volleyball players differ significantly with respect to their Total Arm length. Since the mean for the winner group (71.79) is greater than the mean for the loser group (69.85), it may be interpreted that winner are superior in Total Arm length as compared to losers meaning thereby that Total Arm length plays a significant role in superior performance by players in the game of volleyball.
5. Table 1 reveals that t-value for winners and losers in quarter final round of H.P University Inter-College women Volleyball Championship on the kinanthropometric variable of foot Length came out to be 1.11 which is significant at 0.05 level of confidence. This indicates

that the winner and loser groups of volleyball players differ significantly with respect to their foot length. From this, may be inferred that winners and losers in inter-College Volleyball women championship have more or less similar Foot Length meaning thereby that foot Length is not an important factor in exhibiting superior performance in the game if volley ball.

6. Table 1 reveals that t-value for winners and losers in quarter final round of H.P University Inter-College women Volleyball Championship on the kinanthropometric variable of Chest Circumference came out to be 2.378 which is significant at 0.05 level of confidence. This indicates that the winner and loser groups of volleyball players differ significantly with respect to their Chest Circumference. Since the mean for the winner group (83.23) is greater than the mean for the loser group (80.73), it may be interpreted that winners are superior in Chest Circumference as compared to losers meaning thereby that Chest Circumference plays a significant role in superior performance by players in the game of volleyball.
7. Table 1 reveals that t-value for winners and losers in quarter final round of H.P University Inter-College women Volleyball Championship on the kinanthropometric variable of Biceps e came out to be 1.79 which is significant at 0.05 level of confidence. This indicates that the winner and loser groups of volleyball players differ significantly with respect to their Biceps. From this, may be inferred that winners and losers in inter-College Volleyball women championship have more or less similar Biceps meaning thereby that Biceps is not an important factor in exhibiting superior performance in the game if volley ball.
8. Table 1 reveals that t-value for winners and losers in quarter final round of H.P University Inter-College women Volleyball Championship on the kinanthropometric variable of Triceps came out to be 0.82 which is significant at 0.05 level of confidence. This indicates that the winner and loser groups of volleyball players differ significantly with respect to their Triceps. From this, may be inferred that winners and losers in inter-College Volleyball women championship have more or less similar Triceps meaning thereby that Triceps is not an important factor in exhibiting superior performance in the game if volley ball.
9. Table 1 reveals that t-value for winners and losers in quarter final round of H.P University Inter-College women Volleyball Championship on the physical fitness variable of Flexed Arm Hang came out to be 6.623 which is significant at 0.01 level of confidence. This

indicates that the winner and loser groups of volleyball players differ significantly with respect to their Flexed Arm Hang. Since the mean for the winner group (1.41) is greater than the mean for the loser group (0.73), it may be interpreted that winners are superior in Flexed Arm Hang as compared to losers meaning thereby that Flexed Arm Hang duration plays a significant role in superior performance by players in the game of volleyball.

- 10.** Table 1 reveals that t-value for winners and losers in quarter final round of H.P University Inter-College women Volleyball Championship on the Physical Fitness variable of Sit Ups in 1 Minute came out to be 6.505 which is significant at 0.01 level of confidence. This indicates that the winner and loser groups of volleyball players differ significantly with respect to their Sit Ups in 1 Minute. Since the mean for the winner group (31.75) is greater than the mean for the loser group (21.31), it may be interpreted that winners are superior in Sit Ups in 1 Minute as compared to losers meaning thereby that number of Sit Ups in 1 Minute play a significant role in superior performance by players in the game of volleyball.
- 11.** Table 1 reveals that t-value for winners and losers in quarter final round of H.P University Inter-College women Volleyball Championship on the Physical Fitness variable of Shuttle Run came out to be 5.393 which is significant at 0.01 level of confidence. This indicates that the winner and loser groups of volleyball players differ significantly with respect to the time taken to complete Shuttle Run. Since the mean for the winner group (19.08) is greater than the mean for the loser group (21.11), it may be interpreted that winners are superior in time taken to complete Shuttle Run compared to losers meaning thereby that time taken to complete Shuttle Run does not play a significant role in superior performance by players in the game of volleyball.
- 12.** Table 1 reveals that t-value for winners and losers in quarter final round of H.P University Inter-College women Volleyball Championship on the Physical Fitness variable of Standing Broad Jump came out to be 6.606 which is significant at 0.01 level of confidence. This indicates that the winner and loser groups of volleyball players differ significantly with respect to their Standing Broad Jump. Since the mean for the winner group (1.60) is greater than the mean for the loser group (1.20), it may be interpreted that winners are superior in Standing Broad Jump as compared to losers meaning thereby that better Standing Broad Jump plays a significant role in superior performance by players in the game of volleyball.

13. Table 1 reveals that t-value for winners and losers in quarter final round of H.P University Inter-College women Volleyball Championship on the Physical Fitness variable of Six Hundred Yards came out to be 6.491 which is significant at 0.01 level of confidence. This indicates that the winner and loser groups of volleyball players differ significantly with respect to time taken to complete Six Hundred Yards. Since the mean for the winner group (9.92) is greater than the mean for the loser group (11.78), it may be interpreted that winners are superior in Six Hundred Yards compared to losers meaning thereby that Six Hundred Yards does play a significant role in superior performance by players in the game of volleyball.

14. Table 1 reveals that t-value for winners and losers in quarter final round of H.P University Inter-College women Volleyball Championship on the variable of Self-Confidence came out to be 2.916 which is significant at 0.01 level of confidence. This indicates that the winner and loser groups of volleyball players differ significantly with respect to their Self-Confidence. Since the mean for the winner group (63.96) is greater than the mean for the loser group (57.94), it may be interpreted that winners are superior in Self-Confidence as compared to losers meaning thereby that Self-Confidence does play a significant role in superior performance by players in the game of volleyball.

Conclusions

Kinanthropometric Variables

Winners had higher mean scores on the following fourteen Kinanthropometric variables:

1. Height
2. Body Weight
3. Total Leg Length
4. Total Arm Length
5. Chest Circumference

The winners and losers did not differ significantly on the following Kinanthropometric variables:

1. Foot Length
2. Biceps
3. Triceps

Physical Fitness Components

The winners at quarter-final of tournament were superior on the following three Physical Fitness indicators comparison to losers:

1. Sit Ups
2. Standing Broad Jump
3. Flexed Arm Hang

The winners at quarter-final of tournament were superior on the following Physical Fitness indicators comparison to losers:

1. Shuttle Run
2. Six Hundred Yard

Self-Confidence

1. Winner group at quarter-final stage of tournament exhibited higher level of self-Confidence in comparison to the loser group.

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