



A Comparative Analysis of Selected Physical Fitness Variables between Men and Women Gymnastics and Mallakhamb Performers

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Abstract

The purpose of the study was to compare the selected physical fitness variables between men and women Gymnastics and Mallakhamb Performers. To achieve this purpose of the study, only sixty players were selected. Among them, fifteen men Gymnastics players, fifteen men Mallakhamb Performers, fifteen women Gymnastics players and fifteen women Mallakhamb Performers studying in various colleges in Villupuram District, Tamil Nadu, India with a age group of 18 to 24 years were selected at random. The following physiological variables such as flexibility and strength endurance were selected as criterion variables. The data were collected from men and women Gymnastics and Mallakhamb Performers on flexibility and strength endurance by using sit and reach test and bend knee sit ups respectively. The Two-way analysis of variance was used to analyze the significant difference, if any among the groups. The .05 level of confidence was fixed to the level of significance which was considered as an appropriate. The results of the study showed that there was a significant differences exist between men and women players irrespective of the games on selected criterion variables and also the results of the study showed that there was significant differences exist between Gymnastics and Mallakhamb Performers irrespective of the gender of selected criterion variables. The results of the study further showed that there was a significant difference between men and women Gymnastics and Mallakhamb Performers on selected criterion variables such as flexibility and strength endurance.

Keywords: Physical Fitness, Gymnastics, Mallakhamb.

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Introduction

Gymnastics is a sport of the future, which, nonetheless, enjoys a long heritage and preserves an ancient tradition of demonstrating exactly what a person is capable of. Gymnastics involves the performance of exercises, on or with an apparatus, or a partner, requiring physical strength, flexibility, coordination, power, agility, grace, balance and control. Gymnastics is one of the oldest Olympic sports and one of the World's most popular sports. Moreover, it is one of the most inclusive sports where male or female, young or old, able-bodied or disabled can take part.

Mallakhamb is combination of Yoga, Gymnastics, and Martial Arts. The Exercises of poles of mallakhamb and rope are played against the Gravity during upward and downward movement. Mallakhamb is the name given to a little known style of physical culture practiced in India. Practicing the exercise on Mallakhamb helps to develop flexibility, grace, swiftness and rhythm, endurance, strength and stamina, speed, reflexes, concentration and coordination of individual, and

combat game's player i.e. wrestling, judo, gymnastics, athletics, horse Riding, tennis tennis and badminton etc. But with the phenomenal and ever increasing popularity of mallakhamb in the past few years, there is a surprising lack of research in this specific area.

Methodology

The purpose of the study was to compare the selected physical fitness variables between men and women Gymnastics and Mallakhamb Performers. To achieve this purpose of the study, only sixty players were selected. Among them, fifteen men Gymnastics players, fifteen men Mallakhamb Performers, fifteen women Gymnastics players and fifteen women Mallakhamb Performers studying in various colleges in Villupuram District, Tamil Nadu, India with a age group of 18 to 24 years were selected at random. The following physiological variables such as flexibility and strength endurance were selected as criterion variables. The data were collected from men and women Gymnastics and Mallakhamb Performers on flexibility and strength endurance by using sit and reach test and bend knee sit ups respectively. The Two-way analysis of variance was used to analyze the significant difference, if any among the groups. The .05 level of confidence was fixed to the level of significance which was considered as an

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flexibility of men and women Gymnastics and Mallakhamb Performers have been analyzed and presented in table-1.

Analysis of the Data Flexibility

The mean and standard deviation values on

Table 1. *The mean and standard deviation values on flexibility of men and women gymnastics and mallakhamb performers*

Groups/Games		Gymnastics	Mallakhamb
Men	Mean	11.20	11.13
	Standard deviation	0.75	0.96
Women	Mean	13.73	12.40
	Standard deviation	1.06	1.20

The table 1 show that the mean values of men Gymnastics performers, men Mallakhamb Performers, women Gymnastics performers and women Mallakhamb performers on flexibility were 11.20, 11.13, 13.73 and

12.40 respectively.

The two way analysis of variance values on flexibility of men and women Gymnastics and Mallakhamb Performers have been presented in table 2.

Table 2. *The two way analysis of variance on flexibility of men and women gymnastics and mallakhamb performers*

Source of variance	Sum of squares	df	Mean squares	Obtained 'F' ratio
Total	1876.34	59	31.80	
A factor (game)	232.01	1	232.01	341.19*
B factor (gender)	1655.33	1	1655.33	2854.01*
AB factor (interaction)	4.07	1	4.07	5.98*
Within or Error	38.32	56	0.68	

Table 2 shows that the obtained 'F' ratio value 341.19 for row (Gymnastics and Mallakhamb) on flexibility which is greater than the required table value 4.016 for significance with df 1 and 56. It further shows that the obtained 'F' ratio value 2854.01 for column (men and women) on flexibility which is greater than the required table value 4.016 for significance with df 1 and 56. It also shows that the obtained 'F' ratio value 5.98 for interaction effect (game * gender) on flexibility which is greater than the required table value 4.016 for significance with df 1 and 56.

The result of the study indicated that there was a significant difference between men and women players irrespective of games (Gymnastics and Mallakhamb) on breath holding time.

The results of the study further showed that there was a significant difference between Gymnastics and Mallakhamb Performers on flexibility irrespective of their gender (men and women). Hence, it was concluded from the mean values that the improvement of flexibility was in favor of men Mallakhamb Performers.

The results of the study also indicated that there was a significant difference between men and women Gymnastics and Mallakhamb Performers on flexibility.

Strength Endurance

The mean and standard deviation values on strength endurance of men and women Gymnastics and Mallakhamb Performers have been analyzed and presented in table 3.

Table 3. *The mean and standard deviation values on strength endurance of men and women gymnastics and mallakhamb performers*

Groups		Gymnastics	Mallakhamb
Men	Mean	49.20	49.33
	Standard deviation	1.33	1.40
Women	Mean	52.07	52.87
	Standard deviation	1.20	1.06

The table 3 shows that the mean values of men Gymnastics performers, men Mallakhamb Performers,

women Gymnastics performers and women Mallakhamb Performers on strength endurance were 49.20, 49.33,

52.07 and 52.87 respectively. The two way analysis of variance values on strength endurance of men and

women Gymnastics and Mallakhamb Performers have been presented in table 4.

Table 4. *The two way analysis of variance on strength endurance of men and women gymnastics and mallakhamb performers*

Source of variance	Sum of squares	df	Mean squares	Obtained 'F' ratio
Total	481.01	59	8.152	
A factor (game)	419.61	1	419.61	195.34*
B factor (gender)	21.03	1	21.03	9.79*
AB factor (interaction)	19.76	1	19.76	9.19*
Within or Error	120.31	56	2.148	

Table 4 shows that the obtained 'F' ratio values 195.34 for row (Gymnastics and Mallakhamb) on strength endurance which is greater than the required table value 4.016 for significance with df 1 and 56. It further shows that the obtained 'F' ratio value 9.79 for column (men and women) on strength endurance which is greater than the required table value 4.016 for significance with df 1 and 56. It also shows that the obtained 'F' ratio value 9.19 for interaction effect (game * gender) on strength endurance which is greater than the required table value 4.016 for significance with df 1 and 56.

The result of the study indicated that there was a significant difference between men and women players irrespective of games (Gymnastics and Mallakhamb) on strength endurance.

The results of the study further showed that there was a significant difference between Gymnastics and Mallakhamb Performers on strength endurance irrespective of their gender (men and women). Hence, it was concluded from the mean values that the improvement of strength endurance was in favor of women Mallakhamb Performers.

The results of the study also indicated that there was a significant difference between men and women Gymnastics and Mallakhamb Performers on strength endurance.

Conclusions

From the analysis of the data, the following conclusions were drawn.

1. There was a significant difference between men and women performers on selected physical fitness variables such as flexibility and strength endurance irrespective of their games (Gymnastics and Mallakhamb).
2. There was a significant difference between Gymnastics and Mallakhamb Performers on selected physical fitness variables such as flexibility and strength endurance irrespective of their gender (men and women).
3. There was a significant difference between men and women Gymnastics and Mallakhamb Performers on

selected physical fitness variables such as flexibility and strength endurance.

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