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Analysis of flexibility between different age group kabaddi and kho-kho players

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Abstract

The purpose of the study is to Analysis the selected physical fitness component namely flexibility between boys and girls of pubescent and post-pubescent players. To achieve purpose of the study sixty kabaddi men and women players and sixty men and women kho-kho players in the various places around Cuddalore District, Tamil Nadu. The age of subjects ranged from (a) Pubescent: 13 – 18 years (b) Post-pubescent: 19 – 25 years. The selected criterion variable flexibility was measured by administering sit and reach test. The static group design was used as experimental design in this study. The collected data on selected criterion variable was statistically analyzed by using 2 x 2 factorial ANOVA to find out the significant difference between boys and girls post-pubescent and pubescent players. In all the cases, 0.05 level of confidence was fixed to test the significance, which was considered as an appropriate. The simple effect was used for find out any significant difference between the groups on selected criterion variable. The results of the study showed that there was a significant difference between boys and girls post-pubescent group have better flexibility than pubescent group, there was a significant difference between girls post-pubescent group have better flexibility than girls pubescent group, there was a significant difference between boys post-pubescent group have better flexibility than boys pubescent group.

Keywords: Pubescent, post-pubescent, flexibility, kabaddi, kho-kho

1. Introduction

The physical fitness is necessary to do any task, but at the very time, the mind also should have to be co-operative by means of psychosomatic adjustments to fulfill the particular task in an easy and efficient ways.

Physical fitness is one aspect of total fitness. The term has been defined in different ways. Physical fitness is a prime requisite in order to get the optimum in life and to live most and serve best in this modern world. A sound body and a sound mind are men's most precious possessions.

Flexibility which is considered as range of motion around a joint is the base for any movement. To pick up a small object, to sit, stand and to plant a nail into the well one should have flexibility though other factors like strength are also essential. The bones and muscles which form the locomotive system of our body, cause movement in segment of one body and also in the whole body. It should be noted that the degree of joint flexibility is depended upon physiological characteristics underlying the extensibility of the muscles and ligaments surrounding of joint. In addition to note the flexibility is significant in performing skills, the recent advancement in physical medicine and rehabilitation have indicated the importance of flexibility as it is related to general physical fitness.

2. Materials and methods

2.1 statistical technique

The collected data on selected criterion variable was statistically analyzed by using 2 x 2 factorial ANOVA to find out the significant difference between boys and girls post-pubescent and pubescent players.

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2.2 selection of subjects

To achieve this purpose, sixty boys and girls and sixty boys and girls pubescent players were from various places around cuddalore district, Tamil Nadu were selected as subjects at random. The age of the boys and girls post-pubescent from 19 to 25 and pubescent players were ranged between 13 to 18 years were selected only as subjects.

2.3 selection of variable

In the present study, the investigator selected the Physical fitness Variable namely flexibility. The selected criterion variable was measured by administering sit and reach test.

3. Results & Discussion

3.1 Analysis of The Data

Flexibility

Mean and standard deviation of flexibility among boys and girls pubescent and Post pubescent players were presented in Table-1.

Table 1: Mean and Standard Deviation of Flexibility among Boys and Girls Pubescent and Post Pubescent Players

| Area Players | Pubescent Players | Post pubescent Players | Combined |
|--------------|-------------------|------------------------|----------|
| Boys | 0.1857 ± 0.02592 | 0.3152 ± 0.05147 | 0.2505 |
| Girls | 0.2577 ± 0.02112 | 0.4334 ± 0.04414 | 0.3456 |
| Combined | 0.2217 | 0.3743 | 0.2980 |

Table-1 indicates that the mean and standard deviation value of flexibility among boys pubescent players was 0.1857 ± 0.02592 and women pubescent players was 0.2577 ± 0.02112 with combined mean values of 0.2217. The boys Post pubescent players mean and standard deviation values on were 0.3152 ± 0.05147 and women Post pubescent players was 0.4334 ± 0.04414 with combined mean values of 0.3743.

Table 3: The Simple Effect Scores of Age (Rows) and Gender (Columns) On Flexibility

| Source of variance | Sum of squares | df | Mean squares | Obtained 'F' ratio |
|------------------------------------|----------------|-----|--------------|--------------------|
| Pubescent & Gender | 0.00394 | 1 | 0.00394 | 2.755 |
| Post pubescent & Gender | 0.01193 | 1 | 0.01193 | 8.34266* |
| Pubescent Boys & Girls Players | 0.12813 | 1 | 0.12813 | 85.1839* |
| Post pubescent Boys & Girls Player | 0.010332 | 1 | 0.010332 | 7.2252* |
| Error | 0.246 | 172 | 0.00143 | - |

*Significant at 0.05 level of confidence. (Table value required for significant at 0.05 level of confidence with df 1 and 172 is 3.895).

Table – 3 shows that the obtained F-ratio values for pubescent and gender was 2.755 which is lesser than table value of 3.895 required for significant at 0.05 level of confidence with df 1 and 172. The result of the study indicates that was no significant difference that exists between the paired means of pubescent age irrespective of gender, on flexibility. It was concluded from the results of study that there was no significant difference in flexibility between boys and girls pubescent players.

Table - 3 shows that the obtained F-ratio values for Post pubescent and gender was 8.34266 which was higher than table value of 3.895 required for significant at 0.05 level of confidence with df 1 and 172. The result of the study indicates that significant difference exists between the paired means of Post pubescent age irrespective of gender, on flexibility. It was concluded from the results of study that there was a significant difference in flexibility between boys and girls Post pubescent players.

Table - 3 shows that the obtained F-ratio values for pubescent boys and girls players was 85.1839 which was greater than

The combined mean values of boys pubescent and Post pubescent players mean values was 0.2505. The combined mean values of girls pubescent and Post pubescent mean values was 0.3456.

Table 2: Two Factor Anova for Flexibility among Boys and Girls Pubescent and Post Pubescent Players

| Source of Variance | Sum of squares | df | Mean squares | 'F' ratio |
|--------------------|----------------|-----|--------------|-----------|
| Factor A (Age) | 1.025 | 1 | 1.025 | 716.783* |
| Factor B (Gender) | 0.398 | 1 | 0.398 | 278.322* |
| Factor A & B | 0.023 | 1 | 0.023 | 16.08392* |
| Residual | 0.246 | 172 | 0.00143 | |

*Significant at 0.05 level of confidence.

(The required table value for significant at 0.05 level of confidence with df 1 and 172 is 3.895).

The factor A was age related to flexibility irrespective of age. The obtained 'F' ratio of 716.783 was greater than the table value of 3.895 required for significance at 0.05 level of confidence with df 1 and 172. This indicates that irrespective of pubescent and Post pubescent age on flexibility among boys and girls players.

The factor B was gender related to flexibility irrespective of age. The obtained 'F' ratio of 278.322 was higher than the table value of 3.895 required for significance at 0.05 level of confidence with df 1 and 172. This indicates that the difference in flexibility among boys and girls pubescent and Post pubescent players was significant.

The interaction 'F' ratio 16.08392 was greater than the table value of 3.895 required for significance at 0.05 level of confidence with df 1 and 172. This indicates that there was a significant variation occurs in flexibility between boys and girls pubescent and Post pubescent players. Since the interaction was significant simple effect was applied.

table value of 3.895 required for significant at 0.05 level of confidence with df 1 and 172. The result of the study indicates that there was a significant difference exists between the paired means of pubescent irrespective of gender (boys and girls), on flexibility. It was concluded from the results of study that there was a significant difference in flexibility among gender (boys and girls) and pubescent age.

Table – 3 also shows that the obtained F-ratio values for Post pubescent age and boys and girls players was 7.2252 which was higher than table value of 3.895 required for significant at 0.05 level of confidence with df 1 and 172. The result of the study indicates that significant difference exists between the ages irrespective of gender (boys and girls), on flexibility. It was concluded from the results that there would be a significant difference in flexibility among gender (boys and girls) and Post pubescent age.

It is inferred that there was a significant difference occur in flexibility between pubescent and Post pubescent age and boys and girls players.

Conclusions

The following conclusions are drawn from the analysis of the data:

1. The results of the study showed that there was a significant difference between boys and girls post-pubescent group have better on flexibility than pubescent group.
2. The results of the study showed that there was a significant difference between girls post-pubescent group have better on flexibility than girls pubescent group.
3. The results of the study showed that there was a significant difference between boys post-pubescent group have better on flexibility than boys pubescent group.

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