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Study of various somatotypes in reference to aspiration level of west zone inter university female Kabaddi players

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Abstract

The purpose of the study was to compare and find out the relationship between somatotype and aspiration level of West Zone Inter University Female Kabaddi players. To achieve this purpose researcher had collected data on Female Kabaddi players participated in the West Zone Inter University Kabaddi (Women) Tournament 2019, Amravati out of total female Kabaddi players 30 players were selected randomly by observation method and 10 Endomorphy, 10 Mesomorphy and 10 Ectomorphy female Kabaddi players were selected by Carter and Heath Equation Method. The age was ranged between 18 to 25 years. Ten (10) anthropometric measurements from the various body parts were needed to calculate the anthropometric somatotype, like; height, weight, four skinfolds (triceps, sub scapular, supra Iliac and calf), two bone breadths (bicondylar humerus and femur), and two limb girths (upper arm and calf). Somatotype components (endomorph, mesomorph and ectomorph) of the subjects were calculated according to Carter and Heath Equation method. To see the level of aspiration researcher has selected 'The level of aspiration measure test' which was constructed by Mahesh Bhargava and M. A. Shah were distributed to the players and the same were collected back after having filled by the players. To compare the each somatotypes components, viz. Endomorphy, Mesomorphy and Ectomorph, in reference to Aspiration Level one way analysis of variance (ANOVA) was applied. Result shows that there was significant difference in different somatotype female Kabaddi players in reference to aspiration level as obtained F-ratio was 4.425 which was higher than that of required tabulated 'F' value of 3.354 at .05 level of significance with (2,27) degree of freedom. Least significant difference (L.S.D.) was applied to assess the paired means difference among the different somatotype components it revealed that significant difference was found between the means of endomorphy and mesomorphy, endomorphy and ectomorphy, mesomorphy and ectomorphy, as the mean difference of above three was greater than the critical differences. The sequence of performance in all three groups was (4.92) mesomorphy > (3.78) endomorphy > (2.58) ectomorphy.

Keywords: Various somatotypes, aspiration, Kabaddi, aspiration

Introduction

Athletes for superior performance in any sports are selected on the basis of his physical structure and body size which has proved to be appropriate for high performance in the given sports. Garay Levine and Lindsay Carter concluded that level of performance in a specific activity or event demand a particular type of body size and shape, other aspect being similar, they established high relationship between structure of an athlete and he specific task (event) in which he excelled.

Performance in physical activity or sport not only demands systematic training to develop physical and physiological variables but also demands training and consideration of psychological characteristics for success in this field. The success or failure of an individual competitor depends on the physical ability, conditioning training, mental preparation and the capacity to perform well under pressure. It isn't remarkable to hear coaches and competitors express disbelief on how ineffectively their team performed against a specific situation or how they field in the crucial situation or circumstance. That means sports performance is not depends on only single parameter, it influences by physical fitness, psychological components, physiological parameters etc.

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There is a considerable corpus of evidence showing that competitors succeeding in specific games and sports have particular body shapes that vary according to the demands of the type of games and sports as well as competitive level. Sports scientists and human biologists have paid much attention to the relationships between physical characteristics and performance in sports. Not only the body structure is influencing factor for the development of performance but also some other factors like aggression, anxiety, level of aspiration etc. also plays an important role for the development of performance in sports and games. Unlike other psychological phenomena, inspirational factors are important in directing individual behavior consciously and make him strive to perform certain type of activity in order to achieve a definite goal. Each and every competitor aims at reach a definite goal or excellence in their performance, and he sets a desire for distinction which has an inner structure known as 'Level of Aspiration' (LOA).

Studies on somatotypes have been carried out by a number of researchers. However, only a few studies were studied on the psychological parameters in relation with somatotypes. Therefore, researcher had carried out the study "Study of various Somatotypes in relation with aspiration level of West Zone Inter University Female Kabaddi players"

Materials and Methods

Subject: For the present study researcher had collected data on Female Kabaddi players participated in the West Zone Inter University Kabaddi (Women) Tournament 2019,

Amravati out of total female kabaddi players 30 players were selected randomly by observation method and 10 Endomorphy, 10 Mesomorphy and 10 Ectomorphy female kabaddi players were selected by Carter and Heath Equation Method. The age was ranged between 18 to 25 years.

Administration of the test

Anthropometric

Ten (10) anthropometric measurements from the various body parts were needed to calculate the anthropometric somatotype, like; height, weight, four skinfolds (triceps, sub scapular, supra Iliac and calf), two bone breadths (bicondylar humerus and femur), and two limb girths (upper arm and calf). Somatotype components (endomorph, mesomorphy and ectomorphy) of the subjects were calculated according to Carter and Heath Equation method.

Level of Aspiration

To see the level of aspiration researcher has selected 'The level of aspiration measure test' which was constructed by Mahesh Bhargava and M. A. Shah were distributed to the players and the same were collected back after having filled by the players.

Statistical analysis

To compare the each somatotypes components, viz. Endomorphy, Mesomorphy and Ectomorphy, in reference to Aspiration Level one way analysis of variance (ANOVA) was applied.

Table 1: Analysis of variance in Level of Aspiration among endomorphy, mesomorphy and ectomorphy

Source of Variation	df	Sum of Square	Mean Sum of Square	F-Ratio
Between Groups	2	23.4525	11.72625	4.425*
Within Groups	27	71.55	2.65	

* Significant at .05 level.

$F_{0.05(2,27)} = 3.354$

Above table revealed that there was significant difference in different somatotype female kabaddi players in reference to aspiration level as obtained F-ratio was 4.425 which was higher than that of required tabulated 'F' value of 3.354 at .05 level of significance with (2,27) degree of freedom.

Since the one-way analysis of variance was found to be significant in related to level of aspiration, the least significant difference (L.S.D.) was applied to assess the paired means difference among the different somatotype components.

Table 2: Least Significant Difference for Means of Somatotype Components in Reference to Level of Aspiration

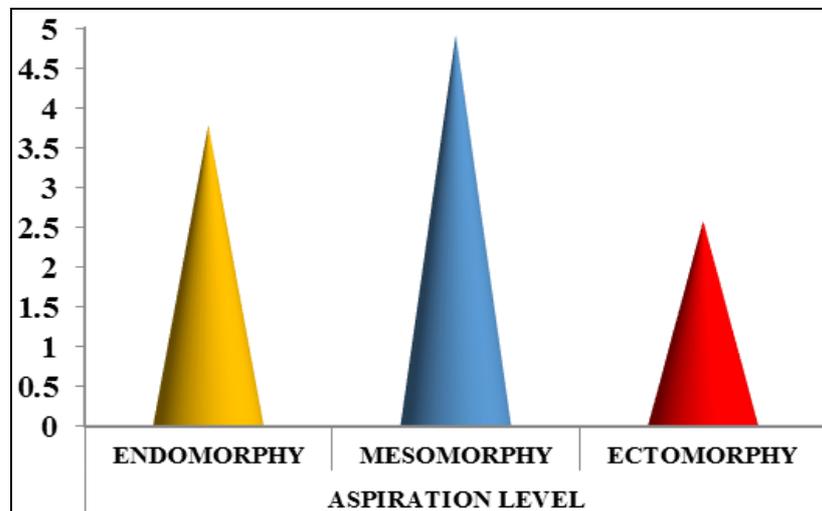
Somatotype components				
Endomorphy	Mesomorphy	Ectomorphy	M.D.	C.D.
3.78	4.92	-	1.14*	1.06
3.78	-	2.58	1.2*	
-	4.92	2.58	2.34*	

*Significant at .05 levels.

From the above table it was clearly revealed that significant difference was found between the means of endomorphy and mesomorphy, endomorphy and ectomorphy, mesomorphy and ectomorphy, as the mean difference of above three was

greater than the critical differences.

The sequence of performance in all three groups was (4.92) mesomorphy > (3.78) endomorphy > (2.58) ectomorphy.



Graph 1: Comparison of mean of different somatotype components in reference to aspiration level

Discussions of findings

Comparison amongst all the three somatotyping variables with aspiration level shows significance difference as the calculated 'F' value is 4.425 which was greater than the tabulated 'F' value. While seeing the mean we can say that, the mean of aspiration level of mesomorphic female Kabaddi players (4.92) is better than endomorphic female Kabaddi players (3.78) and least in ectomorphic female Kabaddi players (2.58) as the aspiration level was measured by NTRS (Number of times the goal reach score), the number of times where his actual score is equal or more than the expected score mesomorphic female Kabaddi players shows dominant in achieving a definite goal set by them this may be due to their hardworking and bravery appearance and most probably they were courageous in nature once they set their goal they strive to achieve by anyhow and last achieved it as compared to endomorphic and ectomorphic female Kabaddi players body type. As endomorphic body types set their goal but unable to achieve because of their slow, sloppy and laziness and ectomorphic body types fails may be because of they were introvert nature always preference for privacy and also fearful.

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