COMPARATIVE STUDY OF VARIOUS SOMATOTYPES IN RELATION WITH LEVEL OF ASPIRATION OF WEST ZONE INTER UNIVERSITY KABADDI PLAYERS

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Abstract:

The purpose of the study was to compare and find out the relationship between somatotype and level of aspiration of West Zone Inter University Kabaddi players. The sample consisted of 300 kabaddi players divided into three (100 Endomorphy, 100 Mesomorphy and 100 Ectomorphy). The somatotype was assessed using the Heath & Carter method and level of aspiration was measured by 'The level of aspiration measure test' which was constructed by Mahesh Bhargava and M. A. Shah. Statistical analysis was done by computing product moment correlation and analysis of variance (ANOVA) at 0.05 level of significance. The relationship between level of aspiration to endomorph was found insignificant as (r = 0.038) and the relationship of level of aspiration to mesomorph and ectomorph were found significant as (r = 0.285 & 0.127) is greater than the tabulated value 0.113. Comparison amongst all the three somatotyping variables with aspiration level shows significance difference as the calculated 'F' value is 22.886 which were greater than the tabulated 'F' value 3.03. The sequence of performance in all three groups was (4.780) mesomorphy > (4.110) endomorphy > (3.580) ectomorphy.

Keywords: Somatotype, Level of Aspiration & Kabaddi Players.

Introduction:

The human body has been a subject of study for thousands of years. However, only the introduction of the concept of body "compartments" and progression from the study of corpses led to the increasingly precise quantification of the physique of the live person. Evolution from numerous theories, advanced approaches and techniques as well as sophisticated instruments has resulted in increasingly precise study of human subjects. There is a considerable corpus of evidence indicating that athletes succeeding in certain sports have distinctive body shapes that differ according to the demands of the type of sports and 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. Like other psychological phenomena, motivational 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. Every one aims at reaching a definite goal or excellence in performance and doing so, 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 "Comparative study of various Somatotypes in relation with level of aspiration of West Zone Inter University Kabaddi players"

Objective of the Study:

The objective of the study was to compare and find out the relationship between Somatotype and level of aspiration of West Zone Inter University Kabaddi players.

Materials and Methods:

Subject:

For the present study researcher had collected data on Kabaddi players participated in the West Zone Inter University Kabaddi (Men) Tournament 2011 out of 576 players exact 443 players were tested and out of them 100 Endomorphy, 100 Mesomorphy and 100 Ectomorphy subjects were taken.

Test Administration:

Anthropometric:

Ten anthropometric dimensions are needed to calculate the anthropometric somatotype: 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 (endomorphy, mesomorphy and ectomorphy) of the subjects were calculated according to Carter and Heath Equation method.

Endomorphy:

Endomorphy = - 0.7182 + 0.1451 (X) - 0.00068 (X2) + 0.0000014 (X3)

where X = (sum of triceps, subscapular and supraspinale skinfolds) multiplied by (170.18/height in cm).

Mesomorphy:

mesomorphy = 0.858 x humerus breadth + 0.601 x femur breadth + 0.188 x corrected arm girth + 0.161 x corrected calf girth – height 0.131 + 4.5.

Ectomorphy:

Three different equations will be used to calculate ectomorphy according to the height-weight ratio:

If HWR is greater than or equal to 40.75 then

ectomorphy = 0.732 HWR - 28.58

If HWR is less than 40.75 but greater than 38.25 then

ectomorphy = 0.463 HWR - 17.63

If HWR is equal to or less than 38.25 then

ectomorphy = 0.1

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:

The relationship of each somatotypes components, Viz. Endomorphy, Mesomorphy and Ectormorphy, to Level of Aspiration established by computing product moment correlation. In order to find out the significant difference between three different somatotypes components the analysis of variance (ANOVA) was applied at 0.05 level of significance.

Table- 1

Relationship of Level of Aspiration to Endomorphy, Mesomorphy and Ectomorphy

Parameters	Somatotypes	Correlation Coefficient
Level of Aspiration	Endomorphy	0.038
	Mesomorphy	0.285*
	Ectomorphy	0.127*

N=300 *Significant at .05 level. r 0.05 (298) = .113

An analysis as shown in the above table indicated that the relationship of Level of Aspiration to endomorph was insignificant as the obtained value (r = 0.038) is much lesser than the tabulated value (.113) and the relationship of Level of Aspiration to mesomorph and ectomorph were significant as the obtained value (r = 0.285 & 0.127) is much greater than the tabulated value, at 0.05 level with 298 degree of freedom.

Table- 2

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	72.327	36.163	22.886*
Within Groups	297	469.310	1.580	

* Significant at .05 level. $F_{0.05\,(2,\,297)} = 3.03$

Above table revealed that there was significant difference in different somatotype components as obtained F-ratio was 22.886 which was higher than that of required tabulated 'F' value of 3.03 at .05 level of significance with (2,297) 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- 3

Least Significant Difference Post-Hoc Test for Means of Somatotype Components in Relation to Level of Aspiration

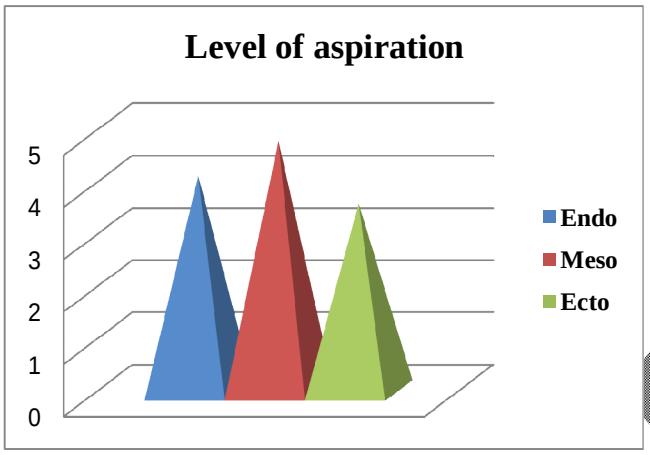
Somatotype Components				
Endomorphy	**Mesomorphy**	**Ectomorphy**	**M.D.**	**C.D.**
4.110	4.780		0.670*	0.350
4.110		3.580	0.530*	0.350
	4.780	3.580	1.200*	0.350

*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 (4.780) mesomorphy > (4.110) endomorphy > (3.580) ectomorphy.

Graph



Comparison of Mean of Different Somatotype components in Relation to Level of aspiration

Discussions of Findings:

Relationship:

The results of the table 1 shows that the relationship between level of aspiration to endomorph is (0.038) which is insignificant, it may be attributed that endomorph were heavy and fatty body type they are unable to perform what they actually aimed and they were extraverted sensation, as they failed to do the given task. Whereas, the relationship between level of aspiration to mesomorph & ectomorph were 0.285 & 0.127 which were significant, mesomorph shows higher relationship than ectomorph the reason may be because of high degree of assertiveness was found in this body types, they were readily take action on other people. Their well-developed respiratory system contributes to their bravery appearance. Mesomorphic body types were always competitive and hate to be restrained in action and speech. ectomorph were restrainedly, inhibited, intellectual and cautious one of their greatest needs is for privacy so they can engage in deep thought. They shows quick reflection but actions were very slow in the contrary so ectomorphic body most probably they complete the given task but sometime they failed to do.

Comparison:

Comparison amongst all the three somatotyping variables with aspiration level shows significance difference as the calculated 'F' value is 22.886 which were greater than the tabulated 'F' value. While seeing the mean we can say that, the mean level of aspiration of mesomorphic kabaddi players (4.78) is better than endomorphic kabaddi players (4.11) and least in ectomorphic kabaddi players (3.58) as the aspiration level was mesasured 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 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 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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