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ACHIEVEMENT MOTIVATION AND BODY PROPORTIONALITY OF ALL INDIA INTERVARSITY SPRINTERS AND JUMPERS: A CO-RELATIONAL STUDY

KEYWORDS: Body Proportionality, sports Achievement Motivation, University level Jumper and Sprinter.

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ABSTRACT The purpose of this study is correlating the sports Achievement Motivation and Body Proportionality of All India Intervarsity level Male University Sprinter and Jumpers of SRTM University, Nagpur and Gondwana University, Gadchiroli. For this purpose total fifty male sprinter and jumpers were selected. The sports Achievement Motivation was assessed by SAMT Developed by M.L.Kamlesh (1990) and Body Proportionality of sprinter and jumpers were assessed through Anthropometric Method. For finding the correlation ship Pearson's Product moment correlation was applied. The results of the study revealed that negative correlation ship of sprinters' sports achievement motivation with ship with Sitting Height – Stature Index, Thigh Length – Lower leg Length index, Shoulder Breadth – Stature Index and Hip Breadth – Stature index and Jumper's sitting height – stature index. Where as the positive correlation ship was found between sports achievement motivation of Sprinter's Ponderal Index, Upper Arm length – lower arm length Index and Jumper's Ponderal index, Thigh length – lower leg length index, Upper arm – lower arm length index, shoulder breadth – stature index and hip breadth – stature index.

Introduction

At present, track-and-field consist of running, hurdling, jumping and throwing events held between individuals and teams at indoor and outdoor meets. The running and hurdling competitions make up the track events, while the jumping and throwing contests comprise the field events. In many countries the sports as a whole is called athletics.

The poor performance of Indian track-and-field athletes at the International level has been a cause of great concern, especially to the coaches, physical educationists and sports scientists. Efforts have been made to improve the standard of our sportsmen for long, but little success has been achieved so for.

The performance of a player not only depends upon his physical abilities or efficiency of the skill rather it also depends to a great extent on his psychological training. It has been seen in number of cases and presented (reported) in newspapers and other sources of the media. In the contemporary period of sports competition the sports psychology has made a remarkable contribution in enhancing the performance of the sports persons.

Sports psychologists have emphasized the significance of personality characteristics attitudes, achievement motivation, self – concept, emotional intelligence and lots of other psychological factors that influence performance of athletes.

Achievement motivation can be defined as the need for success or the attainment of excellence. Individuals will satisfy their needs through different means, and are driven to succeed for varying reasons both internal and external.

Achievement motivation can be defined as the athlete's predisposition to approach or avoid a competitive situation. In a broader sense, it includes the concept of desire, or desire to excel. The desire to achieve success in sport is not an innate drive, such as hunger or thirst, but is likely one that is developed or learned in the sporting environment. The best explanation of approach–avoidance conflict situation for the athlete is provided by the McClelland–Atkinson model of achievement motivation. In its simplest form, it suggests that achievement motivation is a function of two constructs. These two constructs are (a) the motive to achieve success, and (b) the fear of failure. The motive to achieve success is believed to represent an athlete's intrinsic motivation to engage in an exciting activity. The fear of failure is a psychological construct associated with cognitive state anxiety. According to this theory, a person's desire to enter an achievement situation is a function of the relative strengths of these two constructs – the motive to achieve success and the fear of failure. If an individual's desire to participate in the activity is greater than the fear of failure, then it is likely that the person will perform the activity.

Motivational researchers share the view that achievement behavior is an interaction between situational variables and the individual subject's motivation to achieve. Two motives are directly involved in the prediction of behavior, implicit and explicit. Implicit motives are spontaneous impulses to act, also known as task performances, and are aroused through incentives inherent to the task. Explicit motives are expressed through deliberate choices and more often stimulated for extrinsic reasons. Also, individuals with strong implicit needs to achieve goals set higher internal standards, whereas others tend to adhere to the societal norms. These two motives often work together to determine the behavior of the individual in direction and passion **(Brunstein & Maier, 2005).**

The measurements of different body dimensions and ratios are of great relevance to the physical activity, especially in sports. The anthropometric assessment of physique involves the use of carefully defined body landmarks, specific positioning of the subject and use of appropriate instruments. The measurements that are taken on an individual are highly objective and highly reliable in the hand of a trained anthropometrist. **Malina et al. (1997)** pointed out that the biological or functional significance of many dimensions has not yet been adequately established. The body profile technique of **McArdle** et al. describes physique in terms of muscular and non-muscular components.

The human physique differs in a thousand ways. It can be analyzed by studying the size, shape and form of an individual. For this purpose, a set of selected anthropometric measurements is taken on an individual. The intergroup comparisons are made to understand the physical peculiarities of a population. From such body measurements, it is also possible to estimate the distribution of fat and development of bone muscle in the case of athletes and sportsmen where the physical fitness plays a vital role in the competitive performances. **Tanner (1964)** examined the physique and body composition of Olympic athletes at Rome during 1960, and inferred that the athletes were both *born and made.*

On the contrary to these reports, **Uppal and Ray** in their study on strength, body composition and performance of shot put and javelin throwers, concluded that there was no significant relationship in

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body density, lean body mass and body fat percentage to performance. **Adbonjinmi** also reported that measures of body build and body compositions of female college athletes have negative correlation with physical fitness index. It is well established that the athletes who are lean or less fatty but are heavy because of a well developed musculature are superior in performance as compared to their fatty counterpart. Athletes with greater fat percentage have increased energy demand owing to their inert weight of fat resulting in relatively poor performance.

Body Proportionality is the most important aspect of physique. The relationship of length to breadth, height to thickness, length-to-length etc. of various parts of body represents proportions. This importance of proportion becomes evident, when we want to compare particular body parts of two persons who are otherwise different in over all size. The proportions or ratio keeps one measurement constant in all subjects compared and evaluate the differences in the other measurements. The body proportion can be studied in various ways, but indices method is best for determining body proportions.

Objective of this study is to assess the body proportionality and Achievement motivation of All India level sprinter and jumper, and finding the co – relationship between the body proportionality and achievement motivation of all India level male sprinters and jumpers.

Procedure

Selection of subjects:

For the purpose of the study forty subject (N=40) twenty each all India Intervarsity Participated of sprinter and Jumpers were selected from STRM University Nagpur and Affiliated colleges and Gondwana University and Affiliated colleges. Subjects were participated All India Athletic Intervarsity Competitions from 2010 onwards.

Selection of Variable: For the purpose of the study to Assessing the Sports Achievement Motivation Test SAMT Inventory Developed by M.L.Kamlesh was used.

SPORTS ACHIEVEMENT MOTIVATION TEST

Achievement motivation is pre-deposition to approach of avoid a competitive situation. The sport achievement motivation test developed by M.L. Kamlesh (1990) is self evaluation questionnaires of twenty statements responsive value of which extend from 0-40 in total statement carries a maximum score of two and minimum score of zero when the subject tick the high place. He has given 2 points and when he touched the low placed he earned zero. After conducting further studies by using SAMT the author has given the following classification criteria based on percent and point.

Row/Mean	Classification
0-24	Low
24-30	Moderate
30 above	High

The **treatment of a data obtained from the administration of SMAT.** The **subject will do in the light of instructions contained in the test.**

Body Proportionality

The **following indices were used to determining various body segmental proportionalities.**

- **Sitting height-Stature index** = $\frac{Sitting\ Height}{Stature} \times 100$
- **Ponderal index** = $\frac{Stature}{3\sqrt{Weight}}$
- **Thigh length-Lower leg length index** = $\frac{Thigh\ Length}{Lower\ leg\ length} \times 100$
- **Upper arm length-Lower arm length index** = $\frac{Upper\ arm\ length}{Lower\ arm\ length} \times 100$
- **Hip width-Stature index** = $\frac{Hip\ width}{Stature} \times 100$
- **Shoulder width-Stature index** = $\frac{Shoulder\ width}{Stature} \times 100$

Statistical Procedure

Retreating the Objective of the study to assessing the co – relationship among sports achievement motivation and Body proportionality analyzing the collected data was analysed by using Pearson's Product Moment Correlation. The level of significance was .05 level.

ANALYSIS OF DATA

Table – 1

Correlation ship of Body Proportionality with Sports Achievement Motivation of All India Intervarsity Sprinter of University Level Sprinters

Mean Body Proportionality	Mean Value	Mean Value of Sports Achievement Motivation	Correlation Ship
Sitting Height – Stature Index	55.438	28.7	-0.221
Ponderal Index	42.568	28.7	0.124
Thigh Length –Lower Leg Length Index	109.08	28.7	-0.049
Upper Arm Length - Lower Arm Length Index	106.5	28.7	0.213
Shoulder Breadth – Stature index	24.17	28.7	-0.22
Hip Breadth – Stature Index	18.07	28.7	-0.31

Since the analysis of data through the product moment correlation revealed that Sports Achievement Motivation is having negative correlation – ship with Sitting Height – Stature Index, Thigh Length – Lower leg Length index, Shoulder Breadth – Stature Index and Hip Breadth – Stature index of All India Intervarsity sprinter of University Level. Whereas the Ponderal Index and Upper Arm length – lower arm length Index are having Positive Correlation – ship with Sports Achievement Motivation of all India Intervarsity Level University sprinters.

Figure – 1

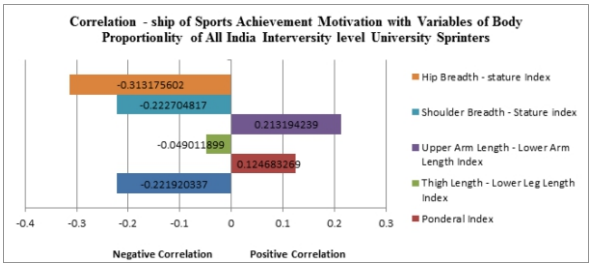

Table – 2

Correlation ship of Body Proportionality with Sports Achievement Motivation of All India Intervarsity Sprinter of University Level Jumpers

Mean Body Proportionality	Mean Value	Mean Value of Sports Achievement Motivation	Correlation Ship
Sitting Height – Stature Index	57.88	34.5	-0.208

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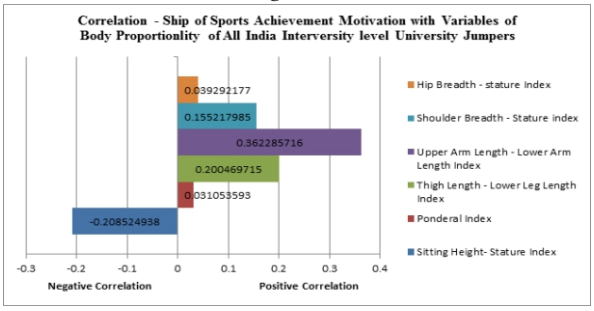
Ponderal Index	41.56	34.5	0.031
Thigh Length –Lower Leg Length Index	112.50	34.5	0.200
Upper Arm Length - Lower Arm Length Index	112.11	34.5	0.362
Shoulder Breadth – Stature index	24.13	34.5	0.155
Hip Breadth – Stature Index	18.55	34.5	0.039

Since the analysis Pearson's product moment correlation revealed that Sports Achievement Motivation is having Negative correlation with Mean sitting height – stature index of all India intervarsity level university male jumpers. Whereas the Sports Achievement motivation is having Positive Correlation with Ponderal index, Thigh length – lower leg length index, Upper arm – lower arm length index, shoulder breadth – sature index and hip breadth – stature index of all India intervarsity level University Male Jumpers.

Figure – 2



Discussion of Findings

Sprinters

Sports Achievement Motivation is having negative correlation – ship with Sitting Height – Stature Index, Thigh Length – Lower leg Length index, Shoulder Breadth – Stature Index and Hip Breadth – Stature index of All India Intervarsity sprinter of University Level.

Greater Segment length proportion may help to increase the body weight of sprinter thus sprinters have to apply extra power to overcome with that extra body weight which may demotivate the sprinter.

Ponderal Index and Upper Arm length – lower arm length Index are having Positive Correlation – ship with Sports Achievement Motivation of all India Intervarsity Level University sprinters.

Jumpers Sports Achievement Motivation is having Negative correlation with Mean sitting height – stature index of all India intervarsity level university male jumpers.

Greater the sitting height may reduced the leg length which may be possible cause of lowering the center of gravity of jumpers' body that disadvantageous for jumping performance.

Sports Achievement motivation is having Positive Correlation with Ponderal index, Thigh length – lower leg length index, Upper arm – lower arm length index, shoulder breadth – stature index and hip breadth – stature index of all India intervarsity level University Male Jumpers.

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