



A Comparative Study of Sports Competition Anxiety Between Male and Female Cricket Players of Gujarat

KEYWORDS

Competition, Anxiety and Weight Lifting

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ABSTRACT

Anxiety is an arousal state of mind which has both negative and positive effects on sports performance. The purpose of the study was to compare the level of anxiety between male and female national cricketer of Gujarat. Forty (40) weight lifters (male = 20, female = 20) who have participated in the national championships were taken as the subjects. The age of the subjects ranged from 17 to 25 years. To find out their level of anxiety, Sports Competition Anxiety Test (SCAT) developed by Martens (1977) was administered on the subjects. T-test was used to analyze the data. Results of the study revealed no significant difference between male and female national weight lifters of Gujarat with regard to sports competition anxiety.

Introduction

Competition is a situation in which two or more individuals or groups struggle for complete or larger share of a particular goal in which the successor their performance is related to each other. Thus, sports competition may be considered--as an open conflict when the individual or group makes effort to surpass the other individual or the group in any sporting activity for which the competition is held. Anxiety has both positive as well as negative effects on the performance of athletes. Anxiety refers to that emotional state of mind where a fear of danger or loss of hearing is a prominent feature. It generally arises as a result of fear of something unknown that creates tension and disturbance in the homeostasis on the individual (Kocher & Pratap, 1972). It is evident from the review that numerous investigations have been conducted by the contemporary researchers taking into account psychological parameters important in competitive sports. However; the studies in regard to weight lifters are scanty. Since, in order to fill the existing gap, present work has been designed.

MATERIALS AND METHODS

Subjects

For the purpose of this study 40 weight lifters (male = 20, female = 20) who represented Gujarat state in the national championships were considered as subjects

Tools

For measuring the anxiety of the subjects a questionnaire developed by Martens (1977) was used. It is a three point likert type scale having 15 items. It is a popular tool being used by the psychologists for measuring the anxiety level. Its reliability has been reported as 0.85 according to its norms.

Procedure

The questionnaire was administered on the subjects during coaching camp at Junagadh (Gujarat), jointly organized by Sports Authority of Gujarat (SAG) and Directorate of Youth Affairs and Sports, Gujarat.

Data Analysis

The data thus collected were given to statistical treatment computing 't' ratio to find out the difference if any, between the experimental groups on competition anxiety. The obtained results have been presented in the following table:

Table 1:
Indicating the mean difference on competition anxiety between national level Male and Female cricket of Gujarat

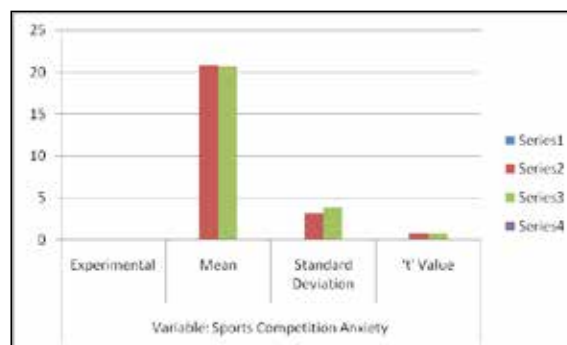
Variable: Sports Competition Anxiety			
Experimental Groups	Mean	Standard Deviation	't' Value
Male	20.85	+ 3.18	0.83
Fe Male	20.65	+ 3.88	0.83

Hypothesis:

It was hypothesized that there may not be significant relationship of selected anthropometric and biomechanical variables to the performance of players in off spin bowling in cricket.

Delimitation:

The study was delimited to 5 male cricketers of 18 to 23 years of age of inter-varsity level. The biomechanical variables, selected in the study were angles of wrist, elbow, shoulder, knee and ankle joint, and the height of centre of gravity of the body at moment release. The selected anthropometric variables were height, sitting height, arm length, leg length, body weight and height of release of ball.



Material and methods

Participants:

Five male cricket players who had participated in the west Zone inter-varsity Cricket Tournament held at Rajkot in January 2003 were selected as subjects for this study. Since the player had been trained for a considerable period of time, they were considered skilled and their technique was treated as stabilized. All the subjects were explained the purpose of the study and were requested to put in their best during each attempt

Criterion Measures:

The performance of off spin bowling of each selected subjects was taken as the criterion measure for the purpose of present study. The performance was recorded on the basis of twenty point scale. 5 point awarded in run up, 5 point awarded in placement of foot, 10 point awarded in Execution, 10 point awarded in Trajectory and 20 point awarded in line, length and spin. The performance of the subjects on off spin bowling was collected on the basis of three judge's evaluation. The averages of three judges were considered as the final point obtained by each bowler. Further, to make the calculation easier it was reduced out of 10 point.

Tools and Apparatus:

To obtain reliable measurements, standard and calibrated equipments like, camera, steadiometer, weighing machine, steel tape etc were used in order to establish the reliability of the tester for anthropometric measurements, which were taken on two consecutive days, test retest method was used. The coefficient of correlation was calculated. The results had shown high degree of reliability. The camera used for biomechanical purpose was a standard Nikon EM (with motor drive).

Collection of Data and Analysis of Film:

Sequential photographic technique was employed for the biomechanical analysis of bowling. The camera used for this purpose was a standard Nikon EM (with motor drive). For obtaining individual photographic sequence, the subjects were photographed in controlled conditions. The distance of the camera from the subject was 11.05 meters, and was fixed on the tripod at 1.07 meters height. A hurdle was filmed prior to filming of subjects for reference of height and distance. The camera was operated by an expert professional photographer on the basis of the sequential photographs obtained the investigator developed the stick figures from which various biomechanical variables were taken. The stick figures were developed by using joint point method in which the body projection at the joints facing the camera were considered. The C.G. of each subject was located using segmentation method. The Anthropometric variables were represented by the Anthropometric Measurements such as Height, Sitting Height, Leg Length, Arm Length and Weight.

Statistical technique:

The relationship of selected anthropometric and biomechanical variables with the performance of cricket playing ability was calculated by using Pearson's product moment correlation. For testing the hypothesis the level of significance was set at 0.05.

Results:

As shown in Table-I that the obtained values of coefficient of correlation is case of height ($r=.93$), leg length ($r=.88$) and height of release ($r=.90$) were found significant at 0.05 level of significance. Since these values were higher than the tabulated value of .878 for 3 degree of freedom at the selected level of significance. All other selected anthropometric variables did not show significant relationship with the performance of cricketer in off spin bowling because they obtained values were less than the required value to be significant at selected level of significance.

TABLE I
Relationship of Selected Anthropometric Variables with the Performance of Players In Off Spin Bowling

S.No	Variables	Coefficient of Correlation
1.	HEIGHT(CMS)	0.93*
2.	SITTING HEIGHT (CMS)	0.20
3.	ARM LENGTH (CMS)	0.35
4.	LEG LENGTH	0.88*
5.	BODY WEIGHT(KG)	0.04
6.	HEIGHT OF RELEASE(CMS)	0.90*

*Significant 0.05(3) = 0.878

TABLE - II
Relationship of Selected Biomechanical Variables with the Performance of Player in Off Spin Bowling

S. NO	Variable	Coefficient of Correlation	Mean
1	Wrist.	.62	157.4
2	Ankle joint Left Leg	.74	109
3	knee joint Left Leg	.53	165
4	Elbow joint	.11	175.4
5	shoulder joint	.02	162
6	Ankle Joint Right Leg	.02	102.4
7	Knee Joint Right Leg	.07	132.4
8	Height of Centre of Gravity (mts)	.80	0.92

Table -II indicates that none of the Biomechanical variable namely angles of Left Ankle joint (frontlet), Right Ankle joint (rear leg), Elbow joint (bowling arm), Shoulder joint (bowling arm), Left knee joint (front leg), Right Knee Joint (rear leg) and Height of centre of gravity at moment release have significant relationship with the performance of the subjects in off spin bowling. Even though the value of coefficient of correlations in case of wrist joint (bowling arm) and Height of Centre of Gravity has exhibited quite high but were not found significant at the selected level of 0.05.

Discuss:

The obtained value of coefficient of correlation of selected anthropometric variables at the moment release Only the height and leg length have significant relationship with the performance of subjects in off spin bowling. In case of biomechanical variables none of the biomechanical variable has exhibited significant relationship with the performance of players in off spin bowling. It may be because of small size of the sample. It is a known fact that greater radius of rotation creates greater momentum but angle at elbow joint bowling arm did not exhibit significant relationship which may be due to other reasons. As a whole the variables which have shown high relationship with the performance must have contributed towards the performance of subject in off spin bowling. Along with these variables, other motor components also must have contributed to the performance. This does not mean that other variables might have not contributed to the performance. They do contribute to the performance. But the insignificant values of coefficient of correlation of such variables with the performance might have been due to the small size of the sample and non availability of sophisticated equipment. Since the results have shown significant relationship of few selected anthropometric variables to the performance of players in off spin bowling, the hypothesis is as stated earlier that there may not be significant relationship of selected anthropometric and biomechanical variables to the performance of players in off spin bowling in cricket is rejected. However in case of other variables the hypothesis is accepted.

Conclusions:

Based on the analysis and within the limitations of the present study the following conclusions can be drawn. In anthropometric variables height and leg length has shown positive effect on performance of players off spin bowling in cricket. Height of release has shown positive effect on performance of off spin bowling. None of selected biomechanical variable has shown the significant relationship with the performance of cricketers in spin bowling.