Chapter-III

Procedure

In this Chapter the selection of subjects, criterion measures, selection of variables, description and administration of questionnaire, administration of test and collection of data, and statistical procedures employed for analysis are described.

Selection of Subjects

The subjects of the study were one hundred eighty seven inter-university level male and female gymnasts (one hundred and fifteen males and seventy two females) belong to different cultural background of India and who represented their respective university teams in All India Inter-university Gymnastics Championships held at Guru Nanak Dev University, Amritsar (Punjab) during the year 2002-03 and age ranging from 17 to 25 yrs.

Criterion measures

The scores obtained from BBBS battery was applied to measure the physiological stress of the university gymnasts. This battery in capable of measuring the four dimensions of stress namely anxiety, Frustration, pressure and conflict.

Blood pressure (systolic and diastolic) and the heart rate was recorded. Performances scores of each gymnast was obtained from the
record or the interuniversity competition were chosen as the criterion measures for the study.

**Selection of Variables**

Keeping in view, the importance of the psychological and selected physiological variables for Gymnasts, feasibility of collection of data, legitimate time and cost involved in this study, the following variables have been selected:

1. Physiological Variables: Heart Rate, Blood pressure (Independent variables)
2. Psychological Variables: Anxiety, Frustration, Pressure and Conflict (Independent variables).
3. The performances scores of male and female university gymnasts serves as a dependent variable.

**Description and Administration of Questionnaire**

Scale of Physical Stress (SPS) of Bisht Battery of Stress Scale, 1995 (BBSS) \(^1\) prepared and standardized by Bisht was used to measure the four components of stress e.g. anxiety, frustration, pressure, and conflict. The questionnaire consists of 60 items in which there are positive and negative statements which indicate the frequency of stress score provides the adding these frequency and quantity stress score provides the total stress scores. Physical frustration components have 22 items in which seven items show the negative response and fifteen items

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have positive response physical conflict pressure have sixteen items out of which two are negative response and in physical anxiety there are seventeen items. Where two negative response were recorded. The test is highly reliable which is dependability efficient 0.91 Stability coefficient 0.83 and internal consistence 0.78.

The subjects were contacted at the site of All India Interuniversity Championships personally and their sincere cooperation was solicited. Respondents were called to a common place, when they were not busy and had enough time to spare for testing. Necessary instructions were provided to the subject before the administration of each test, research scholar has motivated to the respondents by promising to send a separate abstract of the conclusions of his study to each of the subjects. Confidentiality of the responses was guaranteed so that the subjects would not camouflage their real feelings. No time limit for feeling the questionnaire was set but the subjects were made to respond as quickly as possible. Once the instructions are clearly understood by them. As soon as a group of players completed the Questionnaire, the completed questionnaires were collected from the gymnasts and it was verified that no questionnaire was left without being answered.

**Administration of Test**

Heart Rate was measured bye using stethoscope in resting condition prior to the competitions and within the 5 minutes after completion of the event with the help of a physician.
Blood Pressure was recorded (systolic and diastolic B. P.) in resting and within 5 minutes after completion of event through a sphygmomanometer by the physician

**Statistical Analysis of Data**

1. To assess the stress of gymnasts on psychological and physiological variables, mean, standard deviation.

2. To find out the significance of difference between their frequency and quantity means of four dimensions physical stress of inter-university level male and female gymnasts; high, mediocre and low achiever male and female gymnasts and pre-test and post-test on physiological variables for male and female gymnasts of inter-university level separately, t-ratios were computed. The level of significant was set at .05 level.

3. Analysis of Variance (ANOVA) was used to find out the significance of differences among inter-university level male and female gymnasts as a whole on four dimensions of physical stress i.e. frustration, conflicts, pressure and anxiety as independent

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variables. Analysis of Variance was also applied to determine the significance difference between male and female gymnastics on pre-test and post test of physiological variables. Where ever F- ratio was found significant, the Scheffe’s Test of post-hoc Analysis was carried out to identify the significance of difference between ordered paired means of four dimensions of physical stress. The level of significant was set at .05.

4. To established the relationship between competitive performance score of male and female gymnasts of inter-university level and their frequency and quantity of four dimensions of stress; between competitive performance score of high achiever, mediocre and low achiever male and female gymnasts and their frequency and quantity of four dimensions of stress; and between competitive performance score of male and female gymnasts and physiological variables, Pearson’s Product Moment Correlation Coefficient $r$ was computed. Further, The level of significance chosen was .05.

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