Chapter Three

METHODOLOGY
Chapter III

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In this chapter, the procedures adopted for the selection of subjects, selection of variables, collection of data and statistical procedure employed for the analysis of data were described.

SELECTION OF SUBJECTS

Total 180 female national level volleyball players were taken as subjects for the study. Out of 180, 60 subjects each were taken at random from senior, junior and sub junior categories among the teams who reached the quarter finals.

All the subjects were selected by their respective state volleyball association as per the guidelines, regulations and selection criteria framed by the Volleyball Federation of India. All the states and departments have selected the best players to represent their respective states and the selections in senior, junior and sub junior categories were made on the basis of merit in performance.

The senior players were selected from the 57th Senior National Volleyball Championship for Men and Women held at Vishakpatnam, Andhra Pradesh from 19th to 28th December 2008. The senior players were the representatives of their respective states like West Bengal, Kerala, Karnataka, Andhra Pradesh, Tamil Nadu, Maharashtra, Chandigarh and departments like Indian Railways. Even though most of the senior players were from their respective states many were appointed to departments like Police, Postal, Banks, Electricity Board etc. Their age group was from 19 to 30 years of age. Most of the senior players possessed more than 5 years of
training age. Some of the senior players had represented the country at the Asian Senior Volleyball Championship, Asian games, South Asian Federation Games (SAF games), Invitational International Tournaments in India and abroad also. Most of the senior players had the playing experience by representing their colleges, district, universities, states and departments. Most of the players were medal winners previously at the Senior National Volleyball Championships, Departmental Nationals, All India Inter-University Tournaments and State Championships.

The junior players were selected from the 35th Junior National Volleyball Championship for Boys and girls held at Chinakurali, Pandavapura taluk, Mandya district, Karnataka from 11th to 18th January 2009. The subjects were selected from the states like Kerala, West Bengal, Karnataka, Goa, Maharashtra, Pondicherry and Gujrat. The age group of the junior players were below 19 years. Most of the junior players were unemployed and students of different universities and colleges from the respective states. Most of the players had more than 5 years of training age. Some players were medalists in the previous national championships at the lower age groups. Many were upgraded from the sub junior category.

Sub junior players were selected from the 32nd Sub Junior National Volleyball Championship for boys and girls held at Shimoga, Karnataka from 16th to 22nd November 2009. The subjects were selected from the states like Kerala, West Bengal, Tamil Nadu, Karnataka, Uttar Pradesh, Maharashtra. The age group of the sub junior players was below 16 years. Most of the players were having 2 to 4 years of training age. A few players represented their respective states in the School Games Federation of India Tournament. Most of the players were participating in the National Level Volleyball Championship for the first time.
SELECTION OF VARIABLES

It was well established that the psychological make up of the players is one of the most decisive factors contributing to their performance. Superior physical fitness and high technical and tactical efficiency are not only the factors determining the performance of a player during the training and competition but also the psychological aspects are equally important for performing at optimum level.

Considering the above facts, the research scholar had gone through relevant literature and also consulted many experts in this field. Based on the literature and expert opinion and feasibility in terms of cost and time, the research scholar finally selected mental toughness and team cohesion as the variables. Mental toughness and team cohesion are very important aspects of volleyball game since it is a team event and very tough and exciting in nature. Moreover the skills of the game are task oriented being performed in a group. Each player has a specific role to play in achieving a common task. The mental make up of the player plays a prominent role in executing these skills with variations.

Each player ultimately contributed in his own way in achieving the group goals. A player will be left about in deciding to adopt which type of service to be executed, to which part of the opponent's court, in scoring a direct point or to disturb the first pass. Similarly, it is the tough mindedness of a player only can help in performance execution during the crucial part of the game. This individual player's decision to perform better when the team is under pressure was appreciated by the entire team. Volleyball is a team game played by a cohesive unit. We can very well see the existence of inter personal relationship among the team members during a successful performance and even during a failure of the same too. Hence the
psychological variables like mental toughness and team cohesion plays a very significant role in volleyball performance among all the age groups, apart from the psychological variables like self confidence, anxiety, aggression, motivation, concentration and so on.

**COLLECTION OF DATA**

For collecting the data of mental toughness of the subjects, Mental Toughness Questionnaire (MTQ) developed by Allan Goldberg (1998) which is a standardized questionnaire was administered to all the subjects at the competition venue. The MTQ consisted of five sections with six statements each. The MTQ consisted of five aspects such as reboundability, the ability to handle pressure, concentration ability, the level of confidence, motivation and total mental toughness score as the final one. The subjects were oriented about the purpose of research and necessary instructions were given about how to fill up the questionnaire. The research scholar requested the cooperation of the players and also assured confidentiality of their responses.

Group Environment Questionnaire (GEQ) developed by Carron et al., (1982) which is a standardized questionnaire to measure the team cohesion was administered. The GEQ is composed of 18 items in four scales, four items in Individual Attractions to the Group-Task (ATG-T), five items in Individual Attractions to the Group-Social (ATG-S), five items in Group Integration–Task (GI-T) and four items in Group Integration–Social (GI-S)

The questionnaires were administered by the research scholar at the competition venue personally.
Duly filled up questionnaires were tabulated by using the keys developed by the authors of the questionnaire. Each response was tabulated according to the key and the score was calculated separately for each aspects and sub scales of both the questionnaires. The total score of mental toughness also calculated according to the prescribed key.

Plate 1: INVESTIGATOR COLLECTING DATA ON MENTAL TOUGHNESS AND TEAM COHESION FROM SENIOR SUBJECTS
Plate 2: INVESTIGATOR COLLECTING DATA ON MENTAL TOUGHNESS AND TEAM COHESION FROM JUNIOR SUBJECTS

Plate 3: INVESTIGATOR COLLECTING DATA ON MENTAL TOUGHNESS AND TEAM COHESION FROM SUB JUNIOR SUBJECTS
STATISTICAL TECHNIQUES USED

To find out the differences in mental toughness and team cohesion, One Way Analysis of Variance (ANOVA) was used followed by Least Significance Difference (LSD) Post Hoc Test wherever 'F' ratio was found significant.

R/15
796
surf:1