# Chapter - 3

## MATERIALS AND METHODS

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MATERIALS AND METHODS

The most important area of measurement in applied social research is survey research. Survey research is considered as a branch of social scientific research, which immediately distinguishes itself from the status survey. The procedure that involves asking questions and getting responses was developed, mostly by psychologists, sociologists, anthropologists, economists, political scientists and statisticians. The survey researcher is interested in the accurate assessment of the characteristics of whole populations. A “Survey” can be anything from a short paper-and-pencil feedback to an intensive one-on-one in-depth interview. The chapter comprises selection of the subjects, tools of the study, description of the questionnaire, administration of the questionnaire, and the statistical techniques employed for testing the hypotheses.

3.1 SELECTION OF SUBJECTS

The sample consisted of 600 students doing under-graduate programmes in different colleges affiliated to Mahatma Gandhi University, Kottayam, India, of both the arts and science streams. The sample from arts stream was 474, and science stream 126. The sample was apportioned equally to team games, individual games and
non-athletes. The researcher collected data from both the male (n=300) and female (n=300) students.

3.2 TOOLS OF THE STUDY

Four instruments were used in this study, namely:

a) Children’s Attitude towards Physical Activity Inventory
    (Simon & Smoll, 1974)


c) Rosenberg Self-esteem Scale (Morris Rosenberg, 1965).

d) General Self-efficacy Scale (Schwarzer, R. & Jerusalem, M., 1995)

3.2.1 Children’s Attitude towards Physical Activity Inventory

(Simon & Smoll, 1974)

Attitude towards Physical Activity Inventory was used to assess the attitude of the samples towards vigorous physical activity.

Validity: Since the Kenyon Attitude Scales were used as a model for this inventory, validity was assumed for the students’ Attitude towards Physical Activity Inventory.

Reliability: Within a day coefficients ranged from .80 to .89 and the retest coefficients ranged from .44 to .62.
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Administration Directions: The authors advise that this inventory be used to assess groups and changes in group attitudes, not to evaluate individuals. A semantic differential is used, and the students are asked to respond to six dimensions and statements.

Scoring: Each of six scales is scored separately. The maximum score for each dimension is 56.

3.2.2 Achievement Motivation Questionnaire (M L Kamalesh, 1990)

 Achievement motivation questionnaire (Kamalesh, 1990) was administered to assess the extent to which the students were motivated towards sports achievement. The questionnaire consisted of 20 items, each correct answer carrying two marks the wrong answer a zero. The sports achievement questionnaire had a test-retest reliability fixed at 0.70, in a test of twenty statements, the response value of which ranged between 0-40. The validity of sports achievement with the actual performance of the athletes had been worked out to be 0.55. It is an important proposition for a student as well as a player of some game/sport.
3.2.3 Rosenberg Self-esteem Scale

The most popular and well-utilized measure of self-esteem is the Rosenberg Self-esteem Scale (1965). Rosenberg’s Scale was originally developed to measure adolescents’ global feelings of self-worth or self-acceptance, and is generally considered as the standard against which other measures of self-esteem are compared. It includes 10 items that are usually scored using a four point response ranging from strongly disagree to strongly agree. The items are face valid and the scale is short and easy and fast to administer. Extensive and acceptance reliability (internal consistency and test-retest) and validity (convergent and discriminate) information exists for Rosenberg Self-esteem Scale.

The data were collected through the administration of a questionnaire, which is a test item with four choices for each item, with scores ranging from

- Strongly agree = 1
- Agree = 2
- Disagree = 3
- Strongly disagree = 4
Some of the statements had reversed scoring to control the response basis. Scoring for statement 3, 5, 8, 9, and 10 were reversed in calculating total score. Sub scales are indicated below.

1 → 4
2 → 3
3 → 2
4 → 1

On the basis of this scale, a low numerical score indicates low self-esteem, while a high numerical score indicates high self-esteem. A score of ‘10’ is the minimum and represents the lowest possible self-esteem while the maximum is 40, representing the highest possible self-esteem.

3.2.4 General Self-efficacy Scale

General self-efficacy scale was developed by Schwarzer R and Jerusalem M in 1995. It is a 10 item questionnaire and adds up all responses to a sum score. The 10 scale was created to assess a general sense of perceived self-efficacy. The range is from 10 to 40 points mainly targeted on adolescents’ and adults’ attitude.

Reading level: Flesch-Kincaid Grade level 7.5
Reliability: a correlation of the least .80 is suggested for at least one type of reliability as evidence; however, standards range from .5 to .9, depending on the intended use and context for the instrument.

Test-Retest: No information provided.

Internal consistency: .76 to .90, with the majority in the high .80s

Inter-rater reliability: No information provided

Validity: The extent a measure captures what it is intended to measure.

  Content/Face Validity: No information provided
  Criterion Validity: No information provided
  Construct Validity: No information provided

3.2.5 Academic Achievement

College students have different attributions of success and failure. Differences among students’ grades and between success and failure were significant, while differences between genders were not significant. College students who have higher expectations do not give up easily, since they are willing to work harder to achieve success. They feel gratified and proud after success and they feel compunctious and depressed after failure. Their emotional responses are stronger when they succeed. The percentage of total marks scored
in the university degree examinations was calculated by the researcher with the help of their mark list.

3.2.6 Demographic Questionnaire

Demographic data pertaining to gender, age, level of achievement, and education were also collected using a demographic questionnaire.

3.3 ADMINISTRATION OF THE QUESTIONNAIRE

Questionnaires are the easy ways to gather data from a potentially large number of respondents. Often, that is the only feasible way to reach a number of respondents large enough to allow statistical analysis of the results. A good questionnaire, used effectively, can gather information on both the overall performance of the test system as well as on specific components of the system.

Prior consent was obtained from the management of the colleges selected for the study.

The researcher visited the major colleges of Mahatma Gandhi University, the university campus, and the venue of the university inter-collegiate meet and gave the questionnaire to small groups and explained to them the purpose of the survey. The instructions given were very specific, unambiguous and sufficiently informative so that
all the students were able to provide genuine response to the questions. Survey procedures were designed with utmost care to protect the privacy of the respondents; they were allowed to conceal their identity if they so desired. In the survey, students were to read the self-administered questionnaire and give their responses in a separate answer sheet. To the maximum extent possible, students were seated sufficiently apart to minimize the chance of any kind of malpractice. In order to ensure maximum reliability, students were also requested not to share their answers with others. When the students completed the task, they were asked to drop the answer sheets in sealed envelopes into the box kept for the purpose.

3.4 STATISTICAL TECHNIQUES EMPLOYED

The data were analysed using SPSS Version 20.0 (SPSS Inc., Chicago, IL). The data pertaining to the attitude towards physical activity, achievement motivation, self-esteem, self-efficacy and academic achievement were tested using Descriptive statistics, Multivariate Analysis of Variance (MANOVA), and Pearson Coefficient of Correlation analysis. The level of significance was set at .05 for testing the hypotheses.