CHAPTER III

PROCEDURE
PROCEDURE

SAMPLE

For this study 500 athletes (287 males and 213 females) were selected randomly from different sports disciplines. They included athletes from gymnastics, swimming, basketball, football, volleyball, cricket, badminton, handball, athletics and hockey. The subjects were aged between 16 to 24 years (mean age 22.01 years). The subjects were drawn from the colleges affiliated to the Universities of Punjab i.e. G.N.D.U., Amritsar, Punjabi University, Patiala, P.A.U., Ludhiana and Panjab University, Chandigarh.

The study has been conducted in two phases. The first phase had 100 subjects (56 males, 44 females), while the subjects in second phase were 400 (231 males, 169 females). The data collected in the first phase was used to construct the Sports Personality Scale. The second phase of the study was focused on constructing the norms of the Sports Personality Scale.

FIRST PHASE OF THE STUDY:

PREPARATION OF THE QUESTIONNAIRE

The research subject concerns construction of sports personality scale, thus making study of personality the focus of research. Accordingly, the research scholar gleaned through the available literature pertaining to personality, which included books, magazines, journals and periodicals. Past and contemporary studies on sports psychology were also studied. Keeping the feasibility
criteria in mind, the first step was taken to construct the test items to identify the psychological factors that underlie sports personality. In addition to the above-mentioned study of literature, experts in the field of sports psychology and physical education were consulted to ensure that the construct was adequately represented in the questionnaire form. Keeping this fact in view, the investigator prepared a list of 90 items, which was finally reduced to 61. The questionnaire included detailed instructions to be followed by the subjects while responding to the items.

**CONTENT VALIDITY**

In order to measure these perceptions by content valid self-report, it was necessary to develop items content. In order to ensure the clarity of the meaning, the item content was written in the language that was best understood by the athletes and which was natural to them. Also the item content had to concern something about which the athletes cared or wished to evaluate so as to generate some response from them. If the item content did not evoke some form of agreement/disagreement from the subjects, it would not help to examine the variation among them. To have better content validity several projects were undertaken. This involved the use of: -

a) Subjects as active agents to provide item content.

b) Literature on study of sports personality.

c) Interaction with experts in psychological research to ensure that constructs would be adequately represented in the questionnaire.
For the preparation of questionnaire it was considered prudent to interact with the currently active athletes. 60 subjects (32 males and 28 females) were randomly selected from Colleges of Chandigarh and Punjab representing different sports groups. The respondents were asked what characteristics of an individual they thought were most important in persisting and achieving excellence in competitive sports.

The next step was the study of literature on personality and analysis of previous research studies conducted on sports personality and sports psychology, up to year 2000. The pursuit included literary works and articles relevant to the topic published at the National and International level by the Indian and foreign experts. This effort helped to identify some of the most important factors that shape and influence the sports personality.

The interaction with athletes and study of relevant literature resulted in preparation of an extensive pool of items. Initially 90 items were identified relevant to the study of the personality of sportspersons. These were discussed with experts in sports psychology and physical education. Five experts examined these items to check their relevance and representativeness in the questionnaire. Based on the judgment of these experts the number of selected items was reduced from 90 to 61.

In the first phase, a sample of 100 athletes (56 males and 44 females), aged between 16 to 24 years (mean age 22.03 Years), from the selected sports disciplines responded to the sports personality questionnaire. The athletes were drawn from individual as well as team sports, which have been mentioned earlier. The
questionnaire contained detailed instructions to facilitate the subjects in giving their answers/responses correctly.

**CONSTRUCT VALIDATION FACTORIAL**

Construct validity can be established through factor analysis. Factor analysis is often used to determine how variables group together by virtue of their inter-correlation while this tells the researchers which variables are the most and least related to each group. Factor analysis also indicates which variables group most strongly as factors. A factor represents the items most related and can be statistically evaluated as single composite variable.

In factor analysis the homogeneity of items, their grouping into the factors proposed and the number of groups found through factor analysis would offer indicant of construct validity.

In this study, Varimax technique was used for the factor analysis. The analysis revealed a number of factors operating in the area of sports personality. The results of this analysis provided an accurate indication of what was suggested by factor analysis. The correlation of each item of the questionnaire with other items was established. The items with significant values under each factor were identified and retained, while the others, which were irrelevant or had weaker correlation were dropped from the questionnaire. The final product was the ‘37 items questionnaire’ for Sports Personality Scale.
CONCURRENT VALIDITY

Concurrent validity is reflected by the extent to which a measure relates to alternative measures. The alternative measures may assess the construct in whole or part. The extent, to which the newly developed scale correlates with others, known as criterion measures provides the investigator with estimates of the validity of the new instrument. However, the degree to which validity can be estimated using a concurrent approach depends upon the ability of the other criterion measures to assess the focal construct. If they are weaker measures, then the newly developed test could not be dismissed as invalid simply because it did not correlate well with a weaker concurrent measure (Bohrnstedt, 1970). We can never expect a very high correlation between the criterion measure and the test, because the test has to be different to some extent from the one against which it is being validated. The Sports Personality Scale was validated against those items of 16 P.F. which have been found related to sports performance in a study conducted by Yadav (1992).

RELIABILITY OF THE TEST

The reliability of the test was established by test and re-test and split-half methods. Test and retest on 50 subjects were conducted with an interval of two days to find out the correlation between the two test samples in order to establish the reliability of the scale. Pearson’ Product Moment Method was used on the collected data.
In Split-half method, 100 subjects were selected randomly from the collected data and were split in two groups by assigning them odd and even numbers. 50 subjects were put in each group. Pearson’s Product Moment Method of Correlation was computed to find the reliability of the test.

Objectivity of the test was established by using it on 50 subjects twice with an interval of two days.

SECOND PHASE OF THE STUDY

The second phase of the study concerns the construction of norms for the personality of the athletes. After finalising the scale in the first phase, fresh data of 400 subjects (males 231, females 169) was collected by using newly constructed Sports Personality Scale, consisting of 37 items. The subjects ranged between 16 to 24 years of age (mean age 21.96) and were taken randomly from the students (sports population) of colleges from Punjab and Chandigarh, from different team and individual sports (team sports n = 225, individual sports n = 175).

STATISTICAL DESIGN

The purpose of the study was to construct the scale for Sports personality and then develop norms for athletes in the age group of 16 to 24 years.

Factor Analysis (factorial design) was used to construct the sports personality scale.
Pearson’s Product-moment correlation was calculated to establish validity, reliability and objectivity of the scales.

Hull Scale and Percentile Scale were used to develop the norms of the Sports Personality Scale.

t-test was used to find out the significance of differences between individual and team athletes and male and female athletes.