Chapter III

Methodology

This chapter consists of procedure adopted with selection of subjects, administration of questionnaires, and the statistical techniques employed for the analysis of the data.

Selection of subjects

The samples were selected from athlete and non-athlete higher secondary school students from Kerala state. The age of the students was between 16 to 19 years. The subjects were from schools following different syllabus viz., State board, C.B.S.E., and I.C.S.E., and proportionately from rural and urban areas. Data was collected from 3282 students in which 649 were athletes and 2633, non-athletes, representing proportionately the various districts of Kerala. Gender wise 1634 boys (Athlete = 309 and Non-athlete = 1325) (Mean Age = 17.6, SD± 1.6) and 1648 girls (Athlete = 340 and Non-athlete = 1308) (Mean Age = 17.2, SD± 1.8) participated in the study.

Selection of Test Items

1. Children’s Attitude Toward Physical Activity Inventory (Simon and Smoll, 1974) (Appendix – A)
Test Objective: To measure children’s attitude toward vigorous physical activity.
Age Level: Elementary through junior high school.

Validity: Since the Kenyon Attitude Scales were used as a model for this inventory, validity was assumed for the children’s Attitude Toward Physical Activity Inventory. Reliability: Within a day coefficients ranged from .80 to .89 and test-retest coefficients ranged from .44 to .62. Norms: No norms reported. 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 the six scales is scored separately. The maximum score for each dimension is 56.


   This questionnaire was developed because sport orientation is a large field that had largely gone unstudied prior to the development of this questionnaire. As mentioned by Gill & Deeter (1988) competitiveness achievement orientation and achievement behaviour have been discussed but so far little research has been done on this large area. It has been noted by various sport psychologists that there is a need for sport-specific orientation measures as this would prove to be a valuable resource to further research. As Gill & Deeter (1988) have noted Martens developed the Sport Competition Anxiety Test (SCAT) in 1977 and it was from this sport-specific test that the value of sport-specific measures over general psychology measures was found and this provided encouragement to develop further more sport-specific measures for other areas of sport psychology. As Gill & Deeter (1988) have mentioned, general achievement motivation measures should not be used when assessing sport-specific situations as they do not have a proven validity. The primary purpose for the development of the SOQ was to develop a multi dimensional questionnaire that is sport-specific relating to sporting orientations. Gill & Deeter (1988) designed this questionnaire so that it is applicable to all people who partake in sport not being gender biased and relating to both athletes and nonathletes alike.

   The SOQ is a multi dimensional achievement orientation measure that consists of three sub scales, which measure competitiveness; win orientation and goal orientation (Gill & Deeter 1988). The SOQ is made up of twenty-five questions, thirteen of these relate specifically to competitiveness, six relate to win orientation and six relate to goal orientation (Gill & Deeter 1988). Possible responses are made on a five point Likert scales ranging from strongly agree to strongly disagree (Lerner & Locke 1995). The questionnaire was designed to assess all individuals who participate in sport without any biases.
The competitiveness sub scale was designed to measure the desire of a person to enter and seek success in sporting competition. For competitive people there is a desire to seek and reach competitive challenges (Gill & Deeter 1988. Gill, Dzewaltowski & Deeter 1988).

Win orientation was designed to focus on a person’s desire to win and to beat others, the competitor’s main aim is to win the competition, personal best times and mastery goals take a back seat to this focus (Gill et. al 1988). The win orientation sub scale seems to lean towards the ego orientation of a competitor (Marsh 1994).

Goal orientation was designed to measure the desire of an individual to reach personal goals they have set in sport about mastery of the skill, this goal achievement has a higher emphasis placed upon it than win orientation when measuring competitive achievement (Gill & Deeter 1988). Whereas the win orientation sub scale seemed to lean towards ego orientation, goal orientation tends to lean more towards task orientations of the competitor (Marsh 1994).

Reliability: To prove internal consistency and reliability of the SOQ, Diane L. Gill & Thomas E. Deeter (1998) carried out several different statistical analysis’s to prove the reliability of the SOQ. Initially a factor analysis was conducted to measure the internal consistency of the three sub scales then a more specific internal consistency across the three samples was done, the results from these indicated good internal consistency because of the relatively high alpha coefficients and individual items to total correlations also were high (Gill & Deeter 1988). Gill & Deeter (1988) wanted to assess consistency over time, to achieve this they readministered the test to the second university sample four weeks after they initially sat the test, the results of this indicated good reliability over time and even individual item stability reliability over time was good. They also tested intraclass correlation coefficients using ANOVA on the subjects x trials and the results from this also indicated a good reliability for the scores of the three sub scales (Gill & Deeter 1988). Through the use of exploratory and confirmatory factor analyses Gill & Deeter have proved internal consistency and reliability of the SOQ.
Validity: To assess validity Gill & Deeter (1988) did a comparison between the SOQ and the WOFO scales, they thought from this they should get a correlation between the SOQ and the WOFO competitiveness sub scale. Gill & Deeter (1988) assessed each of the three samples separately to assess the validity of the SOQ, this three way assessment lends to providing more evidence on the validity of the SOQ. The separate assessment of the three initial samples by the authors was an excellent way to prove construct validity as they have now proven that it works over three different samples before the article went to print. Separate gender x competitive/noncompetitive classification, MANOVA were used when assessing the four WOFO and three SOQ scores for the three samples (Gill & Deeter 1988). The main reason when assessing construct validity of the SOQ is assessing the competitive/noncompetitive difference, therefore gender differences takes a secondary role in the assessment of construct validity. Gill & Deeter (1988) assessed university students for sample 1. For sample 1 there was found to be a competitive/noncompetitive difference for the SOQ but only in the competitiveness sub scale, however there was found to be gender differences in all three of the sub scales with males scoring higher on competitiveness and win orientation and females scoring higher on goal orientation. Whereas the results for the WOFO found no significant competitive/noncompetitive differences even for the WOFO competitiveness sub scale, the WOFO did however contain gender differences with males scoring higher on competitiveness and females scoring on the work sub scales.

Gill & Deeter (1988) assessed university students for sample 2. In sample 2 the results were much the same as in sample 1 with the competitive/noncompetitive differences and also significant gender differences again with males scoring higher in competitiveness and win orientation. However a univariate gender x competitive/noncompetitive class interaction was noted for the competitiveness sub scale score, in this both males in competitive and noncompetitive classes scored similarly for competitiveness whereas females in competitive classes scored significantly higher than females in noncompetitive classes. The results for the WOFO scores compared favourably with sample 1, with no competitive/noncompetitive class difference found and with males scoring higher on competitiveness.
Gill & Deeter (1988) assessed high school students for the third sample. Again similar results to the first two samples were found, with competitive sport participants scoring higher on competitiveness than non participants, however the competitive participants scored higher on win and goal orientation as well. The gender differences for the three SOQ scores were also similar with males scoring higher on both competitiveness and win orientation. The four WOFO scores produced a gender effect similar to the university samples but unlike the university samples a competitive participation effect was found amongst the high school students.

Through the use of the statistical analyses and the correlation between the SOQ and the WOFO, the authors have been able to prove construct validity for the SOQ, as will be mentioned, in the norms this validity has been proven by numerous research articles using the SOQ.

Scoring: The SOQ is made up of twenty five questions, thirteen of these relate specifically to competitiveness, six relate to win orientation and six relate to goal orientation (Gill & Deeter 1988). Possible responses are made on a five point Likert scales ranging from strongly agree to strongly disagree (Lerner & Locke 1995).

3. Rotter's Locus of Control Scale (Appendix – C)

Individuals with a high internal locus of control believe that events result primarily from their own behaviour and actions. Those with a high external locus of control believe that powerful others, fate, or chance primarily determine events. Those with a high internal locus of control have better control of their behaviour and tend to exhibit more political behaviours than externals and are more likely to attempt to influence other people; they are more likely to assume that their efforts will be successful. They are more active in seeking information and knowledge concerning their situation than do externals. The propensity to engage in political behavior is stronger for individuals who have a high internal locus of control than for those who have a high external locus of control.
Scoring Pattern

Score one point for each of the statements in the following pattern:

2.a, 3.b, 4.b, 5.b, 6.a, 7.a, 9.a, 10.b, 11.b, 12.b, 13.b, 15.b, 16.a, 17.a, 18.a, 20.a,
21.a, 22.b, 23.a, 25.a, 26.b, 28.b, 29.a.

A high score = External Locus of Control

A low score = Internal Locus of Control

Administration of the Questionnaires

Questionnaires are an inexpensive way to gather data from a potentially large number of respondents. Often they are the only feasible way to reach a number of reviewers large enough to allow statistically analyze the results. A well-designed questionnaire that is used effectively can gather information on both the overall performance of the test system as well as information on specific components of the system. When a questionnaire is administered, the researcher’s control over the environment will be somewhat limited. This is why questionnaires are inexpensive to administer. This loss of control means the validity of the results is more reliant on the honesty of the respondent. Consequently, it is more difficult to claim complete objectivity with questionnaire data than with results of a tightly controlled lab test.

The questionnaire was administered in such a manner that all students have had the same opportunity to express their views. The objective of the standard testing condition is to ensure that the standard procedures are followed every time the test is administered. Factors that might have affected the students’ score on the test was either eliminated or held constant. For this reason, a required constant time limit was fixed for the test. Permission from the parents and school authorities were obtained before administering the questionnaires. The investigator had also informed all the students as to how to attempt the test. The investigator clarified all the queries of the students which they had about the answering the questionnaire. The instructions given were very obvious, unambiguous and sufficiently informative so that all the students were able to provide genuine response to the questions.
**Statistical Techniques Employed**

The descriptive statistics and Two Way Analysis of Variance (ANOVA) was used to find out the difference between gender of athletes and non-athletes on attitude towards physical education, sport orientation variables and locus of control. For testing the hypothesis the level of significance was set 0.05 level.