Chapter-III

Procedure

This chapter aims to explain appropriate methodology for achieving the research study aims and objectives. The overall purpose of this research study was to examine as well as extend the body of knowledge and understanding effect of body composition with respect to health status and nutritional awareness of college students. This researcher employed a quantitative data collection method using the survey approach to collect data concerning the effect of body composition with respect to health status and nutritional awareness of college students. The survey questionnaire was created on the basis of previously validated scales and survey instruments. The wording of questionnaire items included in the survey measuring constructs of the proposed model. Data analysis for the final conceptual model was performed by Structured Equation Modelling (SEM) using the Analysis of Moment Structures (AMOS) software.

Selection of subjects

For the purpose of present study 125 (males and female) of Gujarat were selected as a subject of study. The age of the subjects were ranged from 17 to 23 years. Subjects were from different colleges of Gujarat University.
Design of the Study

A research design is a plan of the research project to investigate and obtain answers to research questions. There are three types of research designs identified from the literature: (1) exploratory, (2) descriptive, and (3) casual or explanatory design. The exploratory research was employed in this study in the first stage to obtain the background information about the research problem and to generate hypotheses by thorough investigation of the literature. As a result, the researcher identified constructs and formulated hypotheses based on the literature and previous empirical studies.

The next stage used a descriptive research design in order to describe the characteristics of the respondents and to determine the frequencies, percentages, mean and standard deviation of the constructs used. Explanatory research was used in order to explain the relationship and association between variables of the model.

**Sampling strategy:** Purposive sampling technique was used in the present study.

**Data Collection Procedure:** The process of data collection involves collecting opinions and useful information from target participant about the research questions or topic. The data for the present study was gathered using a self-administered method. The researcher employed three different ways for administering questionnaires; face to face
contacts were made with the participants by visiting different colleges. Inclusion criteria for the sample were that respondents must be students at the time of administering the questionnaire. Participation in the survey was completely voluntary. Respondents were asked to complete a survey questionnaire based on their perception of and/or acceptance of physical activity and health status. The total number of questionnaires distributed was 150 but only 125 questionnaires were returned back.

**Survey Questionnaire:** Survey questionnaire is efficient and economical tool to collect the required data. In this study, the survey questionnaire was accompanied with a covering letter, which explained the purpose of the research study and ensured confidentiality of the data gathered. The participants were explained that the research was being conducted to explore their perception of and/or acceptance of group physical activity and that the participation in the survey was voluntary. They were further informed that they have the right to withdraw from the survey study at any time.

The survey questionnaire consisted of two main parts. In the first part of the questionnaire, the participants were asked to provide back ground information related them. In the second part, the participants had to provide opinion for different constructs mentioned in the research model.
Development of survey questionnaire

The following procedure was adopted for development of questionnaire.

Initial writing

In the first attempt various questions were formulated by the scholar. Recommendation of the guide was taken before final draft of the questionnaire.

Trial run

After formulation of questionnaire to the satisfaction of the scholar with the inclusion of all essential variables in an organized manner, the questionnaire was sent for trial run. The purpose of trial run was to discover if the meaning of all statement in the questionnaire was clear and well understood by the respondents. This also enabled to assess if the questions were adequate to obtain desired information. During the trial run, the questionnaire was given to 4 experts in the field of Physical education and specially sports psychology. They were asked to answer the questions and critically evaluate the items of the questionnaire.

Rewriting

On the basis of evaluation of responses and considering the suggestions the necessary changes were made in the questionnaire and it was finally formulated after again obtaining the approval of experts.
**Questionnaire design:** In the present study, the question items and response categories were designed such so as to motivate the respondents to participate in the research study. The researcher made utmost effort to keep the questions simple, easy to read, and unambiguous. Thereby enabling the respondent to comprehend the questions easily, reducing their chances of misunderstand the questions, and keeping their interest alive in the survey.

**Questionnaire content development:** The data collection for this study was based on the opinions and beliefs of respondents towards the research. Therefore, question development process employed the good question design principles, such as designing brief questions that can be used for all respondents, use of positive questions. In addition questionnaire contents were kept quite simple and easy to read and comprehend, so that the respondents should not have difficulty to complete the questionnaire.

Scaled-response questions were used for respondents to indicate their degree of agreement with the constructs. questionnaire items were designed with proper wording and response formatting in order to encourage participants’ response, make it easy for them to provide accurate answers, and facilitate accuracy in data analysis.
Administration of Questionnaire & Collection of Data

The individual from various colleges were consulted personally and their co-operation was solicited. Respondents were given a questionnaire with necessary instructions. Necessary instructions were passed on to the subjects before providing the questionnaire. The research scholar was motivated the student respondents by promising to send a separate abstract of the conclusions of his study to each of the subjects. Confidentially of responses were guaranteed so that the subject would not camouflage their real feelings. Research scholar was requested for filling the questionnaire as quickly as possible.

Statistical Analysis

This section discusses the use of statistical techniques in this study. Descriptive statistics is explained in the first section, and this is followed by the statistical analysis section. There are three sub sections to be included in the statistical analysis section; these are factor analysis and confirmatory factor analysis (CFA).

This present study used the Statistical Package for Social Sciences (SPSS) for descriptive analysis. To test the proposed relationships among the study variables, was conducted using the AMOS 19 program.
Factor analysis

Factor analysis is an interdependence technique, whose primary purpose is to define the underlying structure among the variables in the analysis. Factor analysis is also a multivariate technique that identifies the dimensions of the original observed measures of a scale in terms of a hierarchical structure of non-observed latent variables or factors. The items in the original scale should be metric and correlated. The factors are arranged in descending order of importance in terms of their contributions to the explanation of the total variance of the scale. The broad aims of the analysis are to identify the number of factors and interpret what they represent.

Exploratory factor analysis is useful in searching for structure among a set of variables or as a data reduction method. Confirmatory factor analysis (CFA) is commonly used to 1. Defining individual constructs, 2. Developing the overall measurement model, 3. Designing a study to produce empirical results, 4. Assessing the measurement model validity.