Chapter-III

METHODOLOGY
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In the foregoing chapter we have highlighted the concepts and reviewed relevant literature in order to probe the objectives of the present study. As we have already stated that the study was conducted to ascertain the relationships of value orientation and styles of learning with social behavior and academic achievement among adolescents. It is explicit that the social behavior and academic achievement are the dependent variables whereas value orientation and styles of learning are independent variables. It is prerequisite for any scientific investigation to take into consideration the design of research so as to carry out the study in a systematic manner.

3.1 Sampling

In the behavioral sciences particularly in the field of psychology, sociology and education the researcher draws some inferences regarding a well-specified and identified group on the basis of some selected measures. The well-specified and identifiable group is known as population or universe and the selected number of persons or objects are known as sample. The population in the present study involves the 12th class students studying in senior secondary schools of A.M.U. Aligarh.

3.1.1 Sample

A sample is any number of persons selected to represent the population according to certain rules. A good sample is one which is unbiased and representative of the whole population. Thus sample is the selection of small group of individuals, objects or events from a population. the sample size is the
most important factor for a study which plays a significant role in statistical analysis and in drawing inferences from the results obtained.

Keeping in view the objectives of present study proportionate stratified random sampling technique was used in selection of 410 subjects. The total number of students constituting the population of 12th class are 1369. The boys and girls are 867 and 502 respectively.

Distribution of the population

(1369)

Boys (867) Girls (502)

Arts stream (103) Commerce Stream (171) Science Stream (593) Arts Stream (126) Commerce Stream (72) Science Stream (304)

30% students were selected to constitute the sample. Thus, the sample of present study constituting the number of boys and girls are 260 and 150 respectively. The investigator selected respondents keeping all conditions in mind and made sitting arrangement for one stream at a time in a separate room and then administered the test with close watch. Researcher assured them that their responses would be kept confidential and it would only be used for academic purpose.
3.2 Tools used

In order to achieve the objectives of the study the following tools were used:

3.2.1 Personal Value Questionnaire

To measure the value orientation of the subjects personal value questionnaire (PVQ) of Sherry and Verma (1989) was found suitable measure. This questionnaire consists of 40 questions with three response categories. This questionnaire contains 10 values which are as follows:

a) Religious value

This value is defined in terms of faith in God, attempt to understand him, fear of divine wrath and acting according to the ethical codes prescribed in the religious books. The outward acts of behaviour expressive of this value are going on pilgrimage, living a simple life, having faith in the religious leaders, worshipping God and speaking the truth.

b) Social value

This value is defined in terms of charity, kindness, love and sympathy for the people, efforts to serve God through the service of mankind, sacrificing personal comforts and gains to relieve the needy and the afflicted of their misery.

c) Democratic value

This value is characterized by respect for individuality, absence of discrimination among persons on the bases of sex, language, religion, caste, colour, race and family status, ensuring equal social, political and religious
rights to all, impartially and social justice and respect for the democratic institutions.

d) Aesthetic Value

Aesthetic value is characterized by appreciation of beauty, form proportion and harmony, love for fine arts, drawing-painting, music, dance, sculpture, poetry and architecture, love for literature, love for decoration of the home and the surroundings, neatness and system in the arrangement of the things.

e) Economic Value

This value stands for desire for money and material gains. A man with high economic value is guided by considerations of money and material gain in the choice of his job. His attitude towards the rich persons and the industrialists is favourable and he considers them helpful for the progress of the country.

f) Knowledge Value

This value stands for love of knowledge of theoretical principles of any activity, and love of discovery of truth. A man with knowledge value considers a knowledge of theoretical principles underlying a work essential for success in it. He values hard work in studies, only if it helps develop ability to find out new facts and relationships, and aspires to be known as the seeker of knowledge. For him knowledge is virtue.

g) Hedonistic Value

Hedonistic value, as defined here, is the conception of the desirability of loving pleasure and avoiding pain. For a hedonist the present is more important
than the future. A man with hedonist value in pleasures of senses and avoids pain.

h) Power Value

Here the power value is defined as the conception of desirability of ruling over others and also of leading others. The characteristics of a person of high power value are that he prefers a job where he gets opportunity to exercise authority over others, that he prefers to rule in a small place rather than serve in a big place, that the fear of law of the country rather than the fear of God deters him from having recourse to unapproved means for making money, and that he is deeply status-conscious and can even tell a lie for maintaining the prestige of his position.

i) Family Prestige Value

As defined here, the family prestige value is the conception of the desirability of such items of behaviour, roles, functions and relationship as would become one's family status. It implies respect for roles which are traditionally characteristic of different castes of the Indian society. It also implies the maintenance of the purity of family blood by avoiding inter-caste marriages. It is respect for the conservation outlook as enshrined in the traditional institution of family.

j) Health Value

Health value is the consideration for keeping the body in a fit state for carrying out one's normal duties and functions. It also implies the consideration for self-preservation. A man with high health value really feels if through some
act of negligence he impairs his health, he considers good physical health essential for the development and use of his abilities.

The reliability of value established by the method of test-rest obtained after a time gap of 3 months are fairly high. The well conceptualized religious and family prestige values have reliability, coefficient of .82 and .85 respectively. The lowest reliability is power value .53. The reliability coefficient for other values i.e. social value .66, democratic value .57, aesthetic value .65, economic value .70, knowledge value .63, hedonistic value .54, and health value .64.

The validity of this questionnaire was established and two hierarchies were correlated and rank order coefficient of correlation .64 was found which is significant at .05 level of significance.

Scoring

The responses of the subjects are scored according to the following rules:

i A score of '2' is assigned for a check mark (✓) showing the most preferred value under the stem.

ii Zero '0' for a cross (X) showing the least preferred value under the stem.

iii Subjects were assigned a score of '1' for the blank ( ) or unmarked item showing the intermediate preference for the values.

In all the cases the scores were recorded beside the corresponding bracket and the total for each value (A-J) were written in the cage given at the foot of the page, finally the entries in the cage at the foot of each page were
brought to the bigger cage on the front page. The total of each column noted down in the bottom row that denoted the scores of the respondent on the corresponding value.

3.2.2 Learning Style Inventory

Learning Style inventory developed and standardized by Agarwal (1987). This inventory consists of 63 items with ‘Yes’ and ‘No’ response categories. It comprises of 7 learning styles and each style is a composite of nine (9) items. The agreement of subject with the item indicate one score. The seven learning styles are arranged in the following manner:

a) Flexible vs. Non-flexible

Students who are not satisfied with the traditionally accepted solution to a learning problem and always try to arrive at unique responses and solutions have been identified as having flexible learning style. Students who are satisfied with traditionally accepted response to a leaning solution have been characterized as having non-flexible learning style.

b) Individualistic vs. Non-individualistic

Students who enjoy working on their own on some educational task have been described as having individualistic learning style. Whereas others who prefer carrying out any educational task with a group or in a team have been characterized as having non-individualistic learning style.

c) Aural vs. Visual

Students who depend on printed or written matter or the like for learning have been classified as having visual learning style. Others who learn best
when they hear human voice directly or indirectly have been named as having aural learning style.

d) Field-independent vs. Field-dependent

Students who do not prefer to work in structured learning have been classified as having field independent learning style. On the other hand, students who enjoy working in structured learning situations are classified as having field dependent learning style.

e) Short attentions span vs. Long attention span

Students who are not able to concentrate on some learning task for a longer duration of time and may need some type of intake to continue work on that learning task, have been characterized as having short attention span learning style. Students who can give long continuous sitting for doing some learning assignment without having any intake or without performing any other activity in between have been named as having long attention span learning style.

f) Motivation centred vs. Non-motivation centred

Students who are eager to learn more and more; are enthusiastic about exploiting the learning situations are more conscious about demonstrating their best to get high grade, praise etc for their performance, have been characterized as having motivation centred learning style. Students with contrary characteristics have been taken as having non-motivation centred learning style.
g) Environment oriented vs. Environment free

Students, if affected by physical environment like heat, sound, light while studying have been indentified as having environment oriented learning style. On the other hand students whose learning is not affected by any type of physical environment have been labelled as having environment free learning style.

The range of score for a style varies from zero to nine where zero indicate complete disagreement while nine indicates full agreement with a particular learning style. The scoring for every type of learning style was done according to scoring key of the learning style inventory. The total scores on all the seven learning styles were calculated separately. If an individual responded five (5) or more responses on any learning style in a manner given in scoring key, his score in favour of one pole of learning style would be five or more would classify him having preference for that pole of learning style e.g. a student, who has a score of seven (7) on learning style –I (flexible vs. non-flexible), has been identified as having more inclination towards flexible learning style. However, if he has a score of four (4) or less in favour of one pole of learning style, he has been identified has having preference for the other pole of the learning style, e.g. a student who has obtained a score of three (3) on second type of learning style (individualistic vs. non-individualistic) showed lesser inclination for individualistic learning style, thus demonstrating his preference for non-individualistic learning style.
Reliability of the inventory was established by the test-retest method. The reliability coefficients ranged from .841 to .912. The coefficients are quite satisfactory and the inventory seems to be consistent in measuring the students learning styles.

The coefficient of correlation for learning styles such as flexible vs. non-flexible found to be .884, individualistic vs. non-individualistic .912, visual vs. aural .856, field independent vs. field dependent .849, short attention span vs. long attention span .909, motivation centred vs. non-motivation centered .841 and environment oriented vs. environment free .899. All the coefficients are very high. It means inventory is highly reliable.

The validity of the inventory was established by the panel of experts and suitability of items. Hence, learning style inventory has high validity to measure styles of learning of the subjects.

3.2.3 Social Behaviour Inventory

Social Behaviour inventory of Joshi and Pandey (1988) was used. This inventory consists of 34 items and each item was rated on a five point rating scale on a continuum of always to never. The inventory contains some positive and negative items.

Scoring is simple, for the positive items, the weightage is to be given as 5,4,3,2, and 1 score while in the case of negative items the scoring is reverse as 1,2,3,4, and 5. The positive items are item numbers -1,2,3,7,9,15,17,18, 29, 30, 31, and 32 whereas negative items are item numbers- 4,5,6,8,9, 11,12,13,16,17,25. 28.33 and 34, the individual score varies from 34 to 170.
The high score indicates the effective social behaviour.

The reliability of this inventory was established with the help of coefficient of stability and coefficient of internal consistency. The obtained $r_{12}$ for stability and consistency are .74 and .91 respectively.

The validity of the inventory was established by the method of external factor. The scores with respective factors of 16 P.F. questionnaire (A,H,L,M, and Q₂) concerned with introversion extroversion were obtained. The obtained correlation coefficient between the total scores of social behaviour and factors A,H,L,M, Q₂ of 16 P.F. as criterion are .440, .308, -.004, -.102 and .043 respectively.

3.2.4 Academic achievement

The marks obtained in the previous class have been taken as the academic achievement of the subject for future prediction. Three categories of academic achievement have been considered high, moderate and low achievement. The classification of high, moderate and low achievement based on the following criteria.

- High Achievement  - 65% and above
- Moderate Achievement  - 55% to 64%
- Low Achievement  - 54 and below.

Those who obtained 65% and more marks in previous class considered for high achievement group, those who scored 55% to 64% marks in previous class considered for moderate achievement group and those who obtained 54%
and less marks in previous class considered for low achievement group. This classifications made on the basis of seventh point scale as Grade ‘O’ to ‘F’.

In addition to these variables certain other variables were also taken into consideration such as sex (male and female) and stream (science and non-science).

3.3 Design of the study

In the present study correlational research design is used to see the relationship with each variable and also predict the factors that contribute to influence the criterion variables.

3.4 Data Analysis

Selection of suitable statistical method is utmost important for the analysis of data and it depends upon the type of data and the design of proposed research. In the present study value orientation and styles of learning are the predictor variables and social behaviour and academic achievement are the criterion variables, where value orientation has 10 dimensions and styles of learning has 7 factors.

Keeping the objectives of present study in mind to verify the hypothesis Stepwise Multiple Regression Analysis was applied. All the statistical analysis i.e. product- moment correlation and step wise multiple regression analysis were carried out by SPSS package.