CHAPTER IV

METHOD AND PROCEDURE
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The present study aimed at finding the relationship of intelligence, personality, nAch, I-E Locus of Control, Socio-Economic Status and Academic Achievement to occupational choices of male and female undergraduates both from rural and urban background. The scores for the above said variables will be obtained through the use of standardized tests. Academic Achievement will be measured by the scores obtained by the students in the last examination. Intercorrelations among all the variables will be computed and subjected to factor analysis to find out the clustering of variables with occupational choice. Potential predictors of vocational choices of students of 4 groups will be computed, if need be.

Design:
A factorial design of 2 x 2 was used. The sample represented both the sexes equally i.e. male and female. These two groups were further subdivided into 2 groups according to their dwelling i.e. urban and rural. In this way 2 x 2 design yielding 4 cells was made. In each cell there was 150 subjects so that a total sample of 4 x 150 = 600 subjects was obtained.

Sample:
Stratified random sampling technique was used for the selection of the sample. Sample in the present investigation consisted of 600 students which included 300 male and 300 female
which were further divided into 150 urban male, 150 urban female, 150 rural male and 150 rural female students. Age range of the respondents was taken between 17 to 24 years. Students were taken from B.A. I, II and IIIrd years.

Since it was not possible to cover the whole area and all the districts of Punjab, it was decided to select 5 districts out of 12 districts of Punjab randomly. Selection of the sample was restricted to the colleges of rural and urban sectors from the same districts of Punjab.

Tools

Keeping in view the requirements of the study the following standardized tests of Intelligence, Personality, nAch, Internal-External Locus of Control, Socio-Economic-Status, Academic Achievement and Occupational Choice was used.

(1) Standard Progressive Matrices to measure Intelligence (Raven,1960).

(2) P.E.N. (Psychoticism, Extraversion, Neuroticism) to measure Personality (Eysenck,1970).

(3) The Internal External Locus of Control to measure Internal External Locus of Control (Rotter,1966).

(4) AVAI (Achievement Values and Anxiety Inventory) to measure need for Achievement (Prayag Mehta, 1976).

(5) S.E.S. Scale to measure Socio-Economic Status (Singh,1974).
(6) SDSOC (Semantic Differential Scale of Occupational Choice) was used to measure Occupational Choices (Mohan & Banth, 1975).

(7) Academic Achievement implies the aggregate percentage of marks obtained by the individual in last examination.


Raven's (1960) non-verbal standard progressive matrices was used to measure Intelligence. The choice fell in favour of this test because it is a group test which is culture free and it has been found to be valid and reliable test among the Indian samples of different age groups by Dosajh (1958), Kundu & Sen (1964), Deshpande (1971), Mohan (1976), Sinha (1977), Dolke & Sharma (1978).

The test consists of sixty problems divided into five sets called A, B, C, D, E. These problems in each set provide five opportunities for grasping five methods of meeting the problems and five progressive assessments of a person's capacity for intellectual activity. The test is intended to cover the whole range of intellectual development from the time a child is able to grasp the idea of finding a missing piece to complete a pattern. The test is sufficiently long to assess a person's capacity to form comparisons and reason of analogy.

The SPM is a culture fair measure of general intellectual ability and hence of International use. In such a sample 'culture fair' test may work better when the educational experience and environment of the students varies so much.
This test has retest reliability varying from .83 to .93. It correlates with Terman-Merril Scale and has been found to have a 'g' saturation of .82.

As the order of the problem provides the 'standard training in the method of work, the scale can be given either as individual or as a group test. A person's total score provides an index of his intellectual capacity.

**The Internal-External Locus of Control Inventory (Rotter, 1966)**

The construct 'Locus of Control' grew out of Rotter's theory (1954) of Social Learning. According to this theory—persons who perceive that the rewards of life are contingent upon their own behaviour may be differentiated from those who feel that these rewards are controlled by forces outside themselves. Rotter's (1966) I-E Locus of Control Scale measures generalized beliefs in Internal versus External control of events. Internal-External Locus of Control Scale in its present form consists of 29 items including 6 filler items.

The reliability and validity of the Internal-External scale is well established. The reliabilities as estimated by three methods, Kuder-Richardson, split-half, and the test-retest method were respectively found to be .69 to .73, .65 to . and .55 to .83 in different samples (Hasan, 1974).
Concerning the overall validity of the Internal-External scale, Rotter (1966) states, "A series of studies provide strong support for the hypothesis that the individual who has strong belief that he can control his own destiny is likely to

(a) be more alert to those aspects of the environment which provide useful information for his future behaviour,

(b) place greater value on skill or achievement reinforcement and to be generally more concerned with his ability, particularly his failures, and

(c) be resistant to subtle attempt to influence him.

The internal consistencies and test-retest reliabilities of the Rotter-Internal External Scale have been found to be 'good' by Rotter (1966) also. Correlations with social desirability are also moderate and construct validation extensive both in laboratory and field situation (Rotter, 1975; Lefcourt, 1976; Phares, 1976; Strickland, 1977).

The Internal-External Loc scale is scored in the direction of external control one mark is given for each of the keyed choice.

PEN (Eysenck, 1970)

The more recent studies by Eysenck have demonstrated the possibility of embodying this concept of psychoticism in the form of personality Inventory. It was designed by Eysenck (1970)
to measure Neuroticism, Psychoticism, Extraversion.

The main advantage of the new scale is the introduction of a new variable labelled as Psychoticism (i.e. P). The test-retest reliability of the Psychoticism dimension has been stated as .76 for males and .51 for females on University students (Eysenck & Eysenck, 1978).

This inventory was translated into Punjabi by Mohan & Singh (1976) and its reliability and validity was checked. The test-retest reliability was found to be:

<table>
<thead>
<tr>
<th>Trait</th>
<th>Reliability</th>
<th>Validity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychoticism</td>
<td>.88</td>
<td>.97</td>
</tr>
<tr>
<td>Extraversion</td>
<td>.95</td>
<td>.91</td>
</tr>
<tr>
<td>Neuroticism</td>
<td>.84</td>
<td>.99</td>
</tr>
<tr>
<td>Lie Scale</td>
<td>.92</td>
<td>.99</td>
</tr>
</tbody>
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Each of these three traits are measured by means of 20 questions each. Beside these 60 questions eighteen other questions are included constituting the Lie scale.

**AVA1 (Achievement Values & Anxiety Inventory)** (Paryag Mehta, 1976)

The test was devised by Prayag Mehta (1976) to measure achievement motivation. The inventory contains 22 items. These items are descriptive statements of situations depicted in pictures which were tried out for the development of a thematic apperceptive measure of nAch. Each item is followed by six responses. The items were selected on the basis of their difficulty and discrimination values. These responses also are
based on the stories written to TAT pictures. 2 each of the 6 responses are achievement related, Task related and unrelated to achievement. The Kuder-Richardson .29 reliability of this inventory was found to be .67. The total score on AVAI was found to be correlated with Ach. related responses as .852. The correlation between total scores on AVAI and UR was found to be .817. This means it is a valid Inventory to measure Achievement motivation with high positive correlation between AVAI and AR.

Socio-Economic Status (G.J. Singh, 1974)

To study the social background of an individual in India, the first attempt was made by Kuppuswamy (1962). The three important variables he selected was based on a seven point scale in which equal weightage was provided to different variables and by assigning equal intervals between the different points of the scale. The try out was done by administering this scale to different groups of people. Weightage of the occupation and income scale of the final form were changed. The scale was further standardized and modified by Singh (1974), primarily for assessing the socio-economic status of students, studying in medical colleges. Singh (1974) felt that since 1962, a number of changes had taken place in the socio-economic structure of our society. Cost of living and also the per capita income had increased, keeping these changes in mind, two new items were added. These new items were the nature of the family and the size of the family.
The socio-economic scale consist of 5 main items. The scale calls for information about rural and urban and on important aspect of socio-economic status of a family, the occupation, education and income of the father and the status of the family whether joint and nuclear and the general nature of the family - number of brothers and sisters. Indian norms (mean) of the scale as found by Singh on socio-economic status scale is 23.44, S.D = 6.92.

Scoring was done by allotting number to the applicable categories in all the subvariables and finally total score was taken out to determine the socio-economic-status of the students as follows:

- Higher on Rich : 31-34
- Higher Middle : 21-30
- Middle Middle : 16-20
- Lower Middle : 10-15
- Non-determinable : 9 or Poor below

This classification was made in accordance with the scheme advocated by Kuppuswamy (1962) in his manual of socio-economic status scale.

**Academic Achievement**

Academic Achievement generally refers to the degree or level of success or proficiency attained in some specific area concerning scholastic or academic work.
Academic Achievement was measured in terms of percentage of marks obtained in the last examination.


To study the pattern of occupational choices made by the subjects, Semantic Differential Scale for Occupational Choice by Mohan & Banth (1975, 1977) was used. Roe's (1956) and Nco (1969) classification of occupations were used for framing the description of occupation because it suited the Indian background. Entire enthalogy of occupations were classified into 8 groups: (1) Social Service, (2) Business Contact, (3) Organization, (4) Technology, (5) Outdoor, (6) Science, (7) General Culture, (8) Arts & Entertainment (Roe, 1956; Osipow, 1968; Mohan & Banth, 1975). These groups were further elaborated into three levels according to the degrees of responsibility, capacity, and skill. These groups were further elaborated by Roe (1956) through classification into six levels based upon the degree of personal autonomy and level of skills and training required. The SDSOC (Mohan & Banth, 1975) has utilised the above eight groups, but the four levels within each group. It was further felt that score on the 4th level was very low on the undergraduate students or college students as students of B.A. level are least expected to opt for unskilled jobs. It was finally considered appropriate to use only three levels for the present investigation.
Thus in all there are 24 job descriptions out of eight groups and three levels of classifications. A seven point scale was used for rating, centre being the neutral point. All the positive values were on the left and negative values were on the right. The scale would be scored from 7 to 1 respectively.

Group Division indicates the primary focus of activity in the occupations. Classification of occupation into levels depends upon the degree of personal autonomy and the level of skill and training required. The detailed description of eight groups and three levels is presented below:

1. **Social Service**: These occupations are primarily concerned with serving and attending the personal tastes, needs, welfare of other persons included are occupations in guidance, social work, domestic and protective services.

2. **Business Contact**: The occupations are primarily concerned with face to face relation to deal with commodities investment, real estate and services. Also included such occupations as demonstrators, auctioners and some kind of agents.

3. **Organization**: These are managerial and white collar jobs in business, industry and government. The occupation concerned primarily with the organisation and efficient functioning of commercial enterprises and of government activities.
(4) **Technology**: This group includes occupations concerned with production, maintenance, and transportation of commodities and utility. Here are occupations in Engineering crafts and machine trades.

(5) **Outdoor**: This group includes agriculture, fishery, forestry, mining, kinderred occupation. The occupations primarily concerned with the cultivation, preservation and gathering of crops, of marine of inland, water resources, of mineral resources, of forest products and other natural resources and with animal husbandry.

(6) **Science**: These are occupations primarily concerned with scientific theory and its application under specified circumstances, other than technology.

(7) **General Culture**: These occupations are concerned with the preservation and transmission of the general cultural heritage. The group embraces occupations concerning the subjects usually called the humanities. It includes occupations in education, journalism, jurisprudence, the ministry, linguists and so on. All elementary and high school teachers are included in this group.

(8) **Arts & Entertainment**: The use of special skills in the creative arts and in the field of entertainment. Both creators and performers are included in this group.
LEVELS

Level I: This level included not only the innovations and creations but also the top management and administrative people as well. These professional people have independent responsibilities in the policy making and other important aspects. The education needed is usually of doctorate or equivalent level.

Level II: This level designates lesser degree of responsibilities than in level I. It includes occupations with medium level of responsibility for self and other and their job includes the policy interpretation. The required education is at or above the bachelor level, but below the doctorate or equivalent.

Level III: The criteria suggested in this level, include low level responsibility for others, application of policy or determination of policy for self only. The education required is high school plus technical school or the equivalent.

Combining these two classifications (Groups and Levels) SDSOC for the present investigation has 24 descriptions of occupation. Each of these descriptions was rated on Semantic Differential Scale consisting of seven pairs of bi-polar adjectives, each rated on a seven point scale. The use of seven point scale was intended to increase precision of measurement and to provide forced choice differentiating subjects responses as reflecting greater preference for one or the other bipolar adjectives (Sneider and Osgood, 1969, Mohan & Banth, 1975).
The scoring is accomplished on the guidelines of Semantic Differential scoring (Osgood, 1969).

The SDSOC have been successfully used on the University, School and Technical training institutions as reported by Mohan & Banth (1975, 1983), Mohan & Walia (1976), Randhawa (1977); and Vohra (1977).

Collection of Data

The data was collected on the sample of 600 students which was randomly selected from the different colleges of 12 districts of Punjab.

The tests were administered in different sessions to subjects in a group of 15 to 20 in their classes, in accordance with the instructions for administrations given in the respective test manuals. Strict supervision was done to see that students do not discuss or take each other's help while doing the test. The objective of the test was concealed. Subjects were told that the results would be kept strictly confidential and their questions about psychology and certain problems related to tests were tried to be satisfied.

Scoring of the tests were the next step for which separate scoring keys were used and it was done according to their manuals. All the scoring was done by hand and scores from all the tests were taken further for analysis.