CHAPTER IV

METHODOLOGY
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The present study is conducted to explore the predictability of depression through life-stress, attributional style, personality, coping style, sex roles, and social-support among college and university students.

This chapter presents details of the sample, tools and statistical procedure.

SAMPLE

The initial sample consisted of about 300 subjects. The subjects were adult college and university students (both males and females). Belonging more or less to the same socio-economic status and academic standard, their lower age limit was 20 and upper 25 yrs. Thus, the subjects were capable of performing and comprehending the tests used in the research. However, only 262 subjects could complete all the tests and comprised the final sample of the study. The technique of sampling was incidental, purposive, and stratified. Table 47 gives the gender composition of sample and its sources.
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<th>Total</th>
</tr>
</thead>
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</tr>
<tr>
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<td></td>
</tr>
<tr>
<td>Govt. Girls college</td>
<td>-</td>
<td>36</td>
</tr>
<tr>
<td>Shimla</td>
<td></td>
<td></td>
</tr>
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<td>52</td>
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<tr>
<td>Shimla</td>
<td></td>
<td></td>
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<tr>
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<td>20</td>
<td>30</td>
</tr>
<tr>
<td>Shimla</td>
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<td></td>
</tr>
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TOOLS USED

The following tools were used in the present study:

1. Attributional Style Questionnaire - ASQ  
(Peterson et al. (1982))
2. Eysenck's Personality Inventory - EPI  
(Eysenck & Eysenck, 1963)
3. Significant Others Scale - SOS  
(Poiner, Champion & Avis, 1986)
4. Depression Coping Questionnaire - DCQ  
(Kleinke, 1988)
5. Life-Experience Survey - LES  
(Sarason, Johnson & Siegal 1978)
6. Bem Sex-Role Inventory - BSRI  
(=Bem, 1978=)

7. Self-Rating Depression Scale -SDS  
(Zung, 1965)

A brief description of the tools including the procedure of their administration and scoring follows:

ATRIBUTIONAL STYLE QUESTIONNAIRE - ASQ  
(Peterson et al. 1982)

The Attributional style questionnaire poses 12 hypothetical situations that might happen to individuals/students. There are six achievement and six affiliation events. The first six events have responsibility for positive outcomes, and the next six one's have responsibility for negative outcomes (RPO and RNO, respectively). RPO taps whether in general a person views positive outcomes as occurring by his or her own effort, or because of chance. RNO is concerned with the extent to which a person attributes negative outcomes to internal factors such as his or her character or behaviour. The scales have been found to be independent, and both have demonstrated acceptable reliability and validity.

Administration

The ASQ was administered to students with the following instructions:
"Listed below are some items and your task is to describe yourself against one of the 5 degrees that you think is most applicable to you, that is strongly agree, agree, neither agree nor disagree, disagree, and strongly disagree. Please read each item carefully and encircle the appropriate response.

Scoring

The Scoring was done on 5 point scale, and it was reversed for both RPO and RNO responses. That is, a score of 5 was assigned to a response of "strongly agree" and so on, till a score of 1 for "strongly disagree". The total attributional score was obtained by summing all positive (RPO) and negative (RNO) scoring individually.

EYSENCK PERSONALITY INVENTORY—EPI

(Eysenck & Eysenck 1963)

Eysenck personality Inventory is composed of 57 items. Much of the Eysenck's work has been based on the application of the Maudsley Personality Inventory (MPI, 1959). This was developed from and superseded the Maudsley Medical Questionnaire. It has been replaced in its turn by the Eysenck Personality Inventory (EPI, 1963). Eysenck has given certain dimensions of personality, i.e. neuroticism—stability, and extroversion—introversion. Terms such as extroversion and introversion have been used in a sense strictly derived from empirical studies such as Eysenck's.
(1947), Vernon (1953), Stern (1962) and Nicholls & Schenell (1963).

Neuroticism refers to that dimension of personality of individual, whose emotions are labile. These personality factors or dimension have been measured by Eysenck Personality Inventory (EPI) which is widely known in the world of psychology. It has 57 question in all, 24 for neuroticism, 24 for extroversion/introversion (E/I) and rest of the nine (9) items constitute the lie scale. The test retest reliability of the EPI ranges between .80 to .97 for both neuroticism and extroversion and is indicative of the high dependability of the scale.

Administration

The questionnaire was administered with the instructions given below:

"here are some questions regarding the way you behave, feel and act, after each question, is a space for answering 'Yes' or 'No'. Try to decide whether 'Yes' or 'No' represents your usual way of acting or feeling, then put a circle around 'Yes' or 'No'. Work quickly and do not spend too much time over any question. The whole questionnaire should not take more than a few minutes. Be sure not to omit any question".

Scoring

After completion of the questionnaire the
total (57) items were scored with the help of scoring key. Items are divided among extroversion, neuroticism and lie scores. Both extroversion and neuroticism have twenty four items each and rest nine are lie scores. So with the help of scoring key scores were counted as extroversion, neuroticism and lie scores, separately.

**Significant Other Scale -(SOS)**

(Poiner & Champion, 1988)

This scale of social support has been developed by Power, Champion & Aris (1988). This scale measures different functional resources of social-support that may be provided by a number of role relationships within an individual's social network. The scale has a good (.83) six-month test-retest reliability and significantly distinguishes between depressed and non-depressed respondents. The scale was developed on a sample which included a wide range of ages, occupations and backgrounds. The format of the scale provides 12x10 grid. The column of the grid consist of the mean of 11 potential role relationships that the average person might expect to engage in mainly parents, teachers, brother, sister, friends etc. In addition there is 12th column labelled, "Other" in which the respondents are asked to state the relationships to them of any other individual, who is important but who has not been included in the 11 named categories. The respondents are asked to rate each currently applicable relationship on each
of the 10 support functions. A 1-7 scale is used from 1 never to 7 always.

If a relationship is not applicable, the respondent is asked to leave the column blank.

Thus, the scale is capable of distinguishing the structural and functional aspects of support. For the structural aspects, the scale shows which significant relationship do or do not exist, and which relationship provide support for the functional aspect, the scale measures, what type of support is provided in a particular relationship.

Second, support is divided into the general categories of emotional support (1-5) items of the scale/vs practical support (6-10) items of the scale. Although a large number of distinctions exist in the literature between different categories of support, these all appear to be sub-categories of emotional or practical support.

Administration

The SOS was administered to the students with the following instructions:

"here are some items which show your relationship in ten areas with significant social others. You are required to rate on each item and then of course mark number using 1-7 scale for each of the significant other mentioned."
Scoring

Rating was done on the 7-point scale. The numbers written below the appropriate choice items were summed up vertically and then the total sum of all the numbers was divided by ten to get the actual SOS score.

DEPRESSION COPING QUESTIONNAIRE - DCQ

(Kleinke, 1984)

The DCQ has 29 items. Factor analysis of the Depression Coping Questionnaire (DCQ Kleinke, Staneski, & Mason 1982) identified 11 coping responses: social support, problem-solving, self-blame/escape, aggression indulgence, activities, medication, stimulation, eating, TV and ignoring. The scale has two types of items, associated with emotion focused, and problem-focused coping. It has been predicted that persons having emotion-focused coping (EF) are more depressed in comparison to persons having problem focused (PF) coping. For validation of the questionnaire multiple-regression analysis indicated that the DCQ contributed significant variance in predicting Beck Depression Inventory (BDI) scores of men ($R = .705$) and women ($R = .568$) from three population samples. Both men and women's BDI scores were correlated positively with age self-blame/escape, medication, and TV and correlated negatively with social-support, problem-solving and indulgence. Four significant functions were identified in a discriminant analysis, that
compared nine groups made up schizophrenic male veterans, depressed and non-depressed male and female college students and male and female chronic pain patients.

Administration

The DCQ was administered with the following instructions:

"People may deal with tensions in different ways. How often do you do the following kinds of things when you feel tense because of some problem. Please mark (√) on the appropriate choice. The scale ranges from 1 "Hardly ever do this", to 5 "Almost always do this".

Scoring

The subject responded to each item by entering 1 for, hardly ever do this," 2 for 'for "do this," 3 for never do this" 4 for "almost do this" and 5 for "almost always do this". Scoring is done on 5-point scale. Individual scoring was performed for problem focused (PF) items, and emotion focused (EF) items. Total scores of PF and EF were summed up individually and then divided by 40 and 105 respectively to find out the mean- scores of each subject, in PF and EF coping.

LIFE EXPERIENCE SURVEY -LES

(Sarason, Johnson & Seigel, 1978)

The LES has been developed to assess the
impact of life-change. The LES is a 57 item self-report measure and allow respondents to indicate events they have experienced during the past year. The scale has two portions. Section I is designed for all respondents and contains a list of 47 specific events plus three blank spaces in which subjects can indicate other events they may have experienced. Nine of the ten school or college related items are unique to the LES.

The authors report two test-retest reliabilities and Pearson's product moment correlations computed for positive change scores were 0.19 and 0.53 (P<0.01), and for negative change scores were 0.56 (P<0.01) and total change scores were 0.63 (P<0.001) and 0.64 (P<.01).

Administration

The format of the LES calls for subjects to rate separately the desirability and impact of events they have experienced. They are asked to indicate those events experienced during the past 6 months to 9 months, as well as:

(1) whether they view the event as being positive or negative, and
(2) the perceived impact of the particular event on their life.

Scoring

Ratings are done on a 7 point scale ranging
from -3 to +3. A rating of -3 indicates a negative event judged to have had an extreme impact on the respondent. A rating of +3 indicates a positive event having an extreme impact. A negative change score is derived by summing the impact rating of those events experienced, as negative by the subject. In this study only the total negative change score was used for analysis.

Bem Sex Role Inventory BSRI

(Bem, 1978)

The Bem sex-role inventory was developed by Sandra Lipsitz Bem. Both in psychology and in society at large, femininity and masculinity have long been conceptualized as opposite ends of a single bipolar dimension. More recently however scholars in a number of disciplines have began to concern themselves with the concept of psychological androgyny, a term that denotes the integration of femininity and masculinity within a single individual. The concept of psychological androgyny implies that it is possible for an individual to be both compassionate and assertive, both expressive and instrumental, both feminine and masculine, depending upon the situational appropriateness of these various modalities.

The Bem Sex-Role Inventory (BSRI) was designed to implement empirical research on psychological androgyny. It contains sixty personality characteristics. Twenty of the
characteristics are stereotypically feminine (e.g. affectionate, gentle, understanding, sensitive to the needs of others) and twenty are stereotypically masculine (e.g. ambitious, self-reliant, independent, asertive). The BSRI also contains twenty characteristics that serve as filler items (e.g. truthful, happy conceited). When taking the BSRI, a person is asked to indicate on a 7 point scale how well each of the 60 characteristics describes herself or himself.

The BSRI has two features that distinguish it from most masculinity femininity scales. It treats femininity and masculinity as two independent dimensions, thereby enabling a person to indicate whether he or she is high on both dimensions ('androgynous') low on both dimensions ('undifferentiated') or high on one but low on the other ('either feminine or masculine').

Accordingly, items were selected as feminine or masculine on the basis of cultural definitions of sex-typed social desirability, and not on the basis of differential endorsement by females and males. The Bem-Sex Role Inventory was initially published in the 'Journal of Consulting & Clinical Psychology', in 1974). A modification in the scoring system was published in 1977 in the same Journal. The test retest reliability of this scales ranges between 0.76 to 0.94. Support for validity is provided by a series of studies on instrumental and expressive functioning. In these studies, only androgynous individuals consistently
displayed high levels of behaviour in both domains, whereas non-androgynous individuals were frequently low in one or the other of two domains (Bem, 1975, Bem, Martyna & Watson, 1976).

Administration

BSR-I was administered with the following instructions:

"There are some adjectives in the list. These adjectives describe the qualities that a person may have in some degree. You are to read the adjective one by one and indicate the degree to which each adjective describes you, using the 7 point-rating scale, that is Always, Almost Always, Mostly, Neutral, Sometimes, Almost Never, Never.

Please read each item carefully and put tick mark (√) in one of the seven columns".

Scoring

Scoring was done on a seven point-rating scale. There are 60 adjectives. Handscoring the BSRI is a simple task. The first step is the calculation of each subject's femininity (F) and masculinity (M) scores, which are the averages of the subject's ratings of the feminine and masculine adjectives on the BSRI. That is, a given subject's femininity score is the mean of that subject's rating on the feminine adjectives, and that same subject's masculinity
score is the mean of her/his rating on the masculine adjectives. The placement of adjectives on the BSRI is as follows:

1. The first adjective and every third one thereafter is masculine.
2. The second adjective and every third one thereafter is feminine.
3. The third adjective and every third one thereafter is filler.

For scoring, the sum of the ratings for each scale were totalled and divided by the number of items rated.

SELF-RATING DEPRESSION SCALE - SDS

(Zung, 1965)

Zung Self-Rating Depression Scale consists of 20 items. Each item is to be rated on a four point scale, starting from "a little of the time" to "most of the time" carrying the score values of 1, 2, 3, 4, respectively. Half of the 20 items are scored reversibly and other half in the positive direction.

The items cover the following dimension:

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Items</th>
</tr>
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<tbody>
<tr>
<td>1. Pervasive effect</td>
<td>1-2</td>
</tr>
<tr>
<td>2. Physiological equivalents</td>
<td>3-10</td>
</tr>
<tr>
<td>3. Psychological equivalents</td>
<td>11-20</td>
</tr>
</tbody>
</table>
(agitation, retardation, ideational confusion hopelessness, irritability dissatisfaction, indecisiveness, personal devaluation, suicidal rumination).

The scale was standardized on 122 outclinical patients. It was validated by correlating it with MMPI depression scale and validity coefficient as found to be .70.

Administration

With the following instruction the questionnaire was administered.

"There are some items in the scale and you are requested to read each item carefully and mark on the one which you think is applicable to you. The scale ranges from "a little of the time" to "most of the time".

Scoring

Rating is on 4 point scale for both positive and negative items. Reverse scoring is done in case of positive items which are 10 in number. A score of 4 is assigned to a response of 1 "a little of the time," and a score of 1 is given to 4 "most of the time".
PROCEDURE

The subjects were contacted in small groups and explained the nature of the study to be conducted. A close rapport was formed with them and they were motivated to answer the questions given in different scales. The purpose of the study was explained to all the subjects and they cooperated with the investigator. The investigator inquired about the difficulty, if any, being faced by the subjects in filling the questionnaires. The subjects were assured that their responses would be kept confidential. Out of total 300 students, 262 subjects completed all the questionnaires and rest were discarded. It was made sure that all the questions were completed by the respondents & nothing was left incomplete. The subjects were also free to give their suggestions and comments.

While collecting the data, necessary precautions were taken, such as:

a) emphasis was placed on proper rapport formation,

b) clear instructions were given in every questionnaire and the subjects were made to understand the meaning of the study.

Statistical Design

There were total 262 subjects (130 females
and 132 males). To achieve the objective of the present research the following relationship of explanatory variables with the dependent variable was used.

Stage one comprised of the descriptive data of all the subjects on different variables taken in the study, this included the results of mean and standard deviations and t values.

Stage two comprised of corelational analyses.

Stage three In the third stage the stepwise multiple regression was computed to find out the best set of predictors for depression, all the 11 variables were entered stepwise in to the regression equation. The analysis was made with the help of computer. Stepwise multiple-regression technique was applied for females and males respectively.

The order of entry of the predictor variables into the stepwise regression analysis for both males and females was determined by the computer on the basis of the magnitude of the variance contributed by a particular predictor variable, thus order of entry for females given in table 4.2 comes out to be as:
### TABLE 4.2
Order of entry of predictor variables in stepwise regression analysis for females:

<table>
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<tr>
<th>Variable</th>
<th>Order of Entry</th>
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<tr>
<td>Dep . T&lt;sub&gt;1&lt;/sub&gt;</td>
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</tr>
<tr>
<td>N</td>
<td>2</td>
</tr>
<tr>
<td>PF-Coping</td>
<td>3</td>
</tr>
<tr>
<td>LES</td>
<td>4</td>
</tr>
<tr>
<td>EF-Coping</td>
<td>5</td>
</tr>
<tr>
<td>RPO</td>
<td>6</td>
</tr>
<tr>
<td>RNO</td>
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<tr>
<td>E</td>
<td>8</td>
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<td>M</td>
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### TABLE 4.3
Order of entry of predictor variables in stepwise regression analysis for males:

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<td>6</td>
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<td>SOS</td>
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<td>E</td>
<td>11</td>
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