Chapter – 3

Methodology
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The main objective of this study was to examine the correlates of depressive symptoms in nurses. In the context of different objectives, several hypotheses were formulated. The empirical verification of the proposed hypotheses, however, depends upon:

3.1 SAMPLE
Selection of adequate sample.

3.2 MEASURES / TOOLS
Tools used for collecting data, and

3.3 DATA COLLECTION
Method and procedure employed for deriving conclusions from different measures.

3.4 SCORING OF TEST

3.5 ANALYSIS
Analysis of data by use of appropriate statistics.

Thus, it seems appropriate to describe the sample, the tools used and the method and procedure employed in completing the research being reported. Presented in this chapter is a description of the sample used for collecting reliable measures pertaining to the objectives of the study. The information concerning different tests is also given. Also, this chapter includes a description of the procedure followed for administration and scoring of different tests. This chapter also includes the procedure followed for the analysis of data.
3.1 SAMPLE

Three hundred nurses (150 head nurses* and 150 staff nurses**) participated in the study. The sample of 300 nurses was selected from various hospitals in Chandigarh. Further the participants to be included in study were also required to be showing:

1. No evidence of drug addiction or alcoholism, and
2. Not currently in treatment for a diagnosed psychiatric disorder.

The sample was limited to participants who were available and willing to participate in this study, thus limiting the assumption of randomization.

3.2 DESCRIPTION OF MEASURES / TOOLS

The following tests were used:

1. Zung’s Self Rating Depression Scale (Zung, 1965).
2. Eysenck Personality Questionnaire (Eysenck & Eysenck, 1975).
3. Hardiness Scale (Kobasa et al., 1982).
4. Social Support Questionnaire (Sarason et al., 1983).
7. IPAT Anxiety Scale Questionnaire (Cattell & Schutte, 1963).

3.2.1 Zung’s Self-Rating Depression Scale (Zung, 1965)

Zung’s Self-Rating Depression Scale was selected because it is intended to quantify depressive symptoms. It is appropriate for use in studies of depressive symptomatology.

The scale is said to be an excellent checklist of 20-items covering affective, psychological, and somatic features. The scale seems to be well balanced with equal number of positive and negative statements as out of the 20-items used ten are worded symptomatically positive and the other ten

* Head nurse referred to a participant involved in administration.
** Staff nurse referred to a participant involved in caring of a patient.
items are worded symptomatically negative. The maximum contribution of behavioural and somatic features to the full scale score is 50% (items 2 to 10, 13). Some of the important features covered by ZSRS refer to suicide (item no.19), insomnia (item no.4), work and interest (item no. 8, 20), agitation (item no.13), loss of interest (item no.7), gut symptom (items no. 5 and 8), psychological anxiety (item no.15), somatic anxiety (item no.9), depression (item no.1, 3, 14, 17) etc. To the extent the Zung Self-Rating Scale matches the Hamilton Rating Scale for depression (HRS), Hamilton (1969) has commented that the ZSRS "is likely to have many uses because it is short and not difficult to fill in". It’s brevity is reflected by the restricted range of items.

For each item, respondents indicate the frequency with which they have experienced a specific feature during the preceding month by selecting one of the four alternatives (i.e., not at all, moderately often, often, all the time), with numerical value ranging from 1 to 4 for positive statements. The maximum possible ZSRS score is 80, while a score of 20 indicates the complete absence of depressive symptoms. Higher the scores the greater is the symptomatology. The psychometric properties of the scale are extensively documented by the authors. Gabrys & Peters (1985) found support for the scale’s reliability by judge or self report and the predictive and discriminative validities with functionally diverse groups.

Another study (Schaefer et al., 1985) estimated the internal consistencies of Zung Self-Rating Depression Scale by computing alpha coefficients. The Zung alphas were 0.90 (psychiatric ward) and 0.86 (chemical dependency ward). The results favoured the Zung over the MMPI-D Scale, and to a lesser degree, the Beck Depression Inventory as a measure of depressive symptomatology in men.

Another study (Tanaka-Mastumi & Kameoka, 1986) reported Cronbach alpha coefficient of 0.81 for a sample of 391 normal college students. The authors also found evidence for convergent validity but the discriminant validity was not clearly demonstrable, as pairs of anxiety and depression scores correlated strongly.

Despite these concerns by some authors, Zung Self-Rating Depression Scale has been extensively used by researchers for measuring depressive symptoms or tendencies. The psychometric characteristics of the scale are
well documented in Indian set up too (Upmanyu, Upmanyu, & Dhingra, 1993; Upmanyu & Reen, 1991).

Symptoms referred to different items are as follows:

<table>
<thead>
<tr>
<th>Items</th>
<th>Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Sadness</td>
</tr>
<tr>
<td>2.</td>
<td>Diurnal variation</td>
</tr>
<tr>
<td>3.</td>
<td>Spells of crying</td>
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<tr>
<td>4.</td>
<td>Sleep disturbance</td>
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<td>5.</td>
<td>Anorexia</td>
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<td>6.</td>
<td>Loss of libido</td>
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<tr>
<td>7.</td>
<td>Weight loss</td>
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<tr>
<td>8.</td>
<td>Constipation</td>
</tr>
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<td>9.</td>
<td>Techycardia</td>
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<tr>
<td>10.</td>
<td>Fatiguability</td>
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<tr>
<td>11.</td>
<td>Loss of concentration</td>
</tr>
<tr>
<td>12.</td>
<td>Psycho-motor retardation</td>
</tr>
<tr>
<td>13.</td>
<td>Psycho-motor agitation</td>
</tr>
<tr>
<td>14.</td>
<td>Hopelessness</td>
</tr>
<tr>
<td>15.</td>
<td>Indecisiveness</td>
</tr>
<tr>
<td>16.</td>
<td>Irritability</td>
</tr>
<tr>
<td>17.</td>
<td>Self-deprecation</td>
</tr>
<tr>
<td>18.</td>
<td>Emptiness</td>
</tr>
<tr>
<td>19.</td>
<td>Suicidal thoughts</td>
</tr>
<tr>
<td>20.</td>
<td>Dissatisfaction</td>
</tr>
</tbody>
</table>

3.2.2 Eysenck Personality Questionnaire (Eysenck & Eysenck, 1975)

The Eysenck Personality Questionnaire (EPQ) is the most recent in a series of relatively short questionnaires designed to measure the basic dimensions of personality proposed by Eysenck (1947). The first questionnaire in this series was the Maudsley Medical Questionnaire (Eysenck, 1947). This was a forty item measure of neuroticism. This was followed by the Maudsley Personality Inventory (M.P.I.) which contained scales for the measurement of neuroticism and extraversion-introversion (Eysenck, 1967, 1962). It was in turn followed by Eysenck Personality
Inventory (Eysenck & Eysenck, 1969); this added a “lie” (L) scale to measure dissimulation. It was also designed in order to provide certain psychometrically desirable improvements over the M.P.I. e.g., the dimensions of E and N were completely independent in the E.P.I., whereas they had been slightly correlated in M.P.I. More precisely speaking, Eysenck’s earlier questionnaires were concerned with two major personality dimensions, extraversion (E) and neuroticism (N).

The main advantage of the new scale (EPQ) is the introduction of a new scale, which has been labeled P for psychoticism. Thus the Eysenck Personality Questionnaire (EPQ), according to its authors, Eysenck & Eysenck (1975), measures the three superfactors, P (Psychoticism), E (Extraversion) and N (Neuroticism). It also includes a Lie (L) scale, the original purpose of which was to assess dissimulation, but which now, according to the Eysenck assesses, individual differences in social naivete as well. A range of studies has compared the earlier versions of the Eysenckian scales. The general conclusion is that the various versions of the scales (JEPI, JEPQ, EPI, EPQ) intercorrelate satisfactorily. At the same time, there is the recognition that the nature of extraversion is changing in the more recent versions of the scales (Francis & Pearson, 1985).

While in the EPI extraversion clearly contained the two components of impulsivity and sociability (Eysenck & Eysenck, 1963), in the EPQ extraversion has been largely refined of the impulsive items, which in turn have been attracted to the newer dimension of Psychoticism (Eysenck & Eysenck, 1976). This shift in the composition of extraversion leads to a different pattern of correlations between the various editions of the extraversion scale and certain external measures (Francis & Pearson, 1985; Tsoi & Nicholson, 1982).

The questionnaire was developed using the results of large-scale factor analysis and Eysenck & Eysenck (1976) have claimed that their four factors appear in both, first and higher order solutions. Among the first item-factor analysis of the E.P.Q. by researchers other than the Eysenck were those undertaken by Loo (1979), Helmes (1980) and Barrett & Kline (1980). Loo’s study failed to locate Eysenck’s factors at either the first or higher orders. Helmes, whilst finding that the scale means, standard deviations and internal
consistencies were comparable to those already published, found lower reliabilities for the P and L-scales, the P-scales in particular had values of Cronbach's alpha coefficient of 0.59 for males and 0.45 for females compared with published norms of 0.74 and 0.71, respectively. Helmes also observed highly skewed distributions of the P-scores and managed to retrieve only 14 of the 25 P-items at the first order. The third item factor-analysis by Barrett & Kline (1980) was the most comprehensive and provides a wealth of detail on both the scale scores and the factor structure. Using principle components analysis followed by a direct oblimin rotation (Jennrich & Sampson, 1966) the researchers recovered practically all the E, N and L-items at the second order. However, although P as a factor did appear in most of the samples analysed, there was no clear recovery of the substantial majority of P-items in the female samples. In the later study, Barrett & Kline (1982) concluded that the factor structure of the E.P.Q. was reliable and that the factors appeared with remarkable clarity, the only exception being the low level of retrieval of P-items in some of the samples analysed. Furnham & Handerson (1982) found that the L-Scale distinguished clearly subjects 'faking good' and 'faking bad' and that both P and N-Scales were sensitive to dissimulation. Subsequent to these studies, Eysenck, Eysenck, & Barrett (1985) conceded that the major faults of the P-Scale were its low reliability, low range of scoring and grossly skewed distribution of scores and produced an improved version of the scale with increased values of Cronbach's alpha coefficient of 0.81 for males and 0.73 for females. However, in order to achieve these values the P-Scale had to be increased to 32 items. The lengthened P-Scale correlated 0.88 for males and 0.81 for females with the E.P.Q. original P-Scale. More recent study of Torrubia & Muntaner (1987) revealed that the revised psychoticism scale, which has been found to improve the psychometric properties of the original Psychoticism Scale, does not differ greatly from its predecessor in its relationship to other personality variables. Moreover, Pearson's correlation coefficient between two variations of the P-Scale was 0.86 for males and 0.79 for females. The original P-Scale was used in the present study since further work is still needed on revised version of the psychoticism scale.

O'Gorman & Hattie (1986) on the basis of an investigation using an Australian sample concluded that although no doubt a greater number of
factors than 4 could be extracted from the data matrix, there seemed to be no theoretical reason for doing so and suggested that the future efforts would be better spent in attempts to confirm the predicted factor structure than in further exploratory tests. The authors found evidence for the confirmation of the factor structure of the EPQ using an Australian sample. McKenzie (1988) concluded that the analysis provided conclusive confirmation that Eysenck’s factors of P, E, N and L, are real, reliable and replicable across populations and sexes and they can be located at the first order and both P and N are sensitive to dissimulation.

It can be noted from early researches that the Eysenck Personality Questionnaire is one of the most widely used personality questionnaire and it has been extensively studied in many countries including India (Upmanyu & Upmanyu, 1988; Upmanyu & Upmanyu, 1984; Upmanyu, Gill, & Singh, 1982; Hundal & Upmanyu, 1974; Farby & Goh, 1976; Eysenck & Eysenck, 1968, 1975, 1976; Teasdale, Segraves, & Zacune, 1971).

3.2.3 Hardiness Scale (Kobasa et al. 1982)

The focus of stress and illness relationship is based on resistance scores (Antonovsky, 1987, 1979) that potentially prevent the psychological tension. These resistance resource include one’s physiological adaptability, social support, cultural context, and personality (Antonovsky, 1979).

Following this logic Kobasa (1979) developed the concept of personality hardiness. Hardiness comprises three dimensions: commitment, challenge and control. Hardy individuals have a higher sense of commitment of purpose (e.g., to work, to self, etc.) as opposed to a sense of alienation. These individuals tend to perceive life changes as challenges rather than threat to their security. Hardiness involves a sense of control over one’s life and intervene in their own behalf when needed.

Hardiness affect stress and health in two ways. Greater hardiness, less psychological stress, consequently greater health. They use effective coping strategies and social resources to reduce stress and prevent health. This tendency has been called the stress buffering effect of hardiness (Kobasa, Puccetti, 1983; Kobasa, 1982a). Number of studies on the relationship between hardiness, life events stress, and illness among executives, lawyers
and company managers are reported (Kobasa & Puccetti, 1983; Kobasa, Maddi, & Zola 1983; Kobasa, Maddi, & Kahn, 1982; Kobasa, Maddi, & Corrington, 1981).

Considerable research has been done on hardiness. The dimensions of hardiness commitment, control and challenge are measured separately. On all measures, lower scores were equal to greater hardiness and higher scores were equal to lower hardiness. Commitment was measured by the 12 items, control measured by 20 items and challenge was measured by 15 items.

Researches have shown that Kobasa’s Hardiness Scale possess essential psychometric characteristics.

3.2.4 Social Support Questionnaire (Sarason, Levine, Basham, & Sarason, 1983)

Social Support Questionnaire (SSQ) developed by Sarason, Levine, Basham, & Sarason, (1983) consists of 27 items. Each one asks a question to which a two-part answer is requested. The item asks the subject (a) to list the people to whom they can turn on and whom they can rely in given sets of circumstances, and (b) indicate how satisfied they are with these social supports on a 6-point Likert Scale (very satisfied, fairly satisfied, a little dissatisfied, fairly dissatisfied, very dissatisfied).

The SSQ yields two scores: (a) perceived availability of the number of supportive persons listed (SSQ-N*), and (b) satisfaction with available support (SSQ-S**). The number (N) score for each item of the SSQ is the number of support persons listed. The social support available to deal with a given problem is rated on a scale ranging from “very satisfied” to “very dissatisfied”. This yields a satisfaction(s) score for each item that ranges between 1 to 6. The overall N and S scores are obtained by dividing the sum of N or S scores for all items by 27 the number of items included in the Social Support Questionnaire.

The Social Support Questionnaire has been found to have a number of desirable psychometric properties. It was found to have (a) stability over a 4-week period of time, and (b) high internal consistency among items.

* SSQ-N : Refers to social support in terms of quantity.
** SSQ-S : Refers to social support in terms of quality.
The authors concluded that the modest correlation between SSQ-N and SSQ-S provides a strong basis for analysing social support into its components. The perceived availability of support reflected by the SSQ-N score, and the satisfaction with the support that is available, reflected by the SSQ-S score, each appear to be worthy of study and analysis.

More recently, Kumari & Sharma (1990) concluded that very high SSQ-N/SSQ-S correlation observed in Indian culture, raises some doubt about the cross-cultural generalizability. Sarason et al. (1983) claim that social support is not a unitary concept when assessed by the SSQ, and that perceived availability of support and satisfaction with the support that is available are worth of study and separate analysis. The authors further concluded that factor analysis of the two SSQ scales in Indian and other Asian cultures will, however, be desirable before a firm statement on this issue can be made. Despite these concerns which are significant, it can be stated that SSQ is a useful tool for research aiming at examining the role of social support in psychopathology.

The psychometric characteristics of Social Support Questionnaire are fairly well documented in the Indian set up (Kaur, 1994).

3.2.5 The Mehrabian Emotional Empathy Scale (Mehrabian & Epstein, 1972)

The Mehrabian Emotional Empathy Scale (MEES) was constructed by Mehrabian and Epstein in 1972. It measures general emotional responsiveness to a variety of interpersonal situations. The scale is conceptualized as a measure of general empathic tendency or trait empathy and consists of 33 items involving 8-point scale ranging from +4 to −4. A single score for emotional empathy is calculated by summing responses after reversing negative items. Possible scores range between −142 and 142. Increasing scores are associated with increasing empathy. MEES items were selected on the basis of significant items – total score correlations and on the basis of insignificant correlations with the Crown and Marlow (1960) Social Desirability Scale. Validity was addressed in factor analysis and in two experimental studies (Mehrabian & Epstein, 1972). High empathy subjects were less aggressive in administration of punishment (simulated shock) to a
victim than low empathy subjects when the victim was more immediate, whereas low empathy subjects were equally aggressive regardless of immediacy. In a second study, a positive relationship between empathy and helping behaviour was found.

Precise operationalization rests on conceptual clarity, yet empathy's complexity yields a construct whose broad scope cannot be easily consolidated to serve empirical inquiry. Gladstein, cautioned that we must be beware of generalizing about the "nature of empathy" and address "various kinds of empathy". The author identified 18 types (noting that some have been researched more frequently than others and some neglected) and suggested that even more may exist particular to life stages. If so, perhaps (as Gagan, 1983 implied) there are role-specific types, too. Or perhaps nursing researchers can only measure empathy indirectly, which could be viable provided we know what we mean and what we are measuring.

Since different instruments tap different aspects of empathy, there can be no one right, or best, multipurpose tool to recommend for all. The operationalizations in one study may not fit too easily into another. One's choice must fit the specific situation and purpose. Likewise, since different measures do not provide analogous information, the nuances of findings must be carefully interpreted. Researchers must evaluate how well an instrument fits the specific questions asked. Researchers have revealed that the Mehrabian Epstein Emotional Empathy Scale possess essential psychometric characteristics.

3.2.6 Internal-External Scale (Rotter, 1966)

Control is important to psychological functioning. Decades of research in sociology, psychology have demonstrated that a sense of control is a robust predictor of physical and mental well-being (Lachman & Burack, 1993; Fiske & Taylor, 1991; Thompson & Spacapan, 1991; Bandura, 1989; Strickland, 1978; Baltes & Baltes, 1986; Rodin, 1986; Gurin & Brim, 1984; Lefcourt, 1981, 1982, 1983) and perhaps even longevity of life also (Langer & Rodin, 1976; Seligman, 1975). Both experimental and correlational studies have shown that across the life span, from infancy to oldest age, individual differences in perceived control are related to variety of positive outcomes,
including health, achievement, optimism, persistence, motivation, coping, self-esteem, personal adjustment, and success and failure in a variety of life domains.

Being of primary concern for human functioning the construct of control has a pervasive influence on psychological theorisation and practice and has proved to be one of the most productive areas of research and application. Control has been used as a key concept to predict diverse aspects of behaviour in normal populations, to explain deviant behaviours in marginal and abnormal people, and to formulate techniques to promote well being. It would not be exaggeration to say that psychologists have developed an obsession for this construct.

The classic formulation of the locus of control variable by Julian Rotter (Rotter, 1966) hypothesised general expectancies regarding the causal relationship between one’s own behaviour and consequences that might affect a variety of behavioural choices in a large number of situations. The most researches of these general expectancies is internal-external (I-E) locus of control. Rotter’s (1966) widely used internal-external locus of control (I-E) scale, a measure of the generalised belief that rewards are due to one’s own behaviour as opposed to the view that rewards are independent of one’s actions and controlled by forces outside oneself, has been treated primarily as a unidimensional scale.

The Rotter’s internal-external scale is a two-option (1 or 2) forced choice scale. Rotter’s scale consists of 23 items and 6 additional buffer items in a forced choice format covering a broad variety of situations. A low score implies an internal locus of control and a high score, an external locus of control. The scale has been extensively used by the researchers interested in measuring the I-E construct.

Reported test-retest reliabilities range from 0.49 to 0.61 for two months and 0.60 to 0.83 for one month intervals (Rotter, 1966). Cronbach alpha reliability for samples of 50 to 250 college females ranged from 0.70 to 0.76. A number of test-retest correlations within the above range for similar time spans, and for widely different groups have appeared in the literature (Dua, 1970; Harrow & Ferrante, 1969; Hersch & Scheibe, 1967). The Internal-
External Scale has demonstrated adequate internal consistency, test-retest reliability and construct validity both in laboratory and field situations (Lefcourt, 1976; Rotter, 1975).

The notion of locus of control as a generalised expectancy received little to no support in factor–analytic studies. Authors like Lefcourt (1980) found that Rotter and others who originally created much of the interest in locus of control did not envision it as a unidimensional construct. Franklin (1963) discovered only one factor in his analysis of Rotter’s I-E Scale, and others did not persist in efforts to isolate more specific factors. Since then a body of research developed with an assumption of a general, unidimensional locus of control. Since that assumption received little support from factor analytic studies, there is neither a sound theoretical reason nor an empirical basis for the use of broad locus of control scales with most populations.

Coombes & Schroeder (1988) emphasised that despite discouraging empirical evidence concerning a general expectancy of Internal or external (I-E) locus of control, researchers appeared reluctant to abandon Rotter’s original hypothesis. Thus Rotter’s I-E Scale continues to enjoy widespread use for measuring generalised locus of control. Keeping in view the widespread use of this scale, the current study made use of Rotter’s I-E Scale for measuring Internal-external locus of control.

3.2.7 IPAT Anxiety Scale Questionnaire (Cattell & Scheier, 1963)

The IPAT Anxiety Scale Questionnaire was developed from extensive research and practice (Cattell, 1956, 1957, 1959; Cattell & Scheier, 1961) as a means of getting clinical anxiety information rapidly, objectively, and in a standard manner.

It is based on a second-order anxiety factor defined by five oblique first-order factors of 16 PF. It is brief and clinically valid questionnaire. It gives an accurate appraisal of free floating anxiety level supplementing clinical diagnosis. It is applicable to all with the lowest educational levels and appropriate for ages 14 or 15 years or upward throughout the adult range.
The test is easily administered individually as well as in groups. The questionnaire consists of 40 questions distributed among the five anxiety measuring factors. These five anxiety measuring factors are as follows:

<table>
<thead>
<tr>
<th>Factors</th>
<th>No. of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q3 (-): Defective integration, lack of self sentiment.</td>
<td>8</td>
</tr>
<tr>
<td>C (-): Ego weakness.</td>
<td>6</td>
</tr>
<tr>
<td>L: Suspiciousness or paranoid insecurity.</td>
<td>4</td>
</tr>
<tr>
<td>O: Guilt proneness.</td>
<td>12</td>
</tr>
<tr>
<td>Q4: Frustrative tension or id pressure</td>
<td>10</td>
</tr>
</tbody>
</table>

Each question has three response alternatives and any single item contributes to any one of the five components of anxiety. The anxiety scale questionnaire is designed to give a total composite anxiety score as well as the scores on five different components.

The reliability and validity of the questionnaire have been found to be satisfactory by the authors. The questionnaire has also been used extensively in India and found useful. The studies have found the scale measures to be fairly reliable (Upmanyu & Singh, 1984; Upmanyu, Gill, & Singh, 1982; Hundal & Upmanyu, 1974).

3.2.8 Maslach Burnout Inventory (Maslach & Jackson, 1981)

The concept of burnout was first introduced by Fredeunberger in 1974. The author stated that burnout is a work related stress and occurred more commonly in occupations, whose members directly work with people. The definition of burnout in Mosby’s dictionary is: “Burnout is a popular term for the condition of having mental or physical energy depletion after a period of chronic unrelieved job related stress characterized by physical illness”. As to Maslach (1981) he defined burnout as a physical, emotional and intellectual exhaustion syndrome manifested by adverse attitude to professional life and other people with the development of a negative self-esteem in the individual experiencing chronic fatigue, and feedings of helplessness and hopelessness.

Staff members in human services and educational institutions are often required to spend considerable time in intense involvement with other people.
Frequently, the staff-client interaction is centered around the client's current problems (psychological, social, or physical) and is therefore charged with feelings of anger, embarrassment, fear, or despair. Because solutions for client's problems are not always obvious and easily obtained, the situation becomes more ambiguous and frustrating. For the person who works continuously with people under such circumstances, the chronic stress can be emotionally draining and can lead to "burnout". Burnout is a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who do "people work" of some kind. A key aspect of the burnout syndrome is increased feelings of emotional exhaustion; as emotional resources are depleted, workers feel they are no longer able to give of themselves at a psychological level. Another aspect of the burnout syndrome is the development of depersonalization – i.e., negative, cynical attitudes and feelings about one's clients. This callous or even dehumanized perception of others can lead staff members to view their clients as somehow deserving of their troubles (Ryan, 1971). The prevalence of this negative attitude toward clients among human service workers has been well documented (Wills, 1978). The development of depersonalization appears to be related to the experience of emotional exhaustion, and so these two aspects of burnout should be corrected. A third aspect of the burnout syndrome, reduced personal accomplishments, refers to the tendency to evaluate oneself negatively, particularly with regard to one's work with clients. Workers may feel unhappy about themselves and dissatisfied with their accomplishments on the job.

The MBI is designed to assess the three aspects of the burnout syndrome: emotional exhaustion, depersonalization, and lack of personal accomplishment. Each aspect is measured by a separate subscale. The Emotional Exhaustion subscale assesses feelings of being emotionally overextended and exhausted by one's work. The Depersonalization subscale measures an unfeeling and impersonal response towards recipients of one's service, care, treatment, or instruction. The Personal Accomplishment subscale assesses feelings of competence and successful achievement in one's work with people. The frequency that the respondent experiences...
feelings related to each subscale is assessed using a six-point, fully anchored response format.

Burnout is conceptualized as a continuous variable, ranging from low to moderate to high degrees of experienced feeling. It is not viewed as a dichotomous variable, which is either present or absent.

- **A high degree of burnout** is reflected in high scores on the Emotional Exhaustion and Depersonalization subscales and in low scores on the Personal Accomplishment subscale.
- **An average degree of burnout** is reflected in average scores on the three subscales.
- **A low degree of burnout** is reflected in low scores on the Emotional Exhaustion and Depersonalization subscales and in high scores on the Personal Accomplishment subscale.

Maslach Burnout Inventory was developed by Maslach and Jackson in 1981. It consists of 22 items that yield six scores on three dimensions, namely emotional exhaustion (EE), depersonalization (DP), and lack of personal accomplishment (PA). It is stated that exhaustion (EE) results from decrease or loss of self-well as feelings of fatigue and weakness. Individual feels himself or herself as exhausted and stressed too much in professional life.

Depersonalization (DP) is defined as behaving towards the caretakers without any emotion, as if they are not individuals and unique people. Personal accomplishment (PA) describes the feelings of productivity, adequacy and coping successfully. Studies on burnout have mostly concentrated on occupations such as nurses, teachers, social services physicians, psychiatrists, clinical psychologists, lawyers, police, baby sitters, prison personnel, consultants and deputies.

Maslach Burnout Inventory is a tool that evaluates experienced burnout three dimensionally, with three subscales. EE subscale includes nine articles, describes the feelings of the individual of being exhausted by his/her job. DP subscale includes five articles and defines the behavior that hurts self-esteem and is without emotions towards the individuals whom he/she gives care. PA subscale has eight articles. This subscale defines the feelings of being able to cope with the problems an individual working directly with
people is confronted with in the work environment (Maslach and Jackson, 1981).

High scores in EE and DP subscales and low scores in PA subscale indicate high to moderate scores in each subscale. Low scores in EE and DP subscales and high scores in PA subscale indicate that burnout is of a low level (Maslach and Jackson, 1981).

Data on test-retest reliability of the MBI have been reported for two samples. For a sample of graduate students in social welfare, and administrators in a health agency (n=53), the two test sessions were separated by an interval of two to four weeks. The test-retest reliability coefficients for the subscales were the following: .82 for Emotional Exhaustion; .60 for Depersonalization; and .80 for Personal Accomplishment. Although these coefficients range from low to moderately high, all are significant beyond the .001 level. In a sample of 248 teachers, the two test sessions were separated by an interval of one year. The test-retest reliabilities for the three subscales were: .60 for Emotional Exhaustion; .54 for Depersonalization; and .57 for Personal Accomplishment.

Convergent validity was demonstrated in several ways. First, an individual’s MBI scores were correlated with behavioural ratings made independently by a person who knew the individual well, such as a spouse or co-worker. Second, MBI scores were correlated with the presence of certain job characteristics that were expected to contribute to experienced burnout. Third, MBI scores were correlated with measures of various outcomes that had been hypothesized to be related to burnout. All three sets of correlations provided substantial evidence for the validity of the MBI.

The combined scores were used in the statistical procedures after determining that no additional information was gained by treating frequency and intensity separately. The possibility that frequency and intensity were interactively, rather than additively, related was examined but not supported. Use of the combined scores reduced the number of variables that had to be manipulated, provided greater ease of discussion, increased coefficient alphas, and accounted for greater variance than did the separate frequency and intensity scores.
3.2.9  Perceived Stress Scale (Sarason et al., 1989)

It is a common assumption among health researchers that stressful life events alone are not sufficient causes of pathology and illness behaviour. Stressful events are assumed to increase risk of disease when they are appraised as threatening or otherwise demanding, and when coping resources are judged as insufficient to address that threat or demand. An important part of this view is that event elicited disorders are not based solely on the intensity or any other inherent quality of an event, but are dependent on personal and contextual factors as well. Perceived stress can be viewed as an outcome variable, measuring the experienced level of stress as a function of objective stressful events, coping processes, personality factors and so on.

Previous work has employed a number of approaches to assess both global and event, specific levels of perceived stress. For example, several investigators have modified stressful life event scales in an attempt to measure global perceived stress. The modification involved asking respondents to rate the stressfulness or impact of each experienced event. In general, life-stress scores based on self ratings of event stressfulness, are better predictors of health-related outcomes, than the scores are derived from either a simple counting of events (i.e. unit weighting) or event scores based on weights assigned by external judges (Sarason, Johnson, & Siegel, 1978; Vinokur & Selzer, 1975).

The Perceived Stress Scale is a measure of the degree to which situations in one’s life are appraised as stressful (Cohen et al., 1988). Further for clinical research use it is modified for more objectivity of the scale in a standard manner (Sarason et al., 1989). Items were designed to tap how unpredictable, uncontrollable, and overloaded respondents find their lives. These three issues repeatedly have been found to be central components of the experience of stress (Cohen, 1978; Lazarus, 1977; Seligman, 1975; Averill, 1973; Glass, & Singer, 1972; Lazarus, 1966). The scale also includes a number of direct queries about current levels of experienced stress. The Perceived Stress Scale was designed for use in community samples with at least a junior high school education. The items are easy to understand, and the response alternatives are simple to grasp. Moreover, the questions are of a general nature and hence are relatively free of content specificity to any
sub-population group. The original scale contained 14 items (Cohen & Williamson 1988). Four-items (PSS4), and 10 items (PSS10) versions of the scale have also been validated in original scale. The modified scale contains 10 items, and 5 point rating scale of 0, 1, 2, 3, 4 for scoring as a single unit.

The questions in the perceived stress scale asked about feelings and thoughts during the last month. In each case, respondents are asked how often they felt a certain way. Perceived Stress Scale scores are obtained by reversing responses (e.g. 0=4, 1=3, 2=2, 3=1, 4=0) to the seven positively stated items (items 4, 5, 6, 7, 9 and 10) and then summing across all scale items.

Other investigators have reported that relatively higher Perceived Stress Scale scores were prospectively associated with failure to quit smoking (Glasgow, Klesges, Mizes, & Pechacek, 1985), and failure among diabetics to control blood sugar levels. In a cross-sectional study, higher Perceived Stress Scale scores were associated with greater vulnerability to stressful life-event elicited depressive symptoms (Kuiper, Olinger, & Lyons, 1986). The Perceived Stress Scale has also been used as an outcome variable, with life events, coping processes, and personality factors prospectively predicting changes in perceived stress (Linville, 1987).

Subjective measures of response to specific stressors have also been widely used, e.g., measures of perceived occupational stress (Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964). There are, however, some practical and theoretical limitations of measures of specific stressors. Practically, it is difficult and time consuming to develop and psychometrically validate an individual measure every time a new stressor is studied. Theoretically, there is an issue of whether measures of perceived response to a specific stressor really assess evaluations of that stressor. There is, in fact, evidence that people often misattribute their feelings of stress to a particularly salient source when that stress is actually due to another source (Keating, 1979; Worchel, 1978; Worchel & Teddlie, 1976). Another problem with measures of response to specific stressors is that such measure imply the independence of that event in the precipitation of disease. However, it is likely that the illness process is affected by global stress level, not just by the response to a particular event (Cohen & Williamson, 1988).
3.3 DATA COLLECTION
The tests were administered in a uniform sequence as follows:
1. Zung’s Self Rating Depression Scale.
2. Eysenck Personality Questionnaire.
3. Hardiness Scale.
4. Social Support Questionnaire.
5. Mehrabian Epstein Emotional Empathy Scale.
6. Internal External Scale.
7. IPAT Anxiety Scale Questionnaire.
8. Maslach Burn out Inventory.

The tests were administered to subjects individually. The general testing conditions were satisfactory. Sincere efforts were made to establish rapport with the participants in order to elicit reliable and authentic information. All of them were assured that the information given by them would be kept confidential and would be used for research purpose only. Despite the task being tedious, participants showed keen interest in filling out different questionnaires.

3.4 SCORING OF TESTS
The tests were scored strictly in accordance with the procedure(s) suggested by the authors of different tests. Hand scoring was done by using separate keys for respective tests used in the current study. Zung’s Self-Rating Depression Scale was used to measure depression. The IPAT Anxiety Scale Questionnaire was used to measure anxiety as revealed by five distinct factors, namely Factors Q3, C, L, O and Q4.

The Eysenck Personality Questionnaire was scored for measures pertaining to psychoticism, neuroticism, extraversion, and social desirability and Hardiness Scale was scored for three measures, namely control, commitment and challenge. Social support questionnaire was scored for two indices of social support: quantitative and qualitative social support. Internal-external Scale, Perceived Stress Scale and Burnout Inventory were scored for
independent measures of internality/externality, perceived stress, and burnout.

As a result of scoring different tests 19 measures as mentioned below were obtained:

1) One measure of depression.
2) Four dimensions of personality concerning extraversion, psychoticism, neuroticism, and social desirability.
3) Three measures of hardiness referring to control, commitment and challenge.
4) Two measures of social support: quantitative and qualitative social support.
5) One measure each of empathy, burnout, locus of control and perceived stress.
6) Five measures concerning second-order factor of anxiety.

3.5 ANALYSIS

The data were analysed to obtain the following information:

1. Frequency distributions of scores on 19 measures.
2. Mean, standard deviation, skewness and kurtosis for different measures.
3. Intercorrelations among different variables.
4. Factor Analysis.