CHAPTER III
METHOD

The main purpose of this chapter is to provide details regarding selection of the sample, measures used, procedure undertaken and statistical techniques applied. It is significant to emphasize that the empirical verification of the proposed hypotheses, however, is dependent firstly, on the reliable measurement of the variable of interest and secondly, on the methods and procedures employed for deriving conclusions. Thus, this chapter includes a description of:

A. Sample
B. Measures
C. Administration and Scoring of Tests
D. Analysis

A. SAMPLE

In the current study the sample was taken from the patients attending de-addiction clinic of Department of Psychiatry, Government Medical College and Hospital, Sector 32, Chandigarh. The method of purposive sampling was used i.e. the patient sample comprised of cases seen in the Psychiatry Out patient Department, Government Medical College and Hospital, who were diagnosed by a qualified psychiatrist to be opiate dependent and were referred to the researcher.

The sample comprised of 140 male opiate dependents who have been treated/under treatment for de-addiction at least for the last six months. Out of these 140 male opiate addicts, 70 comprised of Relapse Group and the remaining 70 comprised of Abstinent Group.

The two groups were matched on age, marital status, occupation, education, socio-economic status, family type, and locality. Information regarding socio-demographic variables was obtained from the client as well as family members accompanying him.

Relapse was here defined as use of opiate routinely since detoxification, lasting for at least 2 weeks of daily use (Robinowitz et al., 1997). Abstinence was defined as drug free period for at least three months (Robinowitz et al, 1997). These
groups were taken up for the study after satisfying the proposed inclusion and exclusion criteria:-

**INCLUSION CRITERIA**
1. Only addicts of opium and its derivates.
2. Only those addicts who fulfilled the diagnostic criteria for Opiate dependence as described in the International Classification of Diseases – 10 (ICD-10).
3. Only males above 18 years of age.
4. Patients who underwent pharmacological treatment as well as counselling sessions.

**EXCLUSION CRITERIA**
1. Presence of co-morbid major chronic physical or psychiatric illness.
3. Presence of co-morbid substance abuse like alcohol, hallucinogens etc. (except Nicotine)
4. Patients in acute withdrawal state.
5. Intoxicated patients

**B. MEASURES**

The tools were selected in accordance with the aims of the study. While selecting the tools, psychometric properties and nature of the sample were taken into consideration.

In view of the fact that the data under study derives from the individual in question, the self report modality was chosen for the educated but for illiterates the administration of all the tools was undertaken by the investigator. The tools used in the present study were as follows:-

1. IPAT Anxiety Scale Questionnaire (Cattell & Scheier, 1963)
3. Hopelessness Scale (Beck, Weissman, Lester, & Trexler, 1974).
4. Negative Automatic Thought Questionnaire (Hollon & Kendall, 1980)
5. The Scale for Suicide Ideation (Beck, Kovacs, & Weissman, 1979)
6. Satisfaction with Life Scale (Diener et al., 1965)
7. Multiphasic Personality Questionnaire (Murthy, 1964)
(1) IPAT Anxiety Scale Questionnaire (Cattell & Scheier, 1963)

In clinical practice or research, whether the diagnosis is for psychotherapeutic purposes, or for problems of internal medicine caused by life stress, it is increasingly necessary to have standard and dependable estimates of the role of anxiety. There are also many situations in educational and social psychology where accurate measurement of anxiety level is of prime importance (Cattell & Scheier, 1957). The IPAT Anxiety Scale Questionnaire was developed from extensive research and practice (Cattell, 1956, 1957, 1959; Cattell & Scheier, 1958, 1959, 1961) as a means of getting clinical anxiety information rapidly, objectively and in a standard manner. It is based on a second-order factor of anxiety (Cattell, 1956; Cattell & Scheier, 1957). It is a brief, non-stressful, clinically valid questionnaire for measuring anxiety, appropriate for age of 14 or 15 years or upward throughout the adult range. The test is easily administered individually or to a large group of subjects at one time. The questionnaire consists of 40 questions distributed among the five anxiety-measuring factors, (or components) according to each personality components’ centrality as a source or expression of anxiety. The distribution of items is summarized below in Table 3.1:

Table 3.1: Item Composition of the IPAT Anxiety Scale

<table>
<thead>
<tr>
<th>Factor</th>
<th>No. of items</th>
<th>Identification of items by number on test form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q₃⁻⁻⁻⁻: Defective integration, lack of self-sentiment</td>
<td>8</td>
<td>1,2,3,4</td>
</tr>
<tr>
<td>C⁻⁻⁻⁻: Ego weakness, lack of ego-strength</td>
<td>6</td>
<td>5,6,7,</td>
</tr>
<tr>
<td>L: Suspiciousness or paranoid-insecurity</td>
<td>4</td>
<td>8,9</td>
</tr>
<tr>
<td>O⁻⁻⁻⁻: Guilt proneness</td>
<td>12</td>
<td>10,11,12,13,14,15</td>
</tr>
<tr>
<td>Q₄⁻⁻⁻⁻: Frustrative tension</td>
<td>10</td>
<td>16,17,18,19,20</td>
</tr>
</tbody>
</table>
Each item of the questionnaire has three response alternatives and any single item contributes to only one of the five components.

Three kinds of scores are possible:

1. A single total anxiety score is possible:
2. A breakdown into
   a) an unrealized, covert anxiety score, score A, for 1-20 items; and
   b) an overt, symptomatic, conscious anxiety score, score B, for 21-40 items.
3. A breakdown of total anxiety score into the five components of anxiety.
   In the present study, scores on five different components of anxiety factor were used.

A vast amount of research, supporting and developing the rationale and validity of the anxiety scale, has been conducted (Cattell, 1956, 1957, 1959; Cattell & Scheier, 1961). The second order anxiety factor is especially robust and replicate well across many diverse populations (Karson & O'Dell, 1977; Krug & Laughlin, 1977; Cattell & Nichols, 1972; Karson & Pool, 1958). The reliability and validity of the questionnaire has been found to be satisfactory by the authors. The test has also been used in India and found to possess adequate psychometric characteristics (Upmanyu & Singh, 1984; Hundal & Upmanyu, 1974, Hundal, Sudhakar, & Sidhu, 1972).

(2) Beck Depression Inventory

Self-report checklists of depression characteristics with some established validity, reliability, the factorial structure include the 21-item Beck Depression Inventory (BDI: Beck, 1961, 1970), the 20-item Zung-Rating Depression Scale (ZSRS: Zung, 1965), the Clinical Analysis Questionnaire (Delhees & Cattell, 1975), the Depression Scale (Krug & Laughlin, 1977), the Eight State Questionnaire (Institute for Personality and Ability Testing, 1976), and of course, the oldest of all standardized multivariate and multidimensional personality measures, the Minnesota Multiphasic Personality Inventory (MMPI-D Scale).

Beck Depression Inventory, however, was selected because the Beck Depression Inventory in its various forms (Beck, 1967, 1972; Beck & Beck, 1972; Beck; Ward, Mendelson, Mock, & Erbaugh, 1961) is one of the most frequently used self-report
depression inventories in contemporary clinical research. Originally designed to be “interviewer” assisted, current practice appears to be to allow respondents to self-administer the inventory by marking their responses on a paper and pencil type form of the BDI. Although the inventory was designed as a clinical instrument, in practice it is frequently employed in studies using college populations, dichotomizing students into “depressed” and “nondepressed” groups based on self-administered BDI responses obtained during large screening sessions.

The inventory is a 21-item self-report test that also assesses symptom severity (Range: 0-63). BDI measures the cognitive, behavioral, affective and somatic components of depression. The statements are rank ordered and weighted to reflect the range of severity of the symptom from neutral to maximum severity. Each item contains 4 or 5 responses ranked from 0 to 3, the subject choosing the response that best fits with his/her present state. The total scores range from 0 to 63.

A series of validity and reliability studies (Beck & Beamesderfer, 1974; Pichot & Lempoeriere, 1974; Beck, 1967) generally support the BDI as a measure of depressive severity (e.g., 0-9: normal; 10-18: MILD; 19-25: moderate; and 26 and above: moderately severe to severe).

Self-reported depressive symptoms were shown to be reliable and valid when used with both clinical (Barrera and Garrison – Jones, 1988; Strober et al., 1981) and nonclinical (Barrera and Garrison-Jones, 1988) samples of adolescents. Using non-depressed college students, Miller & Seligman (1973) reported a test-retest reliability coefficient of 0.74 after a 3 months interval and Peham (1976) reported r of 0.75 after one months interval. Oliver & Burkham (1979) reported a test-retest coefficient of 0.78 for college students over a week’s period.

Another study (Baron & Laplante, 1984; cited in Baron & Perron, 1986) conducted with a sample of 374 adolescents (185 males, 189 females) coming from similar environments indicated that the BDI psychometric characteristics were quite satisfactory.

In practice, the range of cutoff scores in research is highly variable. A review of literature involving the BDI revealed that the criteria for non-depressed groups ranged from < 2 (Carson & Adams, 1980) to <13 (Roth & Rehm, 1980) on the standard length inventory. On the short form of the inventory (Beck & Beck, 1972) cut offs for the depressed categories ranged from 7 (Kilpatrick-Tabak & Roth, 1978) to <21 (Johnson &
Crockett, 1982). Clearly a subject designated as depressed in one study may not be similarly designated in another (Hatzenbuehler, Parpal, & Matthews, 1983).

Focusing on the use of the BDI with college students, Sacco (1981) challenged the test-retest reliability of the depression inventory. His concerns about the temporal stability of the BDI are based largely on his experience with classifying college students as depressed on one day using their BDI scores only to have their classification change on readministering the BDI on another day (Sacco & Hokanson, 1978). According to Sacco, failure to assess depression level just prior to conducting an experiment thus leads to misleading if not invalid results. Sacco's concern about the test-retest reliability of the BDI, are not without rebuttal (Hatzenbuehler, Parpal, & Matthews, 1983).

Using non-depressed college students, Miller & Seligman (1973) reported a test-retest reliability coefficient (r of .74) after a three month interval, and Pehm (1976) reported (r of .75) after one month. Oliver & Burkham (1979) reported a test-retest coefficient of .78 for college students over a week's period. Retesting psychiatrically hospitalized adolescents, Strobar, Green, & Carlson (1981) reported an r of .69. Gallagher, Nies, & Thompson (1982) reported even more impressive test-retest coefficients with normal (r=.86) and depressed (r=.79) elderly. The time interval between administrations for the latter study ranged from 6 to 21 days. Although the published reliability coefficients are impressive, they do not specifically address Sacco's concern about the ability of the BDI to classify an individual within the same depression category on two occasions.

Hatzenbuehler, Parpal, & Matthews (1983) while classifying college students as depressed or non-depressed found that whereas the overall test retest reliability coefficients were acceptable, particularly when both administrations of the BDI occurred on the same day, the consistency of classification of subjects into the mild and moderate levels of depression was poor.

Schaefer et al. (1985) found alpha coefficients for the BDI measures of men to be .94 (psychiatric ward) and .88 (chemical dependency ward).

The present study, however, did not attempt to use BDI for the purpose of classifying subjects in two different groups on the basis of individual’s depression level. The BDI was selected to provide a single measure of severity of depression.
(3) Hopelessness Scale

(HS: Beck, Weissman, Lester, & Trexler, 1974)

Measures of hopelessness were based on standard, published self-report scales. Several years ago, Beck, Weissman, Lester, & Trexler (1974) developed a hopelessness scale to measure affective, motivational, and cognitive manifestations of negative expectations toward the future. The measure has been shown in several studies to correlate with depression and to predict suicidal ideation and attempt. (Beck, Kovacs, & Weissman, 1975; Wetzel, Margulies, Davis, & Karam, 1980).

While constructing the HS, Beck et al. utilized two sources in selecting items for the 20-items true–false hopelessness scale. Nine items were selected from a test of attitudes about the future structured in a semantic differential format (Heimberg, 1961). These items were then revised to make them appropriate for the present test. The remaining 11 items were drawn from a pool of pessimistic statements made by psychiatric patients who were adjudged by clinicians to appear hopeless. Those statements were selected which seemed to reflect different facets of the spectrum of negative attitudes about the future and which recurred frequently in the patients verbalization.

Thus finally the hopelessness scale is a 20-item; true/false self report measure intended to tap the degree of respondents’ negative expectations about the future. Those statements were selected which seemed to reflect different facets of the spectrum of negative attitudes about the future and which recurred frequently in the patients verbalization. For every statement, each response is assigned a score of 0 or 1 (9 items are keyed false and 11 are keyed true). The “total hopelessness scores” is the sum of the scores on the individual items. Thus, the possible range of scores is from 0 to 20, with higher scores indicating more hopelessness.

The reliability and validity data presented for the hopelessness scale are deemed sufficient to justify its use on a continuing basis. Beck et al. (1974) reported an alpha coefficient of .93 for the HS. Item-total correlation coefficients ranging from .39 to .76 and correlations with clinical ratings of hopelessness ranging from .62 to .86 have been reported. The Hopelessness Scale is an instrument that may be used by both clinician and researcher involved in the assessment of hopelessness as an important variable in many psychopathological processes.
(4) Negative Automatic Thought Questionnaire  
(ATQ: Hollon & Kendall, 1980)

The Automatic Thought Questionnaire is a self-report questionnaire that asks subjects to rate on a 5-point scale how often they have experienced depression related cognitions during the past week (Hollon & Kendall, 1980). The items are rated on a 5-points scale: 1= “not at all”, 2= “sometimes”, 3= “moderately often”, 4= “often”, and 5= “all the time”. Examples of typical items are: “I am no good”, “My future is bleak” Factor analysis has indicated a four factor solution: Personal maladjustment and desire to change (e.g., What’s the matter with me?), negative self-concept and negative expectation (e.g. My future is bleak), low self esteem (e.g. I am worthless) and giving up / hopelessness (e.g. It’s just not worth it) (Hollon & Kendall, 1980).

Scores on the 3 items are summed to give total scores for ATQ negative. It yields a score ranging from 30 to 150, with higher scores indicating more frequent negative thoughts.

Hollon & Kendall (1980) reported high internal reliability, strong correlation with severity of depression, and good item total statistics. In 348 college students, the Automatic Thoughts Questionnaire correlated significantly with both the Beck Depression Inventory and the Minnesota Multiphasic Personality Inventory-Depression Scale, the Coefficients of correlation ranged from .45 to .70. Also using a college sample, Dobson & Breiter (1983), and Harrell & Ryan (1983) also reported high internal reliability and correlation with severity of depression. The ATQ was the most sensitive measure related to level of depression. The scale has been shown to differentiate depressed and non-depressed samples (Dobson & Breiter, 1983) and to have greater specificity to depression than the Dysfunctional Attitude Scale (Hollon, Kendall, & Lumry, 1986). The questionnaire has been administered to a sample of employed women in Indian set up and demonstrated to possess adequate psychometric characteristics (Upmanyu & Reen, 1991).

(5) The Scale for Suicide Ideation  
(SI: Beck, Kovacs, & Weissman, 1979)

Since suicide is one of the leading causes of death in the present time, the measurement of suicidal risk and the identification of persons likely to make fatal or non-
fatal suicide attempts remain on high priorities. In recent years, these goals have been pursued primarily through the assessment of psychological, psychiatric, and demographic variables. According to extensive reviews of the literature (Brown & Sheran, 1972; Lester, 1970, 1974), standard psychological tests such as the Rorschach, the TAT, and the MMPI cannot differentiate suicidal from non-suicidal individuals and have not been found to be useful predictors of suicidal risk. These same reviewers suggest that at the present time, the best predictors of the criterion behaviour are specially constructed scales that encompass various attributes of suicidal behaviours (Beck, Kovacs, & Weissman, 1979, p.43).

In recent years, the bulk of the work in sociology has been targeted on two of the three populations, namely attempted suicides and completed suicides. The third category of suicidal behaviours, namely suicide ideators has not been given much attention. Suicide ideators are individuals who currently have plans and wishes to commit suicide but have not made any recent overt suicide attempt (Beck et al., 1972). Since suicide ideation logically precedes a suicide attempt or completed suicide, it seems appropriate to focus on the intensity, pervasiveness and characteristics of the ideation and wish in order to assess current suicidal intention and potentiality to predict later suicidal risk.

The development of the Scale for Suicide Ideation was prompted by the need for a valid research instrument to identify suicidal individuals and to investigate meaningful correlates of suicidal ideation. The Scale for Suicidal Ideation was designed to quantify the intensity of current conscious suicidal intent by scaling various dimensions of self-destruction thoughts or wishes. Suicidal ideation also encompasses "suicidal threats" that have been expressed in overt behaviour or verbalized to others. The authors emphasized that at present, the Scale for Suicidal Ideation is primarily a research tool to be employed in the investigation of suicidal ideation and its correlates (p.344).

The items on the scale were partly clinically derived and partly rationally derived. Systematic observations and interviews of suicidal patients yielded a list of salient preoccupations, concerns and wishes, and thinking and behaviour patterns. Those areas were then selected which seemed to reflect the spectrum of suicidal preoccupations most frequently observed in the patients' verbalizations and behaviours. Previously reported research studies yielded additional content areas. An initially devised 30-items scale was administered to 35 suicidal patients. Those items were eliminated that were found to
overlap other items, that were unwieldy, or that were difficult to score. On the basis of this selection process, the clarity and wording of the remaining items were improved and a 19-items scale was constructed. Each item consists of three alternative statements graded in intensity from 0 to 2. The total score is computed by adding the individual item scores. Thus, the possible range of scores is 0 to 38.

The items assess the extent of suicidal thoughts and their characteristics as well as the patient's attitude towards them; the extent of the wish to die, the desire to make an actual suicide attempt and details of plans, if any; internal deterrents to an active attempt; and subjective feelings of control and/or courage regarding a proposed attempt.

The internal consistency of the SSI was evaluated through two methods. First, an item analysis showed that each item had a positive correlation with the total scale score and that 16 of the 19 coefficients were significant. The second method of evaluating internal consistency was the determination of coefficient alpha, KR-20 (Cronbach, 1951). For the 90 cases, a reliability coefficient of .89 was obtained.

With respect to interrater reliability, twenty-five of the 90 consecutively admitted patients were seen concurrently by two clinicians who alternated in interviewing successive patients. Following the interview, each clinician independently completed the SSI. The interrater reliability coefficient was .08 (p<.001). Puri (1988) after administering this scale to the University students in India found coefficient alpha (KR-20) to be equal to .90.

Concurrent validity of the SSI was evaluated by determining how well the scale correlated with other measures of suicidal ideation or suicidal risk such as clinical evaluations and psychological inventory scores.

The SSI scores were also compared to the “Self-harm” item of the Beck Depression Inventory (BDI: Beck, 1972), independently obtained by a research assistant. The correlation between ideation scores and the BDI item was .41 (p<.001). The relatively low correlation may reflect the limited range (0-3) on the BDI item.

Since the SSI was partly designed as a research screening instrument, it may be expected to discriminate between groups who, on a priori basis, can be assumed to differ in degree of suicidal intent. Comparisons of the SSI scores of the 90 patients hospitalized for suicidal ideation (M=9.43, SD=8.44) and 50 outpatients who sought psychiatric treatment for their depression (M=4.42, SD=5.77) yielded a significant between-groups
difference, $t=4.14$, $p<.001$. The two groups were similar in degree of depression as measured by the Beck Depression Inventory, $t=.67$, NS.

Scale for Suicide Ideation provides an ideal tool as an independent variable in the investigation of psychological and clinical correlates of suicidal ideation. It may also be employed as a dependent variable measure in studies that assess the efficacy of treatment intervention with suicidal individuals. At the present time, the SSI appears to have real potential as a research instrument. It may be used not only as an independent variable to discriminate among individuals varying in degree of suicidal ideation but also as a dependent measure to quantify change resulting from treatment interventions. Moreover, the scale may also be of help to the clinician in the systematic gathering and quantification of data relevant to patients' or clients' thoughts, plans and wishes about suicide (Beck, Kovacs, & Weissman, 1979).

(6) Satisfaction with Life Scale (Diener et al., 1965)

Satisfaction with Life Scale is a self report measure, designed to assess a person's global judgement of life satisfaction which is theoretically predicted to depend on a comparison of life circumstances to one's standards.

Life satisfaction is a conscious cognitive judgement of ones life in which the criteria for judgement are up to the person (Pavot & Diener, 1993). The SWLS is a 5 item scale, assessing satisfaction with the respondent's life as a whole. The items of scale are global rather than specific in nature, allowing respondents to weight domains of their lives in terms of their values, in arriving at a global judgment of life satisfaction.

Respondents are required to rate their responses along a 7- points scale, ranging from strongly disagree, disagree, slightly disagree, neither agree nor disagree, slightly agree, agree to strongly agree.

The validity of SWLS has been established on the basis of a relationship between SWLS and measures of subjective wellbeing. It has been found that SWLS correlated positively ($r=0.44$) with PANAS positive affect scale and negatively ($r=-0.48$) with PANAS negative affect scales.

The stability coefficients for the SWLS after 10 weeks and 4 years have been found to range from 0.50 to 0.54 respectively (Pavot & Diener, 1993)
(7) Multiphasic Personality Questionnaire  
(MPQ: Murthy, 1964)

MPQ has been constructed on the basis of various significant items from the original Minnesota Multiphasic Personality Inventory and used in the shorter form. A shorter form has been prepared with items from the MMPI as well as the Cornell Index by Grant, 1946.

MPQ is also, to some extent, based on the format of Grants adaptation scheme with some changes to suit Indian conditions. It consists of 100 questions which measure the psychopathological factors of anxiety, depression, hysteria, mania, paranoia, schizophrenia, psychopathic deviation, repression – sensitization and a tendency to lie. Each of the subscales has been validated by Murthy and associates viz Schizophrenia scale (Murthy, 1964); Paranoid, Depression, Manic and Anxiety scales (Murthy, 1965); Hysterical scale (Murthy & Laxminarayan, 1968); Psychopathic deviate scale (Lakshminarayan, Satyavathi & Murthy, 1969); Lie scale (Lakshminarayan & Murthy, 1970); Repression– Sensitization scale (Lakshminarayan & Murthy, 1972). A brief description of these dimensions is as follows:

Anxiety: - When a person has a genuine reason for looking toward the future with foreboding, he naturally worries until he has formulated a plan of action he believes will be effective. The chronic attitude of worry is a perversion of normal foresight. In its extreme form it has been called anxiety neurosis.

Depression: - Poor morale, lack of hope in the future, and a general dissatisfaction with one’s own life situation. High scores are clinical depression whilst lower scores are more general unhappiness with life.

Mania: - The dominant characteristic of mania is excitement marked by elevated mood, accelerated speech and motor activity, irritability, flight of ideas.

Paranoia: - This domain includes paranoid symptoms such as ideas of reference, feelings of persecution, grandiose self-concepts, suspiciousness, excessive sensitivity, and rigid opinions and attitudes.
Schizophrenia: - This domain assesses a wide variety of content areas, including bizarre thought processes and peculiar perceptions, social alienation, poor familial relationships, difficulties in concentration and impulse control, lack of deep interests, disturbing questions of self-worth and self-identity, and sexual difficulties.

Hysteria: - It implies hysterical reaction to stressful situations. Such people often have 'normal' facade and then go to pieces when faced with a 'trigger' level of stress. Hysteria occurs due to some sort of unsatisfactory condition either in the individual's inner mental adjustments or in his adjustment to his environment.

Psychopathic deviation: - This domain of the scale measures social deviation, lack of acceptance of authority, amorality. Adolescents tend to score higher in this area.

Repression-Sensitization: - A personality domain designed to measure a respondent's characteristic mode of reacting to threatening stimuli or ideas, typical repressors tend to react by blocking, denial, and repression, that is, by putting threatening ideas out of their minds, and sensitizers tending to react by approaching, facilitating, and increasing vigilance, that is, by confronting the threatening stimuli directly.

C. ADMINISTRATION AND SCORING OF TESTS

The different tests were administered 'individually' in accordance with the instructions suggested by the authors of different tests. The instructions for respective tests were read aloud as well as instructions in typed forms were provided to the subjects. The doubts of the subjects were removed before permitting them to answer the different questionnaires.

The tests were administered in a uniform sequence. The measures used were IPAT Anxiety Scale Questionnaire, Beck Depression Inventory, Hopelessness Scale, Negative Automatic Thoughts Questionnaire, The Scale for Suicide Ideation, Satisfaction with Life Scale and Multiphasic Personality Questionnaire.

Sincere efforts were made to establish rapport with the subjects in order to elicit reliable and authentic information. Subjects were told that the information was being collected purely for research purpose. They were also assured that the information to be collected would remain strictly confidential.
and presented only in a form in which no person could be identified. The promise of privacy appeared to have gone a long way in establishing psychological rapport, since a large number of subjects expressed desired to know about their performance on the tests used.

The tests were scored strictly in accordance with the procedure suggested by the authors of different tests.

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

1. Six different measures of anxiety were obtained by scoring IPAT Anxiety Scale Questionnaire.

2. A single measure of depression was obtained by scoring the Beck Depression Inventory.

3. A single measure of hopelessness was obtained by scoring the Hopelessness Scale.

4. A single measure of Negative Automatic Thoughts was obtained by scoring Negative Automatic Thoughts Questionnaire.

5. A single measure of the suicide ideation was obtained by scoring Suicide-Ideation Scale.

6. A single measure of life satisfaction was obtained by scoring Satisfaction with Life Scale.

7. Nine different measures of personality were obtained by scoring Multiphasic Personality Questionnaire

Thus as a result of scoring different tests, 20 types of score were available for each subject.
D. ANALYSES

Keeping in view the objectives of the present study the following statistical techniques were used for analyzing the data.

1. Mean
2. Median
3. Skewness
4. Kurtosis
5. t-test of significance