CHAPTER-III

METHOD
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This chapter includes a description of:

(a) Sample,
(b) Tests used,
(c) Administration and scoring of tests.
(d) Analyses

Sample

Participants were 300 adolescents (150 males, 150 females) studying in IX, X, XI and XII grades of different schools/colleges. The age of 150 male adolescents ranged from 12 to 19 years (M = 14.90, SD = 1.55), whereas for 150 female adolescents the age ranged from 12 to 19 years (M = 14.90, SD = 0.90). Frequency distributions of the age of subjects are presented in Table 3.1.

Table 3.1

<table>
<thead>
<tr>
<th>Age in years</th>
<th>Females</th>
<th>Males</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>6</td>
<td>9</td>
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</tr>
<tr>
<td>19</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>N</td>
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<td>150</td>
<td>300</td>
</tr>
<tr>
<td>Mean</td>
<td>14.90</td>
<td>14.90</td>
<td>14.90</td>
</tr>
<tr>
<td>SD</td>
<td>1.55</td>
<td>0.90</td>
<td>1.12</td>
</tr>
</tbody>
</table>

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The reasons for selecting adolescent males and females are given earlier. The variables of marital status, employment statuses, and urbanism were controlled since all the subjects were unmarried, unemployed, and belonged to urban area. Moreover, the population was primarily middle class. More precisely speaking, subjects were similar in age, education, marital status, employment status and area of residence. Here, it is significant to emphasize that in addition to the advantage of homogeneity which resulted from this type of control, there is also an increased danger of bias. Thus, in interpreting the results of the study, one must be aware of that potential. Still, the characteristics of these subjects are similar to those of large segments of the population, and this should enhance the generalizability of the findings. Also, this type of control is appropriate for examining correlates of depression.

The sample was delimited to the subjects who were available to participate in this study, thus, limiting the assumption of randomization.

Description of Tests

The following tests were used:

(A) Measures of Depressive Tendencies/Symptoms
1. The Minnesota Multiphasic Personality Inventory - D (Depression) Scale (Hathaway & McKinley, 1967).

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(B) Measures of Cognitive Dysfunction
3. Hopelessness Scale (Beck, Weissman, Lester, & Trexler, 1974).

(C) Measures of Personality
1. IPAT Neuroticism Scale Questionnaire (NSQ: Scheier & Cattell, 1961).
2. Eysenck Personality Questionnaire (Eysenck & Eysenck, 1975).

(D) Measures of Social Support
Social Support Questionnaire (SSQ: Sarson, Levine, Basham, & Sarason, 1983).

(E) Measures of Body Image

A) Measures of Depressive Tendencies/Symptoms

Depression has featured throughout history as perhaps the most pervasive of all psychopathology (cf. Boyd et al., 1982). This is partly reflected in the numerous self-report measures which have been devised to quantify human depression. Reviews of the literature pertaining to
depression measurement have been undertaken by Hughes et al. (1982), Mayer (1977), Levitt & Lubin (1975), Becker (1974), as well as by Kazdin & Petti (1982). Among the frequently employed self-report measures are the Minnesota Multiphasic Personality Inventory - D Scale; the Beck Depression Inventory (BDI: Beck, et al., 1961); the Zung Self-Rating Depression Scale (ZSRS : Zung 1965); the Multiple Affect Adjective Checklist (MAACL : Zuckerman & Lubin, 1980); the Depression Adjective Check List (DACL : Lubin 1967); the Institute for Personality and Ability Testing (IPAT) Depression Scale (Krug & Laughlin, 1976); and the Center for Epidemiological Studies Depression Scale (CES-D Scale : Radloff & Locke, 1984).

The three measures of depression selected for this study included Beck Depression Inventory, Zung Self-Rating Depression Scale, and MMPI-D Scale. This has been done keeping in view their extensive use by researchers working in the area of depression. There are several reasons for the use of multiple depression scales. First, past research has extensively used these measures of depression; second, researches have reported similarity as well as dissimilarity among these measures of depression; and third, the different construction of these scales, and their individual characteristics of item array, cause serious difficulties in comparing one study using one scale with another using a different scale. Given some contentual differences among the scales, there may be
distinctive patterns of correlation of these scales with several other measures representing psychopathology. Their use would further facilitate comparison of results with other studies.

1. The Minnesota Multiphasic Personality Inventory- D (Depression) Scale (Hathaway & McKinley, 1967).

The authors state in their manual that the inventory is "... designed ultimately to provide, in a single test, scores on all the more important phases of personality. The point of view determining the importance of a trait in this case is that the clinical or personal worker who wishes to array those traits that are commonly characteristic of disabling psychological abnormality". It is intended for persons sixteen years of age or older who are able to read.

The inventory consists of 550 statements. The statements cover a wide range, including physical condition, morale and social attitudes. The items have been classified under twenty six headings, for example, general health gestro-intestinal system, family and marital, religious attitudes, affect (depressive and manic), delusions, phobias, masculinity, femininity interests. Various items of the inventory have been selected and grouped, thus, far, to form separate scales for the scoring of nine personality traits. Other scales based upon, still different grouping of some of the 550 items, may also be developed. The nine are
hypochondriasis, depression, hysteria, psychopathic deviate, masculinity-femininity interest, paranoia, psychasthenia, schizophrenia and hypomania. Since its original publication, scoring has been developed for a new scale from the 550 items. This is called the social introversion scale, to measure the tendency to withdraw from social contacts with others.

It is apparent from this list of scales that the Multiphasic Inventory is concerned almost exclusively with the clinical problem of differential diagnosis. This is further indicated by the fact that the scales were developed by contrasting normal groups with clinical psychiatric cases. The chief criterion of validity was the prediction of clinical cases against the diagnosis of a hospital staff.

The distinguishing characteristics of the inventory are: its comprehensiveness; its large number of scale groupings to diagnose clinical types; and four aspects of its scoring, namely " a validity score", a "lie score", a "question score", and a "K" score. Since, it was first published in 1943, the MMPI has been applied to a wide variety of clinical and research problems. Inspite of the many warnings voiced that the test would be pertinent only to psychiatric problems, the contributions of the MMPI to diverse areas of human activity have proven to be substantial. These successes serve to document both the
robustness of the basic scales of the test and the pervasiveness with which psychopathology permeates and affects human affairs.

In the present study, depression scale was used. Reliability and validity data have been reported in several volumes (Dahlstrom, Welsh, & Dahlstrom, 1972, 1975). The Depression (D) Scale of the MMPI is believed to provide a valid measure of symptomatic depression, and adequate internal consistency and validity have been reported in several studies (Schaefer et al., 1985; Dahlstrom & Dahlstrom, 1980; Beck, 1967; Zung, 1967).


The Beck Depression Inventory is a 21-item scale measuring attitudes and symptoms associated with depression. Each item is scored from 0 to 3 and all items are summed to produce a total score that may range from 0 to 63; higher scores indicate greater severity of depressive symptomatology. A typical item is as follows:

0 - I can sleep as well as usual.
1 - I wake up more tired in the morning than I used to.
2 - I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.
3 - I wake up early everyday and cannot get more than 5 hours sleep.

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It is reported to possess adequate internal consistency (Upmanyu & Reen, 1990, 1991; Vredenburg, Krames, & Flett, 1985; Dobson & Breiter 1983) and test-retest reliability (Peterson, Semmel, Von Baeyer, Abramson, Metalsky, & Seligman, 1982; Golin, Sweeney, & Schaeffer, 1981).

Furthermore, a number of studies have also shown adequate reliability and validity when used with both clinical (Barrera & Garrison-Jones, 1988; Schaefer et al., 1985; Stober et al., 1981; Nussbaum, Wittig, Hanlon, & Kurland, 1963) and non-clinical (Barrera and Garrison-Jones, 1988; Teri 1982 a) samples of adolescents.

Another study (Baron & Laplante, 1984 cited in Baron & Perron, 1986) conducted with a sample of 374 adolescents (185 males, 189 females) coming from similar environment indicated that the BDI psychometric characteristics were quite satisfactory. In both psychiatric and student samples; the BDI has also shown high convergent validity with psychiatric rating of depression severity (Blumberg, Oliver, & McClure, 1978; Metcalfe & Goldman, 1965; Beck et al. 1961), Zung Self Rating Depression Scale (Reynolds & Gauld, 1981) and behavioural items on the Health Behaviors Questionnaire (Kaplan, Nussbaum, Skomorowsky, Shenker, & Ramsey, 1980).

Although, there has been some controversy concerning the use of the BDI, Beck, Steer, & Garbin (1988) have recently reviewed a large number of studies that
demonstrate the reliability and validity of this measure, and Hill, Kemp-Wheeler, & Jones (1986) have recently provided evidence of discriminant validity in college student samples. Beck, Steer, & Garbin (1988) reported that the BDI has now been used in more than 1,000 different studies. Although, Beck recommended a cutpoint of 10 for mild to moderate depression, a number of authors, especially (Pyszczynski, Hamilton, Herring, & Greenberg, 1989; Crocker, Alloy, & Tabachnik Kayne, 1988; Pyszczynski, & Greenberg, 1985; Martin et al., 1984; Tabachnik, Crocker, & Alloy, 1983; Alloy, 1984; Abramson, 1982; Harvey, 1981; Krantz & Hammen, 1979; Nelson & Craighead, 1977; Miller & Seligman, 1976) used a cutpoint of 9 to distinguish depressed from nondepressed in college student samples. Pyszczynski et al. (1989) reanalysed the data using 10 as the cutpoint for inclusion in the depression category and found that the results were unaltered.

In this study, the Beck Depression Inventory has not been used for classifying subjects into different groups, but the inventory has been used to obtain measures of depressive symptoms among adolescents. Scores on the BDI represent the severity of depressive symptoms but are not necessarily indicative of the presence of the full clinical syndrome of depression.
The Zung Self-Rating-Depression Scale (ZSRS; Zung, 1965)

Zung's Self-Rating Depression Scale was designed to provide a brief quantification of depressive state. It comprises of 20 items, rated on a four-point scale (i.e., a little, some, good part, or most of the time) assessing the depressive symptoms selected by the author as being most typically experienced by patients with depressive disorders. The higher scores indicate more depression. The Scale is said to be an excellent checklist of some twenty most common complaints comprising the modern concept of depression (Farby, 1980).

Zung (1965) reported some normative data for the ZSRS from several psychiatric patient groups and for 1000 normal subjects, clearly demonstrating the validity of the scale.

Knight, Waal-Manning, & Spears (1983) reported norms and reliability data for the State-Trait Anxiety Inventory and the Zung Self-Rating Depression Scale. The correlation between patients' age and score on the ZSRS was -0.09 (p < 0.01). The ZSRS correlated 0.54 with the A-State and 0.70 with the A-Trait Scale (p < .001 in both cases). The obtained alpha coefficient of 0.79 for the ZSRS is encouraging, but it is not as high as it might have been had item selection for the final scale been carried out more systematically. The mean ZSRS score for males and females was found to be 31 and 33.5 respectively. The mean ZSRS score reported by Zung was 26.
In brief, the Zung Scale is well suited for a preliminary clinical investigation with a client and provides reliable and valid measures of depressive tendencies in psychiatrically normal adolescents. This scale has already been used in Indian studies (Upmanyu & Reen, 1990, 1991) and has been found to possess adequate psychometric characteristics. In the present study, Zung Self-Rating Depression Scale was used to assess depressive symptoms or tendencies.

(B) Measures of Cognitive Dysfunction

Although a number of structured self-report questionnaires have been developed to measure various thinking styles associated with depression in adults, most notably the Attributional Style Questionnaires (Seligman, Abramson, Semmel, & VonBaeyer, 1979), the Automatic Thought Questionnaire (Hollon & Kendall, 1980), the Cognitive Bias Questionnaire (Krantz & Hammen, 1979; Hammen & Krantz, 1976), the Dysfunctional Attitude Scale (Weissman, 1979) and the Irrational Beliefs Test (Jones, 1968), only Lefebvre (1980, 1981) devised a measure with separate subscales for the specific cognitive errors described by Beck et al. (1979).

In the present study, the following measures were used, since they have been extensively used.

1. 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 30 depression-related cognitions during the past week (Hollon & Kendall, 1980). The items are rated on a 5-point 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 life is a mess", "I am a failure", "I am worthless", "I hate myself", and "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). As usual, scores on the 30 items are summed to give a total score for ATQ Negative. It yields a score ranging from 30 to 150, with higher scores indicating more frequent negative automatic 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 Thought Questionnaire correlated significantly with both the Beck Depression Inventory and the Minnesota Multiphasic Personality Inventory - Depression Scale. The coefficients of correlation ranged

* The score on all the 30-items were pooled because negative thoughts have been used only as a variable underlying depression.
from .45 to .70. Also using a college sample, Dobson & Breiter (1983) and Harrell & Ryan (1983) reported that ATQ possessed adequate internal reliability and strong sensitivity to the severity of depression. The ATQ was the most sensitive measure related to levels 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). Upmanyu & Reen (1991) also found evidence for satisfactory psychometric characteristics of Automatic Thought Questionnaire.

2. Dysfunctional Attitude Scale (DAS : Form A, Weissman, 1978)

The test format used is that of typical self-report attitude or value scale. For each belief or attitude (the items), seven response categories are presented (totally agree; agree very much; agree slightly; neutral; disagree slightly; disagree very much; totally disagree). On a priori basis, determinations were made as to whether a disagreement or an agreement response indicates an adaptive or maladaptive reaction to the belief in a question. Scaling is on a modified Likert (1932) model, with the adaptive end of the scale assigned an arbitrary value of one, the next category two, etc. and, with zero being used for omits on each item. Each individual is given a score for every item and, his total DAS score is

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simply the sum of the scores he/she received on each item. The higher the total score, the more distorted is the individual's way of thinking. As an example if the statement were: "I cannot be happy unless most people I know admire me" and the respondent decides that this statement is typical of his way of looking at things most of the time, he may reply that he agrees very much with this belief. Because, his response is in the maladaptive direction, his score on this item would be +1.

The Dysfunctional Attitude Scale (DAS) was originally a 100 item scale devised to measure the respondents use of typical depressive assumptions (Beck, 1976). A sample of 275 undergraduates (100 males and 175 females) at the Pennsylvania State University were administered the 100-item version of the DAS by a member of the Department of Psychology. The major criticism which was voiced related to the length of time required to complete the 100 items. Therefore, in an attempt to balance brevity and reliability, the data obtained from this population were subjected to a factor analysis, and an adaptation of a method described in Guilksen (1950) was employed to construct two parallel forms of 40-items each (DAS-A and DAS-B). The range of possible scores is 40 to 280.

In the present study, Dysfunctional Attitude Scale, Form A was used. The DAS, Form-A is a 40 -items measure, designed to assess the respondents' endorsement of typical
depressogenic assumptions (Beck, 1976). The scale has been found to possess necessary psychometric properties. Form-A used in this study is reported to have high internal reliability, correlation with other cognitive assessment measures and sensitivity to severity of depression (Dobson & Shaw 1986; Dobson & Breiter, 1983; Weissman & Beck, 1978).

3. Hopelessness Scale (HS : Beck, Weissman, Lester, & Trexler, 1974)

The Hopelessness Scale is a 20-item, true/false, self-report measure intended to tap the degree of respondent’s 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 verbalizations. 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 score" is the sum of the score 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. The hopelessness scale is an instrument that may be used by both clinician and researcher involved in the detection and assessment of hopelessness as an important variable in many psychopathological processes.

(C) Measures of Personality

1. IPAT Neuroticism Scale Questionnaire (Scheier & Cattell, 1961)

The Neuroticism Scale Questionnaire (NSQ) is a brief, standard, easily administered and scored inventory measuring degree of neuroticism or "neurotic trend". It is suitable for normal and abnormal adults and adolescents. It helps diagnosis by giving a quantitative evaluation of neurotic trends without requiring the time of skilled practitioners. NSQ scores discriminate not only between neurotics and normals, but also between varying degree of slightly neurotic trend in persons usually classed as normal. Thus, the NSQ can be usefully applied to the vast number of essentially normal persons for whom assessment of neurotic trend is nevertheless important in occupational acceptability and in understanding and improving adjustment and proficiency. The NSQ is rooted firmly, by validation research, in the common core of clinical judgement regarding the symptoms and nature of neurosis. As shown in the research literature, the numerical value obtained from the NSQ corresponds to what is common to the judgements of psychiatrists and clinical psychologists in regard to neurotic trend.
The Neurotic-Associated Personality factors measured by the Neuroticism Scale Questionnaire (NSQ) are:

(1) Factor I: Tender-mindedness vs. Tough-mindedness.
(2) Factor F: Depressiveness vs. Happy-go-lucky.
(3) Factor E: Submissiveness vs. Dominance.
(4) Factor An: Factor Q4: Ergic tension vs. Relaxation.

Factor C: Ego Weakness vs. Ego Strength.
Factor O: Guilt Proneness vs. Assured Self Confidence

The last three dimensions listed above, as indicated, are known to group together in a second-order factor of anxiety and the test provides only one separate subscore for these three dimensions - an anxiety score which becomes the fourth component of the test.

Distributions of items in the four components of The Neuroticism Scale Questionnaire (NSQ)

<table>
<thead>
<tr>
<th>Factor-component</th>
<th>Questions</th>
<th>No. of items</th>
<th>Possible range of scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overprotected, tender-mindedness sensitivity (I+)</td>
<td>1-5, 21-25</td>
<td>10</td>
<td>0-20</td>
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<tr>
<td>Depressive overseriousness (F-)</td>
<td>6-10, 26-30</td>
<td>10</td>
<td>0-20</td>
</tr>
<tr>
<td>Submissiveness, Dependence (E-)</td>
<td>11-15, 31-35</td>
<td>10</td>
<td>0-20</td>
</tr>
<tr>
<td>Anxiety [O+, Q4+, C-]</td>
<td>16-20, 36-40</td>
<td>10</td>
<td>0-20</td>
</tr>
</tbody>
</table>

Each item has three response alternatives scored 0, 1, 2, from lower to higher level of neuroticism and any single item contributes to only one of the four components.
components. The total composite neuroticism score is simply the sum of raw scores on all 40 items in the four components. Thus, the possible range of scores is from 0 to 80, with higher scores indicating more neurotic trends.

The psychometric properties of the questionnaire in the Indian setup are also well documented (Hundal & Upmanyu, 1974).

2. Eysenck Personality Questionnaire (Eysenck & Eysenck, 1975)

H.J. Eysenck (1947) proposed a three dimensional model of personality: Introversion-Extraversion (E), Neuroticism (N), and Psychoticism (P), and a psychobiological model to parallel the three dimensions (Eysenck, 1967, 1981; Eysenck & Eysenck, 1985). The model is a hierarchical one that conceptualizes each of the three broad dimensions subdivided at a lower level into narrower and more specific traits, which finally may be subdivided into habits of reactions or aggregates of behavioural instances, the number of factors that one regards as personality. H. Eysenck & S. Eysenck (1969) have chosen to concentrate on the highest level of analysis because the supertraits are more replicable across sex, age, methods (rating vs. self-report methods), and different questionnaires.

The questionnaire was developed using the results of large-scale factor analysis and Eysenck & Eysenck (1976, pp. 53-54) have claimed that their four factors appear in
both first and higher order solutions. Among the first item-factor analysis of the EPQ by researchers other than the Eysencks’, were those undertaken by Loo (1979), Helmes (1980), Barrett & Kline (1980), and McKenzie (1988). 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 scale in particular had values of Cronbach’s 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 provided a wealth of details on both the scale scores and the factors structure. Using principal component analysis followed by a direct oblimin rotation (Jennrich & Sampson, 1966), the researchers covered practically all the E,N, and L-items at 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 a later study, Barrett & Kline (1982) concluded that the factor structure of the EPQ was replicable 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. More recently, McKenzie (1988) concluded that "the analysis provide conclusive confirmation that Eysenck's 4 factors of P, E, N and L are real, reliable and replicable across populations and sexes, that they can be located at the first order and that both P and N are sensitive to dissimulation" (p. 809).

Eysenck Personality Questionnaire is one of the most widely used personality questionnaires. Its psychometric characteristics are fairly well documented in many countries including India.

(D) Measures of Social Support

Social Support Questionnaire (SSQ : 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 and on 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 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 and 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.

The authors concluded that the modest correlation between SSQ-N and SSQ-S provides a strong basis for analyzing 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
worthy 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.

(E) Measures of Body Image

The Multidimensional Body-Self Relations Questionnaire (Cash, 1991)

The multidimensional Body-Self Relations Questionnaire (MBSRQ) has been developed through an extensive, iterative process or rational-empirical item selecting and validation research, including factor-analytic research. The MBSRQ is a 69-item self-report inventory for the assessment of self-attitudinal aspect of the body-image construct. The inventory contains the 54-item short form (BSRQS) of the original 140-item BSRQ (Winstead & Cash, 1984), the 9-item Body Areas Satisfaction Scale (BASS), plus 6 weight-related items. The MBSRQ was developed (on the basis of conceptual, empirical, and psychometric criteria) from earlier versions.

The BSRQ proper may be scored in either of two ways: (1) Based on the original conceptual scales, or (2) based on the orthogonal scales from replicated factor analysis. The conceptual scales were derived from the perspective
that body image is a self attitude comprised of three psychological dimensions or dispositions toward one's body: affective ("Evaluation"), cognitive ("Attention/Importance"), and behavioral ("Action" or Activity"). The body is conceived of in terms of three somatic domains - Physical aesthetics ("Appearance"), Physical competence ("Fitness"), and biological integrity ("Health").

Thus, the BSRQ permits the derivation of 9 subscales from a 3 (Attitudinal dimension) X 3 (Somatic Domain) conceptual matrix. On conceptual and empirical grounds, the Attention/Importance and Appearance/Evaluation subscales may be combined within each of the three somatic domains to comprise the "orientation" subscales. This alternative permits derivation of 6 subscales. Appearance Evaluation, Appearance Orientation, Fitness Evaluation, Fitness Orientation, Health Evaluation, and Health Orientation. The factor analytic scoring produced the same 6 subscales, albeit with some differences in constituent items, plus an additional, seventh subscale termed "Illness Orientation".

The MBSRQ Subscales

(A) The BSRQ Factor Subscales

1. Appearance Evaluation Feeling of physical attractiveness or unattractiveness; Satisfaction or dissatisfaction with one's looks. High Scorers feel mostly positive and satisfied with their physical appearance.
2. **Appearance Orientation** Extent of investment in one’s appearance. High scorers place importance on how they look, pay attention to their appearance, and engage in lots of "growing behavior" to look their best.

3. **Fitness Evaluation** Feeling of being physically fit or unfit. High scorers regard themselves as physically fit, "in shape", or athletically active and competent.

4. **Fitness Orientation** Extent of investment in being physically fit or athletically competent. High scorers value fitness and are actively involved in activities to enhance or maintain their fitness.

5. **Health Evaluation** Feelings of physical health and/or the freedom from physical illness. High scorers feel their bodies are in good health.

6. **Health Orientation** Extent of investment in a physically healthy lifestyle. High Scores are "health Conscious" and try to lead a healthy lifestyle.

7. **Illness Orientation** Extent of reactivity to being or becoming ill. High Scorers are alert to personal symptoms of physical illness and are apt to seek medical attention.

(B) Additional MBSRQ Subscales

8. **Body Areas Satisfaction Scale (BASS)** High composite scorers are generally happy with most areas of their body. Low scorers are unhappy with the size or appearance of several areas of their body.
9. **Fat Anxiety** This special scale concerns one's emotional apprehension about weight gain or discomfort about being overweight.

10. **Weight Vigilance** This special scale reflects one's extent of awareness of small changes in weight .... "Weight watching".

11. **Self-Classified Weight** This special scale reflects how one perceives and labels one's weight from very underweight to very overweight.

12. **Dieting/Restraint** Two items reflecting the extent of weight control: dieting and fasting.

**Administration of Tests**

The tests were administered in six sessions, following a uniform sequence. In the first session, MMPI-D Scale and IPAT Neuroticism Scale Questionnaire were administered. In the second session, Beck Depression Inventory and Dysfunctional Attitude Scale were completed. In the third session, Zung Self-Rating Depression Scale and Automatic Thought Questionnaire were administered, whereas in the fourth session, subjects completed Eysenck Personality Questionnaire and Social Support Questionnaire. In the fifth session, Hopelessness Scale and Multidimensional Body Self-Relation Questionnaire were administered. In the last session, subjects were asked to answer two items, namely (i) to what they attribute depression and (ii) mention the strategies used by them to cope with depression.
The tests were administered to subjects in groups of 5 to 7 subjects in accordance with the instructions given by authors of the tests. The instructions for different tests were read aloud to the group comprising of 5 to 7 subjects. The instructions in typed form were also provided to the subjects. The doubts of the subjects were removed before permitting them to take the test. Each form was checked to see if any omission was there and if so, the particular subject was asked to complete that question or questions.

Strict supervision was exercised in order to see that the subjects do not discuss or take up help from each other while performing on the tests. The general testing conditions were satisfactory. Sincere efforts were made to establish rapport with the subjects in order to elicit reliable and authentic information.

Subjects were told that 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 appears to have gone a long way in establishing psychological rapport, since a large number of subjects contacted the investigator later on and enquired about their performance on the tests used.
Scoring of Tests

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.

I. Three measures of Depression
   1. Depression scores obtained by scoring MMPI-Depression Scale;
   2. Depression scores obtained by scoring Beck Depression Inventory;
   3. Depression Scores obtained by scoring Zung Self-Rating Depression Scale.

II. Three measures of Cognitive Dysfunction
   1. Negative automatic thoughts,
   2. Dysfunctional attitude, and
   3. Hopelessness.

III. IPAT Neuroticism Scale Questionnaire was scored for deriving scores pertaining to Factors I, F, E, and An.

IV. Four measures concerning psychoticism, neuroticism, extraversion, and social desirability were obtained by scoring Eysenck Personality Questionnaire.

V. Social Support Questionnaire was scored for measures, namely SSQ-N and SSQ-S scores.

Responses to 27 items on the SSQ were obtained by administering the questionnaire to the subjects who were asked to list for each item all the individuals who provided them support in the situation described. The
subjects were also asked to rate their level of satisfaction with the support received. The number (N) score for each item of the SSQ is the number support person 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 (ranging from 1 to 6). The overall N and S scores were obtained by dividing the sum of N and S scores for all items by 27, the total number of items in the questionnaire.

VI. Thirteen measures were obtained from the multidimensional Body-Self Relations Questionnaire:

1. Appearance Evaluation;
2. Appearance Orientation;
3. Fitness Evaluation;
4. Fitness Orientation;
5. Health Evaluation;
6. Health Orientation;
7. Illness Orientation;
8. Body Areas Satisfaction;
9. Fat Anxiety;
10. Weight Consciousness;
11. Subjective Weight;
12. Current Dieting; and

Thus, as a result of scoring different tests, 29 types of score were available.
Analysis

The data were analysed to obtain the following information:

1. Frequency distribution, mean, standard deviation, skewness, and kurtosis for different measures.

2. Bivariate correlations between different measures.

3. Factor analysis for the measures of depression, dysfunctional attitudes, negative automatic thoughts, hopelessness, psychoticism, neuroticism, social desirability, extraversion, social support, and body image.

The analyses were done separately for: (a) male adolescents and (b) female adolescents. The reasons for separate analyses have been discussed earlier (p. 45-47).