CHAPTER-III

METHODS
This chapter includes a description of:

(A) Sample
(B) Measures
(C) Administration of Tests
(D) Scoring of Tests
(E) Analysis

(A) Sample

The subjects were drawn from Senior/Senior Secondary Government and Public Schools located in Chandigarh. Participants were 300 adolescents comprising of 150 males and 150 females. The age of 150 males and 150 females ranged from 15 to 18 years. The variables of marital status, employment status, and urbanism were controlled since all the subjects were unmarried, unemployed and belonged to urban area. The majority of the subjects were from upper middle/middle class families. To be more precise, subjects were similar in age, education, income, marital status, employment status and area of residence. The characteristics of these subjects are similar to those of large segments of population, and this should enhance the generalisability of the findings.
(B) Measures

The following measures were used:

(a) Measures of Loneliness:

Revised UCLA Loneliness Scale (Russell, Peplau, & Cutrona, 1980).

(b) Measures of Depressive Symptoms:

Zung Self-rating Depression Scale (Zung, 1965)

(c) Measures of Locus of Control:

Internal-External Scale (Rotter, 1966).

(d) Measures of Perceived Stress:


(e) Measures of Social Support:

The Social Support Questionnaire (Sarson, Sarson, Shearin, & Pierce, 1987).

(f) Measures of Anger:

The State-Trait Anger Scale (Speilberger, Jacobs, Russell, & Crane, 1983).

(A) Revised UCLA Loneliness Scale (Russell, Peplau, & Cutrona, 1980)

According to Russell (1982), the UCLA Loneliness Scale is the most widely used measure of loneliness. Investigators using the instrument in theory testing research have assumed unidimensionability...
of the instrument, as purported by its authors (Russell, Peplau, & Cutrona, 1980; Russell, Peplau, & Ferguson, 1978).

Russell et al. (1978) developed the original UCLA Loneliness Scale as a ‘general’ and a ‘global’ measure of the subjective experience of loneliness from an existing instrument of loneliness by Sisenwein (1964). Sisenwein expressed the view that loneliness is the felt lack of meaningful personal relationships (relational deficit). He generated items for his instrument from the literature and statements from 20 psychologists that described how they felt when they experienced loneliness. Russell et al. (1978) selected 25 diverse yet non-extreme items from Sisenwein’s 75-item instrument. As a result of their initial psychometric work with the 25 items, they reduced the scale to 20 items, all of which were worded in the same direction – higher scores reflecting higher levels of subjective feelings of loneliness.

In further work, Russell et al. (1980) revised the original 20-item UCLA Loneliness Scale whereby 10 items were positively worded and 10 items were negatively worded in order to minimise a systematic response set, such as acquiescence and social desirability.

Some of the representative items are:

(a) I feel in tune with the people around me.

(b) I do not feel out.
(c) I feel left out.
(d) I can find companionship when I want it.
(e) There are people I can turn to.
(f) I feel isolated from others.

The revised UCLA Loneliness Scale is a 20-item Likert-type scale that is a measure of the subjective experience of loneliness. Scores on the 4-point scale can range from 20 to 80. The items are reverse scored whereby the higher the score, the higher the loneliness (Russell et al., 1980).

The coefficient alpha found in a sample of college students was 0.94 (Russell et al., 1980), while the coefficient alphas found in samples of early adolescents ranged from .81 to .88 (Mahon & Yarcheski, 1990; Mahon & Yarcheski, 1988; Yarcheski & Mahon, 1984).

Evidence of validity for the UCLA Loneliness Scale has been gained from research conducted primarily on college students. The construct validity of the Scale has been assessed by correlating loneliness scores with scores on the Beck Depression Inventory (r=.62), and with the Costello-Comrey Anxiety (r=.32) and Depression (r=.55) Scales. Also, a statistically significant positive correlation was found between loneliness and the amount of time spent alone each day (r=.41). Lonely students reported having fewer close friends (r=-.44) and they engaged in fewer social activities with friends (r=-.28).
validity of the scale was established by correlating loneliness scores with mood and personality variables. The findings indicated that the loneliness scores correlated more highly with a single item, self-report of loneliness ($r=.71$), than with such measures as introversion-extraversion ($r=-.46$), anxiety ($r=.36$), and self-esteem ($r=-.49$) (Russell et al., 1980).

Zakachi & Duran (1982) performed a principal factor analysis with orthogonal rotation on the UCLA Loneliness Scale using a one- and two-factor solution on data from a sample of 287 college students. Based on the findings, they suggested that a two-factor solution, which accounted for 40% of the variance in loneliness, underlies the instrument. Zakahi and Duran, however, failed to specify the criteria used for retention of items on the factors.

Knight, Chsheolm, Marsh, & Godfrey (1988) investigated the psychometric properties of the UCLA Loneliness Scale on data from a sample of men and women, aged 16 to 89. Using the principal axis method of a factor analysis with varimax rotation, three factors emerged that explained 53.4% of the variance. Subsequently, a two-factor solution - which explained 48% of the variance provided a better approximation of simple structure. According to the two-factor solution, Factor I consisted of all the negatively worded items, and Factor II consisted of all the positively worded items. Thus, the two factor solution corresponded to the
way in which the items are worded on the scale. The criterion for retention of items on a factor was not reported. However, because the coefficient alphas reported for each factor were high, and because each factor correlated highly with the total scale score, the researchers suggested that the UCLA Loneliness Scale is unidimensional, as indicated by Russell (1982), and that the two-factor solution is a result of the wording of the items.

Despite the dimensionality of the UCLA Loneliness Scale has not been resolved through the various factor analysis procedures used, it is being used extensively as a global measure of loneliness. The psychometric characteristics are well documented in the Indian set up (Upmanyu, Sehgal, & Upmanyu, 1994; Upmanyu, Upmanyu, & Bhardwaj, 1994; Upmanyu, Upmanyu, & Dhingra, 1988, 1992, 1993).

In summary, there is a large literature using the revised UCLA Loneliness Scale and documenting its usefulness, validity, reliability, and its centrality in the measurement armamentarium for researchers interested in examining different facets of loneliness feeling.

(B) Zung Self-Rating Depression Scale (Zung, 1965)

Zung Self-Rating Depression Scale was selected because it 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 other ten are worded symptomatically negative. The maximum contribution of behavioural and somatic features to the full 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.113), loss (item No.7), gut symptom (item No.5 & 8), psychological anxiety (item No.15), somatic anxiety (item No.9), depression (item No.1, 3, 14, 17) etc. To this 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., a little, some, good part, or most of the time), with numerical value ranging from 1 to 4 for positive statements. The maximum possible ZRS 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.

The recent 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 recent 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 referring to different items are as follows:
<table>
<thead>
<tr>
<th>Item</th>
<th>Symptoms</th>
</tr>
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<tbody>
<tr>
<td>1.</td>
<td>Sadness</td>
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<tr>
<td>2.</td>
<td>Diurnal variation</td>
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<td>3.</td>
<td>Spells of crying</td>
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<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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<td>7.</td>
<td>Weight loss</td>
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<td>8.</td>
<td>Constipation</td>
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<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>Hoplessness</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>
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, 1989; Baltes & Baltes, 1986; Rodin, 1986; Gurin & Brim, 1984; Lefcourt, 1981, 1982, 1983) and perhaps even longevity (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 psychogologists 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 researched 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 internality-externality scale is a two-option forced choice scale. Rotter's scale consists of 23 items and 6 additional buffer items 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 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 differing 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 out 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 l-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 receives little support from factor analytic studies, there is
neither a sound theoretical reason nor a 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 (l-E) locus of control, researchers appeared reluctant
to abandon Rotter's hypothesis. Thus Rotter (l-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.

**Perceived Stress Scale (Cohen and Williamson, 1988)**

It is a common assumption among health researchers that stressful life events are not, in and of themselves, sufficient cases 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 are scores derived from either a simple counting of events (i.e. unit weighting) or event scores based on weights assigned by external judges (e.g., 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., 1983). 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, 1966, 1977; Seligman, 1975; Averill, 1973; Glass & Singer, 1972). 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 specific to any sub-population group. The original scale contained 14 items. Four-item (PSS4), and 10 item (PSS10) versions of the scale have also been validated.

The questions in the perceived stress scale ask 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) to the seven positively stated items (items 4, 5, 6, 7, 9, 10 and 13) 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 (e.g., 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.

SOCIAL SUPPORT QUESTIONNAIRE (SSQ : Sarason, Levine, Basham, & Sarason, 1983)

Social Support Questionnaire (SSQ) developed by Sarson, 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 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 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 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 in psychopathology.

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

STATE-TRAIT-ANGER EXPRESSION INVENTORY (STAXI) (Spielberger, 1988; Krishna, 1988)

The STAXI 10-item S-Anger and T-Anger scales were designed to assess the intensity of angry feelings at a particular time (items S1 to S10) and individual differences in the disposition to experience anger (items T11 to T20). The T-anger/T subscale (items T11, T12, T13, T16) measures a general disposition to experience angry feelings, without specific provocation; the T-Anger/R subscale (items T14, T15, T18, T20) assess the individual’s proneness to experience anger when criticised or treated unfairly by others.

Anger expression (AX) is measured with the STAXI by 3 eight item scales. These are: (i) AX/ln— the frequency with which angry feelings are held or suppressed (items AX23, AX25, AX26, AX30, AX33, AX36, AX37, AX41); (ii) AX/out—how often an individual expresses anger towards people or objects in the environment (items AX22, AX27, AX29, AX32, AX34, AX39, AX42, AX43); Anger Expression (AX/EX), based on 24
items provides a general index of the frequency that anger is expressed, regardless, of the direction of the expression and is based on AX/In, AX/Out and AX/Con subscales of the AX scale.

To facilitate cross-cultural research, the Hindi versions of the three sub-scales of the English Anger Expression Scale (AX/In, AX/Out, AX/Con) and the total STAXI have been developed by Krishna (1988) on bilingual (Hindi-English) subjects. To establish the equivalence of the Hindi and English forms of AX-Scale (consisting of 24 items) they were administered in 4 counter balanced orders to bilingual college students (males-80, females-80). The mean standard deviations (SD's) for the Hindi and English editions of the AX-scale were comparable and the corresponding coefficients of correlation were high which provide evidence of equivalence of the two versions of AX-scale. Item-remainder correlations were calculated separately for each Hindi and English AX-scale items for both males an females. The values for item-remainder correlations ranged from 0.34 to 0.73 for males, and from 0.19 to 0.84 for females in the English AX-scale, whereas in the Hindi version, item-remainder correlation ranged from 0.38 to 0.80 for males and 0.20 to 0.84 for females. Thus, all the item-remainder correlations were high and positive which provide evidence for internal consistency of both Hindi and English AX-scales for sub samples of Indian males and females. The
evidence of the internal consistency of the Hindi and English versions of AX-scale were further investigated through the alpha coefficients. The significantly high values of alpha coefficients as shown in Table 3.1 show that both Hindi (A) and English (B) Test items are quite homogenous in the contribution of variance to the total STAXI scores. These significant alpha coefficients also establish the internal consistency of both Hindi and English versions of STAXI and Anger Expression (AX/EX) scale for males and females separately. The psychometric properties of both the scales are summarised in Table 3.1. As such the Hindi STAXI can be used for research in India and (ii) AX/Con-frequency with which an individual attempts to control the expression of anger (items AX21, AX24, AX28, AX31, AX35, AX38, AX40, AX44) and subsequent comparisons of these findings with those obtained on English speaking populations. In addition to its Hindi and English edition, STAXI is also available in Dutch, German, Italian, Norwegian, Finnish and Chinese language version.

In the current study Anger Scale has been used for two measures of anger, namely state anger and trait anger.
### Table 3.1

Table showing alpha coefficients for different scales

<table>
<thead>
<tr>
<th></th>
<th>HINDI (A)</th>
<th></th>
<th>ENGLISH (B)</th>
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<tbody>
<tr>
<td></td>
<td>MALE</td>
<td>FEMALE</td>
<td>MALE</td>
</tr>
<tr>
<td><strong>S-Anger</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>14.51</td>
<td>14.29</td>
<td>14.23</td>
</tr>
<tr>
<td>SD</td>
<td>5.29</td>
<td>3.22</td>
<td>5.26</td>
</tr>
<tr>
<td>Alpha</td>
<td>.86</td>
<td>.55</td>
<td>.66</td>
</tr>
<tr>
<td><strong>T-Anger</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>19.52</td>
<td>19.71</td>
<td>19.60</td>
</tr>
<tr>
<td>SD</td>
<td>5.36</td>
<td>3.86</td>
<td>5.20</td>
</tr>
<tr>
<td>Alpha</td>
<td>.78</td>
<td>.52</td>
<td>.77</td>
</tr>
<tr>
<td><strong>Ax/out</strong></td>
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<td></td>
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</tr>
<tr>
<td>M</td>
<td>15.89</td>
<td>16.29</td>
<td>15.27</td>
</tr>
<tr>
<td>SD</td>
<td>3.91</td>
<td>3.68</td>
<td>3.89</td>
</tr>
<tr>
<td>Alpha</td>
<td>.64</td>
<td>.49</td>
<td>.64</td>
</tr>
<tr>
<td><strong>Ax/Con</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>24.51</td>
<td>23.48</td>
<td>24.60</td>
</tr>
<tr>
<td>SD</td>
<td>4.39</td>
<td>4.26</td>
<td>4.73</td>
</tr>
<tr>
<td>Alpha</td>
<td>.75</td>
<td>.69</td>
<td>.81</td>
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<tr>
<td><strong>Ax/Ox</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>23.19</td>
<td>23.99</td>
<td>23.15</td>
</tr>
<tr>
<td>SD</td>
<td>8.02</td>
<td>7.02</td>
<td>8.59</td>
</tr>
<tr>
<td>Alpha</td>
<td>.67</td>
<td>.51</td>
<td>.55</td>
</tr>
</tbody>
</table>
ADMINISTRATION OF TESTS

The following tests were administered in random order, requiring four different sessions.

1. Revised UCLA Loneliness scale
2. Zung Self-rating Depression scale
3. Internal-External Scale
4. The Social Support Questionnaire
5. A Global Measure of Perceived Stress
6. The State-Trait Anger Inventory

The tests were administered in small groups of 10 to 15 participants. The doubts of the participants were removed before permitting them to fill out different questionnaires. The instructions for different tests were read aloud to the groups and the instructions in typed form were also provided to the subjects.

The general testing conditions were satisfactory. Efforts were made to establish rapport with the participants in order to elicit reliable and authentic information. Participants 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 appears to have gone a long way in establishing psychological
rapport because a large number of participants contacted the investigator later on and enquired about their performance on different measures. Cooperation of principals and teachers of different schools also helped in eliciting reliable information from the participants.

Despite the task being tedious, participants showed keen interest in filling out different questionnaires.

**Scoring of the tests**

The tests were scored by following the procedures suggested by the authors of different tests.

The Revised UCLA Loneliness Scale was scored for a global measure of loneliness. The measures of depressive symptoms were obtained by scoring Zung Self-rating. Depression Scale. The Social Support Questionnaire was scored for two measures of social support pertaining to quantity and satisfaction. Rotter’s Internal-External Scale and Global Measure of Perceived Stress were scored for one measure each concerning locus of control and perceived stress respectively.

The State-Trait Anger Inventory was scored for two components referring to state and trait anger.

Thus as a result of scoring different tests eight measures as mentioned below were obtained:

(a) One measure of loneliness.
(b) One measure each of locus of control, perceived stress and depressive symptoms.

(c) Two measures of social support.

(d) Two measures of state-trait anger.

ANALYSIS

The following analyses were done:

(a) To examine the nature of frequency distributions of different measures, the following statistical measures were obtained:

   (i) Mean
   (ii) Median
   (iii) Standard deviation
   (iv) Skewness and
   (v) Kurtosis

(b) Intercorrelations among different variables.

(c) t-test of significance was applied to compare males and females on different measures.

(d) Step wise regression equation involving one measure of loneliness, one measure of locus of control, one measure of perceived stress, two measures of social support, one measure of depression and two measures of anger was formulated.