CHAPTER III

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The present investigation was designed to test various hypotheses concerning the role of age, gender, depression and hopelessness in suicide ideation at mid and late adolescence. The empirical verification of the proposed hypotheses was dependent on:-

1. The reliable measurements of the variables of ultimate interest;
2. The methods and procedures employed for deriving conclusions from such measurements. This further required:
   (a) Selection of an adequate sample;
   (b) Selection of appropriate tools that could be profitably used for reliable measures;
   (c) Methods and procedures employed for deriving conclusions from different measures;
   (d) Scoring of tests used for the collection of data; and
   (e) Selecting suitable statistical techniques for analyzing the data.

Thus, it was pertinent to describe the sample which provides the data for testing the proposed hypotheses and the specific tools which had been used for collecting data. In addition, the information concerning administration of the measures, scoring of the tests used, and the procedure of analyses must be carefully mentioned. All the above mentioned steps are reported in this chapter in the following pages.

SAMPLE

The present study was carried out on two different groups of adolescence. Mid adolescence group comprised of 100 boys and 100 girls in the age of 15-17 years. Late adolescence group comprised of 100 girls and 100 boys each in the age group of 18-20 years. Hence, a total of 400 school and college going students were selected for the collection of data. The sample was limited to participants who were available and willing to participate in this study, thus limiting the assumption of randomization. Incidental sampling was employed.

With a view to win the confidence of the subjects, they were told that the information was being collected purely for research purpose and would be kept confidential. The assurance seemed to have gone a long way in establishing
psychological rapport, since a large number of subjects contacted the investigator and enquired about their performance on the tests used.

Adolescents (N=400)

- 200 Males
  - 100 Mid Adolescents
  - 100 Late Adolescents
- 200 females
  - 100 Mid Adolescents
  - 100 late adolescents

**DESCRIPTION OF MEASURES/TOOLS**

The following tests were used for the collection of data for testing various proposed hypotheses:

**A) Self Report Measures of Depression**
1. Beck Depression Inventory (Beck, Ward, Mendelson, Mock & Erbaugh, 1961);

**B) Cognitive Assessment Measures**
1. Hopelessness Scale (Beck, Weissman, Lester, & Trexler, 1974);
2. The Scale for Suicide Ideation (Beck, Kovacs, & Weissman, 1979).

(A) **Measures of Depression**:

The fact that there is a need for assessing depression, whether as an affect, a symptom, or a disorder is obvious by numerous scales and inventories available and in use today.
Self-report checklists of depression characterized by established validity, reliability, and factorial structure includes the 21-item Beck Depression Inventory (BDI: Beck, et al., 1961), the 20-item Zung Self-Rating Depression Scale (ZSRS: Zung, 1965), the Clinical Analysis Questionnaire (Delhees & Cattell, 1975), the Depression Scale (Krug & Laughlin, 1976), the Eight States Questionnaire (Institute for Personality and Ability Testing, 1976), and of course, the oldest of all standardized multivariate and multidimensional personality measure, the Minnesota Multiphasic Personality Inventory: Depression Scale (Hathaway & McKinley, 1967).

ZSRS and BDI had been used as a measure of depression for this research. This had been done keeping in view their extensive use by researchers working in the area of depression. There were several reasons for the use of multiple depression scales. They were:

1. Past research has extensively used these measures of depression;
2. Researchers have reported similarity as well as dissimilarity among these measures of depression;
3. The different construction of these scales and their individual characteristics item array, cause serious difficulties in comparing one study using one scale with another using a different scale. Given some continual differences among the scales, there may be distinctive patterns of correlation of these scales with several other factors.

Zung Self-Rating Depression Scale (ZSRS: Zung, 1965)

The Zung Self-Rating Depression Scale is a 20-item self-report questionnaire that is widely used as a screening tool, for three depression and mood symptoms:
*Affective
*Psychological
*Somatic

The 20 items of the scale address each of the four most commonly found characteristics of depression: the pervasive effect, the physiological equivalents, other disturbances, and psychomotor activities. The scale seemed to be well balanced with equal number of positive and negative statements as out of the 20 items used, 10 items were worded symptomatically positive and 10 items were worded symptomatically negative.
Items related to behavioral and somatic features contribute to 50% of the full scale (item 2 to 10, 13). Other important features covered by ZSRS refer to suicide (item no. 19), insomnia (item no. 4), work and interest (item no. 8, 20), agitation (item no. 13), loss of interest (item no. 7), gut symptom (item no. 5 and 8), psychological anxiety (item no. 15), somatic anxiety (item no. 9), depression (item no. 1, 3, 14, 17) etc.

The respondent was given a choice of time between the categories: “none or a little of the time”, “some of the time”, “part of the time”, “most of the time”. Each item was scored on a Likert scale of 1-4 with reverse scoring for the negatively worded items. This yielded an overall score of 20-80, and a converted SDS Index score of 0.25 to 1.00. The highest possible score was 80. Higher the score more was the indication of depression. Zung (1965) reported that the Zung-Index score of 50 served as a criterion score to distinguish clinically depressed persons from normals. Most people with depression scored between 50 and 69, while a score of 70 and above indicated severe depression.

Zung Self-Rating Scale matched the Hamilton Rating Scale (HRS) for depression. Hamilton (1969) had commented that the ZSRS “is likely to have many uses because it is short and not difficult to fill in”. Its brevity was reflected by the restricted range of items.

Gabrys and Peters (1985) found support for the scale’s reliability by judge or self report and the predictive and discriminative validities with functionally diverse groups. Another study (Schaefer et al., 1985) estimated the internal consistencies of ZSRS by computing alpha coefficients. The Zung alphas were 0.90 (psychiatrics ward) and 0.86 (chemical dependency ward). The result favored the Zung over the MMPI-D scale, and to a lesser degree, the Beck Depression Inventory as a measure of depression symptomatology in men. In general, Zung produced better validity coefficient than the Beck, which in turn yielded higher correlations than did the MMPI depression scale. The authors further concluded that additional research on the scales’ validities in women would be useful.

Another study by 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.

Previous investigations indicated that the ZSRS was a valid and sensitive measure of clinical severity in depressed patients and supported its continued use as a research instrument (Biggs, Wylie, & Ziegler, 1978). In an analysis of the discriminatory power of the ZSRS, scores for clinically depressed patients were significantly higher than normal controls. The Zung Self-Rating Depression Scale (ZSRS) correlated well (0.69) with the treating physician’s global rating in 26 depressed out-patients during the six weeks of treatment with a tricyclic antidepressant. The sensitivity of the ZSRS was found to be adequate. The scale was able to differentiate, at the 0.05 level, for the four severity groups classified on the basis of the global ratings (Biggs, Wylie, & Ziegler, 1978). Hence, scores indicated range for depressive severity that could be useful for clinical and research purposes.

Designed to screen depression and mood, it was also an effective outcome measurement tool for tracking a client’s progress with therapy over time, and monitoring changes in depressive severity over time in research studies. The ZSRS was effectively used in a variety of mental health areas including primary care, psychiatric drug trials, and related clinical, institutional, and research settings.

The ZSRS, was chosen because of its accepted clinical value (Blumenthal, 1975). It had been well established for validity and reliability (Blumenthal, 1975; Zung, 1965, 1967). Additionally it is short, convenient to administer and being self completing it is not subject to the halo effect of rater bias as reported by Pilowsky, Levine & Boulton (1969). The psychometric characteristics of the scale were well documented in Indian set up too (Upmanyu & Reen, 1991).

**Beck Depression Inventory (BDI: Beck, Ward, Mendelson, Mock & Erbaugh, 1961)**

The Beck Depression Inventory (BDI), of Aaron T. Beck, is a 21-question multiple choice survey that is one of the most widely used instruments for measuring the severity of depression. Although Beck Depression Inventory (BDI: Beck, et al., 1961) was originally designed to be "interviewer" assisted, the current practice appeared 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 was frequently employed in studies using college populations, dichotomizing students into “depressed” and “non-depressed” groups.

There are two versions of the BDI. The original BDI was first published in 1961 and later revised in 1971: and BDI-II, a revision of BDI that was published in 1996. The BDI had been developed in different forms including several computerized forms a card form (Groth-Marnat, 1990); 13-item short form (Beck, Rial & Rickels, 1974) and the more recent BDI-II by Beck, Steer and Brown (1996). The original and revised versions had been found to be correlated (0.94; Groth-Marnat, 1990). Correlation’s between the 21 item and 13-item short form had ranged from 0.89 to 0.97 indicating that the short form was an acceptable substitute for the long form (Beck, Rial, & Rickels, 1974).

The scale consisted of 21 questions as to how the subject was feeling in the last week. Each set of four possible answer choices range in increasing intensity. When the test was scored, a value of 0 to 3 was assigned for each answer and then total score was compared to a key to determine the depression severity.

Interpretation:

1. Sadness
2. Pessimism
3. Sense of failure
4. Dissatisfaction
5. Guilt
6. Expectation of punishment
7. Dislike of self
8. Self Accusation
9. Suicidal ideation
10. Episodes of crying
11. Irritability
12. Social withdrawal
13. Indecisiveness
14. Change in body image
15. Retardation
16. Insomnia
17. Fatigability
18. Loss of appetite
19. Loss of Weight
20. Somatic preoccupation
21. Low level of energy

The total score was calculated by adding up the score for each of the twenty-one questions. The highest possible total for the whole test was 63. The lowest possible score for the whole test was 0. Only one score per question was added i.e. (the highest rated if more than one was circled).
Total score | Level of Depression
--- | ---
00-04 | Possible denial of depression, faking good; this was below usual score for normals.
05 – 09 | These ups and downs were considered normal
10 - 18 | Mild to moderate depression
19 - 29 | Moderate to severe depression
30 - 63 | Severe depression

Score above 30 was significantly indicative of severely depressed persons, suggesting possible exaggeration of depression; possibly characteristic of histrionic or borderline personality disorders.

Internal consistency for the BDI ranged from 0.73 to 0.92 with a mean of 0.86 (Beck, Steer, & Garbin, 1988). Similar reliabilities had been found for the 13-item short form (Groth-Marnat, 1990). The BDI demonstrated high internal consistency, with alpha coefficients of 0.86 and 0.81 for psychiatric and non-psychiatric populations, respectively (Beck, Steer, & Garbin, 1988).

Beck et al. (1961) did not recommend conventional test-retest reliability for his original measures for the BDI. Alternate test-retest reliability methods by Beck et al. (1961) found that regardless of whether the 2 tests were reissued at 2 or 6 weeks intervals, the scores on the inventory tended to reflect changes in the clinical depth of depression. However, Groth-Marnat (1990) reported that re-test reliabilities ranged from 0.48 to 0.86, depending on the interval between re-testing and type of population.

Focussing 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 were 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 & Hokanson (1978), failure to assess depression level just prior to conducting an experiment thus led to misleading if not invalid results. They were concerned about the ability of the BDI to classify an individual within the same depression category on two occasions. Sacco's (1981) concern about the test-retest reliability of the BDI, were not without rebuttal.
Using non-depressed college students, Miller & Seligman (1973) reported a test-retest reliability coefficient \((r)\) of 0.74 after a three month interval, and Pehm (1976) reported \(r\) of 0.75 after one month. Oliver & Burkham (1985) reported a test-retest coefficient of 0.78 for college students over a week's period. Retesting psychiatrically hospitalized adolescents, Gallagher, Nies and Thompson (1982) reported even more impressive test-retest coefficients with normal \((r=0.86)\) and depressed \((r=0.79)\) elderly. The time interval between administrations for the latter study ranged from 6 to 21 days.

In participants with concomitant physical illness, it had been suggested (Moore, Moore, & Shaw, 1993) that its reliance in physical symptoms such as fatigue might artificially inflate scores due to symptoms of illness, rather than of depression. Because of this, researchers and clinicians who work with medically ill populations might consider using the Center for Epidemiologic Studies – Depression Scale (CES-D) or the Hospital Anxiety and Depression Scale (HADS) as alternative measures.

The content of the BDI was obtained by consensus from clinicians regarding symptoms of depressed patients (Beck et al., 1961). The revised BDI items were consistent with six of the nine DSM-III categories for the diagnosis of depression (Groth-Marnat, 1990).

Clinical ratings for psychiatric patients were reported as high to moderate ranging from 0.55 to 0.96; Mann \(r=0.72\) (Beck & Steer, 1988). Groth-Marnat (1990) reported moderate correlations between the revised BDI and other scales measuring depression such as the Hamilton Psychiatric Rating Scale for Depression (0.73) and the Zung Self-Reporting Depression Scale (0.76) and the Minnesota Multiphasic Personality Invention (MMPI) Depression Scale (0.76).

Groth-Marnat (1990) reported that controversy existed over whether the revised BDI was measuring state or trait variables. Furthermore, it had been suggested that the BDI is not specific to depression.. Discriminant analysis had found that the translated version of the revised BDI highly discriminates depressive symptoms in Spanish (Boncicatto, Dew, & Soria, 1998), Persian (Hojat, Shapurian, & Mehrya, 1986) and Chinese speaking people (Skeck, 1990). Groth-Marnat (1990) reported that the revised BDI discriminates psychiatric patients from non-psychiatric patients as well as relatively higher scores for patients with major depressive disorder compared to
patients with dysthymic disorders. The revised BDI had also been used to discriminate loneliness, stress and self reported anxiety (Groth-Marnat, 1990).

The present study, however, did not attempt to use BDI for the purpose of classifying subjects into different groups on the basis of individual's depression level. The BDI was selected to provide a single measure of severity of depression.

**Hopelessness Scale (HS: Beck, Weissman, Lester and Trexler, 1974):**

Although a number of measures of attitudes toward the future had been developed, they had not been designed to quantify hopelessness specifically (Yufit, Benzies, Fonte, & Fawcett., 1970).

The need for an instrument capable of assessing a respondent's negative expectancies had led to the development of the hopelessness scale. The underlying assumption was that hopelessness could be readily objectified by defining it as a system of cognitive schemas whose common denomination was negative expectations about the future.

Much of the interest in hopelessness stems from the key role it plays in the prediction of suicidal behavior. Beck et al. (1974) originally developed this scale in order to predict who would commit suicide and who would not. Thus, it was a scale for measuring negative attitudes about the future. In many previous studies; hopelessness has been associated with the spectrum of suicidal behavior in clinical (Beck et al., 1990; Beck et al., 1985); and community (Keinhorst, de Wilde & van der Bort, 1990) samples. Hopelessness could distinguish suicidal from non suicidal adolescents (Swedo et al., 1991).

To measure hopelessness, Beck, Rial and Rickels (1974) had developed a 20-item scale; the scale measures three specific components or variables:

1. Affective-feelings about the future
2. Motivational-loss of motivation and

In subsequent study, Steer, Beck and Brown (1997) found that the BHS was composed of two factors:

1. Pessimism About the future (4 items) and
2. Resignation (3 items).

A study by Aish, Wasserman and Renberg (2001) found that BHS included positive and negative items describing the perception of the future in terms of
success, darkness, lack of opportunity and faith. The hopelessness scale was a self-report measure of view about the future in the form of a checklist of 20 items to which the subject responds "true" or "false". Out of 20 true-false statements, 9 were keyed false and 11 were keyed true. Individuals completing the BHS were asked to answer the questionnaire based on their attitudes during the preceding week. For every statement, each response was assigned a score of 0 or 1, and the total hopelessness score was the sum of scores on the individual items. Thus, the possible range of scores was from 0 to 20. Responding to the 20 true or false items on the Beck Hopelessness Scale (BHS), patients could either endorse a pessimistic statement or deny an optimistic statement. A high BHS score might alert the therapist to unstated or denied suicidal intentions.

The manual reported KR-20 coefficients (measures of the scale's internal consistency) ranging from 0.82 to 0.93. The manual stated that when 21 patients with mixed diagnoses were tested at the Center for Cognitive Therapy both during an intake evaluation and 1 week later, before beginning their therapy, the correlation between their scores on the two occasions was 0.69. In another sample of patients from the Center for Cognitive Therapy (N = 0.99), the test-retest reliability over a 6-week span was 0.66. Both of these test-retest coefficients were statistically significant. Durham (1982) found the scale to be more reliable with the psychiatric patients than with the college students. The difference in reliability may reflect the restriction of range of hopelessness scores among college students.

Beck and Steer (1988) reported high internal reliability across diverse clinical and non-clinical populations with Kuder-Richardson reliabilities ranging from 0.87 to 0.93. The BHS had adequate one-week test-retest reliability in a psychiatric outpatient sample (r = 0.69; Beck & Steer, 1988) and high three-week test-retest reliability in a college student sample (r = 0.85; Holden & Fekken, 1988).

Among adolescents who had been psychiatrically hospitalized, hopelessness as assessed with the BHS seemed to be a relatively stable construct (correlation between serial administrations 6 months apart = 0.63; Goldston et al., 2001). These data along with data from adult samples suggested that hopelessness as assessed with the BHS had some "trait characteristics" (Young et al., 1996).
Beck et al (1974) examined the relationship between clinical ratings of hopelessness and BHS scores in two samples: a) 23 outpatients in a general medical practice and b) 62 hospitalized patients who had recently attempted suicide. In the general practice sample, the correlation between the BHS and the ratings of hopelessness was 0.74; in the suicide-attempt sample, it was 0.62.

Kaslow et al. (2000) reported that female, African–American suicide attempters scored higher on the BHS than general medical care patients in an emergency room setting. Other research had indicated that only multiple attempters had higher scores on the BHS than single attempters or suicide ideators (Rudd, Joiner & Rajab, 1996).

Steed (2001) examined 544 university students on BHS and found internal consistency of scores satisfactory (Cronbach’s alpha=0.88). Convergent validity was demonstrated by high correlations with the Hope Scale and the Life Orientation Test (LOT). A correlation of 0.57 between the BHS and perceived stress reduced to .24 when trait negative affect was controlled for, indicating a degree of discriminant utility. It was concluded that for normal populations, measures such as the LOT and Hope Scale were more appropriate (Steed, 2001).

In United States adolescent psychiatric inpatients sample, and in Canadian samples of Aboriginal psychiatric inpatients suicide attempters and non-Aboriginal psychiatric inpatients suicide attempters, BHS scores were found to correlate (r=0.53, 0.75 and 0.82, respectively) with severity of depression as measured with the BDI (Enns, Inayatulla, Cox, & Cheyne, 1997).

Psychiatrically hospitalized adolescent suicide attempters had higher hopelessness scores than non attempters, both in samples matched for severity of depression (Morano, Cisler, & Lemerond, 1993) and in samples not matched for depression scores (Kashden, Fremouw, Callahan, & Franzen, 1993). Hopelessness was one of two variables that were used to discriminate between (or correctly classify) 76% of suicide attempters hospitalized on a pediatrics unit, other at-risk youths, and normal controls (Swedo et al., 1991). Among adolescent psychiatric inpatients with a history of attempts, BHS scores were predictive of suicide attempts following discharge from the hospital. These predictive effects were not apparent among adolescents without a history of attempts, and were no larger statistically significant after controlling for depression.
Thus, several studies had supported the predictive validity of the BHS for the suicide attempts and completed suicide. Patients who scored a 9 or above on the BHS were approximately 11 items were more likely than patients who scored 8 or below to commit the suicide (Beck & Steer, 1989).

Among adults, hopelessness had repeatedly been found to be associated with eventual suicide (Beck et al., 1985, 1990; Fawcett et al., 1990) and repeated self-harm behaviors (Scott, House, Yates, & Harrington, 1997) in clinically referred samples.

The hopelessness scale was found to have high degree of internal consistency and showed a relatively high correlation with the clinical ratings of hopelessness and other self-administered measures of hopelessness. The internal-consistency of the scale on a population of 294 hospitalized patients was analyzed by means of coefficient alpha (KR-20), which yielded reliability coefficient of 0.93. In adolescent psychiatric inpatients (Steer, Kumar, & Beck, 1993), the BHS had been found to be internally consistent (KR-20 coefficient = 0.86). Both the Dutch translation of the scale (in three samples of adolescents) and the Israeli version of the BHS had been found to be internally consistent (alphas from 0.68 to 0.75, alpha= 0.89, respectively).

The Beck hopelessness scale was an excellent scale based on the cognitive theory of depression. The BHS had been used with high school students and other non-clinically ascertained populations (de Wilde et al., 1993), adolescent psychiatric outpatients (Brent et al., 1998) and inpatients (Rotheram-Borus & Trautman, 1998) and adolescent suicide attempters on a pediatrics unit (Swedo et al., 1991).

Allison et al. (2001) had chosen BHS in preference to the Hopelessness scale for children (Kazdin, Rodgers, & Colbus, 1986) because its psychometric qualities were more impressive and adult-level language seems more appropriate for an adolescent population. Among adults, the BHS repeatedly had been found to be associated with repeat suicide in clinically ascertained samples.

This measure had been evaluated in number of studies and had been found to be reliable, sensitive and easy to administer. The hopelessness construct was a factor in many mental disorders and was highly correlated with measures of depression, suicidal intent, and ideation. The Beck Hopelessness
Scale as a sensitive indicator of suicide potential was recommended in the study by Beck et al. (1990).

This contrasts with the depressive syndrome which included a complexity of affective and motivational changes, negative cognitions, behavioral observations and physiological symptoms which led to difficulties in definitions and measurements.

The Hopelessness Scale was an instrument that might be used by both professionals and para-professionals involved in the detection and assessment of hopelessness as an important variable in many psychopathological processes.

**Scale For Suicide Ideation (SSI; Beck, Kovacs, & Weissman, 1979)**

As with any clinical phenomenon, assessment was the commencement point in successful identification. The primary purpose of assessment for suicidality is "to be able to identify those at risk and to intervene in a timely fashion" (Eyman and Eyman, 1990). Strictly speaking, prediction of suicidal behavior is not possible due to the unpredictable nature of human behavior. Nevertheless, mental health professionals can measure one aspect of suicidal behavior, suicide ideation, with some degree of certainty.

The Scale for Suicide Ideation was a 21-item, interviewer-administered rating scale that measured the current intensity of patients' specific attitudes, behaviors, and plans to commit suicide on the day of the interview. It also aimed to assess the risk of later suicide attempt in individuals who had thoughts, plans, and wishes to commit suicide (Beck & Kovacs, 2000). It was a well-established clinician-rating scale and was presented in a semi-structured interview format. The Scale for Suicidal Ideation (SSI) (Beck, Kovacs, & Weissman, 1979) was designed to measure the intensity, pervasiveness, and characteristics of suicidal ideation in adults. SSI had been widely used for presence and severity of suicidal ideation. The SSI had been utilized in a wide variety of settings such as primary care practices, emergency rooms, rehabilitation programs, private practice, etc.

Beck, Brown and Steer (1997) reported that the SSI represented two positively related underlying dimensions of Preparation (9 items) and Motivation (8 items) in psychiatric outpatients. The overall compositions of these two dimensions corresponded to the active suicidal desire and preparation dimensions that Beck, Kovacs and Weissman (1979) had previously found with
patients hospitalized for suicide ideation. SSI evaluated three dimensions of suicide ideation:

1. Active suicidal desire,
2. Specific plans for suicide, and
3. Passive suicidal desire.

These dimensions had been only partly replicated in some factor analytical studies (Allan, Kashani, Dahlmeier, Taghizadeh, & Reid, 1997). This suggested good construct validity. The first factor ("active suicidal desire") was nearly identical to Beck's original one (Beck, Kovacs, & Weissman, 1979). The second factor ("passive suicidal desire") included theoretically coherent items, two of which were identical to Beck's original factor of similar content. The third factor was also theoretically meaningful, included three items concerning final preparations, and had one item in common with Beck's original "preparations" factor. The internal consistency of the scale was found to be good (α = 0.89), and factor analysis yielded the three above-mentioned dimensions (Beck, Kovacs, & Weissman, 1979). Among inpatient children rated by trained raters the factors could not be replicated; only two factors ("active suicidal desire" and a mixture of "active and passive desire") existed with miscellaneous items left over (Allan et al., 1997).

Each item consisted of three options graded according to suicidal intensity on a 3-point scale ranging from 0 to 2. The ratings for the first 19 items were summed to yield a total score, ranging from 0 to 38. The SSI consisted of five screening items. Three items assessed the wish to live or the wish to die, and two items assessed the desire to attempt suicide. If the respondent reported any active or passive desire to commit suicide, then 14 additional items were administered. Individual items assessed suicidal risk factors such as the duration and frequency of ideation, sense of control over making an attempt, number of deterrents, and amount of actual preparation for a contemplated attempt. Two additional items recorded incidence and frequency of previous suicide attempts. The higher was the total score, the greater the severity of suicide ideation. In some previous studies on adult suicidality a score of 6 or more had been used as a cutoff threshold for clinically significant suicidal ideation (Sokero et al., 2003). When screening clinically significant suicidality in adolescents, a total score threshold of ¾ might be useful (Holi et al., 2005).
The psychometric properties of the SSI had been evaluated in adult population and in inpatient children. Both in a sample of adult psychiatric inpatients and in a sample of inpatient children the internal consistency of the scale was good (Allan et al., 1997; Beck, Kovacs, & Weissman, 1979). The SSI had been standardized with adult psychiatric patients in psychiatric inpatient (Beck et al., 1985) and outpatient settings (Beck, Brown, & Steer, 1997).

The Scale for Suicide Ideation (SSI) was a well-established clinician-rating scale but its suitability to adolescents has not been studied widely. Holi et al. (2005) were the first to evaluate the psychometric properties of the SSI in an adolescent population, though SSI had been administered to college students (Clum & Yang, 1995; Dixon, Heppner, & Anderson, 1991), including African American college students (Blanton-Lacy, 1997) earlier also.

For the inpatient sample, 54% were female, 60% were White, 34% were African-American; and the mean age was approximately 34 years (Beck, Kovacs, & Weissman, 1979). For the outpatient sample, 56% were female, 91% were White, 6% were African American, and the mean age was 36 years, ranging from 13 to 79 years. The SSI had been found to have moderately high internal consistency with Cronbach coefficient alphas ranging from 0.84 (Beck, Brown, & Steer, 1997) to 0.89 (Beck, Kovacs, & Weissman, 1979). Holi et al. (2005) found Cronbach's α to be 0.95 for the whole sample, 0.81 for the community sample and 0.95 for the outpatient sample. The SSI also had high interrater reliability with correlations ranging from 0.83 (Beck, Kovacs, & Weissman, 1979) to 0.98 (Beck, Brown, & Steer, 1997).

The SSI had been found to be significantly associated with the suicide items from the Beck Depression Inventory and the Hamilton Rating Scale for Depression (Beck, Brown, & Steer, 1997; Hawton, 1987; Beck et al., 1985; Beck, Kovacs, & Weissman, 1979). The SSI had also been associated with previous suicide attempts and severity of depression (Molock, Kimbrought, Lacy, McLure, & Williams, 1994). The SSI discriminated suicidal inpatients from depressed outpatients (Beck, Kovacs, & Weissman, 1979) as well as suicide attempters from non attempters (Mann, Watermaux, Haas, & Malone, 1999). Prigerson and Slimack (1999) reported that the SSI was more highly correlated with aggression in young adult males whereas the SSI was correlated with depression and posttraumatic stress disorder in young adult females.
The predictive validity of the SSI for completed suicide had been established for patients seeking outpatient psychiatric treatment (Brown et al., 2000; Beck et al., 1999). Specifically, patients who scored in the higher risk category (i.e. SSI total score greater than 2) were approximately seven times more likely to commit suicide than those who scored in the lower risk category (Brown et al., 2000). Brown et al. (2000) found that the presence of suicidal ideation provided an independent estimate of the risk for suicide for psychiatric patients. The predictive validity of the SSI had been studied in a sample of hospitalized patients, where the SSI scores of those who committed suicide were not significantly higher than the scores of inpatients that did not (Beck et al., 1985). In a sample of 3701 adult outpatients those who scored over a SSI threshold value had 5.42 times higher odds of committing suicide than those who scored under (Beck et al., 1999). The threshold value was derived from a receiver operating characteristic (ROC) analysis that yielded optimal threshold of 1/2 for predicting future suicide. In the same study, SSI-scores inquired the worst point in life (SSI-W) yielded an odds ratio of 13.84 for predicting suicide.

The SSI had been found to converge with scales measuring related constructs e.g. hopelessness and depression in adults, and hopelessness, depression and self-harm in children (Allan et al., 1997; Beck, Kovacs, & Weissman, 1979).

The main finding was that the SSI appeared to be a reliable and valid instrument for evaluation of suicidal ideation in a depressed adolescent population. Its internal consistency and different aspects of validity were good and similar to what had been reported among adults. Moreover, the SSI was one of the few suicide assessment instruments to document the predictive validity for completed suicide. Holi et al. (2005) evaluated that the SSI could safely be used to evaluate suicidal ideation in adolescents where it seemed to perform as well as in adults, where it was considered to be well established. But questionnaires should be only an adjunct to the clinical evaluation of suicidality.

**ADMINISTRATION OF TESTS AND DATA COLLECTION**

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

The tests were administered in a uniform sequence involving two different sessions. In one session, the two measures of depression, namely, Beck Depression Inventory, and Zung Self-Rating Depression Scale were administered. In the other session Cognitive Assessment was done by using Hopelessness Scale and The Scale for Suicide Ideation. Sufficient rest was given to the subject in between the performance of all the scales. This was done to maintain the motivation of the subject. The order of the sessions and the tests were randomized in order to counter the effects of sequence. This was done for every successive group of subjects. The tests were administered in a small group of 10-15 subjects.

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 the information was being collected purely for research purpose. They were also assured that the information to be collected would remain strictly confidential and would be presented only in a form in which no person could be identified.

**SCORING**

The tests were scored strictly in accordance with the procedure suggested by the authors of different tests. Hand scoring was done by using separate keys for respective tests used in the current study. Beck Depression Inventory and Zung Self-Rating Depression Scale were used to measure depression.

Hopelessness scale was used to measure the degree of hopelessness and the scale for Suicide Ideation was used to score the extent of suicide ideation in subjects.

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

1. Two measures of depression
2. One Cognitive measure of hopelessness
3. One measure of suicide ideation.

**DATA ANALYSIS**

The data were analyzed to obtain the following information:

1. Frequency distribution of scores on measures.
2. Mean, standard deviation, skewness, kurtosis, and reliability co-efficients for different measures.

3. 2X2X2 ANOVA was employed on age, depression and hopelessness. ANOVA was applied separately for males and females.