Chapter III

Methodology
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The present study is designed to examine the relationship between sociability and shyness in adolescents and also to understand the relationship among shyness, sociability, loneliness, depression and socio-economic status. One puzzling feature observed in people suffering from shyness, loneliness or depression is their relative lack of effort to deal directly with their problems. Those suffering from shyness often avoid social situations and seldom attempt to learn or enact appropriate social behaviors. Those suffering from loneliness often avoid one-to-one situations that are necessary to develop close personal relationships. Those suffering from depression often avoid all kinds of potentially rewarding activities, both social and nonsocial ones. That is, all these problems are associated with a lack of motivation that seems to include both less initiation of activity and less persistence.

Recent advances in attribution theory suggest an intriguing exploration of this phenomenon (Abramson et al., 1978; Anderson et al., 1983; Peplau et al., 1979; Weiner, 1979). It may be that depressed, lonely and shy people consistently explain their successes and failures in a self-defeating way and they have a maladaptive attributional style. Their attributional style may lead to expectations of poor performance in either social or nonsocial situations (or both), which would in turn produce low motivation, little flexibility in behavior and poor performance. For example, a depressed person may attribute success to uncontrollable external factors (such as outside help) and failure to unchangeable internal factors (such as lack of ability). A number of empirical studies have demonstrated such maladaptive attributional styles for depressed people, lonely people (Anderson et al., 1983) and shy people (Teglas and Hoffman, 1982).

Extensive review of the literature reflects that shyness, loneliness and depression are perceived as the major problems of everyday living of our society. Most of the theoretical and empirical evidence reveals that these problems are common which leads to major negative outcomes. Negative outcomes may include disturbances in interpersonal relationship, social failure, anxiety, fear etc. On the other hand, sociability
is considered as an inevitable requirement for healthy survival. Therefore the present study has been undertaken to find out the effect of sociability and shyness on loneliness and depression among educated youth.

Sample

As shown in the Fig2.1, the sample comprised of 387 students randomly taken from both school and college (males = 203 and females = 184). Data was collected from 177 college students (males = 93 and females = 84) and 210 school students (males = 110 and females = 100). The school was further categorized into private and government schools. Data was collected from 108 private school students (males = 54 and females = 54) and 102 government school students (males = 56 and females = 46). The education level of school and college students varied from class IX to graduation with an age range of 13-20 years (Mean Age = 16.81 years). However the age of college students ranged from 17-20 years with a mean age of 19.06 years. Similarly, the age of school students ranged from 13-16 years with a mean age of 14.91 years.

For this particular study both ‘Level of Education’ (i.e., School vs. College) as well as ‘Type of Schooling’ (i.e., Government vs. Private) was taken into consideration. The rationale behind taking ‘Level of Education’ was to know the effect of both school and college education on students, i.e., whether education has buffering effect or not on the variables like shyness, loneliness and depression. Like wise ‘Type of Schooling’ was also undertaken for the study in order to know whether enriched school environment leads to any effect on the above mentioned variables taken for the study.

The college and schools undertaken for this study were situated in Delhi. The name of the colleges and schools are not being disclosed for the purpose of confidentiality. The choice of college and school was guided by convenience of collecting data and ready cooperation extended by the school and college authorities.

In case of gender, two terms (boys – girls and males – females) have been used interchangeably because of their age, since at school level they are referred as boys and
girls; whereas as they enter college stage, they are usually referred as males and females because they mostly cross their teen age.

Where,

CS = College Students

SS = School Students

PSS = Private School Students

GSS = Government School Students

M = Male

F = Female

Fig 2.1: Population Sample
Tools

The following tools were used in the study: (see Appendix)

- **Beck Depression Inventory** (BDI - II, 1996) by Beck was used to assess depression.

- **Revised UCLA Loneliness Scale** (1980) by Russell was used to assess loneliness.

- **Sociability Scale** (2000) by Eysenck and Wilson was used to find out the person’s inclination to seek out the company of other person.

- **Shyness Scale** (1985) by Cheek and Melchior was used to assess the shyness.

- **Socio Economic Status Scale** (2005) by Singh and Shyam was used to assess socio economic status of the students.

- **Personal Profile** was used to know the demographic details of sample

**Beck Depression Inventory (BDI)**

The original version of BDI was developed by Beck et al., in 1961. The BDI was revised in 1971 and made copyright in 1978 (Groth-Marnat, 1990). Both the original and revised versions have been found to be highly correlated (0.94; cited in Groth-Marnat, 1990).

The present BDI is a 21 item self-report inventory measuring characteristic attitudes and symptoms of depression (Beck et al., 1996). The BDI has been developed in different forms including several computerized forms, a card form, the 13-item short form and so on. The BDI takes approximately ten minutes to complete, and it requires a fifth-sixth grade reading age to adequately understand the questions (Groth-Marnat, 1990).

**Reliability:** Internal consistency for the BDI ranges from 0.73 to 0.92 with a mean of 0.86 (Beck, Steer and Garbin, 1988). Similar reliabilities have been found for the 13-item short form (Groth-Marnat, 1990). The BDI demonstrates high internal consistency,
with alpha coefficients of 0.86 and 0.81 for psychiatric and non-psychiatric populations, respectively (Beck et al., 1988).

**Split-half/Cronbach's Alpha:** The BDI has a split-half reliability co-efficient of 0.93.

**Test-Retest Reliability:** Beck et al., (1961) did not recommend conventional test-retest reliability for his original measures for the BDI (1961). Beck suggested that if the BDI was re-administered within a short interval then scores could be spuriously inflated due to memory factors. If the test were re-administered after a long interval then consistency would be lower due to the intensity of depression. Alternate test-retest reliability methods by Beck et al., (1961) found that regardless of whether the two 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.

**Alternate Form Reliability:** Correlation between the 21 item and 13 item short forms have ranged from 0.89 to 0.97 indicating that the short form is an acceptable substitute for the long form (Beck, Rial and Rickels, 1974).

**Inter-Rater Reliability:** Beck et al., (1961) reported that inter-rater reliability was not appropriate for the BDI.

**Validity and Factor Analysis:** A meta-analyses of studies on the revised BDI's psychometric properties by Richter et al., (1998) report advantages with the revised BDI's high content validity and validity in differentiating between depressed and non-depressed people. Beck, Steer and Garbin (1988) reported that the revised BDI has been found to include three to seven factors, depending on the method of factor extraction. These include factors that reflect negative attitudes towards self, performance impairment and somatic disturbances, as well as a general factor of depression (Brown, Schulberg and Madonia, 1995).

**Criterion Validity:** The BDI has been able to discriminate the level of adjustment in seventh-graders.
**Content Validity:** The content of the BDI was obtained by consensus from clinicians regarding symptoms of depressed patients (Beck et al., 1961). The revised BDI items are consistent with six of the nine DSM-III categories for the diagnosis of depression (Groth-Marnat, 1990).

**Concurrent Validity:** Correlations with clinician ratings of depression using the revised BDI range from 0.62 to 0.66 (Foa et al., 1993). 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 Reported Depression Scale (0.76) and the MMPI Depression Scale (0.76).

**Construct Validity:** Groth-Marnat (1990) reported that controversy exists over whether the revised BDI is measuring state or trait variables.

**Convergent and Discriminant Validity:** Discriminant analysis has found that the translated version of the revised BDI highly discriminates depressive symptoms in Spanish (Bonicatto, Dew and Soria, 1988), Persian (Hojat, Shapurian and Mehryar, 1986) and Chinese speaking people (Skeck, 1990). Groth-Marnat (1990) reports 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 has also been used to discriminate loneliness, stress and self reported anxiety (Groth-Marnat, 1990).

**Total Score Levels of Depression:**

- **05 – 09** These ups and downs are considered normal
- **10 – 18** Mild to moderate depression
- **19 – 29** Moderate to severe depression
- **30 – 63** Severe depression
- **Below 4** Possible denial of depression, faking good; this is below usual scores for normal.
The Revised UCLA (University of California, Los Angeles) Loneliness Scale

Most research on loneliness has been based on one instrument, the UCLA Loneliness Scale (Russell, Peplau and Cutrona, 1980; Russell, Peplau and Ferguson, 1978), which has come to be viewed as the ‘standard’ scale in the area (Shaver and Brennan, 1991). The initial version of UCLA Loneliness Scale consisted of 20 statements that reflected how lonely individuals described their experience (Russell et al., 1978). Although scores on the original scale were found to be highly reliable and valid, the fact that all items were worded in a negative or ‘lonely’ direction created the possibility that loneliness scores would be affected by systematic biases in responding, such as an acquiescent set. Furthermore, issues of discriminant validity were raised due to the high correlations (ranging from 0.40 to 0.50) between loneliness and scores on measures of related constructs, such as depression and self-esteem.

Although the UCLA Loneliness Scale is a reasonably adequate measure, several potential problems with the scale are apparent. First, all items on the scale are worded in the same direction, with high scores reflecting feelings of social dissatisfaction. Any systematic response bias toward high or low scores, irrespective of item content, would influence the total score. A second potential problem concerns the discriminant validity of the scale. Substantial correlations (ranging from 0.4 to 0.5) have been found between loneliness scores and the Beck Depression Inventory (Bragg, 1979) and the Coopersmith measure of self-esteem (Jones et al., in press).

To address these concerns, Russell and colleagues (1980) developed a revised version of the UCLA Loneliness Scale that included positively worded or non-lonely items. In constructing the revised UCLA Loneliness Scale, Russell and Colleagues selected 10 negatively worded and 10 positively worded items that had the highest correlations with a set of questions that explicitly asked about loneliness. Despite the addition of these opposite-worded items, scores on the revised scale remained highly reliable. Furthermore, analyses presented by Russell and Colleagues (1980) supported the discriminant validity of the revised UCLA Loneliness Scale against measures of personality, social desirability and depression.
The revised loneliness scale has high internal consistency, with a coefficient alpha of 0.94. Loneliness scores were significantly correlated with scores on the Beck Depression Inventory \((r = 0.62)\) and with the Costello-Comrey Anxiety \((r = 0.32)\) and Depression \((r = 0.55)\) scales. Loneliness scores were also significantly correlated (all \(r_s\) above 0.40) with feeling abandoned, depressed, empathy, hopeless, isolated and self-enclosed and with not feeling sociable or satisfied. Loneliness scores were not significantly correlated with such conceptually unrelated affects as feeling creative, embarrassed, sensitive, surprised or thoughtful. Concurrent validity was indicated by demonstrating that lonely people report experiencing emotions theoretically linked to loneliness and do not report experiencing emotions unrelated to loneliness. Lonely individuals also reported more limited social activities and relationships. Discriminant validity for the revised loneliness scale was indicated by evidence that scores on the measure were not confounded by social desirability. Scores on the scale were also found to correlate more highly with other measures of loneliness than with the measures of mood and personality variables that were examined.

**Socio Economic Status Scale (SESS)**

Socio – economic status is considered as one of the important variable in social science research. In general, SES is considered as an indicator of economic and social position (Stawarski and Boesel, 1988). Australian Bureau of Statistics (1994) while assessing the SES of aborigines and indigenous people defined SES as the level (status) of social and economic position of people in society and is reflected by various indicators. Socio comes from the word ‘social’ and refers to people and the ways (level) they fit into the community in which they live. It reflects how well they are educated, have jobs etc. Economic refers to the financial position of people within society and include, how much they regularly earn, whether own a house and the assets owned etc. Powers (1981) has reported that the single best indicator of one’s socio-economic position is the occupation. Duncan et al., (2002) have reported that commonly used indicators of SES are income, wealth, social standing/prestige and material/social deprivation. Tello et al., (2005) indicated three domains: educational employment sector,
relational network and material conditions. According to Piko and Fitzpatrick (2001), occupational status of parents and self-assessed SES are subjective indicators of socio-economic status.

The present SES is developed by Singh and Shyam (2005) in Hindi and English for both the rural and urban people and having allegiance to both areas. There are twenty five statements in the scale. The Coefficient of stability was calculated by test-retest method and it was found to be 0.65. When the scale was administered again after a gap of 30 days the coefficient of stability was 0.94. For internal consistency Cronbach alpha was calculated on normalized (with a mean of 50 and SD of 10) T scores (N= 500) and was found to be 0.79. To assess the validity of the questionnaire, manifold criteria were set. The coefficient of correlation between self and other’s rating was $r = 0.98$. Self-ratings correlated with SES score positively, $r = 0.74$. Other’s rating were also found to be correlated significantly with SES score, $r = 0.55$.

**Shyness Scale**

Factor analytic studies have consistently identified a ‘shyness’ factor that is located in the sphere between the two dimensions in the personality sphere in childhood and adolescence (Shiner and Caspi, 2003) and in adulthood (Crozier, 1979). Eysenck (1956) and Eysenck and Eysenck (1969) distinguished between introverted social shyness (the preference for one’s own company but retaining the capacity to function effectively in social situations) and neurotic social shyness characterized by self-consciousness and anxiety about social encounters. Shyness can be analyzed into various components: cognitive (in terms of acute self-consciousness, biased appraisals of situations, and self-attributions for social difficulties), affective (subjective anxiety, somatic reactions) and behavioural (inhibited, reticent behaviours).

The Shyness Scale was developed by Cheek and Melchior (1985). This scale consists of 20 items. Each item is rated on a five point rating scale. In the scale revision/construction sample of 326 college students the alpha coefficient of internal consistency reliability for the 20- item shyness scale was 0.94 ($M = 51.8; SD = 13.6$) and it correlated 0.96 with the original Cheek and Buss 9- item shyness scale. Cheek and
Melchior (1990) reported that in a sample of 31 college women the 20-item scale had a 45-day test-retest reliability of 0.91 and correlated 0.69 with aggregated ratings of shyness received from family members and close friends.

**Sociability Scale**

Eysenck Personality Profiler (EPP V6) is a multi-dimensional modular personality inventory for three dimensions: extroversion, emotionality (neuroticism) and adventurousness (psychoticism). Each dimension has seven subscales. Furthermore, the questionnaire was added with an openness scale. There are two forms; long form S₁ (testing time of 55 minutes) consists of 440 items; pertaining to 21 subscales and the short form S₂ (testing of 20 minutes) consists of 200 items pertaining to 9 sub scales.

*Reliability:* Internal consistency of S₁ test form varies from 0.56 (tough mindedness) to 0.85 (inferiority, unhappiness) with men, and from 0.41 (tough mindedness) to 0.89 (unhappiness) with women.

*Validity:* Factor analysis revealed a distinct three-factor structure. The emotionality (neuroticism) factor explains 27.2%, the adventure (psychoticism) factor explains 17.9%, and the extraversion factor 10.1% (cumulative 55.1%) of the variance. Eysenck, Barrett, Wilson and Jackson (1992) and Costa and McCrae (1995) have also reproduced these findings. The factorial validity of the EPP6 holds across different cultures and age groups with a high equivalent factor structure among these different samples.

The factors and corresponding subscales of EPP are:

- **Extraversion:** (i) Active (ii) Sociable (iii) Expressive (iv) Assertive (v) Ambitious (vi) Dogmatic (vii) Aggressive
- **Neuroticism:** (i) Inferiority (ii) Unhappy (iii) Anxious (iv) Dependent (v) Hypochondriacal (vi) Guilt (vii) Obsessive
- **Psychoticism:** (i) Risk Taking (ii) Impulsive (iii) Irresponsible (iv) Manipulative (v) Sensation seeking (vi) Tough-minded (vii) Practical
A dissimulation (Lie) Scale is also present in EPPI apart from the above factors and corresponding subscales.

The Sociability sub scale of Extraversion consists of 20 questions used in this study. The responses were either ‘yes’ or ‘no’. Scoring was done by assessing ‘1’ for yes responses and ‘0’ for no responses for both positive and negative items. There were 10 positive items and 10 negative items.

**Personal Profile**

Personal profile includes information in respect to age, gender, education, family structure, number of siblings in family, etc.

**Procedure**

For collecting the data from school and college, their respective Principals were contacted personally. The procedure of stratified random sampling was followed. The stratification was done for gender and type of education. The students were selected from both colleges and schools (government and public) situated in Delhi. As desired by the institution, the confidentiality was strictly maintained. Only those who volunteered to participate in the study were taken as subjects.

After establishing a good rapport with the students, the data was collected by administering a set of five questionnaires, namely: sociability, shyness, loneliness, depression and socio economic status. The students were asked to read the instructions and respond to all the items given in the questionnaires carefully. The tests were given in a group setting comprising of 5-6 students. They were allowed to take their own time to complete the questionnaires. The total data collected from students was further analyzed.

**Statistical Analysis:**

Descriptive statistics, Analysis of Variance, Analysis of Covariance, Stepwise Multiple Regression and Pearson Correlation were carried out using the SPSS Package.
ANOVA/ANCOVA was carried out in order to find the effect of education, gender and their interactive effect on sociability, shyness, loneliness and depression, i.e., whether education, gender as well as altogether education and gender had significant or non significant effect on all the above mentioned variables. Similarly Inter Correlation Matrix was carried out for both college and school students separately.

Level of confidence to accept/ verify the hypothesis shall be probability equal to or less than 0.05. Since age and level of education are the variables which are positively correlated (as you age you go to college), therefore in order to separate out the variance owing to the age was statistically corrected. The summary with the corrected model is presented for each of the dependent variable separately.