METHOD

DESIGN

The primary aim of the present investigation was to identify psychosocial correlates of teenage health status (both mental and physical) among boys and girls. Another aim was to study gender differences in teenage health status and its correlates. Teenage health was studied in relation to Personality, Self Esteem, Stress and Strain, Ways of Coping, Health Protective Behavior, Health Habits, Anger Experienced and Anger Expression Styles, Perceived Social Support, indices of Positive Affect (Happiness, Satisfaction with Life, Optimism) and Negative Affect (Depressive symptoms).

Health status assessment of teenagers was done based on WHO (1994) guidelines, using multi-dimensional perspective of health. The WHO measure of Mental Health adapted for use in India by Wig (1999) was chosen to assess mental health of teenagers. The test yields 3 dimensions viz. Being Comfortable with Self, Being Comfortable with Others and Perceived Ability to Meet Life’s Demands.

For measuring different dimensions of Personality, the following standardized tests were used. Eysenck’s personality questionnaire – (revised) – (Eysenck et al.,1985) abbreviated version by Francis et al. (1992) was used to measure Extraversion/Introversion, Psychoticism, Neuroticism and Lie(Social desirability) scale. Type A behavior was studied using Cooper et al.’s (1988) Type A scale. The personality dimensions of Health Locus Of Control - External and Health Locus Of Control - Internal were studied through Health Locus of Control Scale (HLOC) devised by Wallston and Wallston (1982).

A test developed by Atwater (1995) was used to measure Health habits (viz. Exercise and Fitness Habits, Eating Habits and Avoiding Use of Alcohol and Drugs) of teenagers. The Health Protective Behaviour, teenagers engaged in, was measured using the Health Protective Behavior Checklist devised by Harris and Guten (1979).
Happiness was measured on a 11-point self rating scale (Fordyce, 1988). Life Satisfaction was assessed using Diener et al. (1985)'s Satisfaction with Life Scale.

To assess Optimism, a short form of Optimism scale developed by Scheier and Carver (1985) was used. Self Esteem measure developed by Cheek and Buss (1981) was used as a measure of Self Esteem.

Brief symptom inventory by Derogatis and Melisaratos (1983) was used to measure Depressive Symptoms.

To measure Anger Experienced and Anger Expression Styles, Spielberger's (1988) State Trait Anger Expression Inventory was used. Nehra et al.'s (1986) scale was used to measure Perceived Social Support.

For measuring Stress, Life Event Stress scale for adolescents, originally devised by Heisel et al. (1973) and adapted in India by Albuquerque et al. (1990) was used. Stress Symptoms Rating Scale by Heilbrun and Pepe (1985) was used to measure Stress Symptoms (Strain).

The Coping Inventory by Carver et al. (1989) was used to measure three types of Coping viz Task Focused, Emotion Focused and Avoidance Coping.

SAMPLE

The total sample comprised of 400 teenagers (200 boys and 200 girls) in the age range of 16 to 18 years. They were selected randomly from different government, public and private schools (10+2 classes) in and around Chandigarh. Most of them belonged to middle or upper middle income groups.

All the subjects were apprised about the nature and purpose of research and their willingness ascertained before targeting them for participation.
The following standardized tests were used in the present investigation.

1. Health Status assessment (WHO, 1994)
2. WHO measure of Mental Health (Wig, 1999)
3. Health Protective Behavior Checklist (Harris and Guten, 1979)
4. Health Habits Inventory (Atwater, 1995)
5. Life Event Stress (Albuquerque et al., 1990)
6. Stress Symptoms Rating Scale (Hebrun and Pepe, 1985)
7. The Coping Styles Inventory (Carver et al., 1989)
8. Perceived Social Support Scale (Nehra et al., 1996)
10. Brief Symptom Inventory to assess Depression (Derogatis and Melisaratos, 1983)
11. Optimism Scale (Scheier and Carver, 1985)
12. Type A Scale (Cooper et al., 1988)
13. Eysenck Personality Questionnaire-R- Abbreviated (Francis et al., 1992)
14. Health Locus of Control Scale (Wallston and Wallston, 1982)
15. The Spielberger State-Trait Anger Expression Inventory (Spielberger, 1988)
16. Satisfaction with Life Scale (Diener et al., 1985)
17. The Happiness Measure (Fordyce, 1988)
18. Self-Rated Perceived Health Status Rating Scale (Blaxter, 1995)

In addition, subjects were administered a questionnaire to collect information about their demographic characteristics, types of stressors faced, coping techniques used to manage stress and important values in their lives.
BRIEF DESCRIPTION OF THE TESTS

1. **Health Status Assessment---(WHO, 1994 parameters)**

To assess health status of teenagers, based on the guidelines of WHO (1994), a multi-dimensional perspective of Health was taken. The rationale behind it is that one may have good health in one respect and bad in another. Health is not just absence of illness but, it is a positive concept and one which has many dimensions. The energy, happiness and a sense of Well Being is much more than mere absence of disease. So it was decided to extend health status assessment into positive health measures/indices and not focus entirely on degree of illness.

One may say that neither subjective nor objective accounts of health alone are sufficient. A biomedical definition of health in terms of disease, malfunctioning is part of lay concept of health. On the other hand health is also a subjective state and individuals have information about their symptoms and their feelings which only they can give. In the present study both subjective and objective indices of health have been included.

Several functional indices of health status were taken into account

a) **Self Rating Of Perceived Health Status (Blaxter, 1995)**

For this purpose, 11 point scale ranging from Extremely Healthy (10) to Extremely Unhealthy (0) was used. The subjects rated their own health status on a rating scale of 0 to 10. Higher the rating, higher the perceived health status.

b) **Fitness--Unfitness Measure**

Sit represents health most objectively measured. **Body Mass Index (BMI)** was used as a measure of physical fitness. BMI was assessed by the formula: Weight (in Kg) / (Height in metres)^2
Criteria for fitness based on BMI is:

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<td>Underweight</td>
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<td>Normal</td>
<td>20-25</td>
<td>18.7 – 23.8</td>
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<td>Mildly overweight</td>
<td>25.1 – 29.9</td>
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<td>Obese</td>
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c) Disease and Disability - This criteria was based on the reported medically defined conditions and the degree of disability which accompany them. There were 18 conditions named individually (asthma, chronic bronchitis, other chest trouble, diabetes, stomach or digestive disorders, piles, rheumatic trouble, arthritis, heart trouble, lung cancer, other cancers, severe depression, varicose veins, high blood pressure, stroke, migraine, back trouble and epilepsy). The subject had to endorse their presence (Yes) or absence (No). Every “Yes” was scored as one.

d) Experienced Illness Or Psychosomatic Symptoms

The basis of this index used to represent it as a dimension of health was a simple additive score of a number of symptoms experienced during the past one month. The symptoms were headache, hay fever, difficulty in sleeping, constipation, trouble with eyes, a bad back, nerves, cold and flue, trouble with feet, always feeling tired, kidney or bladder trouble, painful joints, difficulty in concentrating, palpitation or breathlessness, trouble with ears, worrying over every little things, indigestion or other stomach trouble, sinus trouble or cataract, persistent cough, spells of fainting or dizziness.

The scores may range from 0 – 20. Research on this measure suggests that on an average males score 2, and women under 3. The subject had to answer by endorsing Yes(1) or No (0).
e) The **Total Illness Orientation Score** was obtained by adding scores of disease and disability and experienced illness together.

2. **The WHO Measure of Mental Health (Wig, 1999)**

   This scale has 16 items and is designed to measure mental health. It has three categories: Being Comfortable with Self, Being Comfortable with Others and Perceived Ability to meet Life's Demands. The subject obtains 3 scores on Mental health dimensions and a summated score on Total Mental Health. The response format has two categories Yes or No. A score of one is given if subject ticks Yes, zero if he ticks No. The test has adequate reliability and validity.

3. **The Happiness Measure (Fordyce, 1988)**

   This instrument provides a measure of intensity of affect (happiness). It has an 11 point rating scale, ranging from 0 (Extremely unhappy) to 10 (Extremely happy). The subjects had to check one statement below that best describes one’s average happiness. (Average scores based on this measure administered to 3000 adolescents was 6.92). The author reports it to be a valid and reliable measure. This test has been widely used by Mohan et al. (1995, 2000).

4. **Satisfaction with Life Scale (Diener et al., 1985)** is a five-item scale that is designed around the idea that one must ask subjects for an overall judgment of their life in order to measure the concept of life satisfaction. Individuals indicate their degree of agreement or disagreement on a 7-point Likert scale with 7 = Strongly agree to 1=Strongly disagree. Scores range from 5 to 35.

   Diener et al.(1985) reported a 2-month test–retest correlation coefficient of .82 and an alpha coefficient of .87 for undergraduates. Diener et al.(1985) also reported it to be a valid test.

5. **Eysenck Personality Questionnaire–Abbreviated (Francis et al., 1992)**

   In the present study an abbreviated form of EPQ – R (Eysenck et al.,1985) especially developed for student population to be used in
England, Canada, the USA, Australia and Asian continent was used. It measures four dimensions of personality put forth by Eysenck viz. Extraversion, Neuroticism, Psychoticism and Lie (Social Desirability). Eysenck's model of personality is a hierarchical one that conceptualizes each of the four broad dimensions sub-divided into a lower level into narrower and more specific traits which finally may be sub-divided into habits or reactions or aggregate of behavioral instances regarded as personality.

Eysenck and Eysenck (1985) defined Extraversion as the tendency to be sociable, lively, active, assertive, sensation seeking, carefree, surging, dominant and venturesome.

Neuroticism has been defined as a tendency to be anxious, worrying, feeling guilty, shy, moody, depressive and emotionally labile.

Psychoticism has been defined as a tendency to be aggressive, anti-social, impulsive, un-empathetic, tough minded and impersonal. Spacing Lie (Social desirability) scale has been defined as a tendency on the part of subjects to fake good responses, measuring some degree of social naiveté.

The present test measures each dimension with the help of 6 items each. Even Eysenck realized that there are some practical disadvantages in long tests. Eysenck too developed two short versions of EPQ-R. In this abbreviated EPQ-R version, the alpha coefficients ranged from .74 to .84 for Extraversion, for Neuroticism between .70 to .77, for Lie (Social Desirability Scale) between .59 to .65 and for Psychoticism between .33 to .52.

Concurrent Validity of EPQ-R-Abbreviated was established by correlating the test with the present short form of EPQ-R scales. Correlation between two versions of Extraversion was from .93 to .95; for Neuroticism from .92 to .94; for Lie (Social Desirability Scale) from .90 to .92 and for Psychoticism from .80 to .87. All these figures reported are quite satisfactory.


This measure is one of the best known and widely used life stress measures for adolescent age group, originally developed by Heisel et al. (1973) and adapted for use in India by Albuquerque et al (1990). This measure is similar to Holmes and Rahe (1967) measure in terms of its construction format and method of scoring. This measure consists of a simple listing of events judged to be frequently experienced by adolescents. It has 42 events. In completing the measure, subjects are requested to indicate which of the events listed have been experienced during the recent past (usually last one year) and the number of times the event has been experienced. As in adult version, life stress scores are derived by summing values termed life change units that are associated with various events that have been experienced.

Validity data was provided by a large number of studies investigating relationship between life change (as assessed by this measure) and indices of health and adjustment. (Pantel and Goodman, 1983; Greene et al.,1985; Watson,1983, Brand et al.,1986). Authors report adequate reliability.

7. Coping Styles Inventory

Coping styles were assessed using Carver et al.’s (1989) (shorter version). The inventory measures three broad coping dispositions – task focused, emotion focused and avoidance coping. Items were conceptually grouped into three scales with 10 items in each scale. Each item was answered on 4 point rating scale ranging from ‘I usually don’t do this at all’ to ‘I usually do this a lot’. Thus scores on each of the scales may range from 10 to 40.
Internal consistency of each scale was assessed using Cronbach’s alpha. For Task Focused Coping, it was .78, Emotion Focused Coping, it was .76 and for Avoidance Coping, it was .77. Task and Emotion Focused Coping were correlated (r=.46). Neither Task nor Emotion Focused Coping were associated with Avoidance Coping (r= .16).

8. **Brief Symptom Inventory (Derogatis and Melisaratos, 1983)**

   This inventory was used to measure depressive symptoms. It has 6 items and response ranges from Not at all (score 1) to Extremely (score 5). The scores range from 6 to 30.

9. **The Spielberger State Trait Anger Expression Inventory (STAXI) (Spielberger, 1988)**

   This is a self rating questionnaire. There are 44 questions in a 3 part questionnaire and it requires 15-20 minutes to complete. It assesses self reported feelings (experiences) of anger and its expression. It has 10 items to assess State Anger (how you feel right now). The subject chooses from the response format: (1) Almost never (2) Sometimes (3) Often (4) Almost always.

   It also has another 10 questions to measure Trait Anger (How you generally feel) and 4 response options: (1) Almost never (2) Sometimes (3) Often (4) Almost always. The range of possible scores for the 2 sub-scales varies from minimum of 10-40.

   The third part has 24 questions measuring three dimensions of Anger Expression viz. Anger Out, Anger In and Anger Control.

   Anger Out, Anger In and Anger Control sub scales’ scores were computed by summing the column of item scores for each scale. The range of possible scores for the three sub-scales varies from a minimum of 8 to maximum of 32.

   A total of Anger Expression Score was also obtained by the formula. Anger Expression = Anger Out + Anger In – Anger Control +
16 (a constant of 16 is added). This scale has been successfully used in India by Mohan (1999, 2000, 2001 and 2002).

10. Health Habits Inventory (Atwater, 1995)

This inventory has 12 items to assess the Health Habits of subjects viz. Eating Habits, Exercise and Physical Fitness and Avoidance of Alcohol and Drugs. The subjects were instructed to read each statement and choose from among 3 responses—Almost always, Sometimes, Never.

The total score in each area viz. Eating Habits, Exercise/Fitness and Avoidance of Use of Alcohol and Drugs were added separately and a total score for Health habits (summated across all the three areas) was also obtained.

According to the author, scores between 9 and 10 imply excellent Health habits; 6-8 good; 3-5 average and 0 –2 poor.

11. Social Support Questionnaire (Nehra et al., 1996)

The social support questionnaire assessed subjects’ perceived social support with the help of 18 items. The subject was to read each statement and express his degree of agreement/disagreement from 4 response categories – Totally agree (4), Mostly agree (3), Somewhat agree (2), Do not agree at all (1).

Seven items out of 18 were negatively worded – (item numbers 2, 4, 8, 9, 11, 12 and 18) and had to be reverse scored. It is a reliable and valid questionnaire. Test-Retest reliability after a week’ interval was found to be .59 (significant at .01 level). Concurrent validity has been found to be significant and comparison with external criterion was found to be significant at .01 level (Nehra et al., 1996). It has been used in India by Sharma (2002) and Vaidya (2003).

12. Health Locus of Control Scale (HLOC) (Wallston et al., 1976)

Health is one of the many areas in which there has been a significant amount of interest in relating Locus of Control beliefs to a variety of relevant behaviours. (Strickland, 1978; Wallston and Wallston,
Wallston and Wallston (1982) felt that Locus of Control orientation as an individual difference variable and might be related to information exchanges between patients and health care professionals.

Originally, Rotter (1966) had postulated that consistent individual differences exist with respect to a person's belief in the way his/her behaviour will effect the control of events. These beliefs were designated as Locus of Control and it originated from Rotter's social learning theory. Locus of Control can be summed up as an individual's perceptions and generalized expectancies concerning his behaviour and reinforcement resulting from it.

The Health Locus of Control has two dimensions: Internal and External. An individual who perceives his or her illness as a consequence of one's own behaviour is said to have Internal Locus of Control. Such a person is likely to recover soon from illness but an external person tends to perceive his/her behaviour as determined by external forces or conditions beyond his control such as powerful others etc. and may not put in the efforts to be healthy. Wallston and Wallston (1982) constructed a Health Locus of Control Scale to measure Internal and External Health Locus of Control. It consists of 11 items - 6 measures of Externality and 5 measures of Internality. The Health Locus of Control has a six point rating scale in terms of agreement or disagreement (Wallston and Wallston, 1982). This Scale is an area specific measure of expectancies regarding Locus of Control developed for prediction of health related behaviour. Scores range from 11 to 66.

Concurrent validity of the HLOC Scale was evidenced by a .33 correlation (p<.01) with Rotter's I-E scale for the original development sample. The mean score for the original sample was 35.57, with a standard deviation of 6.22. The alpha reliability of the scale was .72 and the HLOC scores did not reflect social desirability bias as seen by a -.01 correlation with the Marlowe-Crowne Social Desirability Scale.
This scale has been extensively used in India by Mohan et al. (2000), Bhandari and Sarup (1987), Sehgal (1999), Mohan (1993, 1994) and Mohan and Azar (1997).

13. **Stress Symptoms Rating Scale (Heilbrun and Pepe, 1985)**

Heilbrun and Pepe (1985) constructed the Stress Symptoms Rating Scale which is a response-defined measure of stress in contrast to the stimulus-defined measures being used earlier in stress research. The Stress Symptoms Rating Scale is an enquiry into the amount of stress experiences without regard to what provoked them. They selected 25 symptoms of stress from a list that Selye (1976) identified as readily detectable by the individual. The subject is required to rate the frequency of each of the stress symptoms (for the previous year) on a six-point scale ranging from "Not at all" to "More than once per day" (i.e. ranging from 0 to 5). The stress score is the summation of scores obtained over all the ratings.

The alpha reliability for the scale was found to be .93 by Heilbrun and Putter (1986). Evidence for validity has come from different elevations of stress found in-groups otherwise identified as more stressful. Symptomatic stress has been reported in more depressed college women, in college women with anorexic characteristic (Heilbrun and Putter, 1986) and in older women suffering from premenstrual syndrome (Heilbrun and Pepe, 1985). This scale has been successfully used in India by Gujral (1990), Mohan and Sehgal (1999), Mohan and associates (1998; 1999; 2000; 2001; 2002).

14. **Optimism Scale (Life Orientation Test) (Scheier and Carver, 1985)**

Dispositional optimism was assessed by the life orientation test (LOT). The LOT provides a self-report measure of individual differences in global optimism, defined in terms of the favourability of the person's generalized outcome expectancies. The LOT is intended to reflect a pervasive orientation to the experiences of life. Thus, the items do not
focus on any particular content domain, nor is there a built-in confound between optimism and perceptions of personal efficacy or locus of causality dimensions more generally. That is, the LOT items were explicitly constructed to avoid any attribution-based content. Its items were designed only to reflect the favourability of the person's generalized expectations for success.

Optimism is a general feeling and inclination to hopefulness and confidence. It is a disposition to take bright and hopeful view of things. In the present study, a shorter version of LOT developed by Scheier and Carver (1985) was used. It contains four items to be rated on a 5 point Likert scale. The response alternatives are:
(a) To a very great extent, (b) To a great extent, (c) to some extent, (d) To a small extent, (e) To almost no extent.

Optimism scores are obtained by summing the scores on all these items. The Scale has an internal reliability (Cronbach alpha) of .76 and a test-retest reliability (over a 4 week interval) of .79 (Scheier and Carver, 1985).

It has been used extensively in India by Sehgal (2000), Mohan and associates (1995, 2000).

15. **Self-esteem Scale (SE)** (Cheek and Buss, 1981)

This scale contains six general items in keeping with the nature of self esteem as a global trait. It correlates .88 with the well known questionnaire of Rosenberg's (1965) Self-esteem Scale which suggest that they are measuring roughly the same trait. Self-esteem correlates negatively with shyness (-.51) and positively with Extraversion (.38). Self-esteem is the way one feels about oneself including the degree to which one has self-respect and self-acceptance.

Evidence is there about the construct validity of the Self Esteem Scale. This Scale is brief and thorough in measuring the self acceptance factor of self esteem. It has high reliability (Cheek and Buss, 1981). It has also been extensively used in India by Mohan (1999, 2000, 2001, 2002).
16. TYPE A SCALE (Cooper et al., 1988)

The Type A scale by Cooper et al. (1988) is an adaptation of Bortner's Type A scale. Burke (1983) described Type A as individuals showing unbridled ambition, competitiveness, free-floating hostility, high need for achievement, impatience, time urgency and polyphasic functioning. This scale consists of fourteen questions, each reflecting the way one behaves in one's everyday life. Two extremes of one situation are presented on a scale ranging from 1 to 11; the score of 1 being minimum and 11 being maximum for each item. For each of the fourteen questions, the subject has to circle one number which explains his behavior in his everyday life situations.

The range of possible scores is from 14 to 154, with an average score of 84. The higher the score, the higher is one's Type A behavior. People scoring over 90 are in the moderate Type A range, and those scoring above 120 fall into high Type A behavior range.

Cooper's Type A scale has been successfully used in India by Savneet (1990), Gujral (1990), and Mohan (1994, 1996, 1997, 2000, 2001).

17. Health Protective Behaviour Checklist (Harris and Guten, 1979)

Harris and Guten have formulated a 30 item checklist to assess the health protective behavior that one indulges in. It is assumed that all individuals engage in some behaviors intended to protect their health. These activities and behaviors were termed health protective behavior (HPB) and defined as "any behavior performed by a person, regardless of his or her perceived or actual health status, in order to protect, promote or maintain his or her health whether or not such behavior is objectively effective towards that end."

The questions are intended to assess the respondents' concern over health matters in general, perceived vulnerability to sickness,
perceived effects of illness, perceived probability that action will reduce threat to illness.

These 30 items mainly can be cluster analyzed into 5 clusters:

a) **Health Practices** e.g. sleeping enough, relaxing, eating sensibly, exercising in moderation, avoiding overwork, avoiding chills, limiting certain foods, and watching one's weight.

b) **Safety Practices** e.g. repairing things, checking the condition of things, having a first-aid kit and posting emergency phone numbers in the house.

c) **Preventive Health Care** e.g. physical and dental checkups.

d) **Environmental Hazard Avoidance** e.g. Avoiding areas of crime and pollution.

e) **Harmful Substance Avoidance** e.g. not smoking or drinking.

The subjects were asked to mark the health protective behaviors they indulged in and the degree to which they engaged in the health protective behaviors by ticking in the appropriate column.

**PROCEDURE**

All the respondents for the testing sessions were contacted personally and requested to volunteer for the testing schedule. These respondents were then given the questionnaires in a booklet form and were requested to respond to them truthfully according to given instructions. They were assured that the information they would give about themselves and the results would be kept strictly confidential and used for research purposes only.

The testing schedule was started by firstly, asking the participants to fill in the general information schedule and then requested to respond to the tests one after the other until all tests and all questions had been responded to. The testing schedule was conducted personally in 3-4 sittings.
INSTRUCTIONS FOR THE QUESTIONNAIRES

1. Instructions for the Perceived Health Status Measure

   Following are the instructions for the Perceived Health Status: “Imagine anyone in excellent health. Rate your health status accordingly on the following 11-point scale – ranging from Extremely Healthy (10) to Extremely unhealthy (0).”

2. Instructions For Indicating Presence Of Disease And Disability

   There are listed 18 medical conditions. Read each type of illness and indicate have you ever experienced any of the following conditions. Kindly endorse their presence or absence by encircling Yes or No.

3. Instructions for Experienced Illness Measure

   Following is a list of 20 symptoms of illness one often experiences. Go through the list and indicate whether you have suffered from any of the following physical problems by encircling Yes or No.

4. Instructions for the WHO Measure of Mental Health

   The following instructions were given “Kindly tick the response which is true for you by putting a circle around the “Yes” or “No” alternatives following the question. Your answers will be kept strictly confidential”

5. Instructions for the Happiness Measure

   Following are the instructions for the Happiness Measure: “In general, how happy or unhappy do you usually feel? Check the one statement below that best describes your level of happiness experienced on an 11 point scale. The sale ranges from Extremely happy (10) to Extremely unhappy (0). Check just one item.”

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6. **Instructions for Satisfaction with Life Scale**  
The subjects were asked to read each statement and choose from one of 7 alternatives. They were instructed: There are a number of statements written below. Read each statement carefully and choose one of the seven alternatives—viz. (1) Strongly disagree (2) Disagree (3) Slightly disagree (4) Neither agree nor disagree (5) Slightly agree (6) Agree (7) Strongly agree.

7. **Instruction for the Eysenck Personality Questionnaire - Revised (EPQ-R) - Abbreviated**  
Instructions for the Eysenck Personality Questionnaire - Revised - Abbreviated were: "Please answer each question by putting a circle around the 'Yes' or 'No' alternatives following the question. There are no right or wrong answers and no trick questions. Work quickly and do not think too long about the exact meaning of the question. Please check that you have answered all questions".

8. **Instructions for the Life Events Stress Scale**  
For the Life Events Stress Scale, the following instructions were given: "A list of events which occur in the life of most persons at one time or another is given below. Please put a tick mark against the events which happened with you during the last one year and tell their frequency".

9. **Instructions for Coping Styles Inventory**  
The subjects were given the following instructions:  
Rate your response for each item along the following 4 point rating scale: (0) Don’t do it at all (1) Rarely do it (2) Often do it (3) Usually do this a lot.

10. **Instructions for the Brief Symptoms Inventory**  
The following questions ask about how much were you distressed during the past month. Rate your responses along the following
scale: (1) Not at all (2) A little bit (3) Moderately (4) Quite a bit (5) Extremely.

11. Instructions for State Trait Anger Expression Inventory
This test consisted of 3 parts. Part 1 measured State Anger, Part 2 measured Trait Anger and Part 3 measured Anger Expression Styles.

Instructions for Part 1:
A number of statements that people use to describe themselves are given below. Read each statement and then fill in the circle with the number which indicates how you feel right now. Remember that there are no right or wrong answers. Do not spend too much time on any one statement, but give the answer which seems to best describe your present feeling using the following scale: (1) Not at all (2) Somewhat (3) Moderately so (4) Very Much so.

Instructions for Part 2 were the same as Part 1 except that subjects were told to describe how they generally feel using the following scale: (1) Almost Never (2) Sometimes (3) Often (4) Almost Always.

Instructions for Part 3
A number of statements are listed below which people use to describe their reactions when they feel angry or furious. Read each statement and then fill in the circle with the number which indicates how often you generally react or behave in the manner described when you are feeling angry or furious. Remember that there are no right or wrong answers. Do not spend too much time on any one statement. The response categories are (1) Almost Never (2) Sometimes (3) Often (4) Almost Always.

12. Instructions for Health Habits Inventory
Here is a list of 12 statements measuring your eating habits, exercise/fitness habits and avoiding use of alcohol and drugs. Each statement is followed by 3 category response format viz.
Almost Always, Sometimes and Almost Never. Please circle the appropriate category after each of the following statements.

13. **Instructions for the Perceived Social Support Scale**
Instructions for the social support scale were: ‘Read each item carefully and answer the questions. Put a tick mark against the response option of your choice. Answer carefully and quickly and complete all the questions. Your answers will be kept confidential.’

14. **Instructions for the Health Locus of Control Scale**
Instructions for Health Locus of Control scale were as follows "Listed below are a number of statements about various topics which represent different shades of opinion. On each statement people may show their agreement or disagreement. Please indicate whether you agree or disagree with each statement in the following manner "Strongly disagree"(SD), "Moderately disagree"(MD), "Slightly disagree"(Sd), "Slightly agree"(Sa), "Moderately agree"(MA) and "Strongly agree"(SA).

15. **Instructions for the Stress Symptoms Rating Scale**
The following instructions were given for the Stress Symptoms Rating Scale "Rate the frequency of each item for the previous year along the following scale: (0)Not at all, (1)Less than once per month,(2)Between once per week and once per month, (3)About once per day, (4)Between once per day and once per week, (5)More than once per day. Indicate your answer by circling a number for each item. Be sure to answer every item. All your responses will be kept strictly confidential."

16. **Instructions for the Optimism Scale**
The Optimism Scale has the following instructions "Choose any one of the following alternatives to indicate your degree of agreement with the statements: (5) To a very great extent; (4) To a great extent; (3) To some extent; (2) To a small extent; (1) Almost no extent.

17. **Instructions for the Self Esteem Scale**
The following instructions were given for the Self Esteem Scale,
"Please answer each question by tick marking "Yes or No" alternatives following the question."

18. Instructions for the Type A Scale
Instructions for the Type A scale are as follows: 'Circle one number for each of the fourteen questions below, which best reflects the way you behave in your everyday life for example, if you are always on time for appointments on question 1, You would circle a number between 7 and 11. If you are usually more casual about appointments you would circle one of the lower numbers between 1 and 5'.

19. Instructions for the Health Protective Behavior Checklist
Following are the various activities that one engages in to protect one’s health. The Instructions were: 

"In order to protect my health I do the following" and the subjects mark the degree to which they engage in the health protective behaviors on a 5-point Likert scale. The response alternatives are (1) Not at all, (2) A little bit, (3) Moderately, (4) Quite a bit, (5) Almost always.

SCORING AND STATISTICAL ANALYSIS
Scoring for all the tests was done with the help of scoring keys as per all the instructions given in the scoring manuals of the tests. The raw scores were then subjected to various statistical analysis viz. Means, S.D, t-ratios, Inter-correlations, Regression Analysis and Discriminant Functional Analysis.