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METHOD

DESIGN

The aim of the present investigation was to compare Coronary Heart Disease Patients, Hypertensive Patients and Healthy Controls on various Personality dimensions, Anger Expression Styles, Stress Measures, Psychological Well being and Mental Health, Social Support, Negative affect and Ways of Coping.

The various Personality measures studied include the Eysenck Personality Questionnaire – Revised (EPQ-R) Eysenck et al. (1985), the Personality – Stress Questionnaire (PSQ), Eysenck et al. (1990), the Jenkins Activity Survey (JAS), Jenkins et al. (1979); the State – Trait Anxiety Inventory (STAI), Spielberger et al., (1970); and the Health Locus of Control (HLOC) Scale, Wallston and Wallston (1982). The various anger dimensions studied include the Multidimensional Anger Inventory (MAI), Siegel, (1986) and the Self-Analysis Questionnaire (Spielberger et al., 1983). The different stress measures studied include the Presumptive Stressful Life Events Scales (PSLE), Singh et al. (1983); the Daily Hassles and Uplifts Scale, Delongis et al. (1982), the General Health Questionnaire (GHQ), Marshall and Cooper (1978) and the Stress Symptoms Rating Scale, Heilbrun and Pepe (1985). The measure of Wellbeing and Mental health studied include
the PGI Wellbeing Scale, Verma and Verma, (1989), the Optimism Scale, Scheier and Carver (1985) and the Self Esteem Scale, Cheek and Buss (1981). Social support was assessed using the Social Support Scale, Sarason et al. (1983). The measures of negative affect include Beck Depression Inventory (BDI), Beck (1967); the Revised UCLA loneliness Scale, Russell et al. (1980); the Hopelessness Scale (HS), Beck et al. (1974); the Irritability Scale, Buss and Durkee (1957) and the Manifest Hostility Scale (MHS) Kool, (1980). Ways of Coping Questionnaire (WOC), Folkman and Lazarus (1985) was used to assess ways of coping.

For the purpose of present study, the following groups were formulated:-

Group I comprised of 80 healthy individuals from the general population.

Group II comprised of 80 Essential hypertension (EHT) patients.

Group III comprised of 80 Coronary heart disease (CHD) patients.

Group IV was a combination of Groups II and III i.e. Coronary heart disease patients (CHD) and Essential hypertension patients (EHT).

The Eysenck Personality Questionnaire – Revised(EPQ-R). Eysenck et al. (1985) was used to measure the different dimensions of Personality. The Personality – Stress Questionnaire (PSQ), Eysenck et al. (1990) was also used to assess different aspects of Personality. Jenkins Activity Survey (JAS), developed by Jenkins et al. (1979) was used to study dimensions
The State – Trait Anxiety Inventory (STAI), developed by Spielberger et al., (1970) was used to measure the variables of State-Trait Anxiety. The Health locus of Control (HLOC), developed by Wallston and Wallston (1982) was used to measure the Internal and External perceptions of one’s health. The Multidimensional Anger Inventory (MAI), developed by Siegel, (1986) and the Self Analysis Questionnaire (SAQ), constructed by Spielberger et al., (1983) were used to assess the varied dimensions of Anger. Stress full life Events was measured with the help of the Presumptive Life Events Scale (PSLE) designed by Singh et al. (1984). The Daily Hassles and Uplifts Scale, designed by Delongis et al. (1982) was used for assessing degree of Hassles and Uplifts. The General Health Questionnaire (GHQ), developed by Marshall and Cooper (1978) was used to detect illness and physical symptoms. The Stress Symptoms Rating Scale developed by Heilbrun and Pepe (1985) was used to measure stress symptoms. The PGI Wellbeing Scale designed by Verma and Verma (1989) was used to measure the degree of Wellbeing and Mental Health. The Optimism Scale designed by Carver and Scheier (1985) and the Self Esteem Scale constructed by Cheek and Buss (1981) were equally used to measure Mental health and Self Esteem. Measures of Social Support was assessed with the help of the Social Support Questionnaire (SSQ) designed by Sarason et al. (1983). The Beck Depression Inventory (BDI) invented by Beck (1967) was used to assess the severity of Depressive Symptoms. The Revised version of the Self-report UCLA loneliness Scale designed by Russel et al. 1980) was used to
assess the degree of loneliness while the Hopelessness Scale (HS) designed by Beck et al. (1974) was used to measure and quantify hopelessness. The Irritability Scale designed by Buss and Durkee, (1957) and the Manifest Hostility Scale (MHS) constructed by Kool, (1980) were used to assess the various dimensions of anger and hostility. The Ways of Coping Questionnaire (WOC) constructed by Folkman and Lazarus (1985) was used to assess the various coping styles.
The sample consisted of 240 subjects who were categorized into three main groups.

**Group I** is made up of 80 healthy Individuals randomly selected from the general population of Chandigarh to serve as the Control group for the present investigation. The respondents in this group had not experienced either Heart Disease or Hypertension nor were they suffering from any other illness as of the time of this investigation. This information was supplied by them before they were enlisted as Subjects. The age range of this group was 35-65 years with an average age of 42 years.

**Group II** comprised of 80 Essential Hypertension (EHT) Patients recruited from the Outpatients Departments (OPD) of the Postgraduate Institute of Medical Education and Research Chandigarh (PGIMER), the General Hospital Chandigarh, the Panjab University Health Centre, Chandigarh Medical Centre and some of the Medical Clinics based at Chandigarh and neighboring town of Mohali. The age range of this Group was 35-65 years with a mean age of 44 years.

**Group III** comprised of 80 Coronary Heart disease (CHD) Patients selected from the Outpatients Departments (OPD) of the Postgraduate Institute of Medical Education and Research Chandigarh (PGIMER), the General Hospital Chandigarh, the Panjab University Medical Centre,
Chandigarh Medical Centre and some of the Medical Clinics based at Chandigarh and neighboring town of Mohali. The age range of this Group was 35-65 years with a mean age of 44 years.

The criteria for selection of Patients for the present investigation included:

(a) Confirmed diagnosis of disease by physicians, (b) Proof of Electrocardiograph (ECG) documentation of Myocardial infarction (MI) and Angina (AG), (c) Manifestation of Coronary insufficiency and certain Electrocardiographic irregularities, (d) Indices of atherosclerosis and (e) The patients were having the disease and were undergoing treatment and medical check-ups at the outpatients clinics at the time of this investigation.

The diagnostic criteria excluded patients with ambiguous and clinically unexplained cardiovascular disorders (CVD) and with established medical conditions known to be of physiological origin. Hospitalized patients were also disqualified. The patients who consulted the clinics for complaints judged to be medically unproven cases were as well excluded from this investigation. Hypertension of diabetic, renal or of any known physiological cause were excluded.

The Healthy Control group was recruited from among the general population of Chandigarh belonging to varied occupations. The age range for the Control group was 35-65 years with an average age of 41 years.
The educational qualifications of the entire sample ranged from Secondary School qualifications, graduation and post graduation to specialised diplomas and degrees in their respective fields. Most of them were from middle or upper middle income groups.

**TESTS**

The following standardized instruments were used for the present investigation.

5. Health Locus of Control (HLOC) Scale (Wallston and Wallston, 1982).
6. Self Analysis Questionnaire (SAQ) (Spielberger et al., 1983).
7. Multidimensional Anger Inventory (MAI) (Siegel, 1986).
9. Daily Hassles and Uplifts Scale (Delongis et al. 1982).


13. **Optimism Scale** (Scheier and Carver, 1985).


15. **Social Support Questionnaire (SSQ)** (Sarason et al. 1983).


17. **Revised UCLA loneliness Scale** (Russell et al. 1980).

18. **Hopelessness Scale (HS)** (Beck et al. 1974).

19. **Irritability Scale** (Buss and Durkee, 1957).

20. **Manifest Hostility Scale (MHS)** (Kool, V. K. 1980).


In addition, a questionnaire was designed to obtain information regarding income, educational qualifications, age, type of occupation and family history.
BRIEF DESCRIPTION OF TESTS:

1. Eysenck Personality Questionnaire – Revised (EPO-R)

(Eysenck et al. 1985)

The EPQ-R has been developed by Eysenck et al. (1985). The EPQ was originally constructed by Eysenck and Eysenck (1975) to measure varied dimensions of Personality viz. Extraversion (E), Neuroticism (N) and Psychoticism (P). It also consists of a Lie (Social Desirability) Scale. The Scale was revised by Eysenck et al. (1985) to improve the psychometric weaknesses of the Psychoticism Scale. The revised version of the Scale consists of one hundred dichotomously responded items: thirty two items for Psychoticism Scale, twenty three for Extraversion Scale, twenty four for Neuroticism scale and twenty one for Lie (Social Desirability) Scale. Eysenck proposed a three dimensional model of Personality (E), (N) and (P) and a psychobiological model to parallel these three dimensions (Eysenck et al. 1985). The model is a hierarchical one that conceptualizes each of the four broad dimensions subdivided at a lower level into narrower and more specific traits which finally may be subdivided into habits of reactions or aggregates of behavioural instances regarded as personality. Eysenck et al., (1985) have choosen to concentrate on the highest level of analysis because the supertraits are more replicable across age, sex and methods (rating versus self-report).
The alpha reliabilities for the revised scale have been found to be as follows:

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2. **Personality – Stress Questionnaire**  
   *(Eysenck et al. 1990)*

Several prospective studies by Eysenck and Grossarth-Maticek (Eysenck 1990 and 1991; Grossarth-Maticek et al. 1986) have demonstrated that different “behaviour types” are related to Cancer, Coronary heart disease and endogenous depression. In the course of the last years,
behaviour types" have been elaborated and Personality – Stress Inventory has been developed to assess these 6 behaviour types (Eysenck and Grossarth-Maticek, 1990).

Type I is defined by a conformist dependency on a withdrawing object. A type I person tries permanently and intensively to approach highly valued targets. He is prone to develop cancer.

Type II, in contrast is defined by a conformist dependency on a disturbing object. A type II person tries fruitlessly to escape or emancipate himself from a person or an object which is emotionally important for him. His or her behaviour is very rigid and often depressive. This type is prone to Coronary heart disease.

Type III is described by a non-conformist dependency on an object which is both withdrawing and disturbing. Eysenck supposes that this type may be related to hysterical behaviour.

Type IV is characterized by autonomy. This type is a "healthy type".

Type V shows "rational and anti-emotional tendencies". It is predicted that this type would be prone to endogenous depression.
Type VI is characterized by anti-social and possibly "psychopathic behaviour". Persons belonging to this behaviour are prone to criminal behaviour and drug addiction.

The short form of the inventory containing 70 items was used which yields the above 6 behavioural types.

Both longer and shorter versions of this inventory have similar psychometric properties i.e. adequate reliabilities and validity. The subjects respond to the items in this test by tick marking "Yes" or "No" alternatives as it applies to them. In India, this test has been used by Mohan (1999) and his associates (1999).

3. Jenkins Activity Survey (JAS) 
(Jenkins et al. 1979)

The Jenkins Activity Survey (JAS) is one of the three prospectively validated measures of Type A, Speed and Impatience, Hard Driving and Competitiveness and Job Involvement which were factor analytically derived.

The predictive and psychometric properties of the adult version of the JAS are adequate (Zyzanski and Jenkins 1970, Dembroski et al. 1978 and Jenkins et al. 1979). The Alpha Coefficients for the subscales and total scores ranged from 0.73 to 0.81. In addition, one year test retest reliability ranged from 0.60 to 0.70, three year test-retest reliabilities ranged from 0.56 to 0.74
and four year test-rest reliabilities ranged from 0.57 to 0.68 (Jenkins et al. 1979).

4. **The State – Trait Anxiety Inventory (STAI)**  
   *(Spielberger et al. 1970)*

The State-Trait Anxiety Inventory was developed by Spielberger et al. (1970) to provide reliable, brief and standardized self report scales to assess both state and trait anxiety. State – Trait anxiety has been defined as consisting of subjective feelings, tension, apprehension, nervousness and worry and activation (arousal) of the autonomic nervous system generated by certain situations e.g. dental anxiety, test-taking anxiety and anxiety about flying. Trait – anxiety refers to relatively stable Personally reflecting individual differences in anxiety proneness.

The Test consists of 40 items, 20 to measure State anxiety and 20 to measure Trait anxiety. On the State anxiety form the subjects respond to each item in terms of severity (not at all, somewhat, moderately so, very much so). On Trait Anxiety form, subjects respond in terms of frequency categories (almost never, sometimes, often, almost always). These categories are assigned numbers from 1 to 4. Items are both direct and reverse scored – Scores may range from 20 to 80 for either form. Test – retest reliability Coefficients for state anxiety has been reported to be .33. On an average, alpha coefficients for
state anxiety have been reported to be .90. The test has adequate content concurrent and construct validity (Spielberger et al. 1970).

5. 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, 1982), Wallston and Wallston (1982) felt that locus of Control orientation as an individual differences variable might be related to information exchanges between patients and health care professionals.

Originally, Rotter (1966) had postulated that consistent individual differences exist with response to person’s belief in the way his/her behaviour will affect with 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 HLOC 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. 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 expectances regarding Locus of Control developed for prediction of health related behaviour. Scores range from 11 to 66.

Concurrent validity of the HLC 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 HLC scores did not reflect social desirability bias as seen by a -.01 Correlation with the Marlowe-Crowne Social Desirability Scale.

6. Self Analysis Questionnaire (SAQ) (Spielberger et al. 1983)

The scale developed by Spielberger et al. (1983) measures general expression of anger as well as direction of anger i.e. anger – in, anger – out and anger expression. The scale has 20 items which describe the ways in which people react when they are angry. Anger – in has been defined in terms of how often and individual experiences but holds in (suppression) angry
feelings. Anger - out is defined in terms of the frequency that an individual expresses angry feelings in verbally or physically aggressive behaviour. The Anger Expression Scale was designed to measure a continuum of individual differences in how often they generally react or behave in the manner described when they feel angry or furious. In responding, subjects rate themselves on the following 4 point frequency Scale (1) Almost never (2) Sometimes (3) Often (4) Almost always. Alpha Coefficients ranged from .73 to .84. Test-rates Reliability ranged from .64 to .86. (Spielberger et al. 1983).

7. Multidimensional Anger Inventory (MAI)
(Siegel, 1986)

Multidimensional Anger Inventory (MAI) (Siegel, 1986) included 38 items that were selected on the basis of face validity to measure the following dimensions of anger: frequency, duration, magnitude, range of anger-arousing situations, model of expression, and hostile outlook. Some of the items were adapted from existing anger inventories and were rephrased as necessary to provide a consistent format to MAI. Other items were conceptually based and written specifically for the MAI. Each of the 38 statements were rated in terms of how self-descriptive they were. Responses ranged from completely undescriptive (1) to completely descriptive (5). Test-retest reliability is .75. Alpha or internal consistencies range from .51 to .83. Test demonstrates adequate validity also.
8. **Presumptive Stressful Life Events Scale (PSLE)** *(Singh et al. 1984)*

Using an open ended Questionnaire along with Holme’s and Rahe’s Social Readjustment Rating Schedule on a sample of two hundred adult subjects, a suitable Scale of stressful life events as experienced by the Indian population was constructed and standardized by the authors for two time spaces, that is, last one year and life time. Analysis of various demographic variables for this population revealed no differences on this scale for age, marital state, education and occupation. Authors claim the scale to have acceptable content Validity and Reliability. Norms for total number of life events experienced as well as the presumptive stress score were established for each event for this population. The frequency of occurrence of each event in our population was also obtained. It was calculated that individuals in the society are likely to experience an average of two stressful life events in the past one year and ten events in a life time without suffering any adverse physical or psychological disturbance. The scale is simple to administer to literate and illiterate subjects.

Thus, authors were able to develop a Presumptive Stressful Events Scale (PSE-Scale) consisting of 51 life events. These 51 items were further classified according to (a) whether they were personal or impersonal (not
dependent on the individual’s action), (b) according to whether they were (i) desirable (ii) undesirable, (iii) ambiguous.

Subjects were asked to report the relative stress they have actually experienced or imagine they would feel on each item specified in the scale in terms of percentages keeping 100 as the highest score. Items on the list were presented in English or Hindi or Punjabi viz. the language subjects preferred.

9. Daily Hassles and Uplifts Scale

(Delongis et al. 1982)

The Daily hassles and uplifts scale was originally constructed by Kanner et al. (1981) to assess the number, severity and intensity of the daily hassles and uplifts that the subjects had experienced in the last month. The Hassles scale consists of a list of hassles or everyday irritants. These cover the topic of health, family, friends, the environment, practical considerations and chance occurrences. The Uplifts Scale consists of a list of uplifts – minor life events that make people feel good.

The present study used a revised version of Hassles and Uplifts Scale revised by Delongis et al. (1982). In the revised version, redundant items and words that suggested psychological and somatic symptoms were eliminated. In this format, subjects rate each item on how much of a hassle and / or and uplift it was for them that day on a 4 point scale ranging from 0 (none or not applicable) to 3 (a great deal). The revised Scale consists of 53 items.
The total hassles and uplifts scores were obtained by summing across ratings given to all items.

This Scale has been selected for the present study because a number of studies have demonstrated that the frequency of daily hassles and uplifts is a better predictor than major life events of stress and physical health (Kanner et al. 1981; DeLongis et al. 1982), and indicate that daily hassles are a truly independent predictor of stress which do not function by moderating the effects of major life events and are independent of initial symptoms level. The Scale has acceptable psychometric properties and adequate Validity and Reliability.
10. **General Health Questionnaire (GHQ)**  
*(Marshall and Cooper, 1978)*

Psychosomatic Symptoms Checklist as used in the present study has been developed by Marshall and Cooper (1978). It is usually called General Health Questionnaire and is a modified version of the original Gurian's Psychosomatic Symptoms list (Gurian et al. 1960). The Questionnaire consists of 24 items. The response format for the first 20 items includes four alternative answers out of which subject is to tick one of the four. The answers are – I feel like this (i) a lot (ii) quite often (iii) Occasionally (iv) Never. The rest of four items have Yes/No format.

The Questionnaire has been found to have adequate Reliability and Validity. It has been successfully used by many researchers in India also.

11. **Stress Symptoms Rating Scale**  
*(Heibrun and Pepe, 1985)*

Heibrun 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 inquiry into the amount of stress experience 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 stress symptoms (for the previous year).
alone on a six point scale ranging from “Not at all” to “More than once per day” (i.e. ranging from 0 to five). 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 (Heibrun and Putter, 1986) and in older women suffering from premenstrual Syndrome (Heibrun and Pepe, 1985).

12. PGI General Wellbeing Scale (PGIWB) (Verma and Verma 1989)

Many attempts have been made in the past to measure positive mental health. In 1970, the General Wellbeing Schedule was developed by Dupuy (1970).

The PGI Wellbeing Scale (Verma and Verma 1989) is a modified version of Dupuy’s General Wellbeing Scale. Thus, the PGI Wellbeing Scale is a 20 items self administered Scale constructed by Verma and Verma (1989) to suit Indian conditions where majority of our clinical population is rural illiterates and unsophisticated in the use of complex tests. The scoring was easy just counting the number of tick marks with scores ranging from 0 to 20. People were found to be at all score range levels.

The scale is in English but it’s Hindi version is also made available by Moudgil et al. (1986), who showed the two versions to be giving more or less
identical scores. The t-value was an insignificant 0.32 only on a sample of 50 subjects, 25 of them males and 25 females, 20 belonging to scheduled caste, 30 non-scheduled casts. The correlation between the two versions was .97 (p<.01) (Moudgil et al. 1986).

The scale showed good inter-rater (.86 p<.01) and inter-scorer (1.0, p, .01) Reliabilities (Moudgil et al. 1986). Items showed satisfactory internal consistency (a) in terms of percentage endorsements 25.3% to 73.3% and (b) E 1/3 value (Bureau of Psychology). It ranged from .16 to .84 for English version and .2 to .9 for Hindi version (Moudgil et al. 1986). It has been correlated with Bradburn Wellbeing Scale, Hindi Pen Inventory and General Satisfaction Level Rating.

The PGI General Wellbeing Scale appears to be reliable and valid tool to measure positive mental health of Indian subjects. (a) It is simple, easy to quick (b) shows high correlation with other related variable but is relatively independent of them also (c) shows significant relationship with therapeutic intervention, hence can be used to evaluate outcome in such cases (d) shows high Reliability consistency and (e) shows scatter of scores in all scores ranges. It is likely to prove a useful too in all those situations visualized by Fazio (1977). Further work with the scale is fully justified.

Another short measure of wellbeing by Grob et al. (1993) was also included. It has 14 items and subjects rate each item on a 4 point likert scale. Response pattern vary from Very true (4) Somewhat true (3) Somewhat false (2) Totally False (1).
13. **Optimism Scale (Life Orientation Test)**

(Scheier and Carver, 1985)

Dispositional optimism was assessed by the life orientation test. The LOT provides a self-report measure of individual difference 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 build-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 be avoid of any attribution-based or efficiency-based content. It’s time were designed only to reflect the favourability of the person’s generalized expectations for success.

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 totaling the scores on all these items. The Scale has an internal reliability (Crombach alpha) of .76 and a test-retest reliability (over a 4 week interval) of .79 (Scheier and Carver, 1985).
14. **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 suggests that they are measuring roughly the same trait. Self Esteem correlates negatively with shyness (-.51) and positively with Extraversion (.38). Evidence is there about the construct validity of Self Esteem Scale. This Scale is brief and thorough in measuring the self acceptance factor of self-esteem. It has high Reliability (Cheek & Buss, 1981).

15. **Social Support Questionnaire (SSQ)**
(Sarason et al. 1983)

Social Support Questionnaire (SSQ) developed by Sarason, Levine, Bashman and Sarason (1983) consists of 27 items. Each item asks a question of which a two part answer is requested. The item asks the subject (a) to list the people to whom they can turn to and on whom they can rely in given sets of circumstances, and (b) indicate how satisfied they are with these social support on a 6 point likert Scale (very satisfied, fairly satisfied, a little satisfied, a little dissatisfied, fairly dissatisfied, very dissatisfied). The SSQ yields two scores (a) perceived availability of the number of supportive persons listed (SSQ-N), and (b) satisfaction with available support (SSQ-S). The number (N)
score for each item of the SSQ is the number of support listed. The Social support available to deal with a given problem is rated on a scale ranging from "very satisfied" to "very dissatisfied". This yields a satisfaction (S) score for each item that ranges between 1 and 6. The overall scores are obtained by adding up scores of number of persons listed and satisfaction with support.

The Social support Questionnaire has been found to have a number of desirable psychometric properties. It was found to have (a) stability over a 4 week period of time, and (b) high internal consistency among items.

The authors concluded that the modest correlation between SSQ-N and SSQ-S provides a strong basis for analyzing social support into its components. Sarason et al. (1983) claimed that social support is not a unitary concept when assessed by the SSQ, and that perceived availability of support and satisfaction with the support that is available are worthy of study.

For the purpose of the present study, social support or social resources will be measured with the help of SSQ since a number of studies have actually shown that subjects who have a good deal of Social support are less vulnerable to stress related diseases.
The Beck Depression Inventory is a 21 item scale measuring attitudes and symptoms associated with depression. Each item is scored from 0 to 3 and all items are summed to produce a total score that may range from 0 to 63; higher scores indicate greater severity of depressive symptomatology. A typical item is as follows:

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

It is reported to possess adequate internal consistency and validity (Upmanyu and Reen, 1990, 1991).

The BDI is 21 item self report measure tapping the cognitive, affective, motivational and physiological aspect of depression. (Beck, 1967). Scores can range from 0 to 63 with acceptable psychometric properties being reported.
The revised version of the self-report UCLA Loneliness Scale is designed to counter the possible effects of response bias in the original scale (Russell, Peplau, and Ferguson, 1978). The revised UCLA loneliness Scale has been used in a large number of loneliness researches and consists of 20 items, half reflecting satisfaction with social relations and half reflecting dissatisfaction (i.e., "I am unhappy being so withdrawn"). The authors published a revised UCLA loneliness Scale in which 10 of the original items were retained and the remaining 10 were rewritten so as to represent opposite wordings of the original scale items. Subjects were asked to indicate how often they experienced the feelings mentioned in the items on a 4-point Likert scale (1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often). The total score is the sum of all 20 items after having reversed the positively worded items. Higher scores reflect an increasing feeling of loneliness. The scale has adequate reliability and validity.

The scale appears to be based on the assumption that loneliness is a unidimensional phenomenon with most items describing a lack of company or closeness with others. The Scale might be viewed as a general distress measure that indicates deficiency in interpersonal relationships but that provides little information about the sources or nature of the difficulty.
However UCLA loneliness Scale has been used extensively by researchers working in the area of loneliness (Russell et al., 1980).

18. **Hopelessness Scale (HS)**
   (Beck et al., 1974)

The Hopelessness Scale is a 20 item true / false self report measure intended to tap the degree of respondent's negative expectations about the future. Those statements were selected by the authors which seemed to reflect different facets of the spectrum of negative attitudes about the future and which reoccurred frequently in the patients verbalizations. For every statement, each response is assigned a score of 0 to 1 (9 items are keyed "false" and 11 are keyed "true"). The "total hopelessness score" is the sum of the score on the individual items. Thus, the range of scores is from 0 to 20 with higher scores indicating more hopelessness.

The reliability and validity data presented for the hopelessness scale are deemed sufficient to justify its use on a continuing basis. The Alpha Coefficient for the HS Scale is .93. The item – total correlation coefficients ranges from .39 to .76 and Correlation with clinical ratings of hopelessness ranging from .62 to .86. **The hopelessness Scale is an important variable in many psychopathological processes and disease related studies.**
19. **Irritability Scale**  
*Buss and Durkee 1957*

The Irritability Scale has been taken from full form of Buss-Durkee Inventory. This 11 item scale is part of an aggressiveness factor that also includes physical, indirect and verbal aggression. Some items are scored in reversed manner while the rest are direct. The total score is the sum of all scores added together. The Irritability Scale attempts to assess anger which may remain latent or become manifest in angry aggression. This Scale has adequate reliability and validity. (Irritability represents a readiness to explode with negative affect at the slightest provocation. It includes quick temper, grouchiness, exasperation and rudeness).

Buss and Durkee (1969), reported that the product moment correlation were 0.27 for men and 0.30 for women which suggests that the influence of Social Desirability is having a small but significant effect on the direction of response. The average commonality of the eight variable was 0.43 for the men and 0.40 for women. This Scale has been used in India by Sehgal (1999).
The Manifest Hostility was constructed by Kool (1980). It is an adaptation of Siegel's Manifest Hostility Scale for the Indian population. All the items were translated into Hindi and administered to the Indian population and 20 items were selected after careful items analysis. The Scale is available in Hindi and English and it consists of 20 dichotomously responded items, 13 being positively worded and 7 being negatively worded.

Kool (1980) has reported the test-retest reliability of the scale to be 0.67 with a gap of one week.

The validity of the scale was established by relating the Manifest Hostility Scale with a subscale of Hostility (Kool, 1980). A satisfactory correlation of 0.207 was obtained. Further, the scores on Manifest Hostility Scale were related with the aggression scores of subjects obtained in Buss type of aggression machine (Kool, 1980). It was found that high scoring subjects on the Manifest Hostility Scale showed greater aggression than those scoring low on the Hostility Scale (Kool, 1980).
One of the most popular instruments for assessing Coping is the Ways of Coping Questionnaire (WOC) constructed by Folkman and Lazarus (1985). This has been used in a wide range of different populations. The Ways of Coping Questionnaire assesses thoughts and actions individuals use to cope with the stressful encounters of everyday living. It is derived from a cognitive-phenomenological theory of stress and coping that is articulated in stress, appraisal and coping (Lazarus and Folkman, 1984).

The Ways of Coping Questionnaire has been widely used ranging from community samples to parents of Down’s Syndrome (Folkman and Lazarus, 1985).

The WOC is a two part self report measure of stressful events and Coping responses (Folkman and Lazarus, 1985). Part one of this Scale asks subjects to imagine in detail an event or situation that was most stressful to them during the past month. Then the respondents indicated the nature of frequency of various coping strategies employed to deal with this event (i.e. I try to analyse the problem in order to understand it better).

Participants are presented with a list of 66 possible coping strategies for each strategy, responses are made using a 4 point rating Scale, varying from o
Responses are scored for eight sub-scales which can also be classified in terms of their overall Problem focussed (P) or Emotion focussed (E) orientation. Scores on each subscale can range from 0 to 3, with higher numbers indicating more frequent use.

Various different subscales for this instrument have been proposed based on different samples and factor analysis, but typically a distinction is found between direct or “Problem-focussed” coping strategies or behaviours and “Emotion-focussed” coping strategies which may involve wishful thinking or suppression and avoidance of difficult feelings.

The Ways of Coping Questionnaire (WOC) is a 66 item questionnaire which contained eight empirically derived subscales.

**Description of the Ways of Coping Sub Scales**

**Confronting Coping:** Describes aggressive efforts to alter the situation and suggests some degree of hostility and risk taking.

**Distancing:** Describes cognitive efforts to detach oneself and to minimise the significance of the situation.

**Self Controlling:** Describes efforts to regulate one’s feelings and actions.
Seeking Social Support: Describes efforts to seek informational support, tangible support and emotional support.

Accepting Responsibility: Acknowledges one’s own role in the problems with a concomitant theme of trying to put things right.

Escape – Avoidance: Describes wishful thinking and behavioural efforts to escape or avoid the problems. Items on this Scale contrast with those on the Distancing Scale, which suggest detachment.

Planful Problem Solving: Describes deliberate problem focussed efforts to alter the situation coupled with an analytic approach to solving the problem.

Positive Reappraisal: Describes efforts to create positive meaning by focusing on personal growth. It also has a religious dimension.

Individuals respond to each item on a 4-point likert Scale indicating the frequency with which each strategy is used. O indicates “Does not apply and/or not Used” I indicates “Used Somewhat”, 2 indicates “Used quite a bit”, and 3 indicates “Used a great deal”.

Raw scores and relative scores were calculated for each Scale. The Alpha Coefficient for the (WOC) Scales were quite variable ranging from .61.
to .79. The questionnaire also exhibits adequate face validity and construct validity.

**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 give about themselves and their 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 portion and then proceed to respond to the tests one after the other until all tests and all questions have been responded to. The testing schedule was conducted personally in 3-4 sittings.

**INSTRUCTIONS FOR THE QUESTIONNAIRES**

1. **Instructions for the Eysenck Personality Questionnaire-Revised (EPQ-R)**: Instructions for the Eysenck Personality Questionnaire-Revised (EPQ-R) 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.”

2. **Instructions for the Personality – Stress Questionnaire**

The following instructions were issued for the Personality Stress Questionnaire, “This is a short Scale for self rating in relation to the major personality types. Each questions is followed by a series of numbers 1 to 10 and you are required to indicate how closely the description fits you, 1 denoting not ‘not at all’ and 10 denoting ‘perfectly’”.

3. **Instructions for the Jenkins Activity survey (JAS)**

The below instructions were given for the JAS schedule “Please answer the items carefully but do not spend too much time on any one item. Try to respond to each item independently when making your choice; do not be influenced by your previous choice. It is important you respond according to your actual behaviours and not according to the left of each statement that best describes your answer.”

4. **Instructions for the State- Trait Anxiety Inventory**

The following instructions were given for the Trait Anxiety Inventory. “A number of statements which people have used to describe themselves are given below. Read each statement and then tick mark appropriate
box. There are no right or wrong answers. Do not spend too much time on any one statement.” The Response alternative are Almost never, Sometimes, Often and Almost always. For the State anxiety, the below instructions were given, “A number of statements which people have used to describe themselves are given below. Read each statement and then tick mark appropriate boxes. There are no right or wrong answers. Do not spend too much time on any one statement”. The Response alternative are Not at all, Somewhat, Moderately so and Very much so.

5. **Instructions for the Health Locus of Control**

Instructions for HLOC 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 agree”, “Moderately disagree”, “Slightly agree”, “Slightly disagree”, Moderately agree” and “Strongly agree”.

6. **Instructions for Self Analysis Questionnaire**

Self Analysis Questionnaire contained the following instructions “Everyone feels angry or furious from time to time, but people differ in the ways that they react when they are angry. A number of statements are listed below which people have used to describe their reactions when
they feel angry or furious. Read each statement and then circle the number to the right of the statement that indicate how often you generally react or behave in the manner described. There are no right or wrong answers. Do not spend too much time on any one statement”.

7. **Instructions for the Multidimensional Anger Inventory**

The following instructions were given for the Multidimensional anger Inventory “Everybody gets angry from time to time. A number of statements that people have used to describe that times that they get angry are included below. Read each statement and circle the number to the right of the statement that best describes you. There are no right or wrong answers. If the statement is completely undescriptive of you, circle a-1, if the statement is mostly undescriptive of you, circle a-2, if the statement is partly undescriptive and partly descriptive of you circle a-3, if the statement is mostly descriptive of you, circle a-4, if the statement is completely descriptive of you, circle a-5. Please answer every item”.

8. **Instructions for the Presumptive Stressful Life Events Scale**

For the Presumptive Life Events, the following instructions were given “A list events which occur in the life of most persons at one time or another is given below. Please put a tick mark against the event which happened with you during the last one year”.
9. **Instructions for the Daily Hassles and Uplifts Scale**

Instructions for the Daily Hassles and Uplifts Scale were as follows: “How much of a hassle was this item for you today?, How much of an uplift was this item for you today?. Please circle one number on the left hand side and one number on the right hand side for each item.

10. **Instructions for the General Health Questionnaire**

The following instructions were given for the General Health Questionnaire: “Below is a list of different troubles and complaints which people often have. For the first 20 items, please tick mark the column which tells how often you had felt like during the last three months. For the remaining 4 questions tickmark either ‘yes’ or ‘No’ alternatives”.

11. **Instructions for the Stress Symptoms Rating Scale**

The following instructions were given for the Stress Symptoms Rating Scale: “Rate the frequency of the previous year along the following scale, 1 – Not at all, 2 – Less than once per month, 3 – Between once per week and once per month, 4 – About once per day, 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.”
12. Instructions for the PGI General Wellbeing Scale

The following instructions were given for the PGI Wellbeing Scale: "How do you feel these days (Past one month)? Kindly tick mark the ones applicable to you.”

13. 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 – 5 - to a Very great extent, 4 – to a great extent, 3 – to some extent, 2 – to a small extent, 1 – almost no extent.

14. 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.”

15. Instructions for the Social Support Questionnaire

Instructions for the Social Support Questionnaire were as follows: “The following questions ask about people in your environment who provide you with help or support. Each question has two parts. For the first part, list all the people you know, excluding yourself, whom you can count on for help or support in the manner described. Give the person’s initials and their relationship to you. Do not list more than one person next to
each of the letters beneath the question (see example). For the second part, circle how satisfied you are with the overall support you have. If you have no support for a question, check the word “No one” but still rate your level of satisfaction. Do not list more than nine persons per question. Please answer all questions as best as you can. All your responses will be kept confidential.”

16. **Instructions for the Beck Depression Inventory**

The following instructions were given for the Beck Depression Inventory “On this questionnaire are groups of statements. Please read each group of statements carefully. Then pick out the one statement in each group which best describes the way you have been feeling in the past week issuing today. Circle the number beside the statement you picked, if several statements in the group seem to apply equally well, circle each one. Be sure to read all the statements in each group before making your choice”.

17. **Instructions for the Revised UCLA Loneliness Scale**

Instructions for the Loneliness Scale were as follows “Indicate how often you feel the way described in each of the following statements. Circle one number for each”.

18. **Instructions for Beck’s Hopelessness Scale**
The following Instructions were issued for the Beck’s Hopelessness Scale “On this questionnaire, there are 20 statements. Please read each statement very carefully and then circle around the “True” or “False” alternatives following the statement, in the manner which best describes on how you feel about the statement. Since people are different. There are no right or wrong answers”.

19. **Instructions for the irritability Scale**

The following instructions were given for the Irritability Scale “Please answer each question by tick marking ‘Yes’ or ‘No’ following the questions. There are no right or wrong answers.

20. **Instructions for the manifest Hostility Scale**

The following instructions were given for the manifest Hostility Scale “Please respond sincerely to these questions by tick marking your answers. There are no right or wrong answers”.

21. **Instructions for the Ways of Coping Questionnaire**

Instructions for the Ways of Coping Questionnaire were as follows “To respond to the statements in this questionnaire you must have a specific stressful situation in mind. Take a few moments and think about the most stressful situation that you have experienced in the last week. By ‘Stressful’ we mean a situation that was difficult or troubling for you,
either because you felt distressed about what happened, or because you had to use considerable effort to deal with the situation, the situation may have involved to you family, your job, your friends, or something else important to you. Before responding to the statement, think about the details of this stressful situation, such as where it happened, who was involved, how you acted, and why it was important to you. While you may still be involved in the situation or it could have already happened, it should be the most stressful situation that you have experienced during the week. As you respond to each statement, please keep this stressful situation in mind. Read each statement carefully and indicate, by circling the appropriate to what extent you used it in the situation. Please respond to each item, 0 – Does not apply or Not used, 1 – Used somewhat, 2 – Used quite a bit, 3 – Used a great deal”.

**SCORING AND STATISTICAL ANALYSIS**

Scoring for all the given tests was done as per the instructions provided in the scoring manuals of the tests. The scores were then subjected to various statistical treatments and analysis i.e. Means, SD’s, t-ratios and ANOVA.