METHOD

DESIGN

The aim of the present investigation was to study the relationship of Weight Status and Health Habits in adolescents with various Personality Dimensions; Stress and Ways of Coping; Positive Mental States (viz. Optimism, Satisfaction with Life, Perceived Happiness Status, Positive Affect, Mental Health, Generalized Self Efficacy and Health Efficacy,); Negative Mental States (viz. Anger Experienced and Anger Expressed, Adolescent Depression and Negative Affect); Symptoms of Depression, Hostility and Anxiety; Family-Adolescent Conflict and Perceived Parental Bonding; Health Protective Behavior and Perceived Health Status. The relationship between Adolescents’ BMI and Health Habits and Sibling’s and Parental BMI and Health Habits was also studied.

To measure Weight Status, the measure of Body Mass Index (BMI), also known as the Quetelet Index was used. The formula to calculate BMI was:

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BMI = \frac{\text{Weight in kilograms}}{(\text{Height in Meters})^2}
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Health Habits Inventory by Atwater (1995) was used to measure different Health Habits viz., Eating Habits, Exercise and Fitness Habits and Avoiding of Alcohol and Drug use. The Health Protective Behavior was measured by using the Health Protective Behavior Checklist devised by Harris and Guten (1979). Perceived Health Status was Measured on an 11-point rating scale (Blaxter, 1985).

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 (Francis
et al., 1992) was used to measure Extraversion, Psychoticism, Neuroticism and Lie (Social Desirability). The State-Trait Anxiety Inventory by Spielberger et al. (1983) was used to assess the State–Trait Anxiety. The Personality dimensions of Externality/Internal was studied using Health Locus of Control Scale (HLOC) devised by Wallston and Wallston (1982).

For measuring Stress and Coping, the following standardized tests were used: Stress was measured by Stress Symptoms Rating Scale by Heilbrun and Pepe (1985) and Life Event Stress Scale by Albuquerque et al. (1990). The Daily Hassles and Uplifts Scale designed by Delongis et al. (1982) was used for assessing the degree of Hassles and Uplifts. The Coping Styles Inventory by Carver et al. (1989) was used to measure three types of Coping viz., Task Focused Coping, Emotion Focused Coping and Avoidance Coping.

Positive Mental States were measured by using the following standardized tests: The WHO Measure of Mental Health, adapted for use in India, by Wig (1999) was used to measure Mental Health. It has three sub-components viz., Being Comfortable with Self, Being Comfortable with Others and Perceived Ability to Meet Life Demands. Self Efficacy was measured by Generalized Self Efficacy Scale by Jerusalem and Schwarzar (1995). Health Efficacy Scale by Jerusalem and Schwarzar (1995) was used to measure the Health Efficacy. Scheier and Carver’s Optimism Scale (1985) was used for measuring Optimism. Life Satisfaction was assessed using Satisfaction with Life Scale by Diener et al. (1985). Positive Affect was measured by Positive and Negative Affect Schedule by Watson et al. (1988). Perceived Happiness Status was measured on an 11-point self rating scale (Fordyce, 1988).

Negative Affect was assessed by using the following standardized tests: To measure Anger Experienced and Anger Expression Styles, Spielberger’s (1988) State Trait Anger Expression Inventory was used. Adolescents’ Depression was measured by using Adolescent Depression
Scale by Radziszewska et al. (1993). Negative Affect was measured by Positive and Negative Affect Schedule by Watson et al. (1988).

**Brief Symptom Inventory** by Derogatis and Melisaratos (1983) was used to measure brief symptoms of Depression, Hostility and Anxiety.

**Perceived Parental Bonding** was measured by Parental Bonding Instrument by Parker et al. (1979). **Family-Adolescent Conflict** was measured by Family-Adolescent Conflict Scale by Radziszewska et al. (1993).

**SAMPLE**

The sample comprised of 242 adolescents (121 male adolescents and 121 female adolescents) in the age range of 16 to 18 years selected from different private schools in Manipur. In addition to these subjects, their parents and siblings were also included in the sample i.e. 242 mothers, 242 fathers and 242 siblings. So the total sample including their parents and siblings were 968.

All the subjects were apprised about the nature and purpose of research and their willingness ascertained before including them for participation.

Additionally an inclusion criteria was followed which was:

All selected samples were first born, and a family size of at least 2 offsprings were included.

**TESTS AND TOOLS**

The following standardized tests were used:

1. Health Habits Inventory *(Atwater, 1995).*
2. State Trait Anger Expression Inventory *(Spielberger, 1988).*
3. Eysenck’s Personality questionnaire – Revised - Abbreviated *(EPQ-R-A) (Francis et al, 1992).*
4.WHO Measure of Mental Health *(Wig, 1999).*
5. Stress Symptoms Inventory (Heilbrun & Pepe, 1985).
6. Health Locus of Control (Wallston and Wallston, 1982).
9. Coping Styles Inventory (Carver et al., 1989).
10. Satisfaction with Life Scale (Diener et al., 1985).
11. State-Trait Anxiety Inventory (Spielberger et al., 1983).
12. Life Orientation Test (Optimism Scale) (Scheier and Carver, 1985).
13. Brief Symptom Inventory (Derogatis and Melisaratos, 1983).
15. Daily Hassles & Uplifts Scale (DeLongis et al., 1982).
17. The Happiness Measure (Fordyce, 1988).
22. Family Adolescent Conflict (Radziszewska et al., 1993).

BRIEF DESCRIPTION OF THE TESTS

1. 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. This scale was used in India by Sehgal (2003) and Sharma (2005).

2. **The Spielberger's 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 dimension 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 items scores for each scale. The range of possible scores for the 3 subscales 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 Maini (2001, Mohan (2001 and 2002), Grover (2002), Shourie (2003) and Sehgal (2003).
3. **Eysenck Personality Questionnaire – Revised – 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 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 hierarchal 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 subdivided into habits or reactions or aggregate of behavioural instances regarded as personality. Eysenck and Eysenck (1985) defined Extraversion as the tendency to be sociable, lively, active, assertive, sensation seeking, carefree, surget, 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. 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 2 (two) short version 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. EPQ-R has been used in India by Mohan (1999, 2000) and Sehgal (1999), Ghalawat (1986), Rana (1989), Arora (1990), Gujaral (1990), Sehgal and Rumeena (1996),

4. 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 & validity. This scale was used in India by Sehgal (2003), Shourie (2003), Sharma (2005), Salariya (2006) and Malhotra (2006).

5. Stress Symptoms Ratings Scale (Heilbrun & Pepe, 1985): Heilbrun & Pepe (1985) constructed the Stress Symptoms Rating Scale which is a response-defined measured of stress in construct to the stimulus – defined measures being used in earlier stress research. The Stress Symptom Rating Scale is an inquiry into the amount of stress experienced 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’ the ‘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 has been found to be 0.93 by Heilbrun and Putter (1986). Evidence for validity has come from differential elevations of stress found in groups, otherwise identified as more stressful. The test has been successfully used in India by Saini (1998), Opara (1999), and Mohan (2000, 2006), Shourie (2003), Sharma (2005), Salariya (2006) and Malhotra (2006).
6. **Health Locus of Control Scale (HLOC)** (Wallston and Wallston, 1982): Wallston & Wallston (1982) constructed a Health Locus of Control Scale to measure Internal and External Health Locus of Control dimensions. It consists of 11 items – 6 items of Externality and 5 items of Internality. The Health Locus of Control items have a six point rating scale in terms of agreement and disagreement. This scale is an area specific measure of expectations regarding Locus of control developed for prediction of health related behaviour. Scores range from 11 to 66. This scale was used in India by Opara (1999), Kaur (2002), Shourie (2003), Sehgal (2003), Sharma (2005) and Mohan et al. (2006).

7. **Life Event Stress Scale (LES)** (Albuquerque et al., 1990): This measure is one of the best known widely used life stress measure 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 constructions format and method of scoring. This measure consists of a simple listings 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 member of studies investigating relationship between life change (as assessed by this measure) and indices of health & adjustment. (Greene et al., 1985, Watson, 1983, Brand et al., 1986). Authors report adequate reliability. This scale was used in India by Kaur (2002), Sehgal (2003) and Mohan et al. (2006).
8. **Health Protective Behaviour Checklist (Harris and Guten, 1979):** Harris and Guten have formulated a 30 item checklist to assess the health protective behaviour that one indulges in. It is assumed that all individuals engage in some behaviour intended to protect their health. These activities and behaviours were termed health protective behaviour (HPB) and defined as ‘any behaviour 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 behaviour 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 pasting 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 behaviours they indulged in and the degree to which they engaged in the health protective behaviours by ticking in the appropriate column.

This scale was used in India by Sehgal (2003), Shourie (2003), Sharma (2005) and Mohan (2006).
9. **Coping Styles Inventory (Carver et al. (1989)):** 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 items was answered on 4 point rating scale ranging from 'I usually don't do this at all' to 'I usually do this a lot'. The 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 & Emotion Focused Coping were correlated (r=.46). Neither task nor Emotion Focused Coping were associated with Avoidance coping (r=.16). This scale was used in India by Sehgal (2003) and Salariya (2006).

10. **Satisfaction with Life Scale (Diener et al., 1985):** It is a five-item scale that is designed around the idea that one must ask subjects for an overall judgement 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-months test-retest correlation coefficient of .82 and an alpha coefficient of .82 and an alpha coefficient of .87 for undergraduates. Diener et al. (1985) also reported it to be a valid test. This scale was used in India by Maini (2001), Kaur (2002), Sehgal (2003) and Mohan (2006).

11. **The State-Trait Anxiety Inventory (STAI) (Spielberger et al., 1983):** The State-Trait Anxiety Inventory was developed by Spielberger et al. (1983) to provide standardized self-reported scales to assess both state and trait anxiety. State anxiety has been defined as consisting of subjective feelings of tension, apprehensions, nervousness and worry and activations (aroused) of the autonomic nervous system generated by certain situations, e.g., denial anxiety, test taking anxiety and anxiety about
flying. Trait anxiety refers to relatively stable personality dimensions 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, Very much). 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. It has a reliability coefficient of 0.78 for males and 0.85 for females (Pastore et al., 1996). On an average, alpha coefficients for State Anxiety have been reported to be 0.90. The test has adequate content, concurrent and construct validity. This scale has been used in India by Azar (1997), Opara (1999), Mohan (2000), and Mohan (2001), Shourie (2003), Sehgal (2003), Salariya (2006) and Mohan et al. (2006).

12. Life Orientation Test (Optimism Scale) (Scheier and Carver, 1985): Dispositional Optimism was assessed by the Life Orientation Test. It provides a self report measure of individual differences in global optimism, defined in terms of the favourability of the person’s generalized outcome expectancies. Optimism Scale 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. The Scale contains 12 items, in which four items are filler items. They are to be rated on a five-point scale ranging from ‘strongly agree = 4’ to ‘strongly disagree = 0’. The scale has an internal reliability (Cronbach alpha) of 0.76 and a test-retest reliability of 0.79. The test has been successfully used in India by Opara (1999), Mohan et al. (2000), Shourie (2003), Sehgal (2003), Sharma (2005) and Salariya (2006) among others.
13. **Brief Symptom Inventory (Derogatis and Melisaratos, 1983):**

Brief Symptom Inventory was developed by Derogatis and Melisaratos (1983). The Inventory measures three dimensions viz. Depression (6 items), Hostility (6 items) and Anxiety (5 items). The subject was to read each statement and express his degree of agreement or disagreement from a five response categories – Not at all (1), A little bit (2), Moderately (3), Quite a bit (4) and Extremely (5). The scale was successfully used in India by Sehgal (2003).

14. **Positive and Negative Affect Schedule (PANAS) (Watson et al., 1988):**

Positive and Negative Affect Schedule (PANAS) was developed by Watson et al. (1988). While developing the scale the greatest concern of the authors was to select terms that were relatively pure markers of either Positive Affect (PA) or Negative Affect (NA). Finally 20 items scale, which were internally consistent and had excellent convergent and discriminant validity with lengthier measures of the underlying mood factors were developed. They also demonstrate appropriate stability over a two-month time period. The alpha reliabilities range from 0.86 to 0.90 for PA and from 0.84 to 0.87 for NA. The scale consists of a number of words that describe different feelings and emotions. Each word is rated on a 5-point rating scale, according to the extent to which the subject felt that way during the past few weeks. The scale ranges from 1- ‘very slightly or not at all’ to 5- ‘extremely’.

The scales correlate at predicted levels with measures of related constructs and shows the same pattern of relations with external variables that have been seen in other studies. E.g. the PA scale (but not the NA scale) is related to social activity and show significant diurnal variation, whereas the NA scale (but not the PA scale) is significantly related to perceived stress and shows no circadian pattern (Watson et al., 1988). Thus the Positive and Negative Affect Schedule is a reliable and efficient
mean for measuring these two important dimensions of mood. This scale was used in India by Maini (2001), Mohan (2005) and Salariya (2006).

15. **Daily Hassles and Uplifts Scale (Delongis et al., 1982):** The Daily Hassles and Uplifts scale was constructed by Kanner et al. (1981) to assess the number, severity and intensity of the daily hassles and uplifts that the subject has experienced in the last month. The 'Hassles Scale' consisted of a list of hassles or everyday irritants. These cover the areas of health, family, friends, the environment, practical considerations and chance occurrences. Subjects are requested to indicate any hassles that have been experienced during the last month and rate how severe these have been on a 3-point scale, 3 being 'a great deal' and 0 being 'none or not applicable'. The 'Uplift Scale' consists of a list of uplifts; minor life events that make people feel good. Subjects are asked to indicate the uplifts they have experienced during the last month and rate their experience of each on a 3-point scale, 3 being 'A great deal' and 0 being 'none or not applicable'. The present study used a revised version of Hassles and Uplifts scale by Delongis et al., (1982) which is a shorter version of Kanner et al., (1981) test and consists of 53 items. The test has been successfully used in India by Saini (1998), Opara (1999), Mohan (2000), Mohan et al. (2000, 2006), Kaur (2002), Shourie (2003) and Salariya (2006).

16. **Parental Bonding Instrument (Parker et al., 1979):** The PBI is a 25 item self-report measure of respondents' recollections of parents' attitudes and behaviours during the first 16 years. Respondents are asked to answer questions based on how they remember their parent, using a Likert type scale ranging from 0 ("very like") to ("very unlike"). The PBI was developed using factor analysis from self-reports of experiences with parents in childhood. The scale consists of two factors: Maternal/Paternal Care (i.e. care vs. indifference and rejection) and Maternal/Paternal...
Overprotection (i.e. overprotection vs. encouragement of autonomy). Higher scores on the two scales indicate higher perceived parental care and overprotection, respectively. The 12 items of the Maternal/Paternal Care factor allow a maximum score of 36 and the 13 items of the Overprotection factor permit a maximum score of 39. The two factor scores are negatively correlated (r = -.24) suggesting that the two dimensions are not independent (Parker et al., 1979), i.e. ‘overprotection’ is associated with lack of ‘care’.

Adequate internal consistency has been demonstrated in numerous studies using split-half technique. The scale also has high test-retest reliability over a 3-week period of both care scale (r = .761; p < .001) and overprotection scale (r = .628; p < .001) (Parker et al., 1979; Parker, 1989). The scales' interrater reliability and concurrent, convergent, criterion, and predictive validity are also established (Parker, 1989).

17. **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 scale has been widely used by Mohan et al. (1995, 2000), Shourie (2003), Sehgal (2003) and Salariya (2006).

18. **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. This scale was used in India by Kaur (2002), Sehgal (2003) and Shourie (2003).
19. **General Self-Efficacy Scale (Jerusalem and Schwarzer, 1995):** This scale was developed by Mathias Jerusalem and Ralf Schwarzer, first as a 20-item version and later as a reduced 10-item version (Jerusalem and Schwarzer, 1986, 1992). It typically yielded internal consistencies between alpha = 0.75 and 0.90. It has also proved valid in terms of convergent and Discriminant validity. In this study English version of this scale has been used. This scale was used in India by Sharma (2005).

20. **Health Efficacy Scale (Jerusalem and Schwarzer, 1995):** This scale was developed by Schwarzer et al. (1995). This scale has six items and the scores ranges from, Not at all true (1) to Exactly true (4).

21. **Adolescent Depression Scale (Radziszewska et al., 1993):** Adolescent Depression was assessed by Adolescent Depression Scale by Radziszewska et al. (1993). It has seven items and the score ranges from 0 to 14.

22. **Family-Adolescent Conflict (Radziszewska et al., 1993):** Family-Adolescent Conflict was assessed by Family-Adolescent Conflict Scale (Radziszewska et al., 1993). It has three items. The subjects was to rate their experiences on a 5 point rating Scale, ranging from ‘Very true’ (5) to ‘Not at all true’ (1).

**PROCEDURE**

The battery of questionnaires was administered to a sample of 242 students, 121 male adolescents and 121 female adolescents chosen from various private schools in Manipur. These subjects were given the questionnaires in a booklet form and were requested to respond to them truthfully. They were assured that their results and the information obtained would be kept strictly confidential and will be used for research purposes only.
After the students completed filling their forms, a set of 3 booklets were given to each subject which were filled by their respective parents and their siblings (brother or sister).

**INSTRUCTIONS FOR THE QUESTIONNAIRES**

The following instructions were given for different instruments.

1. **Health Habits Inventory**

   **Instructions were:** Here is a list of 12 statements measuring your eating habits, exercise 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.

2. **State Trait Anger Expression Inventory**

   **Instructions were:** 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 feelings 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 subject 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 describe when you are feeling angry or furious. Remember that there are not 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.

3. Eysenck Personality Questionnaire – Revised - Abbreviated

Instructions were: Please answer each question by putting a circle around the ‘Yes’ or ‘No’ following the question. There are no right or wrong answers and no trick questions. Work quickly and do not think long about the exact meaning of the questions. Please check that you have answered all the questions.

4. WHO-Measure of Mental Health

Instructions were: Kindly tick the response which is true for you by putting a circle around the ‘Yes’ or ‘No’ alternatives following the question. Your answer will be kept strictly confidential.

5. Stress Symptoms Rating Scale

Instructions were: Given here are 25 statements with a scale of 0-5. 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 & once per month, (3) Between once per day and per week, (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.
6. **Health Locus of Control**

*Instructions were:* 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, "(SD) Strongly disagree", "(MD) Moderately disagree", (Sd) Slightly disagree", "(Sa) Slightly agree", "(MA) Moderately agree" and "(SA) Strongly agree".

7. **Life Events Stress Scale**

*Instructions Were:* Given below is a set of life events that take place normally during the course of life. Some of these may apply to you also. Please tick the following life events happened to you in the last one year and tell their frequency.

8. **Health Protective Behaviour Checklist**

*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 behaviours on a 5-point Likert scale. The response alternatives are (1) Not at all, (2) A little bit, (3) Moderately, (4) Quite a bit and (5) Almost Always.

9. **Coping Styles Inventory**

*Instructions were:* "Rate your responses for each item along the following 4 point rating scale. (0) Don't do it all (1) Rarely do it (2) Often do it (3) Usually do this a lot”.

10. **Satisfaction with Life Scale**

*Instructions were:* Below are five statements with which you may agree or disagree. Using the 1-7 scale below, indicate your agreement with each item by placing the appropriate number on the line proceeding that item.
The 7 point scale is as follows:- (1) Strongly disagree, (2) Disagree, (3) Slightly disagree, (4) Neither agree nor disagree, (5) Slightly agree, (6) Agree and (7) Strongly agree.

11. State Trait Anxiety Inventory

Following instructions were given for the State Anxiety

Instructions were: A number of statements which people have used to describe themselves are given below. Read each statement and then blacken in appropriate circle to the right of the statement to indicate how you feel right now, that is, at this moment. There are no wrong answers. Do not spend too much time on any statement but give the answer which seem to describe your present feelings best according to the following responses:- (1) Not at all, (2) Somewhat, (3) Moderately, (4) Very Much.

Following instructions were given for the Trait Anxiety

Instructions were: A number of statements which people have used to describe themselves are given below. Read each statement and then blacken, in appropriate circle to the right of the statement to indicate how you generally feel. There are no wrong answers. Do not spend too much time on any statement but give the answer which seems to describe your present feelings best according to the following responses:- (1) Almost Never, (2) Sometimes, (3) Often, (4) Almost always.

12. The Life Orientation Test (LOT)

Instructions were: The Life Orientation Test can afford you an insight as to how optimistic or pessimistic you are. Indicate whether or not each of the items represents your feelings by writing a number in the black space according to the following code: (4) Strongly agree, (3) Agree, (2) Neutral, (1) disagree, (0) Strongly disagree.
13. **Brief Symptom Inventory**

**Instructions were:** The following questions ask about how much you’ve been distressed by certain kinds of feelings or experiences over the past month. Rate your responses according to the following scale: (1) Not at all, (2) A Little Bit, (3) Moderately, (4) Quite a Bit and (5) Extremely.

14. **Positive & Negative Affect Schedule (PANAS)**

**Instructions were:** This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word to indicate to what extent you have felt this way during the past few weeks. Use the following scale to record the answer. (1) Very slight or not at all (2) a little (3) Moderately (4) Quite a bit (5) extremely.

15. **Daily Hassles & uplifts scale**

**Instructions were:** Given below are 53 statements with the scale of 0-3 on each side. Please circle 1 number on the left side to describe the situations as Hassles, and circle one number on the right hand side to describe the situation as uplifts. The response alternatives are: (0) None or not applicable, (1) Somewhat, (2) Quite a bit, (3) A great deal.

16. **Parental Bonding Instrument**

**Instructions were:** This questionnaire lists various attitudes and behaviours of parents. As you remember your Mother or Father in your first 16 years would you place a tick in the most appropriate column next to each question. The columns are: (1) Very like (2) Moderately like (3) Moderately unlike (4) Very unlike.
17. The Happiness Measure

Instructions were: In general how happy or unhappy do you feel? Check the statement below that best describes your level of happiness experienced on an 11 point scale. The scale ranges from Extremely Happy (10) to Extremely Unhappy (0). Check just one item.

18. The Perceived Health Status Measure

Instructions were: "Imagine anyone in excellent health and rate your health status on the following scale – ranging from Extremely Healthy (10) to Extremely Unhealthy(0)."

19. Generalized Self Efficacy

Instructions were: “listed below are ten statements to which you have to respond by marking whether they are: Not at all true, Barely true, Moderately true or exactly true”.

20. Health Efficacy

Instructions were: “Read each item and rate your responses according to the following scale: 1- Not at all true, 2- Barely true, 3- Moderately true and 4- Exactly true”.

21. Adolescent Depression

Instructions were: On the questionnaire are group of statements. Please read each group of statements carefully. Then pick out one statement in each group which best describes the way you have been feeling the past week, including today. Circle the number beside the statement you picked, if several statement in the group seem to apply equally well, circle each one. Be sure to read all the statement in each before making your choice.
22. Family-Adolescent Conflict

Instructions were: Indicate your agreement with each item by placing the appropriate number on the line proceeding that item. The 5 point scale is as follows: -1- Not at all True, 2-Not True, 3-Somewhat True, 4- True and 5- Very True.

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 test. The raw scores were then subjected to various statistical analysis viz. Means, S.D. t-ratios, Inter-correlations and Regression Analyses.