CHAPTER-IV

Design and Methodology
The present investigation was intended to study effect of vipassanā meditation on health. The following design and methodology were used to fulfill the objectives of the study:

**Design**

The ‘before and after’ experimental designs were employed to study effect of vipassanā meditation on physical health, psychological health and spiritual health. These experimental groups were also tested on the above variables both before and after they were exposed to vipassanā meditation courses. For this purpose, various standardized questionnaires were distributed to the practitioners at both conditions (before and after vipassanā meditation). The collection of data was carried out in quite disciplined and experimentally controlled manner with the help of volunteers that were mostly practitioners themselves.

An experimental design was used to study the effect of vipassanā meditation on health may be presented like this.

<table>
<thead>
<tr>
<th>Before</th>
<th>Vipassana Meditation Course</th>
<th>After</th>
</tr>
</thead>
</table>

**Sample**

For the present study, a total sample of 100 participants (male = 50 and female = 50) were selected on the basis of availability from vipassana meditation training groups. The selected sample consisted of persons from India and other countries all over world such as America, Australia, Canada, Bhutan, Germany, Russia, Sri-lanka, Taiwan, Thailand, and Vietnam etc. All the subjects were adequately to understand the language of tests/scales. Most of the selected participants were undergoing vipassanā training first time. More so they had never
been exposed to vipassanā or any other type of meditation earlier. The age range of the sample was 16 to 70 years with a mean age of 36.97 years.

Table 1  Showing samples of the participants

<table>
<thead>
<tr>
<th>Country</th>
<th>Unmarried</th>
<th>Male</th>
<th>Female</th>
<th>Married</th>
</tr>
</thead>
<tbody>
<tr>
<td>America</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Australia</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Bhutan</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Canada</td>
<td>2</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Germany</td>
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<td>1</td>
<td>1</td>
<td>1</td>
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<tr>
<td>India</td>
<td>30</td>
<td>33</td>
<td>25</td>
<td>38</td>
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<tr>
<td>Russia</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Sri-lanka</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Taiwan</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Thailand</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Vietnam</td>
<td>6</td>
<td>7</td>
<td>0</td>
<td>13</td>
</tr>
<tr>
<td>TOTAL</td>
<td>50</td>
<td>50</td>
<td>34</td>
<td>66</td>
</tr>
</tbody>
</table>

Instrumentations

The following tools were used in the present investigation:

i.  Personal Data Blank Sheet

This consists of information regarding the subject’s name, age, sex, educational qualification, employment status, marital status etc. (See Appendix 2)
FIGURE 4  INSTRUMENTATIONS

Thermometers

Weighting Machine

Height Metre Scales

Automatic Inflation Blood Pressure and Heart Rate Monitor
Chapter Four

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ii. Tools for the Assessment of Effect of Vipassanā Meditation on Physical Health

In this group Blood Pressure, Heart Rate, Body Temperature and Body Mass Index were caused and good quality equipments were used.

Blood Pressure

Blood pressure is force of the blood against the walls of the blood vessels – the arteries and veins in the body. Without this pressure, blood would not be able to circulate in the body. There are many thousands of kilometers of these blood vessels, which are the channels or the pipes through which blood travels to all organs of the body. The heart is the principle pumping station that forces the blood through the blood vessels.

Stephen Hales, an English clergyman was the first person to try to measure the blood pressure. He used to securely tie a horse upside down and insert a long glass tube into its chief artery, the aorta. He observed that because of the pressure, the blood rose inside the tube, to a height of almost nine feet. That was in the fourth decade of the eighteenth century, 1733 AD to be precise.

Almost a hundred years later, in 1828 AD, a French medical student Jean Leonard Poiseuille though of connecting a mercury-filled U-tube to the aorta. Since mercury is 13.6 times heavier than blood or water, the column in the tube was raised to a much smaller height and indoor measurement of blood pressure became feasible. Even then, the method was obviously unsuitable to measure human blood pressure because an artery of a living person cannot be punctured. However, it should be noted that Poiseuille’s idea of using mercury while measuring blood pressure is taken advantage of, even today. Almost all accurate instruments for measuring blood pressure incorporate mercury. Since Poiseuille’s time, millimeters of mercury, or mm Hg, have been the standard units of blood pressure measurement.

It was to be almost 70 years before an Italian physician Scipion Rivorokki invented a measuring instrument which had an arm-cuff. This solved the problem of artery-puncture. Rivorokki argued, and rightly so, that the pressure of the arm-cuff that stops the flow of blood into the forearm, should be equivalent to the blood
pressure. The arm-cuff was connected to two things: to an air-pump and to a mercury-filled tube. Rivorokki first snugly tied the cuff around a person’s arm. He then placed his fingers on the wrist of the person, where he could feel the pulsations (of the blood) in the ‘radial’ artery. Finally, with the air-pump he used to build up pressure (as observed in the mercury-filled tube), as the blood pressure which made the pulsations in the radial artery to stop. Rivorokki did not realize that this was only the pressure of the blood while the heart was contracting.

Finally, in 1905 AD, a Russian physician Nicolai Korotcoff, using the stethoscope (the instrument which decorates the doctors’ ears or necks), measured both the pressures i.e., when the heart was fully contracted and when the heart was fully relaxed.

An instrument uses to measure blood pressure is known as a sphygmomanometer. It consists of an inflatable arm cuff attached to an air pump and a column of mercury or a pressure gauge. As some of you may have experienced, the rubber cuff is put around the upper arm and inflated to the point tight enough to temporarily stop the blood from passing through the brachial artery (the artery in the front of the elbow). The stethoscope is kept over the brachial artery and the doctor gradually lets the air out from the cuff. Once the pressure in the rubber cuff starts dropping, a sound becomes audible through the stethoscope and the number on the mercury column at this point becomes your systolic blood pressure (the upper number). Gradually the sound disappears altogether as the pressure is released from the cuff. At that point the sound in the stethoscope disappears and the doctor notes the number on the pressure gauge. This reading becomes your diastolic blood pressure (lower number). Although the systolic blood pressure can be measured by palpation (by fingers) or by auscultation (by stethoscope), the diastolic blood pressure can only be measured by auscultation with a stethoscope (Gupta, 2007). For Systolic and diastolic Blood pressure see chapter I.

Blood pressure does not remain the same throughout the day; it undergoes slight variations (term diurnal variations). The pressure is least during the early hours of the day, when a person is deep asleep. At around 9.00am - 9.30 am, the pressure is
usually the maximum. Besides, the blood pressure is temporarily raised (many a time markedly so) by physical labour, mental strain, acute pain or fear.

It is essential that before measuring the blood pressure, the person should be made to rest for a while.

**Types of Measuring Instruments**

Four different types of blood pressure instruments, or manometers, are currently available (Gupta, 2007). These are:

1. **Aneroid.** These manometers utilize air pressure for measurement of blood pressure. They are usually less reliable and have a somewhat higher degree of inaccuracy.

2. **Mercury.** These manometers are most commonly used in doctors’ offices. They are regarded as being more accurate and reliable than the aneroid type.

3. **Electronic.** The accuracy of electronic manometers is only comparable to the aneroid type of manometers. Since mercury manometers are considered to be more reliable, the accuracy of the electronic manometers must be checked periodically by comparison with mercury manometers.

4. **Finger recording devices.** In recent years, these fancy devices have been introduced in the market. However, they are not very reliable and tend to show a wide variability in blood pressure readings.

The instrument, the researcher uses to measure blood pressure to vipassana meditation groups in this thesis, is known as type automatic blood pressure and heart rate monitor. The accuracy of the instrument was checked periodically by comparison with mercury manometers.

**Heart Rate**

In medicine, a person’s pulse is the rate at which his/ her heart beats. His
pulse is usually called his heart rate, which is the number of times his heart beats each minute (bpm). However, the rhythm and strength of the heartbeat can also be noted, as well as whether the blood vessel feels hard or soft. Changes in his heart rate or rhythm, a weak pulse, or a hard blood vessel may be caused by heart disease or another problem.

As the heart pumps blood through the body, one can feel a pulsing in some of the blood vessels close to the skin’s surface, such as the wrist, neck, or upper arm. Counting the pulse rate is a simple way to find out how fast one’s heart is beating.

A doctor will usually check the pulse of the patient during a physical examination or in an emergency, but one can easily learn to check his own pulse. He can check his pulse the first thing in the morning, just after he wakes up but before he gets out of bed. This is called a resting pulse. Some people like to check their pulse before and after they exercise.

One checks his pulse rate by counting the beats in a set period of time (at least 15 to 20 seconds) and multiplying that number to get the number of beats per minute. His pulse changes from minute to minute. It will be faster when one exercises, has a fever, or is under stress. It will be slower when one is resting.

To check his pulse one needs a watch with a second hand or a digital stop watch. Find a quiet place, where he can sit down and is not distracted when he is learning to check his pulse.

One can measure his pulse rate anywhere an artery comes close to the skin, such as on the side of the lower neck, on the inside of the elbow, or at the wrist. When taking his pulse:

- Using the first and second fingertips, press firmly but gently on the arteries until he feels a pulse.
- Do not use his thumb because it has its own pulse that he may feel.
- Count the beats for 30 seconds; then double the result to get the number of beats per minute.
- When counting, do not watch the clock continuously, but concentrate on the beats of the pulse.

One can also check his pulse in the carotid artery. This is located in his neck, on either side of his windpipe. Be careful when checking his pulse in this location, especially if he is older than 65. If he presses too hard, he may become lightheaded and fall.

One can buy an electronic pulse meter to automatically check his pulse in his fingers, wrist, or chest. These devices are helpful if one faces trouble measuring his pulse or if he wishes to check his pulse while he exercise. For the normal heart rate see chapter I.

In the present investigation, researcher used type automatic blood pressure and heart rate monitor to measure heart rate.

**Body Temperature**

Body temperature is the degree of heat or cold in a body (the normal temperature of the human body see chapter I).

One’s body temperature can be measured in many locations on his body. The mouth, ear, armpit, and rectum are the most commonly used places.

The instrument used to measure body temperature (oral temperature or skin temperature) is called ‘thermometer’. Temperatures in Britain were traditionally measured using the Fahrenheit scale (°F). The Celsius or Centigrade (°C) system is now officially used, although many people still refer to degrees Fahrenheit (Crowther, 1997).

In this thesis, the researcher used “mercury thermometer” to measure subjects’ body temperature in location on his/her armpit.

**Body Mass Index**

Body mass index (BMI) or Quetelet Index is a statistical measure of the weight of a person scaled according to height. It was invented between 1830 and 1850 by Belgian polymath Adolphe Quetele during the course of developing “social physics”. Body mass index is defined as the individual’s body weight divided by the
square of their height. The unit of measure is kg/m². BMI provide a simple numeric measure of a person’s “fatness” or “thinness”, which allow health professionals to discuss over – and under-weight problems more objectively with the patients. The BMI categories used by WHO for adults are as follows: a BMI of 18.5 to 24.9 may indicate optimal weight; a BMI lower than 18.5 suggests the person is underweight while a number above 25 may indicate the person is overweight, a number above 30 suggests that the person is obese.

The researchers in this field suggest that lower and higher BMI significantly indicate the impaired health related quality of life (Foed, Moriarty, Zack and Chapmen, 2001), worse physical functioning and physical well being (Yan, Daviglus, Liu, Pirzada, Garside, Schiffer, Dyer and Greenland, 2004). Brown, Dobson and Mishra (1998) reported that low and high BMI are associated with poor mental health. Risk of hypertension is reported to be higher among individual with overweight and obesity-BMI > 25kg/m² (Tesfaye, Nawil., Minh, Byass, Berhave, Bonita and Wall, 2007). Also, lower and higher BMI cut-off are associated with different health problems such as diabetes, cancer, sexual functioning. Thus, in the present study BMI was used as an indicator of general overall health.

Instruments to measure parameters of physical health are shown in Figure 1

In order to measure weight a weight weighing machine of standard quality was used whereas for checking the height meter scale was used.

iii. Tools for the Assessment of Effect of Vipassanā Meditation on Psychological Health

In this section Happiness, Subjective well being, State-trait anger, Anger expression of the participants were assessed with following suitable tests/scales:

- **Oxford Happiness Scale**

To assess the happiness of the subject, the 29-item Revised Oxford Happiness Scale (Argyle, 2001) was used. The scale contains 29 items or group of statements about personal happiness. Each group has four statements (a, b, c, & d) and the subject is asked to pick out the one statement that best describes the way
he/she was feeling. The scoring weights were 0, 1, 2, 3, for a, b, c, and d, statements respectively. So, the total score may range from 0 to 87. This sophisticated multi-item scale has good reliability and validity (Carr, 2004).

This test is derived from its predecessor, the 20-item Oxford Happiness Inventory (Argyle, Martin and Crossland, 1989). Hills and Argyle (2002) developed the 29-item Oxford Happiness Questionnaire (OHQ) to be “an improved instrument” to assess subjective well-being (SWB). They improved the Oxford Happiness Inventory by changing the response format from a 0-3 multiple choice scoring format to more widely used Likert Scale. Argyle reports acceptable construct validity for the OHQ by providing data on correlation with other self-report scales of SWB. The other assesses the cognitive appraisal component of happiness. However, in contrast to other measures, the OHQ makes the error of including additional items that capture a diffuse range of positive character traits and attributes (Kashdan, 2004).

Cruise, Lewis and Mc Gukin (2006) reported that internal consistency, reliability and temporal stability or oxford happiness questionnaire-short form (Hills and Argyle, 2002) was satisfactory. Internal consistency at both time 1 (alpha = 0.62) and time 2 (alpha = 0.58) separated by two weeks was satisfactory.

The used scale has been presented at the end of the thesis in Appendix 4.

**Subjective Well Being Inventory**

To measure the subjective well-being of the subjects, The Subjective Well-being Inventory (SUBI-H. Sell and R. Nagpal, 1998) was used. This is a very comprehensive and robust instrument (originally in English language) for assessing positive indicators of health, including perceptions of well-being, happiness, life satisfaction, positive affect, and feelings about social life. The SUBI has been standardized on adult Indian population, and has also been used previously in researchers by other researchers (Bhogle and Prakash, 1995; Chandra, Sudha, Subbarathna, Rao, Verghese, and Channabasavana, 1995; Mishra, Kumaraiah, Chandra, and Rajaram, 1998)
Developed by ‘stepwise ethnographic exploration’ process, this inventory, initially consisted of 130 items that were supposed to be measuring various areas of concern possibly related to or parts of well-being and ill-being. This item pool was subjected to statistical treatment and factor analysis. The result was a 40-item version that assesses the subjective well-being of the subjects on 11 factorial dimensions. A description of these 11 factors is given below:

(1) General well-being-positive affect [GWB-NA]

This factor refers to feelings of well-being deriving out of an overall perception of life which a respondent evaluates as functioning smoothly and joyfully.

(2) Expectation-achievement congruence [EAC]

This factor refers feelings of well-being produced when one feels that he/she achieved success and the standard of living as he/she expected.

(3) Confidence in coping [CC]

This factor refers to one’s perceived personality strength. It refers one’s ability to master critical or unexpected situations, and his/her ability to adapt to life changes and to face difficulties and adversities without breakdown.

(4) Transcendence [Trans]

This factor reflects feelings of well-being derived out of values of a higher spiritual quality and one’s particular life experiences which go beyond ordinary day to day existence.

(5) Family group support [FGS]

This factor reflects well-being derived from the perception of the wider family when the respondent finds it as cohesive, supportive, helpful in illnesses, and emotionally attached.

(6) Social support [SS]

This factor measures feelings of security and density of social networks.
(7) Primary group concern [PGC]

This factor measures positive and negative feelings about primary family.

(8) Inadequate mental mastery [IMM]

This factor assesses subject’s sense of insufficient control over, or inability to deal efficiently with, some day to day aspects of life. If not handled properly, these aspects might disturb the mental balance. This inadequate mastery disturbs or reduces well-being.

(9) Perceived ill-health [PIH]

The items on this factor refer to complaints regarding health and physical fitness.

(10) Deficiency in social contacts [DSC]

This factor assesses whether a respondent experiences lack of or deficiency in social relations and contacts through worries about being disliked and feelings of missing friends.

(11) General well-being – negative affect [GWB-NA]

This factor measures whether a subject possesses depressed outlook of life.

In the following table, item numbers and direction of items are shown factor wise. The last column shows the scoring pattern of the items as per their direction. The original scoring pattern of all the factors was followed as mentioned in the test manual. It is important to note, however, that on seventh factor, the “Not Applicable” responses were scored “Zero”, because the item on this factor were not applicable on unmarried and/or just married subjects.
Table 2  Showing Factor – Structure and Scoring of Subjective Well Being Inventory

<table>
<thead>
<tr>
<th>Factor</th>
<th>Item Number</th>
<th>Direction of Item</th>
<th>Scoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>1,5,6</td>
<td>All positive</td>
<td>Scoring of the 19 positive items is 3, 2 and 1 to the given responses.</td>
</tr>
<tr>
<td>02</td>
<td>2,3,4</td>
<td>All positive</td>
<td>done by attributing</td>
</tr>
<tr>
<td>03</td>
<td>7,8,9</td>
<td>All positive</td>
<td></td>
</tr>
<tr>
<td>04</td>
<td>10,11,12</td>
<td>All positive</td>
<td></td>
</tr>
<tr>
<td>05</td>
<td>21,22,23</td>
<td>All positive</td>
<td></td>
</tr>
<tr>
<td>06</td>
<td>13,15,18</td>
<td>All positive</td>
<td></td>
</tr>
<tr>
<td>07</td>
<td>14,27,29</td>
<td>+, -, -</td>
<td>Scoring of the 21 negative items is 1, 2, and 3 to the given responses.</td>
</tr>
<tr>
<td>08</td>
<td>16-20,30,31</td>
<td>All negative</td>
<td>done by attributing</td>
</tr>
<tr>
<td>09</td>
<td>34-39</td>
<td>All negative</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>32,33,40</td>
<td>All negative</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>24,25,26</td>
<td>All negative</td>
<td></td>
</tr>
</tbody>
</table>

The SUBI has been placed in the list of Appendix 3

- **State-trait Anger Expression Inventory**

The State-Trait Anger Expression Inventory (STAXI) developed by Spielberger, 1988 comprises of two parts: State-trait Anger inventory and Anger expression inventory. The State-Trait Anger Expression Inventory (STAXI) provides concise measures of the experience and expression of anger.

To measure state-trait anger of the subjects, The State-trait Anger Inventory (Spielberger, 1988) was used (Appendix 2).

The experience of anger, as measured by The State-Trait Anger Expression Inventory (STAXI), is conceptualized as having two major components - state anger...
and trait anger. State anger is defined as an emotional state marked by subjective feelings that vary in intensity from mild annoyance or irritation to intense fury and rage. State anger is generally accompanied by muscular tension and arousal of the autonomic nervous system. Over time, the intensity of state anger varies as a function of perceived injustice, attack or unfair treatment by others, and frustration resulting from barriers to goal-directed behavior. While trait anger is defined as the disposition to perceive a wide range of situations as annoying or frustrating and the tendency to respond to such situations with more frequent elevations in state anger. Individuals high in trait anger experience state anger more often and with greater intensity than individuals low in trait anger.

The number of items of state-trait anger assessed by each scale is described as follows:

**State Anger (S-Anger):** A 10-item scale that measures the intensity of angry feelings at a particular time.

The 10 items of State Anger is item from 1 to 10. Each item, the subject is asked to pick out the one of four statements that best describes the way he/she was feeling. The four response statements are: For Not at all = 1; For Somewhat = 2; For Moderately so = 3; For Very much so = 4.

**Trait Anger (T-Anger):** A 10-item scale that measures individual differences in the disposition to experience anger. The T-Anger scale has two sub-scales:

*Angry Temperament (T-Anger/T):* A 4-item T-Anger subscale that measures a general propensity to experience and express anger without specific provocation.

*Angry Reaction (T-Anger/R):* A 4-item T-Anger subscale that measures individual differences in the disposition to express anger when criticized or treated unfairly by other individuals.

The 10 items of Trait Anger is item from 11 to 20. The 4-item T-Anger subscale (T-Ang/T) is items 11, 12, 13, 16. The 4-item T-Anger subscale (T-Ang/R) is items 14, 15, 18, 20. Rest of the two items (17, 19) is the general items and belongs to none. The subject is asked to pick out the one of four statements that best
describes the way he/she was feeling. The four response statements are: For Almost never = 1; For Sometimes = 2; For Often = 3; For Almost always = 4.

**Anger Expression inventory**

To measure the anger expression of the subjects, The Anger Expression Inventory (Spielberger, 1988) was used.

Anger expression is conceptualized as having three major components. The first component involves the expression of anger toward other people or objects in the environment (Anger-out). The second component of anger expression is anger directed inward - that is, holding in or suppressing angry feelings (Anger-in). Individual differences in the extent to which a person attempts to control the expression of anger (Anger-Control) constitute the third component of anger expression.

**Anger In (AX/In):** An 8-item anger expression scale that measures the frequency with which angry feelings are held in or suppressed.

The 8 items of Anger-in are items 23, 25, 26, 30, 33, 36, 37, 41. There is one of four answers of each item: For Almost never = 1; For Sometimes = 2; For Often = 3; For Almost always = 4.

**Anger Out (AX/Out):** An 8-item anger expression scale that measures how often an individual expresses anger toward other people or objects in the environment.

The 8 items of Anger-out are items 22, 27, 29, 32, 34, 39, 42, 43. The subject is asked to pick out the one of four statements that best describes the way he/she was feeling. The four response statements are: For Almost never = 1; For Sometimes = 2; For Often = 3; For Almost always = 4.

**Anger Control (AX/Con):** An 8-item scale that measures the frequency with which an individual attempts to control the expression of anger.

The 8 items of Anger-Con are items 21, 24, 28, 31, 35, 38, 40, 44. The subject is asked to pick out the one of four statements that best describes the way
he/she was feeling. The four statements are: For Almost never = 1; For Sometimes = 2; For Often = 3; For Almost always = 4.

Anger Expression (AX/Ex): A Scale based on the responses to the 24 items of the AX/In, AX/Out, and AX/Con scales, that provides a general index of the frequency with which anger is expressed, regardless of the direction of expression.

\[
\text{Anger Expression (AX/Ex)} = \text{AX/In} + \text{AX/Out} - \text{AX/Con} + 16
\]

In responding to each of the 44 STAXI items, individuals rate themselves on 4-scales that assess either the intensity of their angry feelings or the frequency that anger is experienced, expressed, suppressed, or controlled. Normative tables provide transformations of the raw scores for each scale to percentile ranks and T scores. A profile chart provides a method of graphing percentile scores to facilitate the examination of anger profile patterns.

iv. Tools for the Assessment of Effect of Vipassanā Meditation on Social and Spiritual Health

In this section tools used for the assessment of social and spiritual health are listed with their brief details.

Social Health

Social health scale is a sub-scale of Life style and Habits Questionnaire (Nevid, Rathus and Rubenstein, 1998) (Appendix 5). The questionnaire examines life style and habits with respect to various dimensions of health and related health concerns, such as relationships with friends and family, and social support in times of crisis. Social health scale used in present study consists of 8 items and the subjects were asked to answer each item by using 4-point scale ranging from never to always. Possible obtained scores range from 8 to 32. Score entitles 1 for never or rarely, 2 for sometimes, 3 for usually and 4 credit points for always.

Spiritual health

Spiritual health scale is also a sub-scale of Life style and Habits Questionnaire (Nevid, Rathus and Rubenstein, 1998) (Appendix 6). The questionnaire examines life style and habits with respect to various dimensions of
health and related health concerns, such as spiritual health, environmental health, social health, exercise and physical fitness. Spiritual health scale used in present study consists of 8 items and the respondents were asked to answer each item by using 4-point scale ranging from never to always. By assigning 1 to never or rarely, 2 to sometimes, 3 to usually and 4 to always, there may be 8 minimum score whereas 32 maximum.

**Procedure**

The present investigation was conducted to find out effect of vipassanā meditation on health. To fulfill this purpose, physical health (comprising of blood pressure, heart rate, body temperature, and body mass index), oxford happiness scale, subjective well being inventory, state-trait anger inventory, anger expression inventory, scale for social health and spiritual health were administered on 100 participants of 16 to 70 years of age.

All the subjects of the study were approached personally and individually. Investigator introduced herself as research scholar of the Department of Psychology, M.D. University, Rohtak. Participants who enrolled themselves for vipassana camp at various places in India were contacted individually and those who voluntarily agreed to participate in the study were selected. The pretest measures of physical, psychological and social health were obtained. After completion of the training program, the same measures were repeated again.

The selected subjects were taken for measuring blood pressure, heart rate, body temperature, weight and height. They were also requested to answer frankly and honestly to all the items of each of the scale/test used as the information provided by him/her was to be kept confidential and to be used only for research purposes.

When he/she was comfortable and ready for the testing the following general instructions were given to him/her, “I am going to give you a set of questionnaires in which there are some questions/ statements regarding your personal data, general health and behaviour. The detailed instructions regarding each of the questionnaires/ measuring tool are on the top of the first page. Please read them carefully as they
FIGURE 5  Indian And Foreign Participants
In Vipassana Centre, Jaipur

Indian participants in Vipassana Centre, Jaipur

Indian and Foreign participants in Vipassana Centre, Jaipur
concern to you, however, I shall also explain to you all these at the appropriate

time.”

After giving the general instructions regarding the testing, in the first testing
session, the selected test(s) was (were) administered after ensuring that the subject
has understood the method of reply. After the completion of administration, the tests
were taken back and it was ensured that he/she has responded each item and in
correct way. Then the testing was adjourned with a pre-decided program to meet the
next day or the day after tomorrow, as per the convenience of the subject, for rest of
the testing. The same subject was approached again as per the pre-decided program
and the remaining test was administered. The presentation of these tests in random
order was highly taken care of. After the testing was over, the subject of the study
was duly thanked for his/her cooperation.

In this research work, researcher selected and collected sample of participants
attending vipassana course for ten days from Vipassanā Meditation Centres such as
Dhamma Thālī, in Jaipur; Dhamma Sikhara in MacLeod Ganj, Dharamshala;
Dhamma Dhaja in Hoshiarpur, Punjab; Dhamma Giri in Nashik, Maharashtra.
Researcher also attended vipassanā course along with participants in Jaipur two
times, and one time in Punjab. Researcher pretest measures of physical health such
as blood pressure, heart rate, body temperature and BMI; psychological health such
as oxford happiness, subjective well being, state-trait anger and anger expression;
and social and spiritual health on participants before vipassana course and after
vipassanā course the same measures as follows blood pressure, heart rate, body
temperature, BMI, oxford happiness, subjective well being, state-trait anger, anger
expression, and social and spiritual health were measured would be taken over there.
Besides, there are some participants went to attend vipassana courses in
Dharamshala or in Maharashtra, before going they informed researcher. Researcher
went to their residents and make measurements on their physical health such as
blood pressure, heart rate, body temperature and BMI; psychological health such as
oxford happiness, subjective well being, state-trait anger, anger expression; social
health and spiritual health. Researcher also made the same measures of physical
health, psychological health, and social health and spiritual health on the participants when they came back at their residents from vipassanā course.

We may now pass on to the next chapter dealing with the results and discussion.
Participants are sharing experiences on the last day of the course in Jaipur.