CHAPTER IV

DESIGN AND METHODOLOGY
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Mind and body influence each other in many ways. When body is infected by foreign element, the neuro-chemical changes occur in brain leading one to prepare for protection of the body against risk. Similarly when person experience neuro-chemical changes due to any drug, satisfaction, anxiety, happiness etc., corresponding changes in musculature, vascular, and endocrine system has been observed. When health is conceptualized as the absence of disease, largely continues to predominate in framing issues and approaches, ensuring that health is often seen as dealing with disease processes, individual behaviors, and psychological problems. Thus, good health is always a result of the healthy relationship of mind and body. The formula 'health is wealth' is the best formula for maintaining body and mind now and then. Sound health is the biggest need of modern society at individual level and society at large.

Efforts are always made to enhance and maintain all aspects of health at micro and macro levels. Indian philosophy has better solution for daily life problems because it has introduced various life styles for human being long ago. These life styles provides man with the ways of developing cognitive overview to accept life in objective terms and spending life-satisfaction without affected by worldly problems. The psychologists, sociologists and health workers are now promoting these activities for maintaining health and wellbeing. Research reveals that Indian spiritual concept like rituals, religiosity and spirituality are positively associated with good health and psychological wellbeing. The present study is trying to make an attempt to validate some guided variables as correlates and predictors of health.

The following design and methodology were used to fulfill the objectives and to check the hypotheses of the study:

SAMPLE

The study was finally conducted on a sample of 400 educated adults (at least up to 8th standard) of four major religions of India (Hinduism, Islam, Sikhism, and Christianity)
from National Capital Regions (Faridabad, Gurgaon, Noida, Delhi). Hundred subjects from each religion were selected (50 males + 50 females) for the study. They were selected on the basis of non-random purposive sampling procedure. The data of fourteen subjects (Hindu-4, Muslim-5, Sikh-3 and Christian-2) was dropped due to incompletion; however, total sample was kept intact by adding the fresh ones. The age range of the selected sample was 40 to 60 years with a mean age of 49.6 years. All the selected subjects were literate and able to understand (read and write) either both the languages (Hindi, English) or one of them. All the subjects belonged to almost same class i.e. middle socio-economic status. All the selected subjects were from urban area and married. The sample composition was as under:

![Sample Composition Diagram]

**DESIGN**

The main aim of the present study is to investigate rituals, religiosity and spirituality as correlates of health. For this purpose, a correlational design was used. A correlational research can, however establish whether two variables tend to be related to each other or not. This approach makes it possible to look at a number of psychological variables related to health and this is the crucial factor as far as the purpose of the study is concerned.

The obtained data was further analyzed by adopting 2*4 factorial design. One independent variable of the study was gender with two levels i.e. male and female, where
as the second independent variable included in the present investigation was religion having four groups i.e. Hindu, Muslim, Sikh, and Christian. In this way effect of two main factors i.e. gender and religion was studied on all the variables e.g. rituals (agreement and enlistment), religiosity, spirituality, life satisfaction, holistic health and subjective well being. In addition to two main effects, an interaction effect is also provided by a factorial design. The general lay out of the factorial design used in the present investigation was as under:

<table>
<thead>
<tr>
<th>Religion</th>
<th>Hindu</th>
<th>Muslim</th>
<th>Sikh</th>
<th>Christian</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender Male</td>
<td>n=50</td>
<td>n=50</td>
<td>n=50</td>
<td>n=50</td>
</tr>
<tr>
<td>Gender Female</td>
<td>n=50</td>
<td>n=50</td>
<td>n=50</td>
<td>n=50</td>
</tr>
</tbody>
</table>

MEASURING TOOLS

Having selected the sample the next task was to choose suitable tools to measure variables under study. The selection of the tools for a particular study depends on various considerations, such as objectives of the study, nature of sample, amount of time at the investigation, availability of suitable tools, personal competence of the investigator to administer etc. After carefully reviewing tools, on the basis of objectives, following measures of ritual, religiosity, spirituality and health were selected because they had been found to be reasonably reliable. Among other factor taken into considerations in selection of the tool were: (1) the efficiency of the test, (2) ease in administration and scoring, (3) the educational level which the test was best suited for, (4) content of the test, (5) the suitability of the test to research objectives. Taking into account of all considerations, only standardized and psychometrically sound tools were selected for the study. The sequence and order of measures was controlled independently and randomized each subject.

The participants were assessed with following tools:

1. Personal Data Blank Sheet
2. Ritual Checklist (Investigator)
3. Religiosity Scale (Bhshan, 1971)
4. Spirituality Scale (Biswa & Biswas, 2006)
5. Tool for the assessment of Health:
   (A) Satisfaction With Life Scale (Diener, Emmons, Larson and Griffin, 1985)
   (B) Subjective Wellbeing Inventory (Sell & Nagpal, 1992)
   (C) Holistic Health Scale (Hussain, 2009)

DESCRIPTION OF THE TOOLS

A brief description of tests used in the study is as under:

1. Personal Data Blank Sheet:
   The purpose of this personal data sheet was to collect personal and background information of the respondents. The sheet consists of information regarding the subjects’ name, age, sex, annual income, gender, religion, educational qualifications, employment status, marital status and background (urban, rural metro). A copy of the personal data sheet is given in Appendix A-1. The investigator wished to use this variety of information while discussing the results.

2. Ritual Checklist:
   To measure rituals of the subjects, ritual checklist was prepared with the help of information gathered through conversational and informative interviews from Gurus, Priests, Pujaris, Molvis, social scientists and common people of particular religions. On the bases of information gathered through this procedure ritual checklist was prepared and finalized after taking opinions from the subject experts and pilot work for tryout. It consists of three parts. In first part, there are five questions with five alternatives each. Subjects were asked to tick (✓) one alternative out of the five which represents them the best. In the second part, a list of common rituals regarding all concerned religions is provided with the subjects and they were to tick (✓) against the rituals they follow in day to day living. They can even add the items. In the third part subjects were provided with nine questions of explanatory in nature. Subjects were instructed to respond subjectively regarding these questions in detail. A copy of ritual checklist is given in Appendix A-2.
3. Religiosity Scale:

Hindi version of Bhushan’s (1970) scale was used to measure religiosity of the subjects. It is primarily a group test although it can be used for individual testing as well. It is a 5-Points Likert type scale. Against each item five response categories have been provided. As the number of items in the scale are 36, the range of possible scores on it is 36 to 180, higher score indicating greater degree of religiosity. In its preliminary form, the scale had 77 items. Item analysis reduced them to 46 items and 31 were rejected. The final form of the test, therefore, contained only 36 items, out of which 25 items were positive and 11 were negative. They covered all the dimensions of religiosity. In content and form, the items were made common for the different religions like Hinduism, Islam, Christianity and Sikhism. The scale contained items related to faith in all powerful and virtuous God and common forms of religious practices and beliefs. It also included the items to elicit degree of emotional involvement of the subjects in giving expression of his faith in God and religious acts. The test-retest reliability of the scale is 0.78. The content, predictive and concurrent validity coefficients were also reported to be satisfactorily high. The scale has been given in Appendix A-4.

As identified by this scale, a religious man is not necessarily an orthodox conventionalist of a particular religion. It has been found that the high scorers (religious) on the test do not significantly low scorer (non-religious) in antiminority prejudice, although they are relatively more conservative. Being religious is different from having a religion. Religiosity has three important aspects: theoretical, practical and emotional and this scale covers all the important dimensions of religiosity.

4. Spirituality Scale:

To measure spirituality of the subjects Spirituality Scale (Biswa & Biswa, 2006) was used. Spirituality items for this measure were developed after reviewing the work of Indian spiritualist leaders and philosophers (e.g., Radhakrishana, Vivekananda, Maharishi Mahesh Yogi etc.). Four aspects of Indian spirituality were found which shares commonality with others spiritual practices. They included centrality of God, ethical and moral values, the cyclical nature of pain and pleasure in one’s life and power of
meditation. Based on spiritual literature, twenty two statements were written which described different aspect of spirituality in Indian context. These statements were presented to seven different individuals who were knowledgeable about Indian spiritual tradition and also practiced different methods of spiritual practices. Based on their feedback one item is dropped and few items were reworded to make it more meaningful. Thus, the final instrument consisted of 21 statements. All items were rated on four point rating scale ranging from strongly agree (4) to strongly disagree (1). The possible score range on the scale can be 21 to 84. The cronback alpha for the measure was 0.84. The scale is attached in the end at Appendix A-3.

5. Tool for the assessment of Health:

In order to assess Health following tools were used:

(A) **Satisfaction with life scale (SWLS):**

Satisfaction with life scale, SWLS, (Diener, Emmons, Larson and Griffin, 1985) was used to assess the life satisfaction of the subjects. The scale is originally in English language. The scale contains five items requiring a general evaluation of the respondents life as a whole on a 7-point scale ranging from strongly disagree to strongly agree. So the total score may range 5 to 35. Score on SWLS can be interpreted in terms of absolute as well as relative life satisfaction. A score of 20 represents the neutral point on the scale, the point at which the respondent is about equally satisfied and dissatisfied. Following is the scores’ description:-

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-9</td>
<td>Extremely dissatisfied with life</td>
</tr>
<tr>
<td>10-14</td>
<td>Dissatisfied</td>
</tr>
<tr>
<td>15-19</td>
<td>Slightly dissatisfied</td>
</tr>
<tr>
<td>20</td>
<td>Equally satisfied / Equally dissatisfied</td>
</tr>
<tr>
<td>21-25</td>
<td>Slightly satisfied</td>
</tr>
<tr>
<td>26-30</td>
<td>Satisfied</td>
</tr>
<tr>
<td>31-35</td>
<td>Extremely satisfied with life</td>
</tr>
</tbody>
</table>
Diener et al (1985) reported that their scale had a test retest correlation coefficient of 0.82 (over a two month period) and a coefficient Alpha of 0.87. The factor analysis of the inter item correlation matrix identified a single factor accounting for 66% of the variance. Among the various available tests of life satisfaction, Satisfaction with life scale was found to be brief highly reliable and valid tool to tap life satisfaction. Since SWLS was in English, it was translated in Hindi for Hindi knowing respondents. Hence this tool was selected for the present study and the same has been presented at Appendix B-1

(B) Subjective wellbeing Inventory (SWB):

To measure the health of the subjects, subjective wellbeing Inventory (SUBI – Sell & Nagpal, 1992) was used. This is a very comprehensive and robust instrument (originally in English language) for assessing positive indicators of health, including perception of wellbeing, happiness, life satisfaction, positive affect and feeling about social life. The SUBI has been standardized on adult Indian population, and has been used previously in researches 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 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 wellbeing of the subjects on 11 factorial dimensions. A description of these 11 factors is given below:

(F1) General Wellbeing - positive affect [GWB-PA]

This factor refers to feeling of wellbeing deriving out of an overall perception of life which a respondent evaluates as functioning smoothly and joyfully.

(F2) Expectation- achievement congruence [EAC]

This factor refers to feeling of wellbeing produced when one feels that he/she has achieved success and the standard of living as he/she expected.
(F3) **Confidence in Coping [CC]**

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

(F4) **Transcendence [Trans]**

This factor refers to feeling of wellbeing derived out of values of a higher spiritual quality and one’s particular life experiences which go beyond ordinary day to day existence.

(F5) **Family Group Support [FGS]**

This factor refers to feeling of wellbeing derived from the perception of the wider family when the respondent finds it as cohesive, supportive, helpful in illnesses and emotionally attached.

(F6) **Social Support [SS]**

This factor measures feelings of security and density of social network.

(F7) **Primary Group Concern [PGC]**

This factor measures positive and negative feelings about primary family.

(F8) **Inadequate Mental Mastery [IMM]**

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

(F9) **Perceived Ill Health [PIH]**

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

(F10) **Deficiency in Social Contacts [DSC]**

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

(F11) **General Wellbeing - 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.

**Showing factor structure and scoring of SUBI:**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Item Number</th>
<th>Direction Of Items</th>
<th>Scoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1</td>
<td>1,5,6</td>
<td>All Positive</td>
<td>Scoring of 19 positive items is done by attributing 3,2 and 1 to the given responses.</td>
</tr>
<tr>
<td>F2</td>
<td>2,3,4</td>
<td>All Positive</td>
<td></td>
</tr>
<tr>
<td>F3</td>
<td>7,8,9</td>
<td>All Positive</td>
<td></td>
</tr>
<tr>
<td>F4</td>
<td>10,11,12</td>
<td>All Positive</td>
<td></td>
</tr>
<tr>
<td>F5</td>
<td>21,22,23</td>
<td>All Positive</td>
<td></td>
</tr>
<tr>
<td>F6</td>
<td>13,15,28</td>
<td>All Positive</td>
<td></td>
</tr>
<tr>
<td>F7</td>
<td>14,27,29</td>
<td>+, -, -</td>
<td>Scoring of 21 negative items is done by attributing 1,2 and 3 to the given responses.</td>
</tr>
<tr>
<td>F8</td>
<td>16-20,30,31</td>
<td>All Negative</td>
<td></td>
</tr>
<tr>
<td>F9</td>
<td>34-39</td>
<td>All Negative</td>
<td></td>
</tr>
<tr>
<td>F10</td>
<td>32,33,40</td>
<td>All Negative</td>
<td></td>
</tr>
<tr>
<td>F11</td>
<td>24,25,26</td>
<td>All Negative</td>
<td></td>
</tr>
</tbody>
</table>

The full text of subjective wellbeing scale has been given at appendix B-2.

**Translation of SWLS and SUBI:**

A Hindi translation of SWLS and SUBI was prepared by Sharma (2000) for Hindi knowing subjects. The statements of this test were translated into Hindi which was assessed by 6 experts (from Hindi and English departments of M.D.University, Rohtak, and Vaish P.G. College, Bhiwani). After modifying the Hindi translation as per the views of the experts, the two versions were (Hindi and English) comparatively evaluative by five experts (from Hindi and English departments of M.D.University, Rohtak, and Vaish
P.G. College, Bhiwani). The format of responses of the test was maintained in Hindi version.

The final Hindi version of SWLS and SUBI was administered on 100 bilingual college students of Bhiwani. The original English version was administered on the subjects after a gap of 5 days. After an interval of one month, the translated test was read ministered on the same subjects. The Pearson Product Moment correlation between original and translated version of SWLS was .92, and of SUBI was .86. The test retest reliability coefficient of correlation (over one month interval) of SWLS and SUBI was .80 and .79 respectively.

(C) Holistic Health Scale (HHS):

Holistic Health Scale (HHS) developed by Husain (2009) was used to measure the health of participants. It comprised of 80 items with a 5 point Likert scale ranging from strongly agree to strongly disagree. Against each item, subject was instructed to select one out of five alternatives. This scale measures eight dimensions of health, namely, mental, physical, spiritual, emotional, social, societal, environmental and economic health. A small description of eight dimensions is given below:

a. Economic Health:

It refers how a person perceives and experiences his health economically. It reveals if one cares about health care costs, concerned about planning and budgeting for the quality health care etc.

b. Emotional Health:

Emotional health refers to awareness, sensitivity, and acceptance of feelings and the ability to successfully express and manage one's feelings. It is the ability to recognize emotions appropriately.

c. Environmental Health

It refers to the practice of assessing and controlling factors in the environment that can potentially affect health. It comprises those aspects of human health, including quality of life, that are determined by physical, chemical, biological, social and psychosocial factors in the environment.
d. Mental Health

It refers to a state of emotional and psychological well-being in which an individual is able to use his or her cognitive and emotional capabilities, function in society, and meet the ordinary demands of everyday life.

e. Physical Health

Physical health refers simply freedom from disease. The physical dimension of health concentrates on prevention of illness and encourages exercise; healthy diet; and knowledgeable, appropriate use of the health care system. Physical health requires individuals to take personal responsibility for actions and choices that affect their health status.

f. Social Health:

Social health refers acting in harmony with nature, family, and others in the community. The pursuit of social health may involve actions to protect or preserve the environment or contribute to the health and well-being of the community by performing volunteer work.

g. Societal Health:

It explains that person health is linked to everything in the society that surrounds him. It explores how one contributes to the community at large, follows norms and traditions in the society, and cooperates with the society.

h. Spiritual Health:

Spiritual health refers to find meaning in life and acting purposefully in a manner that is consistent with one's deeply held values and beliefs. It includes spiritual aspect of person, personal and social harmony, sense of belongings etc.

Some of the items of the scale are positive in nature and some are of negative. Negative Items are 12, 13, 19, 21, 28, 30, 31, 33, 40, 45, 47, 50, 52, 54, 60, 61, 65, 66, 67, 68, 73, 76, 77, 79, and 80. Cronbach coefficient Alpha of HHS was found to be 0.946. Cronbach coefficient Alpha for the male and female participants were found to be 0.938 and 0.9 respectively. Cronbach coefficients Alpha for the economic health domain is 0.61, for emotional health domain is 0.61, for environmental health domain is 0.65, for
mental health domain is 0.74, for physical health domain is 0.78, for social health domain is 0.59, for societal health domain is 0.84 and for spiritual health domain is 0.75, were found to be highly reliable. The holistic health scale has been provided in Appendix B-3.

**PROCEDURE:**

For data collection, all the participants were individually contacted on their respective places. A cordial rapport was established with all the participants by talking with them generally about their life. After establishment of healthy rapport, they were provided with the scales and response sheets of all measuring tools in mixed order. They were well provided with all needed information regarding filling the response sheets. They were asked to read the instructions carefully and requested to attempt all the items. They start responding by giving general information about them on personal data blank sheet. Then they moved to other measuring tools. Sufficient time was given to the participants for each tool to read and fill. A rest of fifteen minutes was given to the participants after each test to prevent them from fatigue. Participants took one and a half to two hour time to complete all the tools including resting time. After completion of all the measuring tools, response sheets of all tools were taken back from the participants and they were thanked for their valuable time and cooperation.

**STATISTICAL PLAN:**

All the data was subjected to following statistical procedures:

- Pearson Product Moment Correlation for observing correlation among variables under study.
- Descriptive Statistical Analysis
- ANOVA for main and interaction effects
- Post Hoc Analysis for multiple mean comparisons

With this much background, the investigator may move to chapter V for the compilation and reporting of the results along with discussion.