Chapter IV

DESIGN AND METHODOLOGY
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Human life is a dynamic process of unceasing evolution. The process of evolution has equipped human being with high order brain system and uninterrupted mental abilities. These ultimate abilities and capabilities are making him a special organism with successful adjustment, self-awareness and need of well-being. Various psychological, chemical and biological studies have evident that mind and body have interdependent relationship with each other.

When body is infected by any foreign element the neuro-chemical changes occur in brain leading to preparation for protection of body against risk. Similarly, when person is experiencing neuro-chemical changes due to any drug, happiness, satisfaction, depression, anxiety, and hopelessness, corresponding changes in musculature, vascular and endocrine system has been also observed simultaneously in the body by different neurologists. This means that both mind and body influence each other in various conditions. Good health has always been considered as the most significant need in all ages. The old quote “Health is Wealth” was the best formula for maintaining body fitness and well being in ancient time of India and the cause of most realistic transition of Gautam Buddha’s early life was observation of poor health and disease among human lives. Instead of all development and sophistication, good health is a biggest need of modern society. Allopathic treatment is effective in reducing symptoms of disease but it has associated side effects as well and majority of chronic diseases are not cured successfully. Besides it allopathic treatment is highly expensive and involves fear patients mind.

The spiritual history of human society has evolved with some very significantly effective therapies, characters/traits and life style that can be used in daily routine for preventive measures of diseases as well as curative measure for acute and chronic mental and physical diseases of changing environment. Besides spiritual therapies like worship, wishing, pranik healing, reiki, yoga and meditation, the Indian sagas, philosophers and
psychologists have came out with some human characters like gratitude, hopefulness, self-confidence, life-satisfaction, karmayoga life style and anasakt personality types which were found to be co-vary with positive health in Indian traditional observations and literature. The present study is trying to make an attempt to validate some guided variables as correlates and predictors of positive health.

**SAMPLE**

The concept of anasakti, karmayoga and spirituality are much closer to self actualization of Maslow, (1978), who viewed that need of self actualization develop after the satisfaction of physiological, safety, affiliation and self esteem needs. It means that presence of above factors require maturity of age, developed mental view and knowledge about daily life. Thus, the present study has taken the subjects above the 40 years of age.

**The Sample:** The sample for the study was consisted of a total of 300 government employed subjects (Working and Retired) of age group 42 to 70 Years including both male and female subjects. These subjects were taken from the localities and government of Meerut city.

For the purpose of experimental study, these 300 subjects were further consisted of two groups of Working (42-50 Yrs. and 52-60 Yrs.) and one group of Retired (62-70 Yrs) subjects and each group was again consisted of the two groups of male and female having 50 subjects in each cell. In this way a 3x2 factorial design was employed in the research.

**Distribution of the Subjects**

<table>
<thead>
<tr>
<th>Working-1 (42-50 Yrs.)</th>
<th>Working-2 (52-60 Yrs.)</th>
<th>Retired (62-70 Yrs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 Ss</td>
<td>100 Ss</td>
<td>100 Ss</td>
</tr>
<tr>
<td><strong>Male</strong></td>
<td><strong>Male</strong></td>
<td><strong>Male</strong></td>
</tr>
<tr>
<td>50 Ss</td>
<td>50 Ss</td>
<td>50 Ss</td>
</tr>
<tr>
<td><strong>Female</strong></td>
<td><strong>Female</strong></td>
<td><strong>Female</strong></td>
</tr>
<tr>
<td>50 Ss</td>
<td>50 Ss</td>
<td>50 Ss</td>
</tr>
</tbody>
</table>
DESIGN OF THE STUDY

The first section of the present study was a correlational research in which the correlation of the components of positive health was studied with the Anasakti, Karmayoga and Spirituality among total subjects and in the three age groups and two gender groups of Working and Retired Persons.

The second section of study was an experimental study in which a 3x2 factorial experimental design was employed. The first independent variable of the study was age, which was varied at three levels, i.e., working-1 (42-50 Yrs.) and working-2 (52-60 Yrs.) and retired subjects (62-70 Yrs). The second variable of the study was gender, which was varied at two levels; they were, male and female, with 50 subjects in each cell.

The effects of age and gender were observed on dependent variables, i.e., components of positive health, spirituality, anasakti, spirituality, and karma yoga of working and retired subjects.

MEASURING TOOLS

Following standardized tools were used in the research to measure variables under study, i.e., positive health (life satisfaction, hope, optimism and happiness), anasakti, spirituality, and karmayoga of working and retired subjects.

A. Case Record Sheet
B. Life Satisfaction Scale (Diner et al., 1985)
C. Hope Scale (Gerald 2004).
D. Life Orientation Test (Optimism) (Revised) (Scheier and Carver 1985)
E. Oxford Happiness Scale (Revised) (2001)
F. Non-attachment (Anasakti) (Pandey 1990).
G. Karmayoga Scale (Krishnan 2003).
H. Spirituality Scale (Rai & Gupta 2006).
Description of Tools

A. Case Record Sheet:

The case record sheet was constructed in order to collect basic information from the subject for inclusion, exclusion and selection of subjects according to the need of research. The case study was consisted of asking information such as, name, age, gender, education, family status, location, residency and so on.

B. Satisfaction with life scale

Description of measure: Satisfaction with Life Scale (SWLS) was developed by Diner, Emmons, Larson, & Griffin (1985) which was developed to assess the life satisfaction of the subjects. The Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985) is a five-item scale that “is designed around the idea that one must ask subjects for an overall judgment of their life in order to measure the concept of life satisfaction” (Diener et al., 1985, pp. 71-72). Individuals indicate their degree of agreement or disagreement on a 7-point Likert-type scale. The 5 items of the SWLS were selected from a pool of 48 items based on factor analyses. Scores range from 5 to 35 with higher scores indicating greater life satisfaction. Pavot and Diener (1993) provide an extensive list of studies that have used the SWLS with corresponding normative data. The range of means for various groups of individuals (e.g. undergraduates, health workers) was 14.4 to 27.9. The range of standard deviations was 4.4 to 9.0.

Reliability: Diener et al. (1985) reported a 2-month test-retest correlation coefficient of .82 and an alpha coefficient of .87 for a sample of 176 undergraduates from the University of Illinois. In a sample of 39 elderly individuals, Pavot, Diener, Colvin, and Sandvik (1991) obtained an alpha coefficient of .83. The SWLS has been found to be positively associated at statistically significant levels with other measures of subjective well-being and negatively associated with measures of psychopathology (Diener et al., 1985).

Description of Asian Population: Thirty-three healthy adults recruited into a medical study of body composition (i.e., the measurement of bone composition, water and mineral content) conducted in a large city in the northeastern United States. Participants were identified only in terms of race (e.g. Asian). Of these Asian adults, 55%
were women, and 45% were men. On average, they were 41 years old. Reliability was based on the responses of the Asian respondents, the Cronbach alpha coefficient for the 5 item scales is .9279 and the validity was established by Diener et al. (1985).

C. **Hope Scale**

The Time horizon scale (hope scale) was developed by Gerald J. S. Wilde (2004). It will be used to measure hope. It consists of a total of 40 items related to future time value, present time value, future planning, and time pressure. The items were consisted on 5-point scale. The scoring of each item was done as 5-4-3-2-1 for SA-A-U-D-SD, except items no. 8, 19, 26, 27, 30, 33, 34, 36 and 40, which are scored in the reversed direction, as 1-2-3-4-5 for SA-A-U-D-SD. The items related to future time value scale contains 10 items, i.e., 7, 15, 18, 19, 20, 23, 29, 33, 34. The present time value scale contains next 10 items, i.e., 1, 2, 5, 9, 13, 21, 27, 35, 37, 38. The future planning scale contains other 10 items, i.e., 3, 8, 14, 17, 22, 26, 31, 36, 39, 40. The time pressure scale contains other 10 items 4, 6, 10, 11, 12, 16, 24, 28, 30, 32. An index to assess this variable can be computed by subtracting the men item score on present time value subscale from the men item score on the future planning scale.

D. **Life Orientation Test (Optimism) (Revised)**

The test was developed to evaluate the dispositional optimism of the person, Scheier and Crver (1985). In the scale a brief self-report life orientation test (lot) prepared and was subsequently same developers revised the scale in 1994. This test has 6 items. This measures the personality trait characterized by favorable personal future expectations. To assess the degree of optimism of the subjects LOTR (Scheiver, Carver, & Bridges, 1994) was used. Using a 5 points Likert type scale the respondents are required to indicate the extent of their agreement with each item using the following response format: Strongly agree to Disagree.

The LOTR is a short instrument consisting of 10 items, of which 6 items (3 items are positive and 3 items are negative) are scored for overall optimism score and the remaining 4 items are filler items and ignored for the purpose of calculating the individuals score. For the present Study only 6 items were used, ignoring filler item. All the items were scored 5-4-3-2-1 for strongly agree-agree-unsure-disagree-strongly
disagree accept items 2, 4 & 5 which are scored in the reverse direction. Scheiver Carver and Bridge (1994) reported sound convergent and discriminate validity for the LOTR. Cronbach’s Alpha scores, as a measure of reliability used in the development of the LOTR pointed toward high internal consistency reliability.

In respect of internal consistency Scheiver, Carver, & Bridge (1994) Report that item scale correlation ranged from 0.43 to 0.63. These correlations, they Said, suggest that “each item is partially measuring the same underlying construct, but not such an extent as to be redundant with other items”. They also note that the items all appear to add equivalently to Cronbach’s Alpha. Cronbach’s Alpha for all 6 items was 0.78, reflecting an acceptable level of internal consistency. Test Retest reliability was reported as 0.68 (4 Months), 0.56(24 months) and 0.79 (28 months), (Scheiver, Carver, & Bridge 1994). Scheiver, Carver, & Bridge (1994). Also reported a high correlation between the original LOT and the revised instrument (r = 0.90’s). As for whether the LOTR should be scored in bi-polar fashion, using one overall score, or whether two separate scores should be computed, one for the positively worded items and one for the negatively worded items they started that the data indicates that optimism and pessimism may be treated as bi-polar. However, their position is to rely on an overall score for primary positively and negatively worded item separately (Scheiver, Carver & Bridge, 1994) for the purpose of this study only the overall LOTR score will be used as an indicator of optimism.

E. Oxford Happiness Scale (Revised) (2001)

The revised Oxford Happiness Scale is consisted of 29 items. The items are related to personal happiness of the person. This scale was constructed by Argyle, M. (2001). It measures the degree of happiness in a person’s life. To assess the happiness of 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 describe the way he/she was feeling. The scoring weights were 0, 1, 2, 3 for a, b, c, & d statements respectively. So the total score may range from 0 to 87. This sophisticated multi-item scale has good reliability and validity (Carvy, 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). The improved Oxford happiness inventory by changing the response format from 0-3 multiple choice scoring format to more widely used Likert scale. Argyle report acceptable constructs validity for the Oxford Happiness Questionnaire by providing data on correlation other self report scale of Subjective Well Being. The other assess cognitive appraisal component of happiness. However, in contrast to other measures the Oxford Happiness Questionnaire make the error of including additional items that capture of diffuse range of positive Character trait and attributes (Kashdan, 2004). Cruise, Lewis and Mc-Guein (2006) reported that internal consistency, reliability and temporal stability of Oxford Happiness Questionnaire short form (Hills & Argyle, 2002) was satisfactory. Internal consistency at both item 1 (Alpha = 0.62) and item 2 (Alpha = 0.58) separated by two weeks was satisfactory.

F. Non-attachment (Anasakti) Scale

The Non-attachment (Anasakti) scale was the first developed by Vikas Pandey in 1990. Initially, a total of 45 items were constructed to develop the Scale. The items for the Non-attachment Scale were constructed on the basis of the characteristics of the concept of sthitipragya as defined in the Indian great epic Bhagavad-Gita. Finally a Valid and Reliable scale was developed with a total of 28 items in the non-attachment Scale. These statements were related to the Outcome-Vulnerability, Attachment, and effort-Orientation, Endurance and Equipoise and the Physical-sensual-non-identification of the consequences of task performed by the individual in his or her day-to-day life. Scoring will be done on the basis of answers of the items in the scale on 5-point scale, i.e., never, partially accepted, generally accepted, more accepted and fully accepted. There are two types of items in the Scale, positive and negative. For the positive items score 1, 2, 3, 4 and 5 will be given to the subsequent options (answer) of the question. In the opposite questions scoring will be done opposite and the scores, 5, 4, 3, 2, and 1 will be given to the each subsequent option. The scale was developed during PhD research writing. So the internal consistency reliability and validity was suggested to be high.
G. Spirituality Scale

The world spirituality refers to "self" and meaning of this world is to know self. The Self has 4 tendencies, i.e., mind, intelligence, consciousness and ego. Spirituality Scale will be used to measure spirituality. Prof. S. N. Rai and Deepika Gupta developed this scale. This scale consisted of 56 items, measures 10 different aspect of spirituality. There are commitment, spiritual history, personal religious behavior, forgiveness, spiritual experiences, daily life, and organizational commitment belief, adjustment with spiritualism, social help and meaningful life.

Dimension of spirituality: The literature review clearly indicated that spirituality is typically viewed as a multi-dimensional constructs. The following broad dimensions of spirituality emerged from the review:

1. Commitment: In this dimensions, items were designed to measure the importance of and commitment to one’s spiritual beliefs.

2. Spiritual history: measures in this dimension are intended to assess the individual’s religious/spiritual participation over the life course.

3. Private religious practices: items of this dimension are designed to assess private religious and spirituals practices, a conceptual domain or dimensions of religious involvement often characterized by terms such as non-organizational formal, and non institutional religiosity.

4. Forgiveness: This dimension include: confession, feeling forgiven by god, feeling forgiven by others, and forgiving oneself.

5. Spiritual coping: These items assess two patterns of religious/ spiritual coping with stressful life event s: positive religious/spiritual coping reflective of benevolent religious methods of understanding and dealing with life stressors and negative religious/spiritual coping reflective of religious struggle in coping.

6. Religious Support: this dimension is designed to measure selective aspect of the social relationships between study participants and others in their shared place of worship.
7. Meaning: the search for meaning has also been defined as one of the critical functions of religion. Frankle himself viewed meaning in religious terms. Meaning as has seen it was sometimes to be "discovered rather than created," that is, every individual was said to have a unique, externally given purpose in life.

8. Belief: the central feature of spirituality is cognitive dimensions of belief, religious/spiritual beliefs offer individual cognitive resources beyond the relatively simple or native expectations of positive outcomes.

9. Daily spiritual experiences: this dimension is intended to measure the individual's perceptions of the transcendent 'god or divine' in daily life and the perception of interaction with, or involvement of the transcendent in life. Steindal, 1984. This items attempts to measure experience rather than cognitive constructions. The item assess aspects of day-to-day spiritual experience for an ordinary person, and should not be confused with measures of extraordinary experiences such as or out of the body experiences.

10. Organizational religiousness: this dimension assess the involvement of the respondent with a formal public religious institution; a church, synagogue, temple, mosque, ashram etc. It can include both behavioral and attitudinal dimensions.

Item analysis: Spirituality scale intends to assess the extent of spiritual orientation among people of old age. As it is a scale of ten dimensions so items for each dimensions were separately written and submitted to a group of experts in the fields to judge their face validity. Subsequently, language experts also made necessary corrections and modifications. In the beginning a list of 85 items was prepared. The list was presented to a group of experts and only those items were retained about which judges were unanimous for their retention.

This led to eliminations of 15 items out of 85. The remaining 70 items were subjected to item analysis. The item analysis was done by Lawshe's content validity. This led to elimination of 14 items out of 70. At last a total of 56 items were selected dimensions wise for spirituality scale is shown below.
### The Table is Showing Dimensions and related number of items in the Scale

<table>
<thead>
<tr>
<th>Serial Number</th>
<th>Dimensions</th>
<th>No. of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Commitment</td>
<td>02</td>
</tr>
<tr>
<td>2.</td>
<td>Spiritual History</td>
<td>03</td>
</tr>
<tr>
<td>3.</td>
<td>Private Religious Practices</td>
<td>04</td>
</tr>
<tr>
<td>4.</td>
<td>Forgiveness</td>
<td>09</td>
</tr>
<tr>
<td>5.</td>
<td>Spiritual Coping</td>
<td>05</td>
</tr>
<tr>
<td>6.</td>
<td>Religious Support</td>
<td>04</td>
</tr>
<tr>
<td>7.</td>
<td>Meaning</td>
<td>13</td>
</tr>
<tr>
<td>8.</td>
<td>Belief</td>
<td>06</td>
</tr>
<tr>
<td>9.</td>
<td>Daily Spiritual Experiences</td>
<td>08</td>
</tr>
<tr>
<td>10.</td>
<td>Organizational Religiousness</td>
<td>02</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>56</td>
</tr>
</tbody>
</table>

### Showing the reliability coefficient determined by different methods.

<table>
<thead>
<tr>
<th>Dimension</th>
<th>split half</th>
<th>test-retest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily spiritual experiences</td>
<td>.92</td>
<td>.91</td>
</tr>
<tr>
<td>Meaning</td>
<td>.82</td>
<td>.77</td>
</tr>
<tr>
<td>Belief</td>
<td>.66</td>
<td>.64</td>
</tr>
<tr>
<td>Forgiveness</td>
<td>.69</td>
<td>.66</td>
</tr>
<tr>
<td>Private religious practices</td>
<td>.71</td>
<td>.72</td>
</tr>
<tr>
<td>Spiritual coping</td>
<td>.68</td>
<td>.70</td>
</tr>
<tr>
<td>Religious support</td>
<td>.70</td>
<td>.72</td>
</tr>
<tr>
<td>Religious/spiritual history</td>
<td>.85</td>
<td>.87</td>
</tr>
<tr>
<td>Commitment</td>
<td>.80</td>
<td>.82</td>
</tr>
<tr>
<td>Organizational religiousness</td>
<td>.79</td>
<td>.82</td>
</tr>
</tbody>
</table>

Validity: One widely used method of content validity was developed by C.H. Lasshe.
It was essentially a method for agreement among raters or judges regarding how essential a particular item is. Lawshe (1975) proposed that each rater on the judging panel respond to the following question for each item: is the skill or knowledge measured by this item essential/useful but not essential/not necessary to the performance of the construct. According to Lawshe, if more than half the panelists indicate that an item is essential, that item has at least some content validity. Greater the level of content validity exist as large numbers of panelists agree that a particular item is essential.

H. **Karmayoga Scale**

*Karmayoga* Scale was constructed and developed by Venket, R. Krishan (2003). It was used to assess the unselfish act or karma yoga in subjects. The scale contains 60 items. The 60 items of the scale were divided into 3 parts in the scale.

- The 1st part of the test measures attitudes and interest about work environment.
- The 2nd part of the test measures the life experiences of person and
- The 3rd part of test assess the feelings about the work.

In this way the scale of Karmayoga was made up of the three dimensions of Karmayoga viz., sense of duty or obligation towards others, absence of desire for rewards, and a sense of equanimity towards opposites. The ranking of the terminal and the instrumental values was done by participants using the Rokeach Value Survey (Rokeach, 1973).

**Psychometric Properties:** The reliability of the scale for beliefs in Indian philosophy was found to be unsatisfactory (Cronbach alpha: 0.66). When the item pertaining to maya was dropped, the reliability was acceptable (Cronbach alpha: 0.12). All items for this scale loaded onto a single factor. The reliability of the Karma-Yoga sense of duty scale was found to be acceptable (Cronbach alpha: 0.69) after dropping one item ("I happily do whatever task is assigned to me, even if I do not enjoy it"). The reliability of the Karma Yoga-absence of desire for rewards scale was found to be acceptable (Cronbach alpha: 0.68) after dropping three items ("I work in order to get some personal benefits"; "While working on an important task, I focus more on the process rather than the outcome"; and "I strive to be selfless full whatever activity I undertake").
Each of the two reduced scales were, Karma Yoga- sense of duty and Karma Yoga- absence of desire for rewards individually loaded on a single factor. Also when all the selected items of these two dimensions of Karma-Yaga were taken together they loaded onto two clean factors with Karma Yoga-sense of duty items in one factor and and Karma Yoga-absence of desire for rewards on another factor. The third dimension of Karma-Yoga i.e., sense of equanimity was introduced for the first time in this study. The scale showed a very low reliability (Cronbach alpha: 0.50) and an unclear factor structure.

PROCEDURE OF DATA COLLECTION

- For data collection first of all the investigator took the permission from the head/in-charge of the government office. After granting permission the attendance register or service register form the concerned government office was taken to select the subjects for the research.

- The retired subjects were selected from the localities of Meerut city. These subjects were first spotted by the concerned office and by visiting their houses and then the permission were taken from the subjects for data collection.

- The selected subjects were then individually contacted to collect data. After developing healthy rapport by talking about their life events, permission from the subject was sought to help the investigator in data collection.

- After granting permission the subjects were given the Case record sheet to know the general information about subject.

- After a rest of 5 minutes pre-decided tools were given to fill and they were asked to read the instructions carefully and attempt all the items of the test. The tools were presented in the randomized manner to each participant of all groups.

- Sufficient time was given for each tool to read and fill. A rest of 15 minutes was given after each test to prevent the subject from fatigue. After the completion of all scales/tests subjects were thanked for their valuable cooperation.
STATISTICAL ANALYSIS PLAN

Statistical treatment of data was accomplished with the help of following statistical tools/methods:

- **Pearson Product Moment Correlation** for observing correlations between variable under study.
- **Stepwise Regression Analysis** to find out the predictors of positive health
- **Mean and SD** for descriptive analysis.
- **ANOVA** for group comparisons.
- **Post hoc analysis** for mean comparisons

With this much background the investigator collected the data and systematically tabulated can be seen in appendices. The next chapter is dealing with result and discussion of the obtained data.