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RESEARCH METHOD, DESIGN AND PROCESS

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CHAPTER-3
RESEARCH METHOD, DESIGN AND PROCESS

3.1  Preamble

Research means 'To Search Again' for the help of research anyone can get right way or solution to twig their problems. From unstudied science to social and science research is a guide to give guidance to all the researchers in their field for going top on the field and helpful for development in their field. Research has moved during present century from the periphery to the centre of our psychological, socio-cultural, economical as well as physical and mental health of human life. It simply seeks the answer of certain questions which have not been answered so far and the answers depend upon human attempts. The main entails of research is to improve research procedures through the refinement and expansion of knowledge.

Clifford Woody (1927) has defined that "Research is a carefully inquiry or examination in seeking facts or principles; an industrious investigation to ascertain something." This definition makes clear the fact that research is not merely a search for truth, but a prolonged, competed, purposeful search. It engraft defining and redefining problems, formulating hypothesis, collecting, analyzed, evaluating data, deriving conclusions, suggesting solutions and thus to test hypothesis. In the same context the present study also has been carried out with the use of scientific methodology. In present investigation, main focus is on effect of yoga on psycho-physical stress, moral values and personality.

3.2  Problem of Research

In research process the first and foremost step is selecting and defining a proper research problem. A researcher should at first find the problem. Then researcher should formulate it so that it becomes susceptible to research. To define problem correctly a researcher must know what a problem? The problem of present research is as under:
"Effect of Yoga on Psycho-Physical Stress, Moral Values and Personality."

3.3 Objectives of the Research

Objectives of present research are as under:

1. To examine the main impact of yoga variable on psycho-physical stress.
2. To examine the main impact of sex variable on psycho-physical stress.
3. To examine the main impact of type of work variable on psycho-physical stress.
4. To examine the internal impact of yoga and sex variable on psycho-physical stress.
5. To examine the internal impact of yoga and type of work variable on psycho-physical stress.
6. To examine the internal impact of sex and type of work variable on psycho-physical stress.
7. To examine the internal impact of yoga, sex and type of work variable on psycho-physical stress.
8. To examine the internal impact of yoga variable on moral values (honesty, sincerity, humanity, and courtesy).
9. To examine the main impact of sex variable on moral values (honesty, sincerity, humanity, and courtesy).
10. To examine the main impact of type of work variable on moral values (honesty, sincerity, humanity, and courtesy).
11. To examine the internal impact of yoga and sex variable on moral values (honesty, sincerity, humanity, and courtesy).
12. To examine the internal impact of yoga and type of work variable on moral values (honesty, sincerity, humanity, and courtesy).
13. To examine the internal impact of sex and type of work variable on moral values (honesty, sincerity, humanity, and courtesy).

14. To examine the internal impact of yoga, sex and type of work variable on moral values (honesty, sincerity, humanity, and courtesy).

15. To examine the main impact of yoga variable on personality (openness, consciousness, extroversion, agreeableness, neuroticism).

16. To examine the main impact of sex variable on personality (openness, consciousness, extroversion, agreeableness, neuroticism).

17. To examine the main impact of type of work variable on personality (openness, consciousness, extroversion, agreeableness, neuroticism).

18. To examine the internal impact of yoga and sex variable on personality (openness, consciousness, extroversion, agreeableness, neuroticism).

19. To examine the internal impact of yoga and type of work variable on personality (openness, consciousness, extroversion, agreeableness, neuroticism).

20. To examine the internal impact of sex and type of work variable on personality (openness, consciousness, extroversion, agreeableness, neuroticism).

21. To examine the internal impact of yoga, sex and type of work variable on personality (openness, consciousness, extroversion, agreeableness, neuroticism).

22. To check correlation between psycho-physical stress and moral values (honesty, sincerity, humanity, and courtesy).

23. To check correlation between psycho-physical stress and personality (openness, consciousness, extroversion, agreeableness, neuroticism).
To check correlation between moral values (honesty, sincerity, humanity, and courtesy) and personality (openness, consciousness, extroversion, agreeableness, neuroticism).

3.4 Null Hypotheses of Research

According to objective null hypotheses of research are as under:

1. There will be no significance difference in the main impact of yoga variable on psycho-physical stress.
2. There will be no significance difference in the main impact of sex variable on psycho-physical stress.
3. There will be no significance difference in the main impact of type of work variable on psycho-physical stress.
4. There will be no significance difference in the internal impact of yoga and sex variable on psycho-physical stress.
5. There will be no significance difference in the internal impact of yoga and type of work variable on psycho-physical stress.
6. There will be no significance difference in the internal impact of sex and type of work variable on psycho-physical stress.
7. There will be no significance difference in the internal impact of yoga, sex and type of work variable on psycho-physical stress.
8. There will be no significance difference in the main impact of yoga variable on honesty.
9. There will be no significance difference in the main impact of sex variable on honesty.
10. There will be no significance difference in the main impact of type of work variable on honesty.
11. There will be no significance difference in the internal impact of yoga and sex variable on honesty.
12. There will be no significance difference in the internal impact of yoga and type of work variable on honesty.
13. There will be no significance difference in the internal impact of sex and type of work variable on honesty.
14. There will be no significance difference in the internal impact of yoga, sex and type of work variable on honesty.
15. There will be no significance difference in the main impact of yoga variable on sincerity.
16. There will be no significance difference in the main impact of sex variable on sincerity.
17. There will be no significance difference in the main impact of type of work variable on sincerity.
18. There will be no significance difference in the internal impact of yoga and sex variable on sincerity.
19. There will be no significance difference in the internal impact of yoga and type of work variable on sincerity.
20. There will be no significance difference in the internal impact of sex and type of work variable on sincerity.
21. There will be no significance difference in the internal impact of yoga, sex and type of work variable on sincerity.
22. There will be no significance difference in the main impact of yoga variable on humanity.
23. There will be no significance difference in the main impact of sex variable on humanity.
24. There will be no significance difference in the main impact of type of work variable on humanity.
25. There will be no significance difference in the internal impact of yoga and sex variable on humanity.

26. There will be no significance difference in the internal impact of yoga and type of work variable on humanity.

27. There will be no significance difference in the internal impact of sex and type of work variable on humanity.

28. There will be no significance difference in the internal impact of yoga, sex and type of work variable on humanity.

29. There will be no significance difference in the main impact of yoga variable on courtesy.

30. There will be no significance difference in the main impact of sex variable on courtesy.

31. There will be no significance difference in the main impact of type of work variable on courtesy.

32. There will be no significance difference in the internal impact of yoga and sex variable on courtesy.

33. There will be no significance difference in the internal impact of yoga and type of work variable on courtesy.

34. There will be no significance difference in the internal impact of sex and type of work variable on courtesy.

35. There will be no significance difference in the internal impact of yoga, sex and type of work variable on courtesy.

36. There will be no significance difference in the main impact of yoga variable on moral values.

37. There will be no significance difference in the main impact of sex variable on moral values.
38. There will be no significance difference in the main impact of type of work variable on moral values.

39. There will be no significance difference in the internal impact of yoga and sex variable on moral values.

40. There will be no significance difference in the internal impact of yoga and type of work variable on moral values.

41. There will be no significance difference in the internal impact of sex and type of work variable on moral values.

42. There will be no significance difference in the internal impact of yoga, sex and type of work variable on moral values.

43. There will be no significance difference in the main impact of yoga variable on openness.

44. There will be no significance difference in the main impact of sex variable on openness.

45. There will be no significance difference in the main impact of type of work variable on openness.

46. There will be no significance difference in the internal impact of yoga and sex variable on openness.

47. There will be no significance difference in the internal impact of sex and type of work variable on openness.

48. There will be no significance difference in the internal impact of yoga and type of work variable on openness.

49. There will be no significance difference in the internal impact of yoga, sex and type of work variable on openness.

50. There will be no significance difference in the main impact of yoga variable on consciousness.
51. There will be no significance difference in the main impact of sex variable on consciousness.

52. There will be no significance difference in the main impact of type of work variable on consciousness.

53. There will be no significance difference in the internal impact of yoga and sex variable on consciousness.

54. There will be no significance difference in the internal impact of sex and type of work variable on consciousness.

55. There will be no significance difference in the internal impact of yoga and type of work variable on consciousness.

56. There will be no significance difference in the internal impact of yoga, sex and type of work variable on consciousness.

57. There will be no significance difference in the main impact of yoga variable on extroversion.

58. There will be no significance difference in the main impact of sex variable on extroversion.

59. There will be no significance difference in the main impact of type of work variable on extroversion.

60. There will be no significance difference in the internal impact of yoga and sex variable on extroversion.

61. There will be no significance difference in the internal impact of sex and type of work variable on extroversion.

62. There will be no significance difference in the internal impact of yoga and type of work variable on extroversion.

63. There will be no significance difference in the internal impact of yoga, sex and type of work variable on extroversion.
64. There will be no significance difference in the main impact of yoga variable on agreeableness.

65. There will be no significance difference in the main impact of sex variable on agreeableness.

66. There will be no significance difference in the main impact of type of work variable on agreeableness.

67. There will be no significance difference in the internal impact of yoga and sex variable on agreeableness.

68. There will be no significance difference in the internal impact of sex and type of work variable on agreeableness.

69. There will be no significance difference in the internal impact of yoga and type of work variable on agreeableness.

70. There will be no significance difference in the internal impact of yoga, sex and type of work variable on agreeableness.

71. There will be no significance difference in the main impact of yoga variable on neuroticism.

72. There will be no significance difference in the main impact of sex variable on neuroticism.

73. There will be no significance difference in the main impact of type of work variable on neuroticism.

74. There will be no significance difference in the internal impact of yoga and sex variable on neuroticism.

75. There will be no significance difference in the internal impact of sex and type of work variable on neuroticism.

76. There will be no significance difference in the internal impact of yoga and type of work variable on neuroticism.
77. There will be no significance difference in the internal impact of yoga, sex and type of work variable on neuroticism.

78. There will be no significance correlation between psycho-physical stress and moral values.

79. There will be no significance correlation between psycho-physical stress and openness.

80. There will be no significance correlation between psycho-physical stress and consciousness.

81. There will be no significance correlation between psycho-physical stress and extroversion.

82. There will be no significance correlation between psycho-physical stress and agreeableness.

83. There will be no significance correlation between psycho-physical stress and neuroticism.

84. There will be no significance correlation between moral values and openness.

85. There will be no significance correlation between moral values and consciousness.

86. There will be no significance correlation between moral values and extroversion.

87. There will be no significance correlation between moral values and agreeableness.

88. There will be no significance correlation between moral values and neuroticism.
3.5 **Variables of the Research**

Variables of the present research are as under:

### 3.5.1 Independent Variables

The variable that is manipulated an experimental. The present investigation is design to study the effects of three independent variable shows as below:

(i) **Yoga (A)** : Subject of both types of yoga  
   (1) Yogic (A₁)  
   (2) Non-yogic (A₂)

(ii) **Sex (B)** : Subject of both types of sex  
   (1) Male (B₁)  
   (2) Female (B₂)

(iii) **Type of Work (C)** : Subject of both types of business work  
   (1) Employee (C₁)  
   (2) Businessman (C₂)

### 3.5.2 Dependent Variables

The variables that is measured and is expected to change as a result of changes caused by the researcher's manipulation.

1. The investigator will be measure the psycho-physical stress.
2. The investigator will be measure the moral values.
3. The investigator will be measure the personality.

### 3.5.3 Control Variables

1. In this study only employee and businessman were taken.
2. Limited samples were taken for this study.
3. The selection of sample only from saurashtra and in Gujarat State.
4. In this present study includes 20 to 40 years persons.
3.6 Research Design

The aim of present research is to study the effect of yoga on psycho-physical stress, moral values and personality for these total 240 male and female will be taken as a sample. In present study to check the main and internal effect of three independent variables to collect the data is 2 x 2 x 2 factorial designed. To make the research Design are as under:

**Table-3.1**

<table>
<thead>
<tr>
<th>2 x 2 x 2 Factorial Design (N=240)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td><strong>A</strong></td>
</tr>
<tr>
<td>A 1 Yogaic</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
<tr>
<td>120</td>
</tr>
</tbody>
</table>

Where,  
A = Yoga  
A 1 = Yogic  
A 2 = Non-yogic

B = Sex  
B 1 = Male  
B 2 = Female

C = Type of Work  
C 1 = Employee  
C 2 = Businessman

3.7 Sample of the Research

In the present study 350 yogic and non-yogic is selected. Out of 350, 240 yogic and non-yogic are taken by randomization. Out of 240 samples 120 yogic and 120 non-yogic are select. Out of 120 yogic, 60 yogic are select who’s the male of their present and 60 yogic are select who’s the female of their presents. Now out of 60, 30 yogic are select who’s the employee of their present and 30 yogic are select who’s the businessman of their presents. Out of 120 non-yogic, 60 non-yogic are select who’s the female of their present and 60 non-yogic are select who’s the male of their presents. Now out of 60, 30 non-yogic are select whose the employees of their present and 30 non-yogic are select whose the businessman of their presents. The sample chart is as follows:
3.8 Instruments of Research

In present research following tools are use.

3.8.1 Personal Data Sheet

According to research purpose here personal data sheet is ready to obtain information form individuals including their name, sex (male and female), yoga (yogic and non-yogic), type of work (employee and businessman) and age, etc.

3.8.2 Psycho-Physical Stress Scale

This scale was developed by Maheshvari (2002). The scale contains 24 statements in all. Psycho-Physical Stress Scale was given to determine 25 judges (psychologist and academicians) statements. A Feuillet has been prepared by the referrer's reply. The same statements have been selected here. This is selected by at least 20 judges and finally formed a specific scale. This is 2 point scale. One mark is awarded for every 'Yes' response and 0 for no response. High score obtained on the scale are an indicative of high skill for physical stress and high degree of stress. The test retest reliability of the tool was examined the retest reliability was fond to be 0.87. Where as spilt half reliability was 0.74. The validity of this scale was very high. In this study the Gujarati Version of the Psycho-Physical Stress Inventory was used. Which was Gujarati translate made by Somaya, S. and Jogsan, Y. A. (2013). This Scale reliability and validity is very high.
3.8.3 Moral Values Scale

Moral values test was developed by L. N. Dube (2009). Hear Gujarati Adaption was used made by Jogsan, Y. A. and Aashra, B. K. (2015) This scale consists of in total 60 statements. In this test only four moral values are taken. They are (1) Honesty, (2) Sincerity (3) Humanity and (4) Courtesy.

• Honesty

It include – truthfulness, just, equality, fairness, impartial, selflessness, stand for right cause, con not be tamed, fearlessness, courage to stand on truth dutifulness, fruitfulness.

• Sincerity

It includes – punctuality, regality, obedience, devotion, true to words, loyalty, hard working, painstaking, zeal for work, endurance resourcefulness, determined, prepare to take any task, endurance, feeling of responsibility.

• Humanity

It includes – peace, love, ahimsa, kindness, service to others, regard for old and women, sympathy, perseverance, help to needy, simplicity, care to animals, sense of tolerance, sacrifice, concern to others, donating attitude virtuous, broad out look.

• Courtesy

Service to wreakers, old persons and women, regards for other religious beliefs, friendliness, good manners, good habits, gentlemanliness, praise, encourage and recognize others abilities and acts, softness in behavior, accommodating nature, regard group decision, team spirit, self-control, feeling obligations, etiquette, considerate.
• Reliability of the test

Table-3.2
Reliability Coefficient (N=20)

<table>
<thead>
<tr>
<th>Moral Values</th>
<th>Test retest (15 days gap)</th>
<th>Split-half</th>
<th>Level of Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Honesty</td>
<td>0.62</td>
<td>0.68</td>
<td>0.01</td>
</tr>
<tr>
<td>Sincerity</td>
<td>0.71</td>
<td>0.73</td>
<td>0.01</td>
</tr>
<tr>
<td>Humanity</td>
<td>0.74</td>
<td>0.69</td>
<td>0.01</td>
</tr>
<tr>
<td>Courtesy</td>
<td>0.64</td>
<td>0.61</td>
<td>0.01</td>
</tr>
<tr>
<td>Total Test</td>
<td>0.62</td>
<td>0.67</td>
<td>0.01</td>
</tr>
</tbody>
</table>

• Validity of the test

Table-3.3
Validity Coefficient (N=200)

<table>
<thead>
<tr>
<th>Moral Value Test</th>
<th>Coefficient of Correlation</th>
<th>Level of Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moral Judgment Test D. Sinh &amp; Meera Verma</td>
<td>0.56</td>
<td>0.01</td>
</tr>
<tr>
<td>Sadgun Vikas Mapani S. S. Shrivastava</td>
<td>0.49</td>
<td>0.01</td>
</tr>
<tr>
<td>Construct Validity (N=50)</td>
<td>0.61</td>
<td>0.01</td>
</tr>
</tbody>
</table>

Table-3.4
Coefficient of Correlation of Inter Moral Values

<table>
<thead>
<tr>
<th>Moral Values</th>
<th>Honesty</th>
<th>Sincerity</th>
<th>Humanity</th>
<th>Courtesy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Honesty</td>
<td></td>
<td>0.56</td>
<td>0.47</td>
<td>0.55</td>
</tr>
<tr>
<td>Sincerity</td>
<td>0.56</td>
<td></td>
<td>0.59</td>
<td>0.51</td>
</tr>
<tr>
<td>Humanity</td>
<td>0.47</td>
<td>0.59</td>
<td></td>
<td>0.64</td>
</tr>
<tr>
<td>Courtesy</td>
<td>0.55</td>
<td>0.51</td>
<td>0.64</td>
<td></td>
</tr>
</tbody>
</table>
• Scoring of Moral Values

There are 60 statements in the test. Each statement has three alternative responses. Allot one mark for the response showing moral value and zero mark for other two responses. Sum up these marks and interpret area wise as well as moral values based on total marks.

Table-3.5

Scoring Plan

<table>
<thead>
<tr>
<th>Code</th>
<th>Value</th>
<th>Statements and responses Showing Moral Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Honesty 1</td>
<td>1 5 9 13 17 21 25 29 33 37 41 45 49 53 57</td>
</tr>
<tr>
<td></td>
<td></td>
<td>R. 2 3 1 2 2 1 2 1 2 2 3 3 2 2 2 2</td>
</tr>
<tr>
<td>2</td>
<td>Sincerity 2</td>
<td>2 6 10 14 18 22 26 30 34 38 42 46 50 54 58</td>
</tr>
<tr>
<td></td>
<td></td>
<td>R. 3 2 3 2 1 3 2 1 2 3 2 3 3 3 2</td>
</tr>
<tr>
<td>3</td>
<td>Humanity 3</td>
<td>3 7 11 15 19 23 27 31 35 39 43 47 51 55 59</td>
</tr>
<tr>
<td></td>
<td></td>
<td>R. 1 1 1 3 1 1 3 2 3 1 3 2 2 2 3</td>
</tr>
<tr>
<td>4</td>
<td>Courtesy 4</td>
<td>4 8 12 16 20 24 28 32 36 40 44 48 52 56 60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>R. 2 2 3 1 2 3 2 1 3 1 2 3 3 3 3</td>
</tr>
</tbody>
</table>

Table-3.6

Interpretation of Raw Scores of Different Moral Values

<table>
<thead>
<tr>
<th>Categories</th>
<th>Honesty</th>
<th>Sincerity</th>
<th>Humanity</th>
<th>Courtesy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
</tr>
<tr>
<td>High</td>
<td>12-13</td>
<td>11-12</td>
<td>11-12</td>
<td>12-13</td>
</tr>
<tr>
<td>Low</td>
<td>8-9</td>
<td>7-8</td>
<td>7-8</td>
<td>8-9</td>
</tr>
<tr>
<td>Very Low</td>
<td>7 &amp;</td>
<td>6 &amp;</td>
<td>6 &amp;</td>
<td>7 &amp;</td>
</tr>
<tr>
<td>Less</td>
<td>Less</td>
<td>Less</td>
<td>Less</td>
<td>Less</td>
</tr>
</tbody>
</table>
### Table-3.7

**Categories of Moral Values**

<table>
<thead>
<tr>
<th>Categories of Moral Values</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very High</td>
<td>46 &amp; above</td>
<td>44 &amp; above</td>
</tr>
<tr>
<td>High</td>
<td>37-45</td>
<td>35-43</td>
</tr>
<tr>
<td>Moderate</td>
<td>28-36</td>
<td>26-34</td>
</tr>
<tr>
<td>Low</td>
<td>19-27</td>
<td>17-25</td>
</tr>
<tr>
<td>Very Low</td>
<td>18 &amp; Less</td>
<td>16 &amp; Less</td>
</tr>
</tbody>
</table>

#### 3.8.4 Personality Scale: NEO Five Factor Inventory

This inventory was used in this study for measuring personality structure which has been developed by Costa & McCrae (1992). It is a 60 item questionnaire with 12 items each for the five factors. Participants rate the items on a five point scale, ranging "Strongly Disagree" to "Strongly Agree." Reported reliability coefficient of responses ranged from alpha 0.86 to 0.95. The Big Five traits are Openness, Consciousness, Extroversion, Agreeableness and Neuroticism or OCEAN. The description regarding the above five factor are as below:

- **Openness**
  
  People who like to learn new things and enjoy new experiences usually score high in openness. Openness includes traits like being insightful and imaginative and having a wide variety of interest.

- **Consciousness**
  
  People that have a high degree of consciousness are reliable and prompt, traits include being organized, methodic and through.

- **Extraversion**
  
  Extraverts get their energy from interacting with others, while introverts get their energy from within themselves; extraversion includes the traits of energetic, talkative and assertive.
• **Agreeableness**

These individuals are friendly, cooperative and compassionate people with low agreeableness may be ore distant. Traits include being kind, affectionate, and sympathetic.

• **Neuroticism**

Neuroticism is also sometimes called emotional stability. This dimension relates to one's emotional stability and degree of negative emotion. People that score high on neuroticism often experience emotional in stability and negative emotions. Traits include being moody and tense.

In this study the Gujarati version of the NEO Five Factor Inventory was used. Which was Gujarati translate made by Parmar, R. R. and Dhilla, B. D. (2014)

3.9 **Data Collection**

In this research random method was used. Inceptive meeting with subject was made at different yoga centre in Rajkot (Gujarat). Total 240 Male and Female were taken. They were informed about the purpose of the study. Permission for data collection was already taken by authorize of different yoga center. Open inceptive meeting, each subjects was also explained the nature of the study. Subjects were informed about the confidentiality regarding information collected from them. A time for data collection was set up that was conductive for the participants. A good report was build with subject for getting correct response. Some necessary instruction and guidelines were provided to them properly filling the scale. After this all three scale were provided to them and they were requested to fill up the scale as per the instructions given in the scales. After completion of the scale participants returned the scales and they were thanked for their participation and co-operation.
3.10 **Statistical Techniques**

Data collection will be analyzed by appropriate (Suitable) Statically analysis technique, to study the influences of dependent variable under investigation in psycho-physical stress, moral values and personality. For this purpose following statistical method will be use.

**3.10.1 ANOVA (Analysis of Variance)**

ANOVA was carried out to compare the means of more than two groups of sample, whether the difference is significant or not. Figure-3.1 clarifies the sample distribution as per the factorial design to suit 2x2x2 ANOVA for yogic and non-yogic persons, sex and type of work.

**3.10.2 LSD (Least Significance Difference)**

LSD table was drawn where the result in the calculation of analysis of variance (ANOVA) were found significant.

**3.10.3 Correlation**

The Pearson product-moment correlation coefficient is a measure of the strength of the linear relationship between two variables. It is referred to as Pearson’s correlation or simply as the correlation coefficient.

**3.11 Chapter Summary**

In this chapter, Problem of research, objective, hypotheses, variable, sample, tools and procedure were discussed.

Result and Discussion have been discussed in the next chapter.