Chapter-3

Methodology
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METHODOLOGY

Methodology is a widespread considerable footstep in any research work since the openness and the legitimacy of the information, which acquired in the study; rely generally upon the productivity of its methodology. Methodology becomes successful only when it takes into contemplation the possible sources of errors does the proper research design. In behavioral studies, research design plays a significant role in collecting and analyzing data and drawing inferences.

In view of the research studies reported in the previous chapter, the present research has been designed to study the impact of spirituality, optimism and resilience on psychological well-being among male and female students studying in metropolitan and non-metropolitan cities. This chapter includes research design, participants, and measures, procedure of the study, and general ethical issues consideration and statistical analysis.

3.1 Research Design

Mohsin (1984) posits, “Research design depicts the plan which states the relation observed facts, events on the basis of which conclusion could be drawn.” The present study adopted the quantitative approach to investigate the relationship of spirituality, optimism, and resilience with psychological well-being. In the present research, correlational research design was used.

3.2 Participants

Participants were selected from the schools metropolitan and non-metropolitan city (Jamia Millia Islamia School, New Delhi, and, Aligarh Muslim University School). 296-school going students were taken, among them 148 from metropolitan city (New Delhi) and 148 from non-metropolitan city (Aligarh). There were 74 male school going students and 74 female school going students having in both metropolitan and non-metropolitan cities. Participants were studying in 11-12th class and the age range of participants was from 16 to 18 years.
Breakup of the participants:

Figure-1

Following the inclusion and exclusion criteria was used for the selection of participants.

**Inclusion Criteria:**

1. Participants were taken from metropolitan and non-metropolitan cities.
2. Both the gender male/ female.
3. Age ranged from 16 to 18 years.
4. Participants were students of 11 or 12 class.
5. Participants were studying in English medium schools.
6. Participants who gave consent.

**Exclusion Criteria:**

1. Participants suffering from any significant physical disabilities.
2. Participants suffering from any significant mental illness.
3. Uncooperative participants.
Measures:

In the present study, the researcher used the following tools to measure the spirituality, optimism, resilience, and psychological well-being among male and female adolescents of metropolitan and non-metropolitan cities.

**Psychological Well-Being Scale**

In the present study, Psychological Well-Being Scale developed by Bhogle and Prakash (1995) was used. The instrument seems to be most suitable as it contains the items, which provide the general information about the psychological well-being of the respondents. The authors of the scale have taken all the empirical steps in the development of psychological well-being scale. The scale contains 28 items and all the items had two options “yes” and “no,” can choose one option, and marked by (✓). 1 score for yes response and 0 point for no response. Psychological well-being questionnaire shows the test-retest reliability coefficient is 0.72 and 0.84 internal consistency, and 0.91 split-half coefficients.

**Spirituality Questionnaire**

Hardt, Schultz, Xander, Becker, and Dragon developed the Spirituality Questionnaire in (2012). This questionnaire contained 20 items, there are four dimensions and each dimension: that are Belief in God: It represents the traditional western concept of spirituality, and this means followers of all religions that incorporate rationalisms are included. Search for meaning: The search for meaning is an essential question for self-reflecting individuals (Fromm, 1950). Mindfulness: the third subscales, assesses the conscious perception of others and the environment. Feeling of Security: It characterizes an emotion of being safe and belief in the world, a good feeling of being at home place around the world. Every single item were to be answered on a five point Likert scale with the categories ‘Not true at all’, ‘Hardly true’, ‘Don’t know’, ‘Rather true’, ‘Absolutely true’. All the items were positively keyed, scoring pattern were drawn from 1 to 5. The reliability of this scale is 0.78. The internal consistencies of the scale for “Belief in God” and “search for meaning” are the core dimensions of spirituality. The higher the score, the higher the spirituality.
Optimism Scale

For the measurement of optimism/pessimism dimension, Scheier and Carver developed Life Orientation Test (LOT) in 1985. It is a close-ended questionnaire contains 10 items and entails five point Likert type scale ranging from 0 to 4. It has 4-filler items (2, 5, 6, and 8) whose score had not been added to the final score. Item numbers 3, 7, 9 are reverse coded. Score 0 is given to the response category of ‘strongly disagree’, score 1 is given to the response category of ‘disagree’ score 2 indicates ‘neutral’ score 3 is given to the response category of ‘agree’ and score 4 is given in response category of ‘strongly agree’. Optimism based on the three positive items, pessimism based on the three negative items was calculated, Negative, and Positive items were clustered with different factors. In addition, negative items were scored reversely hence those items scored positively and added with optimism items. Higher total scores indicate higher level of optimism. The total LOT scores was the sum of the item numbers, 1, 3, 4, 7, 9, and 10 with the lowest score being 0 and the highest score being 24. The lowest score (between 0-13) indicates low optimism and the highest score (between 19-24) indicates the highest optimism. Cronbach’s Alpha of this scale shows 0.65 by accepting the internal consistency.

Resilience Scale

The Resilience Scale (RS) was used to measure resilience of an individual. Waglind and Young (1993) created this Scale. It is a close-ended questionnaire contains 25 items and requires 7-point Likert type scale (1- strongly disagree to 7- strongly agree) ranging from 25 to 175. The 25 items of resilience scale measures the level of individual resilience, which is considered as a positive personality characteristics that increases individual adaptation. As per the norms, total score above 146 indicated strong or high resilience while below 121 indicated weak or low resilience. It is reported that internal consistency reliabilities for the instrumental ranging from 0.76 to 0.91 from several of their prior studies. Test retest reliability ranged from 0.67 to 0.84. For the scale, the internal consistency (alpha) was found to be 0.76.
Table 1. *Showing the Cronbach’s Alpha of the original scale based on the present scale.*

<table>
<thead>
<tr>
<th>Scales</th>
<th>Cronbach’s Alpha Original Scale</th>
<th>Cronbach’s Alpha based on the Present Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychological Well-being Scale</td>
<td>.84</td>
<td>.72</td>
</tr>
<tr>
<td>Optimism Scale</td>
<td>.65</td>
<td>.81</td>
</tr>
<tr>
<td>Spirituality Scale</td>
<td>.78</td>
<td>.79</td>
</tr>
<tr>
<td>Resilience Scale</td>
<td>.76</td>
<td>.81</td>
</tr>
</tbody>
</table>

**Procedure**

The researcher approached all the participants through the school’s administration. Before starting the procedure, the investigator obtained permission from the principles of schools. The data were collected in small groups. For investigating this study, firstly, students were approached and a healthy rapport builds with them. The demographic information, schedule was attached at the beginning of the each questionnaire. The participants were instructed to fill all the information mentioned in the sheet and they were told that this information will be used for the purpose of research. Before distributing the questionnaire to the students, their misconception and fear regarding this data information were removed. After assuring them related to all the issues and making, them secure about the confidentiality of their responses, and then requested them to extend their cooperation Data collection for each setting and group took around 45 minutes to 60 minutes. After completing the questionnaire, they were then allowed to leave the classroom.

**Ethical Consideration:**

There were following ethical issues, in this research confidentiality were maintained. The schools were assured that the information given by the participants will kept safe and secure and will not be used illegally.
Participants were voluntary; no one was forced to participate. Moreover, participants were free to withdraw anytime if they feel any problem while filling the questionnaire.

**Statistical Analysis:**

Data were analyzed by SPSS-20.0 version. Prior to analysis, data were examined for data entry errors, incomplete questionnaires, missing data, normality, and outliers. Descriptive Statistics, Pearson Product Moment of Correlation and Stepwise Multiple Regression were used.

Descriptive statistic was used to compare between male and female in terms of their scores obtained on spirituality, optimism, resilience, and psychological well-being scales.

Pearson Product Moment coefficient of correlation was used to examine the relationship between spirituality, optimism, and resilience with psychological well-being.

Spirituality, optimism, and resilience were considered as predictor variables, whereas psychological well-being was used as criterion variable. Stepwise Multiple Regression was used to know the answer of the question that, what is the best combination of independent (predictor) variables would be to predict the dependent (predicted) variable.

Cronbach alpha was used to determine reliability of all the scales.

Further, the effect size for the significant predictor variables was calculated to estimate the degree or the size of an effect on criterion variable. Cohen’s $f^2$ is one of effect size suitable for multiple linear regression analysis. Table 2 shows description for degree of $f^2$ as suggested by Cohen (1988).

The formula used to calculate effect size (Cohen’s $f^2$) is given below.

$$f^2 = \frac{R^2}{1 - R^2}$$

Where, $R^2$ is the squared multiple correlation.
Table 2. *Showing the levels of Effect size*

<table>
<thead>
<tr>
<th>Effect size</th>
<th>Cohen’s $f^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small</td>
<td>0.02</td>
</tr>
<tr>
<td>Medium</td>
<td>0.15</td>
</tr>
<tr>
<td>Large</td>
<td>0.35</td>
</tr>
</tbody>
</table>

(Cohen, 1988)

In this third chapter of methodology, research design, participants, and measures used, collecting data was explained and the procedure of the research study was given in detail. The statistical technique through which data was analyzed were also described. Methodology is the key element in carrying out any sort of research. It is of a great importance in any scientific inquiry, as the reliability and validity of the facts depends upon the system of investigation.