

CHAPTER -4

METHODOLOGY

The primary aim of this research was to study occupational stress in association with work motivation and work performance among women school teachers in the five districts of Malwa region of Punjab, India. In addition, the influence of occupational stress on work performance and work motivation of female school teachers was explored. Besides, various stress inducing factors, coping strategies as used by the women school teachers and factors affecting work motivation of women school teachers were identified. This chapter presents specific methods employed in the study to fulfill various objectives.

4.1 SAMPLE

4.1.1 Determination of the Sample Size:

Table 4.1 Total Population Size: 14303

District/Section	No. of Female Teachers				Total
	Secondary	High School	Middle	Primary	
Faridkot	718	299	201	880	2098
Bathinda	1906	548	177	1484	4115
Mansa	809	294	128	1014	2245
Sangrur	1635	583	355	1710	4283
Barnala	643	248	53	618	1562
Grand Total					14303

Source: Director, Public Instructions (S.E.), Punjab

Ref. The Statistical Abstract of Punjab, 2020; Published by Economic and Statistical Organization, Dept. of Planning, Govt. of Punjab. pp: 426.

Table 4.2 Calculation of Sample Size

S. No.	Parameter	Value
1	Population size	32688
2	Confidence level	95%
3	Margin of Error	5%
4	Expected frequency	25%
5	Calculated Sample Size	283
6	No. of responses taken	394
7	No. of valid responses taken for study	300 (quantitative analysis) 75 (qualitative analysis)

The Cochran formula was applied to calculate ideal sample size, given a desired level of precision, desired confidence level and estimated proportion of the attribute present in the population.

Cochran's formula is considered especially appropriate in situations with large populations. A sample of any given size provides more information about a smaller population than a larger one, so there's a 'correction' through which the number given by Cochran's formula can be reduced if the whole population is relatively small.

The Cochran formula is:

$$n_0 = \frac{Z^2 pq}{e^2}$$

where:

- Z is the respective score from Z table [Z- score = 1.96 for confidence level 95%]
- e is the desired level of precision (i.e. the margin of error),
- p is the (estimated) proportion of the population which has the attribute in question,
- q is 1 – p.

Hence, 300 valid responses were considered for the present study.

4.1.2 The Sampling Frame:

4.1.3 Inclusion Criteria:

- Women teachers involved in teaching at primary, secondary and high school level.
- Aged between 29-36 years.
- Working in a school within the territorial limits of the five districts (Bathinda, Mansa, Faridkot, Mukatsar and Fazilka) of the Malwa region of Punjab.

4.1.4 Exclusion Criteria:

- Women teachers serving in higher education or technical institutes.
- Age below 29 or above 36 years

Working in a school outside the territorial limits of the five districts (Bathinda, Mansa, Faridkot, Mukatsar and Fazilka) of the Malwa region of Punjab.

4.1.5 Sampling Methodology:

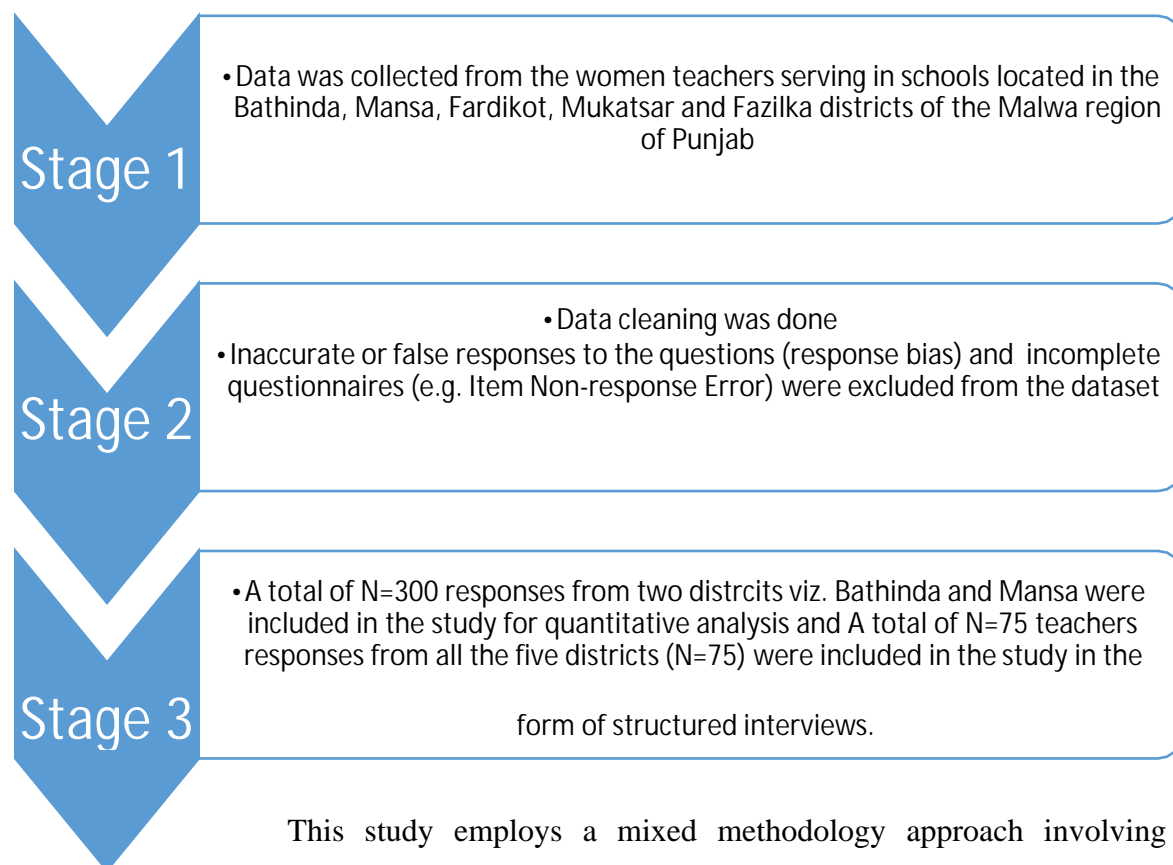
- Method used: Random sampling
- Mode of Survey: Offline

4.1.6 Final Sample Included in the Study

A total of 375 women school teachers, aged 29 to 36 years, randomly selected from various government schools of Bathinda, Mansa, Fazilka, Mukatsar and Faridkot districts of the Malwa region of Punjab served as subjects/participants in this study. The data of 300 women school teachers selected from various government schools of Bathinda and Mansa districts were included in the study for quantitative analysis where responses of women school teachers from all the five districts (N=75) were included in the study in the form of structured interviews.

The reason of excluding responses of the subjects from other three districts for the quantitative analysis was that the subjects responded inaccurately or falsely to the questions because of the response bias and in most of the cases questionnaires were left incomplete. Also, the desired sample size of 300 subjects/respondents as calculated by the Cochran formula was achieved from the districts of Bathinda and Mansa successfully.

Flow Chart 4.1: Showing the Sample Composition for This Study



This study employs a mixed methodology approach involving data collected through standardized questionnaires (quantitative data collection technique) and structured interviews (qualitative data collection technique). Mainly this study depends on the primary data collected through both techniques (standardized questionnaires and structured interviews) to elicit the well-considered responses of the subjects. Specifically, this study investigated the association of occupational stress with work motivation and work performance among women school teachers, identified various stress inducing factors, coping strategies as used by the women school teachers and factors affecting work motivation of women school teachers and evaluated the role of occupational stress in work performance and work motivation of the respondents.

Table 4.3 Mean age and standard deviation of the sample studied

SAMPLE	MEAN AGE	STANDARD DEVIATION (SD)
Women School Teachers (N=375)	33.11	2.21

4.2 MEASURES/TOOLS USED

Following measures were used in the present study to collect required information from the subjects.

- (i) The Occupational Stress Index (O.S.I) (Srivastava and Singh, 1981)
- (ii) Work Motivation Questionnaire (WMQ) (Agarwal, 1988)
- (iii) Individual Work Performance Questionnaire (IWPQ) (Koopmans *et al.* 2014)
- (iv) Structured Interview guide (developed by the researcher for current study)

I. The Occupational Stress Index (O.S.I)

-Srivastava and Singh, 1981

The Occupation Stress Index (O.SI.) is developed by Srivastava and Singh (1984) at Banaras Hindu University, Uttar Pradesh (UP), India. It is a commonly suitable scale for determining job stress. It has been employed effectually in various researches (Latif and Sultana, 2009). The scale senses to quantify the level of stress perception among employees resulting from various factors and conditions associated with their job. The

scale may be administered to the staffs of every level operational in perspective of industries or further non-production establishments. The scale comprises of 46 elements, comprising 28 'true-keyed' and 18 'false-keyed' and each of which is evaluated on a scale of five-point. The elements are connected to all mostly concerned sections of job life, which can persuade stress in one way or other. The

O.S.I includes 5 answer categories ranging from strongly disagree to strongly agree. These 46 items are classified into 12 dimensions of occupational stress. The stress-dimensions focuses Role overload, Role conflict, Role ambiguity, Unreasonable group/political pressure as significant variables. Other dimensions reflected are Responsibility for persons, Under participation, Powerlessness and Poor peer relation. Low status, Strenuous working conditions, Intrinsic impoverishment and Unprofitability are the residual determinants showing the occupational stress employing this index.

The developers shared the instruments' psychometric properties. The reliability of the scale was measured through split half (odd-even) method and the Cronbach's alpha coefficient were found to be 0.935 and 0.90, respectively for the scale and as a whole. Split-half method was applied to calculate the reliability indices of the 12 subscales and all the sub-scales were found sufficiently reliable, for instance 0.68, 0.55, 0.69, 0.45, 0.84, 0.63, 0.80, 0.54, 0.55, 0.78, 0.73, 0.76 were the alpha coefficients ascertained for the role overload, role conflict, unreasonable group and political pressure, role ambiguity, persons, low status, under participation, poor peer relations, intrinsic impoverishment, powerlessness, strenuous working condition and unprofitability subscales of this particular tool. Coefficient of correlation between the index scores and different parameters of job performance and attitude/behaviour were calculated to establish the validity of the O.S.I applied. The coefficients of correlation were found to be -.56, -.44, -.40, and -.51, between the scores on the O.S.I and the measures of job participation (Lodhal and Kejner, 1965), ego-strength (Hassan, 1970), motivation during work (Srivastava and Singh 1981), and job satisfaction (Pestonjee,

1973) respectively. The O.S.I score-job anxiety correlation coefficient (Srivastava, 1974) was found to be 0.59. In brief, highly important correlation was established across the scores on the O.S.I with measures of job related motivational, personality and attitudinal variables.

This scale has been successfully used by Suraksha and Chhikara (2017), Thakre and Barua (2016), Gupta (2015), Natarajan and Punitha (2017), Latif and Sultana (2009), Mahendran and Devanesan (2013) and Pani (2016) in Indian context.

Scoring

As both ‘true-keyed’ and ‘false-keyed’ items were included in the scale, two diverse patterns of scoring are implemented. The guideline, to score the responses specified across different categories of items, is tabulated below:

Table 4.4: Scoring guidelines for two categories.

Categories of response	‘True-keyed’ items	‘False-keyed’ items
strongly disagree / Never	1	5
Disagree/ Seldom	2	4
Sometimes/undecided	3	3
Agree/ Mostly	4	2
Strongly agree/ Always/	5	1

II. Work Motivation Questionnaire (WMQ)

-Agarwal, 1988

It comprises of 26 Likert type elements with 5 alternatives. It is employed to determine the work motivation of workforces of various branches in any industry or

establishments. This questionnaire consists of 6 dimensions namely Dependence, Organizational orientation, Work group relations, Psychological work incentives, Material incentives and Job situation. Internal consistency of the instrument was ascertained by the split half method. The reliability co-efficient, as determined using Spearman-Brown formula, was found to be very high i.e. 0.99. Face validity, item validity and factorial validity were established for the scale. Face validity, as evaluated by circulating the questionnaire among 22 judges resulted in high agreement among the judges for different items of ranking. Further, Item validity was established by correlating each item with total scores and obtained co-efficient were varying from 0.24-0.67, showing significance beyond the level of 1%. Moreover, factorial validity of all the items were factor-analyzed using principal component method by carrying out varimax rotation criteria. Six factors were identified i.e. Job Situation, Work Group Relations, Dependence, Psychological Incentives, Organizational Orientation, Material Incentives and all these factors were found to measure what it intended to measure that is work motivation.

This scale has been successfully used by Krishnamurthy (2018), Chatterjee (2017), George and Sabhapathy (2014) and Siddhpara and Parmar (2017) in Indian context.

Scoring

All the 26 items are likert type with 5 alternatives to respond from. The response options are (1) Specifically very dissatisfied, (2) somewhat dissatisfied, (3) neither satisfied nor dissatisfied, (4) fairly satisfied, and (5) Very satisfied. For the positive items the scoring is 5 for 'very satisfied' and 1 for 'very dissatisfied'. But for the negative keyed items the scoring is in reverse order i.e. 1 for 'very satisfied' and 5 for 'very dissatisfied'. The possible total raw score for this scale ranges from 26 to 130.

III. Individual Work Performance Questionnaire (IWPQ)

-Koopmans *et al.* 2014

The IWPQ contains 18 queries in three scales: counterproductive work behaviour (5 items), contextual performance (8 items), and task performance (5 items). The IWPQ has a recall period of 3 months and a 5-point rating scale as given below:

- From 0 (“seldom”) to 4 (“always”) scale for task and contextual performance, and 0 (“never”) to 4 (“often”) for counterproductive work behaviour.
- The psychometric features of the IWPQ have been recognized and results demonstrated good to excellent internal consistency for various counterproductive work behaviour ($\alpha = 0.79$), contextual performance ($\alpha = 0.85$), and task performance ($\alpha = 0.78$). The IWPQ has demonstrated acceptably good face and structural validity (Koopmans *et al.*, 2014; Koopmans *et al.*, 2013), as well as adequate convergent validity and having good discriminative validity (Koopmans *et al.*, 2014).

Scoring

For the IWPQ subscales, a mean score is computed by addition of the item scores, and then dividing their sum by the total number items present in the subscale. Hence, the IWPQ showed scores of three subscale that varies between 0 and 4, having higher scores validating task of higher degree and contextual performance, and having higher degree of counterproductive work behaviour.

IV. Structured Interview Guide

Interviews were conducted with a smaller number of women school teachers who gave consent to be a part of the structured interviews. A total of 75 school teachers belonging to all the five districts of Punjab served as participants for the interviews. Such a method

allowed the researcher to gain first-hand knowledge from the participants who have experienced occupational stress and its associated effects on their work performance, work motivation and overall well-being.

Such voices need to be heard as these lived inputs are a guiding light for any further action plan especially related to formulation of policies on mental health and occupational well-being of women school educators/teachers. The interview guide was prepared after a detailed and deep review of literature, research into available tools for assessing occupational stress, work performance and work motivation, and in consultation with the subject experts. Ethical issues were adhered to in conducting the interviews. The questions in the interview guide had to be answered on the basis of personal experiences of the interviewee or of knowledge about someone who had such an experience.

Following were the key questions comprising the interview guide:

1. Is this your first job? As per your experience, what are various stress-inducing factors in your occupation?
2. What are the major sources of support/coping strategies that would help you reduce your work-related stress?
3. What are the important factors affecting your work motivation?

4.3 ETHICAL CONSIDERATIONS

The dignity and wellbeing of the participants was protected at all times during the research period. Informed consent of the participants was obtained. A rapport was established with the participants in order to obtain objectivity in their responses and they were assured that the information was being collected purely for the research purposes and that it would be kept confidential. Anonymity of the participants was maintained. Participants were also given the right to withdraw from the study at any stage without giving any explanation for it.

4.4 PROCEDURE

The present investigation started with taking informed consent from the participants. This study was conducted in two phases as detailed below:

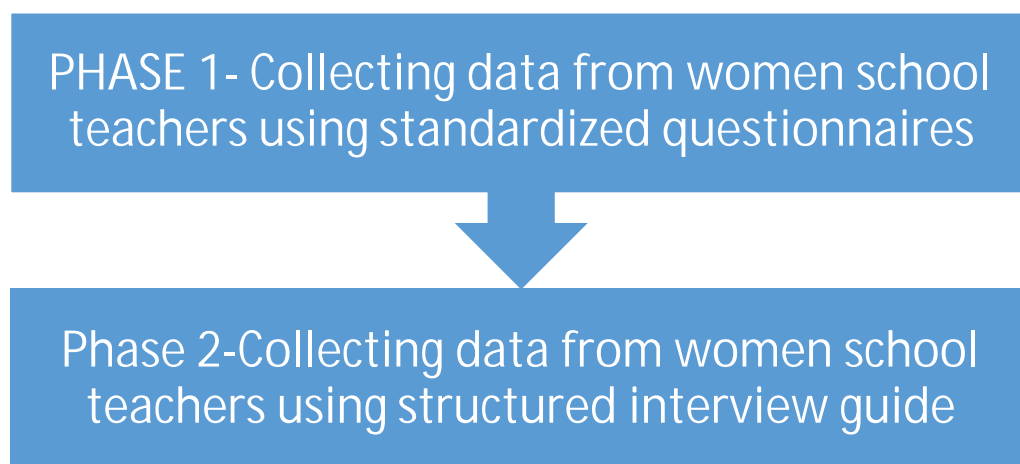


Fig 4.1 Different phases of procedure of the study

PHASE 1-Collecting Data From Women School Teachers Using Standardized Questionnaires

In the first phase of the study various standardized questionnaires were administered to the women school teachers of various districts of Punjab in an individual setting and all the tests were filled up by the participants themselves. The participants were administered the above mentioned tests in the same order and separate instructions were given for each test. They were asked to fill their age, gender and other related demographic information on the face sheets excluding their names to maintain anonymity. They were asked to complete all the questionnaires in one sitting only.

Phase 2-Collecting Data from Women School Teachers Using Structured Interview Guide

In the second phase of the study, interviews were conducted using the structured interview guide that enabled the co-creation of shared understandings of the phenomenon of occupational stress as experienced/ known by the women school teachers of Punjab. Only those teachers who suffered from some level of occupational stress and voluntarily wanted to participate in face to face interview were recruited for this phase of the study. A smaller number of teachers were interviewed because only a few teachers gave consent for the in-depth interviews. Informed consent was taken from the participants and confidentiality was ensured. This approach was employed because interviewing provided unique opportunities for researchers to gain some understanding of the teachers' subjective experiences/awareness, where other means of data collection, such as questionnaires, were incomplete.

To begin with a trusting relationship with the volunteer teachers was built enabling them to talk about their/ someone they knows' occupational stress and related information. A total of 75 school teachers belonging to all the five districts of Punjab served as participants for the interviews and they were asked the key questions contained in the interview guide. The interviewees could answer the questions based upon their own experiences or on the basis of their knowledge about such incidents as experienced by anyone in their peer group.

Question repetition and probing were used as necessary to elicit detailed information from the participants. Examples of probing questions that were used were as follows: "Would you explain further?" "Would you give me an example of what you mean?"; "Would you say more?"; "Is there anything else?" The researcher utilized active listening techniques and tried to refrain from expressing an opinion or giving a biased response such as "good". Each interview lasted for about 40 minutes. All the responses were

recorded verbatim. At the end of the interview, each participant was thanked for their participation. After the interviews concluded, the researcher created a written summary of the interview sessions that included information on the participants' experiences of occupational stress specifically its inducing factors, coping strategies and motivational factors that acts as a positive force towards performing in a better way and achieving better occupational outcomes.

Table 4.5 List of variables used in the study

S. No.	Symbols	Name of The Variable
1.	OS	Occupational Stress
2.	WP	Work Performance
3.	WM	Work Motivation

4.5 ANALYSES

The obtained data was subjected to following analyses:

1. Reliability coefficients for the scores on measured variables were computed by the test-retest method of estimating reliability.
2. Mean and standard deviation of all the variables were included in the study.
3. Pearson product moment correlation coefficients were calculated to investigate the linkage of various dimensions of occupational stress with different dimensions of work performance and the total score of work motivation among women school teachers. Also, association of various dimensions of work performance with the total score of work motivation among women school teachers was computed.
4. Step-Wise Multiple Regression Analysis was computed to determine the amount

of variance in the criterion (work performance and work motivation) that could be accounted for by the different dimensions of occupational stress (Role conflict, Role overload, Role ambiguity, Responsibility for persons, Under participation, Powerlessness, Unreasonable group/political pressure, Poor peer relation, Low status, intrinsic impoverishment, Unprofitability and Strenuous working conditions), and the impact of each predictor in the prediction of the criterion.

5. The data from all the interviews were analyzed to identify various stress-inducing factors, coping strategies as used by the women school teachers and factors affecting work motivation of women school teachers.