Chapter 3

Methodology
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The progress and well-being of society to a great extent depends upon the service of professionals. Therefore, professional status is an implied social contact to provide a service over and above normal duties. In this regard, a professional is crewed as one who carries additional moral responsibility, honest, objective, impartial and high integrity. Each professional plays a unique role for example medical personnel; doctors and nurses who see their role first and foremost as caretaker. They have significant autonomy and focus on and are led by professional norms and values, i.e. maintaining health and hygiene. The lawyers provide service to clients and also maintain the public interest, justice and fairness of society. Teachers provide knowledge through quality education. In the process of carrying over these essential responsibilities, certainly these professionals experience stress in their occupation. If at all these professionals have higher level of stress then it results in poor well-being and low self-efficacy and low work motivation. Thus, if professionals are to be effective in playing the role expected of them, it is necessary either to prevent the higher level of stress or to help these professionals to cope up with stress they experience. Hence, it becomes essential to gain insights through scientific study into work motivation, self-efficacy, occupational stress and psychological well-being of professionals and also the factors contributing to these forms of behavior for the purpose of helping the professionals to contribute significantly to the work field, society and the mankind at large. This larger objective has prompted the present study.

This study is an attempt to inquire mainly into the work motivation, self-efficacy, occupational stress and psychological well-being of different professional men and
women (doctors, lawyers and lecturers). In addition to this an attempt is also made to know the contributions of some of the personal (age, religion and caste, marital status etc) and job related factors (expressed job involvement, job satisfaction etc) to work motivation, self-efficacy, occupational stress and psychological well-being of professional men and women.

3.1 Objectives of the Study:

1. To study the significance of difference between professional men and women with regard to their work motivation, self-efficacy, occupational stress and psychological well-being.

2. To study how different professional men and women (separately) like doctors, lawyers and lecturers differ from one another in their work motivation, self-efficacy, occupational stress and psychological well-being.

3. To study the impact of demographic factors such as age, religion and caste, type of organization (private/public), length of service, monthly income, marital status, occupation of the spouse, number of dependants, health status, expressed job satisfaction, expressed job involvement, expressed life satisfaction of professional men and women on their work motivation, self-efficacy, occupational stress and psychological well-being.

3.2 Research Questions:

1. Do different men and women professionals such as doctors, lawyers and lecturers differ significantly from each other in their work motivation, self-efficacy, occupational stress and psychological well-being?
2. Do male professionals such as doctors, lawyers, and lecturers differ significantly among themselves in their work motivation, self-efficacy, occupational stress and psychological well-being?

3. Do female professionals such as doctors, lawyers, and lecturers differ significantly among themselves in their work motivation, self-efficacy, occupational stress and psychological well-being?

4. Do the demographic factors such as age, religion and caste, type of organization (private/public), length of service, monthly income, marital status, occupation of the spouse, number of dependants, health status, expressed job satisfaction, expressed job involvement, expressed life satisfaction of professional men and women* influence significantly on their work motivation, self-efficacy, occupational stress and psychological well-being?

3.3 Hypotheses:

The following hypotheses are formulated to seek answers for the above raised research questions. It is commonly observed that, majority of the professionals take up their jobs by their own choice rather than chance. This voluntary entry into the world of work is expected to help the professionals to have high work motivation, self-efficacy and psychological well-being. However, in the modern Indian culture and society as women are holding and sharing a lot of family responsibility, their work motivation, self-efficacy, psychological well-being and stress needs to be compared with professional men. It is also necessary to study this aspect to know the real status of women professionals' contribution to their work as more number of women stepping in to world of work every year. Thus it is hypothesized that;

*Gender wise single group is made by clubbing doctors, lawyers and lecturers.
**Ha_1:** Male and female professionals (doctors, lawyers and lecturers) differ significantly from each other in their work motivation, self-efficacy, occupational stress and psychological well-being

**Ha_2:** Different male professional groups (doctors, lawyers and lecturers) differ significantly among themselves in their work motivation, self-efficacy, occupational stress and psychological well-being

**Ha_3:** Different female professional groups (doctors, lawyers and lecturers) differ significantly among themselves in their work motivation, self-efficacy, occupational stress and psychological well-being

Some specific hypotheses are formulated from the above main hypotheses as stated below:

**Ha_{2.1}:** Male doctors and lawyers differ significantly from each other in their work motivation, self-efficacy, occupational stress and psychological well-being

**Ha_{2.2}:** Male doctors and lecturers differ significantly from each other in their work motivation, self-efficacy, occupational stress and psychological well-being

**Ha_{2.3}:** Male lawyers and lecturers differ significantly from each other in their work motivation, self-efficacy, occupational stress and psychological well-being

**Ha_{3.1}:** Female doctors and lawyers differ significantly from each other in their work motivation, self-efficacy, occupational stress and psychological well-being

**Ha_{3.2}:** Female doctors and lecturers differ significantly from each other in their work motivation, self-efficacy, occupational stress and psychological well-being
**Ha3.3:** Female lawyers and lecturers differ significantly from each other in their work motivation, self-efficacy, occupational stress and psychological well-being.

Apart from the nature of profession and gender difference, there are several other demographic factors, which significantly contribute to their work motivation, self-efficacy, occupational stress and psychological well-being. Therefore, it is assumed that some such factors like age, religion and caste, early background, type of organization (public/private), length of service, monthly income, marital status, occupation of the spouse, number of dependents, health status, expressed job satisfaction, expressed job involvement and expressed life satisfaction influence the work motivation, self-efficacy, occupational stress and psychological well-being of professional men and women. In view of this it is hypothesized that:

**Ha4:** Age, religion and caste, type of organization (private/public), length of service, monthly income, marital status, occupation of the spouse, number of dependants, health status, expressed job satisfaction, expressed job involvement, expressed life satisfaction significantly contribute to the work-motivation, self-efficacy, occupational stress and psychological well-being of professional men and women.

Though all these demographic factors are common to all professionals, their influence on gender differs. Hence, an attempt is made to study this difference by stating the following specific hypotheses:

**Ha4.1:** Age, religion and caste, type of organization (private/public), length of service, monthly income, marital status, occupation of the spouse, number of dependants, health status, expressed job satisfaction, expressed job involvement, expressed life satisfaction significantly contribute to the work-motivation, self-efficacy, occupational stress and psychological well-being of professional men.
Ha4.2: Age, religion and caste, type of organization (private/public), length of service, monthly income, marital status, occupation of the spouse, number of dependants, health status, expressed job satisfaction, expressed job involvement, expressed life satisfaction significantly contribute to the work-motivation, self-efficacy, occupational stress and psychological well-being of professional women.

3.4 Operational Definitions of the Variables:

Work Motivation: it is psychological process with the willingness to exert high level of energy and effort, realize ones' potentialities in the work situation.

Self-Efficacy: the belief one has in his or her abilities to meet the challenging demands of environment by means of ones' own resources and adoptive actions.

Occupational Stress: it is the state produced by imbalance between the internal resources of individual and the demands of the occupation.

Psychological Well-Being: it refers to proper coordination among cognitive, conative and affective aspects of once own psyche and there by attaining happiness as well as satisfaction through their dealing with environment.

3.5 Design:

In the present investigation, while developing research design, three professional groups such as doctors, lawyers and lecturers as well as gender are taken as independent variables. While work motivation, self-efficacy, occupational stress and psychological well-being are taken as dependant variables. Further, the demographic factors such as age, religion and caste, type of organization (private/public), length of service, monthly income, marital status, occupation of the spouse, number of dependants, health status, expressed job satisfaction, expressed job involvement, expressed life satisfaction are taken as independent variables while work motivation,
self-efficacy, occupational stress and psychological well-being are taken as dependent variables.

3.6 Sample:

As the main intention of the study is to find out the differences, if any, in work motivation, self-efficacy, occupational stress and psychological well-being of men and women professionals (doctors, lawyers and lecturers) the total sample of professionals is 300 of which 100 persons from each profession, i.e. medical, legal and teaching. All the three groups of sample are comprising 50 men and 50 women.

Quota sampling method is adopted for selecting the sample. Age range of the professionals included in the sample is 30 to 60 years, with the minimum 5 years of work experience in their respective fields. Care is taken to include only the physicians as medical professionals to avoid within group variations. As far as the lawyers sample is concerned, the lawyers practicing at district court are included in the sample. Further, the lecturers sample consists of those who are working at degree colleges.

The sample of both men and women professionals are selected from Hubli-Dharwad and Belgaum cities of Northern Karnataka, Karnataka State, India.

Table 3.01

Distribution of the sample interms of Number and Gender

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Professions</th>
<th>Gender</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Doctors</td>
<td>Male</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Female</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
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</tr>
<tr>
<td>2</td>
<td>Lawyers</td>
<td>Male</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Female</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>100</td>
</tr>
<tr>
<td>3</td>
<td>Lecturers</td>
<td>Male</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Female</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Overall total</td>
<td></td>
<td>300</td>
</tr>
</tbody>
</table>
3.7 Measures Used

3.7.1 Work Motivation Questionnaire (WMQ):

WMQ developed by Agarwal K G (1990) is used to measure the work motivation of the sample. It consists of 26 Likert type items with 5 alternatives. It is used to measure the work motivation of employees of different strata in any industry or organization. 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 found out by split half method. The reliability coefficient by Spearman Brown formula was very high i.e. 0.99. Face validity, items validity and factorial validity were established for the scale. Face validity computed by taking the opinion of 22 judges and resulted in high agreement for different items of ranking. Item validity was established by correlating each item with total scores and obtained co-efficient are varying from 0.24 to 0.67 (all are significant beyond 1% level). Factorial validity was computed by using principal component method (by carrying out varimax rotation criteria). Six factors were identified and these factors were found to measure what intended to measure.

3.7.2 The General Self – Efficacy Scale (GSE):

GSE scale developed by Mathias Jerusalem and Ralf Schwarzer R. (1979) is used to assess the self – efficacy of the sample. This is four point scale with ten items. The scale has high reliability i.e. Chronbach’s alpha ranging from 0.76 to 0.90, it has criterion validity which is documented in the numerous co-relation studies where positive co-efficient were found with favourable emotions, dispositional optimism and
work satisfaction. Negative correlation was found with depression, anxiety, stress, burnout etc.

3.7.3 Occupational Stress Index (OSI):

OSI scale developed and standardized by Srivastav A. K. and Singh A. P, (1984) is used to assess the occupational stress of the samples. This scale has been widely used by many researchers to assess the occupational stress of persons belonging to different occupational fields [for example, Pattanayak and Mishra (1997), Savitha and Asnani (1998), Sayeed et al (1998), Poonam Singh and Meenaxi Arora (1998)].

The OSI includes 46 items with 5 answer categories ranging from strongly disagree to strongly agree. These 46 items are classified into 12 dimensions of occupational stress such as Role overload, Role ambiguity, Role conflict, Unreasonable group/political pressure, Responsibility for persons, Under participation, Powerlessness, Poor peer relation, Intrinsic impoverishment, Low status, Strenuous working conditions and Unprofitability.

The authors of the scale have reported the split - half reliability of the OSI as 0.935 and the Chronbach’s alpha co-efficient for the scale as 0.90. The reliability co-efficient for different dimensions ranges from 0.454 to 0.840. The authors have determined the validity of the scale by computing the co-efficient of correlation between the OSI and various measures of job attitudes and job behaviours. The co-efficient of correlation between the scores on the OSI and the measures of job involvement (Lodhal and Kejner, 1965), Work motivation (Srivastava, 1980), Ego strength (Hasan 1970) and job satisfaction (Pestonjee, 1973), were found to be -0.56 (N = 225), -0.44, (N = 200), -0.40, (N = 205) and -0.51(N = 500) respectively. The
correlation between the scores on the OSI and the measures of job anxiety (Srivastava, 1974) was found to be 0.59 (N = 400).

3.7.4 Psychological Well-Being Scale (PWB):

PWB scale developed by Sudha Bhogale and Indira Jai Prakash (1995) is used to assess the psychological well-being of the sample.

This scale consists of 26 items measuring 13 dimensions i.e. Meaninglessness, Somatic symptoms, Self esteem, Positive affect, Daily activities, Life satisfaction, Suicidal ideas, Personal control, Social support, Tension, Wellness, General efficacy and Satisfaction. The respondent has to go through all the items one by one and give the responses in terms of ‘Yes’ or ‘No’ form. The split of reliability co-efficient is 0.91 and test re-test reliability is 0.72. The internal consistency is 0.84. It is positively correlated (r = 0.49) with the scores on general well-being questionnaire of Verma and Verma (1989) and subjective well-being (r = 0.62) measures of Nagpal and Sell (1985).

Apart from the above mentioned scales, a demographical data sheet is also used in the study. This consists of the information relating to the respondent’s personal and work related factors.

3.8 Pilot Study:

Before final administration of the scales on the main study, a pilot study was conducted to verify the suitability of all the four measures. This included the composite sample of 30 subjects i.e. 10 professionals from each profession such as medical, legal, and teaching. All the three groups of sample are comprising of 5 men and 5 women. Further, the measures were tested for their reliability and validity.
The work motivation is found to have split-half reliability co-efficient as 0.53 and Spearman Brown reliability co-efficient as 0.65. The reliability co-efficient for self-efficacy, occupational stress and psychological well-being are 0.69, 0.71, 0.77 (split-half) respectively and 0.69, 0.73, 0.78, (with Spearman Brown formula) respectively.

It is quite obvious that the scores of work motivation, self-efficacy and psychological well-being co-vary with each other in the same direction. Whereas, the scores of occupational stress with work motivation, self-efficacy, psychological well-being do not co-vary in same direction. In view of this assumption to establish the validity, the correlation co-efficient was worked out for the scores obtained from the pilot study sample (N = 30) to the scales i.e. work motivation, self-efficacy, occupational stress and psychological well-being. The correlation co-efficient between work motivation with self-efficacy, occupational stress and psychological well-being is 0.366, -0.429, and 0.533 respectively. Co-efficient of correlation of self-efficacy with occupational stress and psychological well-being is -0.326, and 0.323 respectively. The correlation between occupational stress and psychological well-being is 0.110.

All the obtained correlation co-efficient state that all the measures are highly valid and applicable to the samples.

3.9 Data Collection:

In the present study, primary data is collected from all the respondents. The samples were administrated with work motivation, self-efficacy, occupational stress and psychological well-being scales. The respondents were contacted personally in hospitals, courts and colleges by the investigator. The purpose of the visit was made known to them. Then their consent was sought for participation. Since the sample
consisted of the professionals, who were having a very busy schedule, the researcher had to make four to five visits to get back the duly filled questionnaires.

Information related to the respondents' demographic factors such as age, religion and caste, type of organization (private/public), length of service, monthly income, marital status, occupation of the spouse, number of dependants, health status, expressed job satisfaction, expressed job involvement, expressed life satisfaction were included in the bio-data sheet and collected along with the four scales.

3.10 Data Processing:

The data collected are scrutinized, coded, scored and then transformed to standard (T) scores.

3.10.1 Scrutinizing:

The responses given by each person are carefully scrutinized for wrong markings, omissions and commissions. The answer sheets, which are complete in all respects, are retained and the rest are rejected.

3.10.2 Scoring:

Each response sheet is hand-scored as per the instructions given in the manual of the respective four scales.

3.10.2.1 Work Motivation Questionnaire:

This scale consists of 5 responses 'very satisfied' to 'very dissatisfy'. For the positive items the scoring is 5 for 'very satisfied' and 1 to '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.
This scale is multidimensional yielding six dimensions. Further, dimension wise scores are obtained by adding all the items scores thus obtained are transformed into standard (T) scores.

3.10.2.2 The General Self-Efficacy Scale:

This scale consists of 4 response categories ranging from 1 to 4. i.e. Not at all true =1, Hardly true =2, Moderately true =3 and Exactly true =4. There is no negative items, the possible total raw scores ranges from 10 to 40.

The raw scores thus obtained are transformed to standard (T) scores.

3.10.2.3 Occupational Stress Index:

This scale consists of 5 response categories, the weight age for each of the positive keyed items ranges from 5 to 1 i.e. strongly disagree = 5, disagree = 4, undecided = 3, agree = 2 and strongly agree = 1, whereas for negative items the scoring is in reverse order i.e. from 1 (for strongly disagree) to 5 (for strongly agree). Thus the possible total raw score ranges from 46 to 230.

The responses obtained are scored manually as per the key mentioned above. Thus obtained are transformed to standard (T) scores.

Since the scale consists of 12 dimensions, the items' scores coming under each dimension are summed up to arrive at dimensional scores. Finally, the composite occupational stress score is obtained by adding all the dimensions.

3.10.2.4 Psychological Well-Being Scale:

This scale consists of 2 responses i.e. ‘Yes’ or ‘No’. For each positively keyed item if the response is ‘Yes’ it carries ‘1’ weight age and for ‘No’ the weightage is ‘0’.
The scoring is vice-versa for negatively keyed items. Further, dimension wise total and overall scores are calculated from these weightages. The possible scores on this measure ranges between 0 to 28.

3.11 Analysis of Results:

3.11.1 Statistical Techniques Applied:

The following statistical techniques are applied to analyze the scores obtained and verify the main hypotheses.

1. ‘t’ Test
2. Multivariate Analysis of Variance (MANOVA)
3. Univariate ‘F’ Test (ANOVA)
4. Scheffe’s Post Hoc Test
5. Stepwise Multiple Regression Analysis

3.11.1.1 ‘t’ Test:

To determine the significance of difference between the two group means, the ‘t’ test is applied. In the present study Ha₁ is verified by applying this test. The significance of difference between male and female professionals on each dimension of work motivation, self-efficacy, occupational stress and psychological well-being and their composite score is checked separately with the application of this test.
3.11.1.2 Multivariate Analysis of Variance (MANOVA)*:

This technique is applied in the present investigation for comparison of the three groups of professionals (doctors, lawyers and lecturers) simultaneously on all the dimensional scores of work motivation, self-efficacy, occupational stress and psychological well-being including their composite scores. Here it is intended to know the significance of the difference among the three professional groups on all the dimensional scores of the variables together.

3.11.1.3 Univariate ‘F’ Test (ANOVA):

The univariate ‘F’ ratios are brought out by MANOVA Programme. Each of these ratios show the significance of difference, if any among three professional groups on each variable (on each dimension too)

These two sets of MANOVA and ANOVA are applied to verify the $H_{A2}$ and $H_{A3}$.

3.11.1.4 Scheffe’s Test:

This technique is applied to know the significance of difference between groups on each dimension of each variable as well as the composite scores.

* "The purpose of MANOVA is basically to test the statistical hypothesis about experimental group means of more than one dependent variable. The test of statistical significance is used to determine whether the means of two or more dependent variables considered simultaneously are equal -- a univariate ‘F’ test, tests the difference among means on a single continuum or dimension. A multivariate ‘F’ test, however tests the significance of mean difference $K$-dimensionally. -- "(Kerlinger and Pedhazurt, 1973, 351-352)"
Since the sample consists of three groups of professionals, three possible comparisons i.e. doctors- lawyers, doctors-lecturers, lawyers-lecturers are made for verifying the difference between groups. Thus the significance of difference between groups on each of the dimensions of all scales as well as for their composite scores is checked by the application of this test (Ha2.1 to Ha2.3 and Ha3.1 to Ha3.3).

3.11.1.5 Stepwise Multiple Regression Analysis*:

This technique is applied for determining the relationship of multiple predictors on one side and a single criterion on the other. In this method the regression of Y (dependent variable) on all independent variables (X1-X2, X2, X3, X4, X5, X6) is calculated.

This analysis is performed to study the influence of demographic factors such as age, religion and caste, type of organization (private/public), length of service, monthly income, marital status, occupation of the spouse, number of dependents, health status, expressed job satisfaction, expressed job involvement, expressed life satisfaction on the work motivation, self-efficacy, occupational stress and psychological well-being of professional men and women. That is to say, this technique is applied to verify the hypotheses Ha4. The outcome of this analysis is used to identify the variables that would significantly contribute to the dependent variables.

---*----- The variables that explain the greatest amount of variance in the dependent variable will enter first; the variable that explains the greatest amount of variance in conjunction with the first will enter second and so on. In other words, the variable that explains the greatest amount of variance unexplained by the variables already in equation enter the equation at each step. And one more of the variables (s) may never be entered in the regression equation if statistical criterion is not met [Normann H. Nie et al (1975), SPSS, 2nd edition, New York : Mc Graw Hill Book Co. P- 345].