

**QUALITY OF LIFE AND PERCEIVED CAUSES
OF OCCUPATIONAL STRESS
AMONG TEACHERS**

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DECLARATION

I, P.K. Sudheesh Kumar, do hereby declare that this thesis *Quality Of Life and Perceived Causes of Occupational Stress Among Teachers* has not been submitted by me for the award of a Degree, Diploma, Title or Recognition before.

C.U. Campus,
9.12.2002



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CERTIFICATE

I, Dr. T. Sasidharan, do hereby certify that this thesis *Quality Of Life and Perceived Causes of Occupational Stress Among Teachers*, submitted to the University of Calicut, is a record of bonafide study and research carried out by **Mr. Sudheesh Kumar P.K.**, under my supervision and guidance. The report has not been submitted by him for the award of a Degree, Diploma, Title or Recognition before.

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Dr. T. Sasidharan
(Supervising Teacher)

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P.K. Sudheesh Kumar

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Chapter One

I N T R O D U C T I O N

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1

Human life and activities in the society are now attaining greater speed and keep pace with the fastly developing multimedia linked cyber culture. Each and every member of the society - worker and non worker is expecting a *future* and *culture shock* as Toffler (1970) and Furnham and Bochner (1986) have elucidated. The speed of the busy life, cultural, economical and political changes in the society, ever changing roles and role ambiguity of the person etc. are causing to precipitate a strange disease to human beings - *the stress*. Stress has become common and very frequent when and wherever there is *human touch* and *activities*. It has also become one of the most serious occupational health hazards of the time. Stress at Work and the stressful transactions are characterised in all organisational settings. The causative factors are not in the stars, but in the *individual* and in the work *environment* in which the individual is footed as well as in the transaction between *Person* and *Environment*. Occupational Stress is a *set of uncomfortable feelings* of the worker that generate from forces operating in the work place.

Stress is considered as an unavoidable experience in human life. Parents, students, layman, politicians, rulers, workers from any field especially teachers etc. irrespective of caste, creed, colour, education and status are experiencing mild to chronic stress. Stress is basic to life - no matter how wealthy, powerful, attractive, or happy the person might be. It comes in many forms - a difficult exam, an automobile accident, waiting in a long line, *problems in the work place*, a day on which everything goes wrong. Mild stress can be stimulating,

motivating, and sometimes desirable. But as it becomes more severe, stress can bring in *physical, psychological* and *behavioural* problems.

Research on Occupational Stress continue to increase and instigate the understanding of the *causes* and *consequences*. Thereby Occupational Psychologists can plan and implement *intervention programmes* to alleviate stress among workers.

Interest in Occupational Stress has become widespread in recent years. However the experience of stress is certainly not new. The cave-dwelling ancestors of the human being faced stress every time they left their caves and encountered their enemy, the saber-toothed tigers. The tigers of past years are gone, but they have been replaced by other predators – *work overload, a nagging supervisor, time deadlines, lack of job security, poorly designed jobs, marital disharmony, financial crises, accelerating rates of change* etc. These work and nonwork predators interact and *create stress* for individuals on and off the job. Much of the stress experienced by people originates in organisations; much of the stress that originates elsewhere effects people's *behaviour* and *performance* in the same organisations.

The profession of teaching is not away from the scenario of Job Stress. Stress in every worksetting is different from the Teacher Stress due to the high *responsibilities* of teachers, *social commitment* expected from them, and the *social aura* of a teacher as a *change agent* etc. The concept of *Teacher in the Society* is highly emphasised in the profession. Teachers are expected and directed to emit behavioural patterns in tune with this conceptualisation. The shortcomings in individual teachers to act congruent with such great expectations vested upon them, they are being driven by *stress*. Institutional policies and peculiarities, frequent educational reforms, misbehaviour of pupils, role conflict,

workload, work-family conflict etc. are some of the *very specific* reasons for teacher stress.

The school is as *complex* in its functioning as in any organisation. A large number of individuals assemble together everyday and work and play in a *tightly scheduled* environment. Tasks need to be performed, budgets to be balanced and reports to be submitted like any organisation. Yet, there are some essential distinctions from business organisations. First, *profit* is not the motive for existence. Second, *growth of human beings* is the primary task and an ancillary one. In spite of these two fundamental differences, the educational institutions in the industrial society *struggles* with *almost all the stressors* which is prevalent in any organisation. The *extraorganisational environment* under which the teachers are working now is also a *stress inducing* one.

Ever since India opted for liberalisation and globalisation, almost all the sectors have been witnessing an upsurge in consumption, and in competition as well. The education sector is no *exception*. But, if one was to make an assessment of educational organisations, it can be realised that very few of them have changed and fully geared themselves upto capitalise on this opportunity. It is ironical that academicians who preach have *seldom changed*. Outdated syllabus, inability to attract quality personnel, lack of vision and future-oriented outlook and mismanagement are the various causes for the sorry state of affairs. In addition, the lack of financial support from the part of Government worsen the condition. Due to these reasons Government owned or Government funded private schools are witnessing a steady decline in terms of parameters like number of student admissions and quality of education imparted. In these situations teachers may produce negative feelings like *dissatisfaction with the job, demotivation, lack of social recognition* and *social support* which will finally contribute to the creation of *job stress*.

While considering the situations in Kerala, it can be seen that its educational system has undergone a process of enormous and rapid *change* at different levels of education. At Primary and High School level new curriculum and teaching methods are introduced. At higher secondary level plus two system is established in the place of pre-degree. Qualified and senior teachers are promoted to higher secondary from Lower Primary, Upper Primary and High Schools.

Most of these teachers find it difficult to cope with the changes. It is not that the majority of the changes are intrinsically flawed, but rather that the individual teachers have been *unable to cope* with the extent of change. All these changes are taken place in a short period of time and without adequate preparation. Even the experienced and trained teachers find it difficult to adjust and to implement the new teaching and evaluation methods.

The promotion based on qualification and not on the basis of seniority affected the *morale* of some teachers. They are dissatisfied in their profession. Dissatisfied person will normally under *pressure*. This will affect the teaching efficiency and mental condition. The vast changes at the primary, secondary and higher secondary level have created an *environment ripe* for stress among teachers. These extraorganisational factors and various organisational factors created a feeling of inadequacy of resources, role ambiguity, over work load, lack of personal freedom, status incongruency, over/under promotion, insecurity in the job, inadequate feedback about performance, unfair control system and lack of effective consultation. All these stressors influence the individual *well-being* in different degrees depending upon their personality.

A person who is enjoying the work and derive satisfaction is said to be satisfied *in life as a whole*. Life satisfaction of the members in the society is a social indicator of *well-being* or *Quality Of Life (QOL)*. Attempts have been

world widely made to understand the factors that determine the QOL of teachers, other workers and non-workers. QOL encompasses a host of very subjective elements like attitudes, aspirations, fears, frustrations and mainly the state of satisfaction and dissatisfaction etc. QOL can be visualised as an evaluation of *gratification* which individuals derive from the degree to which their material and mental needs are *satisfied*. The fulfilment of personal needs and goals lead to satisfaction, well-being and happiness. To be in a state of satisfaction or well-being or happiness is the prime moto of individual life. But how far and how long the individual teacher is satisfied in one's life which is full of *work related stress* and strain? This question seems more Philosophical rather than Psychological. Putting an answer to this question is not an easy task. But can be left to Socio-Psychological and Educational investigators as *issues* for rigorous and serious research.

1.1. NEED AND SIGNIFICANCE OF THE STUDY

One is surprised at the attitude, when nearly 50 percent of the students in schools and colleges fail in their examinations. The concerned authorities do not act to put a check on this colossal wastage. It is rather shocking that with the passage of time, the percentage of failure is mounting. The availability of innovative methods of teaching and innumerable teaching aids have brought down the pass percentage rather than giving it a boost. While talk about progress in education and express concern for quality and excellence, it forget that more than the infrastructure it is the teacher who can fulfil dreams and aspirations of a nation. The policy resolution of the Government of India, 1968 said explicitly: *of all the factors which determine the quality of education, the teacher is undoubtedly the most important*. It must be identified and re-energised to make it an asset in the overall dynamism of education, which alone can develop the vast

human resources that are waiting to realise their potential in the hands of *enthusiastic teachers*.

On the Children's Day, 2000, NCERT presented the national curriculum framework for school education. The NCERT's recommendations mainly relate to ensuring a *stress free education* and a tension free evaluation. To facilitate stress free education, teachers must also feel their profession as *stress free*. But findings and conclusions stemming from studies on stress at the work place consistently and unanimously show that Occupational Stress is prevalent *among teachers*. The end result is that many effective teachers with high expectations of professional effectiveness are *demotivated* and *leave* the profession. But some stick on the work and manifested a multitude of *physical, emotional* and *behavioural* stress related symptoms. During last few years the occurrence of *stress among teachers* has received a considerable amount of research attention. In a review of Occupational Stress and Burnout among teachers Kyriacou (1987) noticed that stress is a widespread phenomena. The profession of teaching is traditionally became as being one among the highly stressful occupation.

Many researchers investigating Teacher Stress have attempted to estimate the *percentage of teachers* actually experiencing high level of perceived stress. The results have varied considerably, such that reports have concluded the figure to be from *30 to 90 percent* (Hawkes & Dedrick, 1983; Laughlin, 1984). Traverse and Cooper (1996) reported that one in three teachers have even *mild to moderate stress*. Feitler and Tokar (1982) found that only 16 percent of the sample reported their jobs to be very stressful or extremely stressful. Most of the studies conducted abroad revealed *inconsistent* findings as given earlier. After reviewing 71 articles concerning Teacher Stress Hiebert and Farber (1984) suggested that there was *little empirical support* for the claim that teaching is a stressful job. Even though *contradictory findings* are more in Teacher Stress

research, the overall conclusion is that all teachers will experience *some degree* of Occupational Stress.

During the last few years the occurrence of stress among teachers has received a considerable amount of research attention in India and abroad. Stress is a *subjective experience*, its intensity depends upon person's perception of the potential danger of an event and his or her perceived ability to cope with that event or stressor. Many factors contribute to teacher stress have been studied by previous researchers. This includes *student misbehaviour* (Brown & Ralph, 1994; Keiper & Busselle, 1996; Tang & Yeung, 1999), *work overload* (Gersten, 1995; Hardie, 1996; Thorsen, 1996), *inadequate salary* (Vance, 1989), *role conflict and diverse responsibilities* (Burns & Gmelch, 1992; Gersten, 1995), *poor working conditions* (Borg & Riding, 1991), *lack of recognition* (Laughlin, 1985; Vance, 1989; Tang & Yeung, 1999), *resource difficulties* (Borg, 1991; Gersten, 1995), *time management issues*, *lack of administrative support*, *poor student motivation* (Keiper & Busselle, 1996), *teacher accountability* for the child's educational outcomes, the child *physically attacking* others (Forlin, 1998), and serious *health problems* (Guglielmi & Tatrow, 1998).

From the research evidences cited earlier, it is to be agreed that more than any other public service professionals, teachers are affected by *continued stress* leading to *burnout*. This in turn result in a negative attitude towards student and a loss of idealism, energy and purpose (Schamer & Jackson, 1996). For productive outcomes from the schools Teacher Stress must be controlled. Although stress cannot be completely eliminated, it can be reduced and managed.

If the potential stressors are identifiable as best predictors of Occupational Stress of Teachers, refinement and modification of those predictor stressors may minimise the stress manifestations. Likewise, if the predictors of QOL is recognised, improvement in such aspects may boost-up the QOL of Teachers.

The results of uncontrolled stress of teachers are serious and costly to the individual, pupils and the institution. Of course, some effects are positive but many stress consequences are *disruptive, counterproductive*, and even *potentially dangerous*. Stress can produce *psychological* consequences on teachers. These would include *anxiety, frustration, apathy, lowered self-esteem, aggression* and *depression*. Some consequences may be *cognitive*. It includes poor concentration, inability to make sound decisions or any decisions at all, mental blocks, and decreased attention spans. Other consequences may be *behavioural*. Such manifestations as impulsive behaviour, alcohol and drug abuse, and explosive temper etc. Among the *organisational* consequences most important is the wastage of money and reputation of the institution. *Pupils* consequences include lack of motivation, support, guidance, disruptive classroom environment, etc. In a single sentence it can be said that a teacher working under stress *deny what pupils deserve from a teacher*.

Stress at workplace cannot be eliminated fully. At every moment due to the transaction between the person and work environment stress reactions may come up. Fight or fly reactions against stress is not advisable, because that may trigger risky state of affairs. Managing and coping with stress is more advisable. A host of stress management strategies are available but in the midst of stressful day to day affairs in the work settings, the person is unaware about such management techniques. A number of studies in the field of Occupational Stress concentrated the development and evaluation of various stress management techniques. Research on stress will only meaningful when it addresses the efficacy of a stress management programme.

Excessive stress increases *job dissatisfaction*. Job dissatisfaction can be associated with a number of dysfunctional outcomes, including increased turnover and absenteeism, and reduced job performance. Newspaper headlines

that emphasize teacher strikes, teacher burnout and stress, and assaults on school employees suggest that many teachers are not satisfied. A satisfied teacher can use all his potentials for the development of the child. They will become interested in undertaking new innovations in teaching and will try to improve their own professional abilities.

A comprehensive review of literature on QOL and Teacher Stress research indicated that majority of the studies were carried out by foreign investigators. Various aspects of the Teacher Stress have been investigated indepth. *Work Satisfaction, Stress and Motivation* (Pennington, 1995), *Job Satisfaction and Teacher Stress* (Heston, 1996), *Stress and Institutional characteristics* (Arnold, 1996), *Occupational Stress and Burnout, Biographical difference in Teacher Stress* (Wisniewski & Gargiulo, 1997), *Stress, Coping Strategies and Psychological distress* (Chan, 1998), *Stress and Inclusive education* (Forlin, 1998) and a number other aspects (*Stress and Role conflict, Time, Work load etc.*) are subjected for research previously. Although a good number of studies focussed on the negative effects of job related stress on both teachers and institutions, a smaller number of stress research has focussed on *causes* (Disalvo, *et al.*, 1994). Only a few studies were located investigating *Quality Of Teacher's Life and Occupational Stress* (Divins, 1991; Rossmiller, 1992; Olsen, 1993; Kershaw, 1994; and Littrell, 1994). But majority of studies attempting to examine QOL and Teacher Stress are conducted in developed countries. Studies in Indian context is found rare. The increase in concern regarding the issue of Teacher Stress and its association with QOL helps to improve the Quality Of Working Life for teachers as well as the quality of their teaching. It is in this context the investigator designed a study that deals *Quality Of Life and Perceived Causes of Teacher Stress*.

1.2. STATEMENT OF THE PROBLEM

The present study is entitled as **QUALITY OF LIFE AND PERCEIVED CAUSES OF OCCUPATIONAL STRESS AMONG TEACHERS**.

1.3. DEFINITION OF KEY TERMS IN THE TITLE

The key terms used in the statement of the problem are defined in the following subsections.

1.3.1. Quality Of Life

The term *Quality Of Life* (QOL) is defined by Szalai & Andrews (1980) as the subjectively perceived satisfaction in one's different aspect of life as reported by the individual.

1.3.2. Perceived Causes

In the present study *perceived causes* refers to those stressors experienced by the individuals as underlying causal elements of stress in the work place.

1.3.3. Occupational Stress

The term *Occupational Stress* is defined as a person's response to some threatening or disturbing stimuli emerged from the occupation (Traverse & Cooper, 1996).

1.3.4. Teachers

Teachers in the present study refers to those individuals engaging in the teaching profession in Colleges, Universities and Secondary schools, recognised by Government of Kerala.

1.4. VARIABLES OF THE STUDY

The variables identified and selected for the conduct of the present study are the following.

1.4.1. Independent Variable

Occupational Stress among Teachers is considered as the Independent Variable of the Study.

1.4.2. Dependent Variable

Quality Of Life of Secondary School Teachers is the Dependent Variable in the present study. .

1.5. OBJECTIVES OF THE STUDY

The following objectives were framed for the conduct of the present study.

- 1.5.1. To study the *Personal* and *Institutional demographics* of the sample.
- 1.5.2. To study the *extent* and *levels* of Quality Of Life and Occupational Stress of Teachers (Total sample and relevant Subsamples).
- 1.5.3. To study whether *significant gender difference* exists or not in Quality Of Life and Occupational Stress of Teachers (Total sample and relevant Sub samples).
- 1.5.4. To *compare* the Quality of Life and Occupational Stress of Teachers with regard to the Type, Locale and Management of Institutions.
- 1.5.5. To *compare* the Quality Of Life and Occupational Stress of Teachers with regard to Age, Qualification, Experience, Marital Status and Type of Career of the Couples.
- 1.5.6. To study the *nature* and *extent of association* between Quality Of Life and Occupational Stress of Teachers (Total sample and relevant Sub samples).

- 1.5.7. To study the *Future Expectations* of Teachers (Male – Female, School – College, Rural – Urban and Govt. – Private).
- 1.5.8. To *identify the best predictors* of Occupational Stress and Quality Of Life of Teachers.
- 1.5.9. To study the *effectiveness* of a Stress Management Intervention Programme (SMIP) for Teachers.
- 1.5.10. To *identify the latent factors* involved in the Teacher Stress Inventory.

1.6. HYPOTHESES FORMULATED

The major hypotheses formulated and tested for the study are as follows.

- 1.6.1. There will be *Significant gender difference* in Quality Of Life and Occupational Stress of Teachers (Total sample and relevant Subsamples).
- 1.6.2. There will be *Significant difference* in Quality Of Life and Occupational Stress of Teachers with regard to the Type, Locale and Management of Institutions.
- 1.6.3. There will be *Significant difference* in Quality Of Life and Occupational Stress of Teachers with regard to Age, Qualification, Experience, Marital Status and Type of Career of the Couples.
- 1.6.4. There will be *Significant correlation* between Quality Of Life and Occupational Stress of Teachers (Total sample and relevant Subsamples).
- 1.6.5. Occupational Stress and Quality Of Life of Teachers *can be predicted* from a set of predictor variables.

- 1.6.6. The Stress Management Intervention Programme (SMIP) *will be effective* for reducing high level of Occupational Stress of Teachers.
- 1.6.7. The *latent factors* involved in the Teacher Stress Inventory *can be identified*.

1.7. METHODOLOGY

The study was carried out in the form of a descriptive survey with built-in-Experimental Design. *Pre Intervention - Post Intervention Equivalent groups* experimental design is used in the study to ascertain the effectiveness of the Stress Management Intervention Programme (SMIP) used in the study. The methodology adopted for the investigation is the following.

1.7.1. The Sample and Design

The sample selected for the study was 200 Teachers including 100 college and 100 Secondary School Teachers. Under the College Teachers, University Teachers were also taken up. *Proportionate stratified sampling technique* was used to draw the sample from the Schools, Colleges and Universities of Northern, Southern and Middle regions of Kerala State. Due representation was given to the category of Teachers, Gender, Locale, and Type of Management of Institutions.

For experimenting the Stress Management Intervention Programme (SMIP) Experimental design is adopted. For this purpose, 20 Teachers having higher level of stress were identified at random. From the 20 Teachers, two groups comprising 10 Teachers each were selected as *Experimental* and *Control* group by tossing the coin. The Pre Intervention Stress levels of the subjects both in the Experimental and Control groups were controlled statistically. Thus the study was structured in the form of a *descriptive survey with built-in-Experimental Design*.

1.7.2. Tools for the Study

The necessary data were collected using the following tools.

1.7.2.1. Professional Life Satisfaction Scale (PLSS)

The scale is specifically designed and constructed by the investigator for the purpose of the study to measure Quality Of Life of Teachers.

1.7.2.2. Teacher Stress Inventory (TSI)

This inventory is also constructed and standardised by the investigator to assess the Occupational Stress of Teachers.

Copy of both tools in English are appended as Appendix II and IV. The procedure undertaken during the construction and standardisation of tools are described in chapter 3, sections 3.4.2.1 and 3.4.2.2.

1.7.3. Statistical Techniques

The following statistical techniques were employed to analyse the data for the present study. Analysis of data was done for the Total Sample and relevant Subsamples wherever appropriate.

1.7.3.1 Percentage Analysis

1.7.3.2 Test of Significance of Difference Between Means

1.7.3.3 Pearson's Product Moment Coefficient of Correlation

1.7.3.4 Multiple Regression

1.7.3.5 Analysis of Covariance (ANCOVA) and

1.7.3.6. Principal Component Factor Analysis

1.8. SCOPE AND LIMITATIONS OF THE STUDY

The main purpose of the study was to investigate the extent and levels of Quality Of Life and Occupational Stress of Teachers of Kerala State. The study also aimed to understand differences in and associations between *Quality Of Life* and *Occupational Stress* among the sample. The study is mainly focussed the effectiveness of a Stress Management Intervention Programme. The tools are constructed in such a way to explore the measures of the variables selected. It is expected to yield generalisable results from the study. But, due to practical considerations, the following limitations are anticipated.

- 1.8.1. A number of personality variables (Type A Personality, Self Concept, Aspirations, Job Satisfaction, etc.) and Organisational characteristics (Leadership, Communication, Morale, etc.) are seen associated with Job Stress. Those variables are not taken into consideration of the present study.
- 1.8.2. Six major components of stressors in teaching profession are adapted for the Teacher Stress Inventory. There are another sets of societal, individual and institutional factors as stressors. Those are not considered in the study.
- 1.8.3. The study will not cover Teachers in all districts of Kerala state. Due to practical reasons the sample is delimited to Northern, Southern and Middle districts of Kerala.
- 1.8.4. While examining the effectiveness of the Stress Management Programme variables like Personality type, Self Concept, Sex, Home background, Health conditions, etc. were not controlled.

1.9. SCHEME OF ORGANISATION OF THE REPORT

The report consists of five chapters. Each chapter is organised under the scheme given as follows.

Chapter One INTRODUCTION

- Need and Significance of the Study
- Statement of the Problem
- Definition of Key Terms in the Title
- Variables of the Study
- Objectives of the Study
- Hypotheses Formulated
- Methodology
- Scope and Limitations of the Study

Chapter Two REVIEW OF RELATED LITERATURE AND META ANALYSIS

- Body of Theory Pertaining to the Variables
 - Quality of Life
 - Occupational Stress
 - Teacher Stress
- Body of Related Studies Pertaining to the Variables
 - Studies on Quality Of Life of Teachers
 - Studies on Quality Of Work Life
 - Studies on Teacher Stress
 - Meta Analysis

Chapter Three METHODOLOGY

- Selection of Variables
 - Objectives
 - Hypotheses
 - Procedure
 - Sample
- Tools for Data Collection
- Design for Stress Management Intervention Programme
 - Mode of Data Collection
 - Mode of Analysis of Data

Chapter Four ANALYSIS AND INTERPRETATIONS

Preliminary Analysis

An Overview of Test Scores

Extent and Levels of QOL and Occupational Stress

Investigation of Gender Difference in QOL and Occupational Stress of Teachers

Major Analysis

Comparison of QOL and Occupational Stress of Teachers

Extent and Degree of Association Between QOL and

Occupational Stress of Teachers

Investigation of Future Expectations of Teachers

Prediction of Occupational Stress and QOL of Teachers

Effectiveness of Stress Management

Intervention Programme (SMIP)

Identification of the Latent Factors Involved in

the Teacher Stress Inventory (TSI)

Chapter Five SUMMARY FINDINGS CONCLUSIONS AND SUGGESTIONS

Study in Retrospect

Methodology

Major Findings

Conclusions and Suggestions

Future Research Directions

Chapter Two

REVIEW OF RELATED LITERATURE AND META ANALYSIS

Body of Theory Pertaining to the Variables	2.1
Quality of Life	2.1.1
Occupational Stress	2.1.2
Teacher Stress	2.1.3
Body of Related Studies Pertaining to the Variables	2.2
Studies on Quality Of Life of Teachers	2.2.1
Studies on Quality Of Work Life	2.2.2
Studies on Teacher Stress	2.2.3
Meta Analysis	2.2.4

2

REVIEW OF RELATED LITERATURE AND META ANALYSIS

Literature related to the basic *theoretical* and *empirical* aspects of the variables undertaken for the study are reviewed in this chapter of the report. The reviewed literature has been presented under the following sections.

2.1 BODY OF THEORY PERTAINING TO THE VARIABLES

2.1.1 QUALITY OF LIFE

2.1.2 OCCUPATIONAL STRESS

2.1.3 TEACHER STRESS

2.2 BODY OF RELATED STUDIES PERTAINING TO THE VARIABLES

2.2.1 STUDIES ON QUALITY OF LIFE OF TEACHERS

2.2.2 STUDIES ON QUALITY OF WORK LIFE

2.2.3 STUDIES ON TEACHER STRESS

2.2.4 META ANALYSIS

2.1 BODY OF THEORY PERTAINING TO THE VARIABLES

An overview of the literature in the field of Psychological, Social - Psychological and Educational research concerned with the variables selected for the study is presented in this section. The extensive review helped the investigator to formulate a strong theoretical footing for the study.

The major focus of this part of the review is to draw out the *conceptual*, *theoretical* and *empirical* development of the concepts of Quality Of Life (QOL) and Occupational Stress (OS) among Teachers and its assessment.

2.1.1. QUALITY OF LIFE (QOL)

The term QOL has been using with different connotations in different nations and this indicate the generality of the concept and has a world wide popularity. In France it is *Qualite' de Vine*, in Germany it is *Qualitat des Le bens*, in Soviet Union, it is *Kotchestov zhizni* (Szalai & Andrews, 1980). The lack of any direct reference to the term in Encyclopedias and Dictionaries increase its *ambiguity*. So, the effort to get a direct definition of the term is *not possible*. But, efforts are being made to define it in an indirect way by the investigators in this field of research.

The term Quality refers to *good* or *satisfactory* character of people's life (Szalai & Andrews, 1980). In the concise Oxford Dictionary the term Quality of Life is given as the *degree of excellence*, relative *nature* or *kind* or *character*. eg: *good quality, high quality, poor quality*, etc.

The word *life* in this context is denoting human life only. But, an overview of the literature shows no full agreement among the researchers in this field. In Sociological literature, terms like *standard, level of living, style of life, quality of life, way of life* etc. are used each in several different meanings, and used interchangeably.

The above factors indicate its *general adaptability, multi-facet character, comprehensiveness* and it may refer to in one case specifically to *health*; in other cases to unspecified conditions of *satisfaction* with life events, environments and financial prosperity. Its general meaning and its semantic sense lead to the question of *well-being* and about any factor or factors that has an influence on a person's well-being. So, *How are you* type of questions, *how goes it, How is life?* etc. are questions about the people's Quality Of Life (Szalai & Andrews, 1980). These questions elicit information on the addressed person's perception, view or

judgement about his/her own life, about his/her existential state, about the sort of life in which he/she is involved. This notion is supported by Sinha (1986) and states that *QOL refers to the life of an individual lives outside or away from his/her work (though not devoid of working life; a part of life)*. It is *his/her life in family, society and the environment he/she lives in*. The clarification of the concept is too *difficult* (Bestuzhev-Lada, 1980) and the concept is still a *controversy* and *ill-defined*.

QOL can be understood as an evaluation of gratification which people derive from the degree to which their material and mental needs are *satisfied*. This defies direct quantitative measurement and requires complex method of *indirect quantification*. Every thing that fulfils the need for self preservation, self development, self expression, self realization and self respect on the part of others is part and parcel of Quality Of Life. The fulfilment of individual needs directly lead to the *subjective satisfaction, well being and happiness* etc.

Researchers like Campbel (1976), Andrews and Whithey (1973) have agreed and worked with a *life satisfaction* model of QOL. Abraham and Hall took a series of studies which shared a conceptual model and methodology of Campbel's work. These studies have shown that, there is a collective notion among the investigators working the area concerned to conceptualise the term QOL as *perceived life satisfaction* of the individual. Thus an index of subjectively perceived satisfaction in one's different aspect of life may be considered as the index of QOL. So, it can be concluded that the concept of QOL is based on the individual's perception about his/her own life. Emphasis is placed on the *assessment of satisfaction* that a person derives or fails to derive, from his/her life in general and from particular aspect of it. Satisfaction in turn viewed as the interaction of the individual's perception of his/her *current situations* on one hand, and his *expectations and aspirations* on the other hand.

2.1.1.1. Variables and Assessment

Attempts have been world widely made to assess the determinant variables of QOL. It is assumed that QOL is not simply the sum of its parts. It is much more the result of heterogeneous forces and factors.

QOL consists of subjective variables, viz., attitudes, aspirations, fears, frustrations and mainly the *states of satisfaction* and *dissatisfaction*. The distribution of objective variables like material and non-material goods is one of the basic determinants of the life quality of the population in a given country (Hankiss, 1980). One of the priorities of QOL research is the relation between objective variables and subjective variables as mentioned above.

The development of structural variables as reported by Hankiss (1980) are as follows:

- a. Social Climate Index
- b. Social Integration Index
- c. Social Opportunity Index
- d. Human Life Index

Szalai and Andrews (1980) give a long list of Ten QOL indicators. It is again subdivided into many. The major indicators are:

1. Population
2. Social status and mobility
3. Employment and working conditions
4. Income and income distributions
5. Consumption
6. Transportation
7. Housing

8. Health
9. Education, and
10. Participation

The concept and its assessment is *yet to be ascertained* firmly. Efforts in this direction may be at an experimental stage, where ultimate success is a probability only. In recent years some approaches had been derived, but their credentials were never really proved. Gerrons (1976) advocates two basic approaches, viz., *Individual* and *Transcendental*. Both these approaches of QOL are inadequate in the sense that neither can define individual's QOL in self consistent terms, nor can specify the organisation of the society which will best ensure a high QOL for the individual or the society as a whole.

Recent studies both in USA and in Scandinavia show consistently low correlation between levels of living indices and measures of *subjective satisfaction* and *happiness*. The discrepancy between objective welfare and subjective well-being has upset the old notion that the QOL would continue to improve with increasing material assets (Campbel, 1976).

Framing a consistent system of indicators are the first methodological problem. So, a conceptual framework which should refer to the various characteristics of one integral phenomena i.e., people's life in society is inevitable (Bestuzhev-Lada, 1980). Andrews and Whithey (1973) developed measures of perceived life quality. According to them there are two types of social indicators viz., *subjective* – based on individual reports about their own perception, feeling and responses and the like; and *objective* – such as crime rate, population density, etc.

QOL is assessed by the fulfilment and achievements of concepts of happy life. What items of the concept he/she has achieved, which item he lacked and

how much? How much of an item or indicator he/she has? and How much he/she desires? Answers to these questions are likely to give an insight to one's own QOL.

The bulk of the present knowledge about QOL is centered around the public welfare, on people's needs and need satisfaction, on human concerns, on well-being and happiness and individual aspirations. Since the assessment methods depend on the index of *life satisfaction*, the following part of the discussion is concentrated on *life satisfaction*, *well-being*, *happiness* and *aspirations* of the individual.

2.1.1.2. Subjective Well-being (SWB), Happiness, Satisfaction and Aspiration of the Individual

Subjective well-being is concerned with how and why people experience their lives in *positive* ways. Diverse terms as happiness, satisfaction, morale and positive affect have been used. In the present context, these terms are one at the same time and contribute to the QOL of the individual.

Most of the researchers agree that *happiness is satisfaction*. *Happiness represents satisfaction with one's existence as a whole* (Rushdal, 1967). John Locke emphasised happiness is satisfaction (Tatarkeiwicz, 1976). The state of happiness or well-being has been defined by an external criteria such as virtue or holiness (Diener, 1984). A related meaning is given by Tatarkeiwicz (1976) is, success, which must be defined relative to some standard. Aristotle states that *to be happy is to live well and to do well*. From the diverse meanings of these terms, Tatarkeiwicz (1976) evolved a definition of happiness which in a sense, some kind of *satisfaction*. Satisfaction is happiness only when it is *complete satisfaction*; satisfaction with particular things. Happiness requires total

satisfaction i.e., satisfaction with the life as a whole. To Priestly (1980) satisfaction lies somewhere between *satisfaction* and *ecstasy*.

Social scientists have focussed on the question of *what leads* people to evaluate their lives in positive terms. This dimension of SWB has come to be labelled as *life satisfaction*. In modern times the concept of happiness refashioned rather than described as possession of goods – as Aristotle did – but as a subjective sense of gratification. A life is a happy one if the person is satisfied with it, and it is the person satisfied with his/her life who is qualified as happy. Eventhough this idea has a *hedonistic* slant, QOL researchers have defined this form of happiness as a global assessment of a person's QOL according to his/her own chosen criteria. It is the harmonious satisfaction of one's *desires, aspirations* and *goals*.

The concept of *aspiration* was introduced by Lewin and colleagues, Happe and Dembo. According to Lewin, it is that particular goal which is arrived at by maximising the sum of satisfaction from the attainment of the goal (success) and dissatisfaction from non attainment (failure) (Lindzey & Aronson, 1975), or it may be defined as the degree of difficulty of attainment of the goal towards which the person is striving. It is used as a motivational construct for attaining the goal and refers to the process of setting goal by an individual.

Hove (1970) conceived the level of aspiration as a technique for studying Psychological factors which operate in the production of feelings of success and failure (Girish, 1970). The experimental conclusions in this study were based on the spontaneous remark under various success and failure situations. Extensive studies were conducted in the area of *n'ach* and level of aspiration. The personality specific expression of achievement motivation decisively influence the aspiration level preferred by the individual.

The relation between *level of aspiration* and *life satisfaction* is clearcut. Concepts like *n'ach*, *achievement motivation*, etc., are seem to be related with the individuals overall satisfaction. But, empirical studies concerning these aspects could not find. In the present context, life satisfaction means the attainment of goals of the individual in his/her life. The aspiration level of the individual activates him/her to set attainable goals within the capacity and, tempts the individual to strive effectively for the attainment of the same. This will lead to the satisfaction with his/her life goals. While doing daily activities and, even choosing life goals people differ too much in their aspirations and life expectations. The pursuit and attainment of happiness can be seen as congruent with the aspirations. The aspiration arises one's level of life expectations.

It is observed that subjective well-being, life satisfaction, happiness and aspiration etc., are related with the QOL of the individual. In the following part, a brief account of the theories of well-being is highlighted.

2.1.1.3. Theories of Subjective-Well-Being (Diener, 1984)

Many theories are being put forth by different investigators regarding the subjective well-being of the individual. Some of those theories which have a strong theoretical basis for the life satisfaction and QOL of the individual are briefly explaining here.

1. *Telic Theories*

Telic or end point theories of SWB maintain that happiness is gained when some state such as a goal or need is reached. It is postulated that the satisfaction of needs causes happiness and conversely persistence of unfulfilled needs causes unhappiness.

2. *Need Theories*

There are certain inborn or learned needs that the person seeks to fulfil. Happiness is following the fulfilment of needs. The person is consciously seeking certain goals and happiness results when they are reached.

3. *Opponent Process Theory*

Loss of something good leads to unhappiness and loss of something bad leads to happiness. A person may habituate a good or bad object and then it will bring less happiness with repeated exposure. The opposing effect when the object is lost, will be greatest. Initial studies on this theory of happiness is not been supportive enough.

4. *Activity Theories*

Happiness is a by-product of human activity. Aristotle was the earliest and chief proponent of activity theories. To him, happiness comes only through virtuous activity. According to these theories there are some human abilities and happiness arises when they are performed in an excellent manner.

5. *Top down vs. Bottom up Theories*

To some Philosophers, happiness is the sum of many small pleasures (Bottom up theories). Top down approach assumes that there is a global propensity to experience things in a positive way and this propensity influences the momentary interactions on individuals has with the world.

6. *Associationistic Theories*

Many of these theories are based on conditioning of cognitive principles that can be subsumed under the framework of associationistic models. One cognitive approach rests on the attribution people make about the events

happening to them. A happy person might be a person who have had very positive affective experiences associated with a large number of everyday stimuli.

7. Judgement Theories

Happiness result from a comparison between some standard and actual conditions. If actual condition exceeds the standard, happiness will result. In case of satisfaction such comparison may be conscious. In case of affect, comparison occurs in a non conscious way.

8. Adaptation theory

Adaptation to events means that, when they first occur, events can produce either happiness or unhappiness depending on whether they are good or bad. Overtime, the events lose their power to evoke happiness. A person adapts good conditions, so they no longer evoke happiness, a similar adaptation process occurs for bad events. This adaptation is based on the individual standard. If current events are better than the standard, happiness results. If good events continue adaptation will occur.

It can be concluded that all the theories cited above explain the *dynamics* of human happiness which lead to life satisfaction.

2.1.1.4. Development of the QOL Model

The Centre for Health Promotion conceptual model is seen as applicable to *all persons, with or without developmental disabilities*. It was developed on the basis of an analysis of the literature on quality of life and qualitative data collected in the context of focus groups and in-depth interviews with persons with and without developmental disabilities.

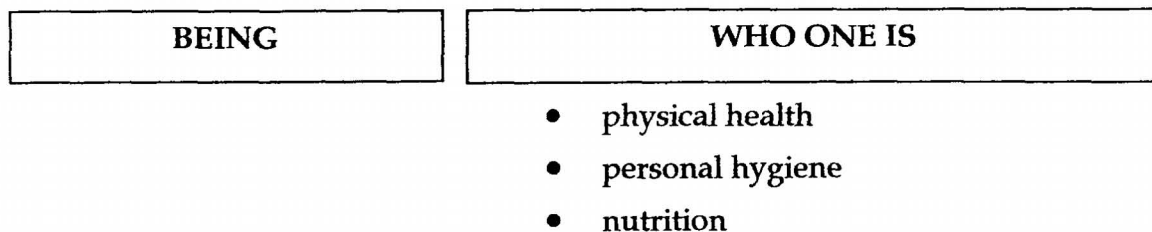
Following the preliminary development of the conceptual model, it was tested for relevance and refined by means of rigorous review by adults with and

without physical and developmental disabilities, adolescents, and older adults living in the community. In each case, the applicability of these concepts was examined for relevancy for the population, instruments and methods were created, and collection of data carried out. The model is multidimensional and assumes that quality of life is holistic in nature.

The *Quality of Life Profile* was developed to provide a measure that considers both the components and determinants of *health* and *well-being*. It draws upon a conceptual model that is consistent with recent definitions of health and health promotion as provided by the World Health Organization. The profile emphasizes individual's physical, psychological, and spiritual functioning; their connections with their environments; and opportunities for maintaining and enhancing skills.

Conceptual Framework

This conceptualization defines Quality Of Life as: *The degree to which a person enjoys the important possibilities of his or her life*. Possibilities result from the opportunities and limitations each person has in his/her life and reflect the interaction of personal and environmental factors. Enjoyment has two components: the experience of satisfaction or the possession or achievement of some characteristics, as illustrated by the expression: *She enjoys good health*. This conceptual framework has three life domains, each of which has three sub-domains.



Physical Being

- exercise
- grooming and clothing
- general physical appearance
- psychological health and adjustment
- cognitions
- feelings

Psychological Being

- self-esteem, self-concept and self-control
- personal values

Spiritual Being

- personal standards of conduct
- spiritual beliefs

BELONGING**CONNECTIONS WITH ONE'S ENVIRONMENTS****Physical Belonging**

- home
- workplace/school
- neighbourhood
- community
- intimate others
- family

Social Belonging

- friends
- co-workers
- neighbourhood and community
- adequate income
- health and social services
- employment

Community Belonging

- educational programs
- recreational programs
- community events and activities

BECOMING	ACHIEVING PERSONAL GOALS, HOPES AND ASPIRATIONS
Practical Becoming	• domestic activities • paid work • school or volunteer activities • seeing to health or social needs.
Leisure Becoming	• activities that promote relaxation and stress reduction
Growth Becoming	• activities that promote the maintenance or improvement of knowledge and skills • adapting to change

2.1.1.5. Importance and Satisfaction

The extent of person's Quality Of Life in the areas of *Being*, *Belonging* and *Becoming* and their sub-domains is determined by two factors: importance and enjoyment. Thus, Quality Of Life consists of the relative importance or meaning attached to each particular dimension and the extent of the person's enjoyment with respect to each dimension. In this way Quality Of Life is adapted to the lives of all humans, at any time, and from their individual perspectives.

2.1.1.6. Decision-Making and Opportunities

This sensitivity to the specific life situations of individual people also presents a limitation, namely that people may be highly satisfied with the important possibilities of their lives within an environment that is of poor quality. This may result from people being unaware that better quality is possible, or from people being consciously aware that they have to suppress the importance of some possibilities because of their present circumstances. For example, people living in institutions may consider their Quality Of Life to be good because they

have had no opportunities to know other possibilities and have no power to effect change in any case. Thus Quality Of Life needs to include the quality of the environment in which the person lives. To address this, *a quality* environment is one which:

1. provides for *basic needs* to be met (food, shelter, safety, social contact).
2. provides for a range of *opportunities* within the individual's potential.
3. provides for *control* and choice within that environment.

Thus, a person's perceptions concerning his/her decision making regarding the important possibilities of his/her life and the extent of his/her potential opportunities in the areas encompassed by *Being*, *Belonging* and *Becoming* are indicated by the *Control* and *Opportunities* scores. While these measures are not part of the computation of QOL scores, they provide information by which Quality Of Life scores can be interpreted.

In recent years, Quality Of Life (QOL) has become a key concept in the medical community. Modern health care places dual emphasis on the health care provider's treatment and the patient's of this treatment. Conjoining these two perspectives is a task for which the QOL concept is especially well-suited, in that it comprises both objective and subjective aspects: The personal, subjective experience of one's own life, as well as the more objective assessment of external factors that influence its quality.

Research designed to measure QOL, however, suffers from various problems relating to theory and method, as several writers have pointed. Prominent is the poverty of theoretical foundation. Without an overarching theory of QOL to guide the design of instrument it is difficult to determine what to measure and how. Related to this is the problem of *validation*. Instruments are typically checked only by observation-to-observation cross-checks, and rarely

by reference to theory, let alone to the experience of the respondents: Do they feel their QOL is gauged correctly by the instrument?

Quality Of Life research unit, University of Toronto currently carrying out a QOL questionnaire investigation of nearly 10,000 subjects in a manner intended to overcome these problems. The unit presents the methodological framework employed, sketches a theory that integrates subjective and objective QOL.

2.1.1.7. Seven Construct Criteria

The methodology underlying this research is presented in terms of seven criteria that must be met for a QOL concept to become a scientifically sound construct. The criteria are summarised as follows:

1. **A definition of QOL.** Serious QOL research cannot take the meaning of the term for granted. Without an explicit definition, how do researchers know they are talking about the same thing? A clear definition specifically decreases the likelihood that health-care policy-makers and other users of the research results misrepresent him.
2. **A coherent philosophy of human life** from which the definition of QOL is derived is imperative. Take it as axiomatic that any notion of QOL is predicated on a particular view of life, and one ignores this at one's own risk. An atheoretical approach of the all-too-common kind may look less contrived, hence more objective, but is more likely to involve greater arbitrariness, social prejudice and confused thinking.
3. **A theory.** The philosophy of life must be operationalised, that is, made amenable to practical scientific investigation. A theory serves this function by structuring reality in such a way that particular aspects stand out and call for scrutiny. To this end, relevant questions are formulated. They must be

unambiguous, non-overlapping and jointly exhaustive. The profusion of vague and repetitious questions that characterizes many purportedly global QOL questionnaires is indicative of inadequate theoretical guidance. Poor theoretical preparation invariably returns to haunt the investigation after data collection, as all available office space fills with questionnaires that no one knows how to score.

A good theory also establishes the relative weights given to each question, that is, the influence each response has on the overall measure of QOL. All too often no serious theoretical justification is given for the weights assigned. Purely statistical weights, derived by regression or "factor" analysis, are not satisfactory, as the application of statistical procedures *per se* does not guarantee meaningfulness.

4. Quantifiable response alternatives. Each question must be given a set of response alternatives that can be interpreted quantitatively in accordance with the underlying theory, preferably as fractions (e.g., percentages) of the theoretically given span from minimum to maximum. A minimal requirement is an interval scale, allowing averages to be calculated and additive effects to be discussed. Ideally, the scale has a bottom and a top, which allows intermediate positions to be interpreted on a fraction scale, that is, as fractions or percentages.

5. Conventional technical checks of reproducibility (reliability), sensitivity, and well-scaledness must be performed. These checks, however, should not stand alone, as they often appear to do in the literature. In fact, there is an unseemly tradition in health profile research according to which casually selected correlation coefficients are uncritically adduced as evidence of validity and usefulness.

6. Validity through meaningfulness. Participants in the research and those who use its results must find the elements of the research that they encounter

meaningful. They must see the underlying theory, the questions asked (the issue of face validity), the responses given and the analysis performed as transparent (no hidden agendas), intelligible (not overly complex) and reasonable. Specifically,

- investigators administering a questionnaire developed by someone must find the theory, the questions, the response alternatives and the scaling meaningful;
- the respondents must find each individual question meaningful and must feel that the questions collectively express their Quality Of Life;
- those for whom the results are intended must be able to understand the results and the underlying theory.

This criterion aims to prevent the administration of questionnaires that the investigators do not fully understand the respondents feel alienated by, and the results of which are subsequently misconstrued by health-care policy-makers.

7. **The aesthetic dimension** requires attention. Not only the content, but also the composition of a questionnaire is important, as is a large number of other contextual factors: Topography, layout, diagrams, sequence of questions, choice of words, the tone of the instructions. A questionnaire - must feel right, and designing it is an art.

2.1.1.8. An Integrative Quality Of Life Theory

This section outlines the so-called Integrative Quality Of Life (IQL) theory that underlies many QOL research.

The IQL theory is a meta-theory that integrates six extant QOL theories by organizing them along a spectrum from *subjective* to *objective* QOL. Three of

them concern subjective QOL and are listed in increasing order of depth: QOL as immediate, self-experienced well-being, as satisfaction in life and as happiness *modum*. The fourth concerns objective QOL and lists a number of things that may or may not obtain: Does the respondent have a partner, children, a job, hobbies?

The two remaining theories are about human nature: Maslow's theory of human needs further elaborated by Aggemms and a theory of human beings seen as striving to express life's potentials. In their concern with the deeper levels of human existence, these two theories are taken to mediate between the subjective and objective sides of human being and are thus placed between these extremes.

The IQL meta theory allows for two additional theories that blend the subjective and the objective ends of the spectrum by eliciting respondents' subjective experience of two sets of objective factors: The temporal, respondents spatial organisation of their lives. *Temporal organisation* refers to the manner in which modern life is divided between works, family and leisure, and *spatial organisation* refers to the socio-spatial domains or levels presented as follows:

Eight Quality Of Life theories are organised along a subjective-to-objective spectrum by an Integrative Quality Of Life meta theory (IQL).

Subjective

1. Immediate self-experienced well being
2. Satisfaction
3. Happiness
4. Fulfilment of Needs
5. Experience of objective temporal domains
6. Experience of objective spatial domains
7. Expression of Life's potential
8. Objective factors

Objective

The QOL assessment afforded by each of the eight constituent theories aspires to be global (covering all aspects of a person's life, not just those related to a particular dysfunction) and generic (applicable to all persons, not just those belonging to a particular disease category). Organized under the IQL umbrella, the instrument derived from the eight theories further attempt a comprehensive QOL assessment that includes a broad spectrum of subjective and objective factors.

A global, generic and comprehensive measure of QOL should be useful whenever a well-rounded description of the consequences of treatment or other intervention is called for. The eight constituent IQL theories can be individually and collectively assessed for covariation with any variable of interest and thus provide both an aggregate QOL measure and, when needed, a suitably detailed view.

2.1.1.9. Satisfying the Construct Criteria

For the IQL meta theory to be viable, each of the eight constituent theories must meet the seven criteria discussed earlier.

1. Definition: Quality Of Life resides in the full expression of life's potentials.
2. Philosophy: A human being is a biopsychosocial being who, through the expression of life's potentials, strives to build a bridge between a deep, inner world and the outer world at large.
3. Theory: Human life is hierarchically organized, with levels ranging from organic molecules through cells to the organism or the self, and further up through the dyadic relationship (partner), the close family (one's parents and children), friends and acquaintances (including siblings), and finally to

the world at large (society and biosphere). Only the last five levels, from self to world, are considered here. For life to express itself fully, there must be quantity and quality at each level in the hierarchy. A level must feature a certain number of elements (there must be a self, one must have a partner, a family, friends, and a larger social world) and they must be experienced as good. All levels are here considered of equal importance. This theory is an operationalisation of the philosophy, in that the question to be included in the questionnaire must ascertain the quantity and quality of each level, for example, *Do you have a mate?* and *How good is the relationship?* The questions are as unambiguous as one can expect in real life (a partner is a partner), non-overlapping (a sibling is not a partner) and jointly exhaustive (quantity and quality of all five levels are included). Further, the relative, weighting of the questions is given by the theory: Equal weights.

4. The qualitative questions in this theory are given quantifiable response alternatives by a scale construction that combines the core properties of a *numerical scale*, a *visual analogue scale* and the *Likert attitude scale*. The resulting scale specifies a range from 0% to 100% of the theoretical maximum and has named gradations.

QOL is an area of study that has attracted a great deal of interest over the past 10 years particularly in the areas of *health* and *social services*; but increasingly in *medicine*, *education* and others. The study of QOL is an examination of factors that contribute to the goodness and meaning of life, as well as peoples happiness. It also explores the interrelation among these factors.

The ideological thrust of Quality Of Life study to promote means for people within their environments, to live in ways that are best for them. The

ultimate goal of QOL study and its subsequent applications to peoples lives is to enable people to live quality lives – lives that are both *meaningful* and *enjoyed*.

Quality Of Life is emerging as a central construct within many disciplines, such as social sciences, economics and medicines. Its attractions, in part, is that it offers an alternative to some traditional disciplinary views about how to measure success. First, it directs attending positive aspects of people's lives, thus running counter to the deficit orientation of these factors. Second, it extends the traditional objective measures of health, wealth, and social functioning subjective perceptions of well-being. The following generic definition of Quality Of Life has been adopted.

Quality Of Life is both objective and subjective. Each of these two axes comprises several domains which, together, define the total construct. Objective domains are measured three culturally relevant indices of objective well-being. Subjective domains are measured through questions of satisfaction.

Quality Of Life is a construct used by many different disciplines. This is one of the features attendance at Quality Of Life conferences so interesting and challenging. Each discipline has received wisdom as to how to describe the information that define that their area of interest construct like *Quality Of Life* is incorporated into these different disciplinary contexts that are biased towards each discipline.

The following are these different disciplines: Disability studies, Economics, Education, History, Law, Management Information System, Medical sociology, Medicine, Philosophy, Police studies, Psychology, Public health, Social work and Women's studies.

2.1.1.10. Comprehensive Quality of Life Scales

The following are some of the world widely used Comprehensive Quality Of Life Scales.

- *ComQOL-A5-Adults*. This 64 page manual presents the adult version of the ComQoI Scale. It includes instructions on scale administration and scoring. Scale norms and other psychometric properties derived from 70 pages.
- *ComQOL-S5 - School Children*. This manual presents the scale version to be used with adolescents age 11 to 18 attending school. It is a parallel version of ComQoI-A5. It includes details of scale scoring, and psychometric performance.
- *ComQOL-15 - Intellectual Disability*. This 84 page manual presents the scale version to be used with people who have intellectual or cognitive disability. It is parallel version of ComQoI-A5. In addition to administrative and scoring procedures, it also contains a thorough pre-testing programme is designed to establish that the person to be tested is able to validly respond to the questions involving subjective life quality. Psychometric data are also presented.

2.1.2. OCCUPATIONAL STRESS

Stress has become one of the most serious occupational hazards of the new millenium. It had been as same in the past decades and also it will be so in the future. The literature on Job Stress continuous to grow in an amazing speed. Like other areas of Psychology, job stress research promotes a rich debate in the area of theoretical systems, constructs and relationships.

2.1.2.1. The Concept

Stress is the manifestly *uncomfortable feeling* that an individual experiences when he/she is forced to deviate from normal or desired patterns of functioning. Occupational Stress simply is the set of such feelings that derives from forces found in the work place.

Stress is the *negative emotional and physiological process* that occurs as individuals try to adjust to or *deal with* environmental circumstances that disrupt, or threaten to disrupt, their daily functioning (Lazarus & Folkman, 1984; Taylor, 1995). Thus stress involves a *transaction* between people and their environments. The *environmental circumstances* that cause people to make adjustments are *stressors*. Stress reactions are the *physical, psychological, and behavioural responses*, that people display in the face of stressors. The term stress is used to connote *a variety of meanings* both by the common man and psychologists. Psychologists of different persuasions have given (a) *stimulus-oriented*, (b) *response-oriented* (both physiological and behavioural) definition of the term, and (c) psychologists have also treated the concept from the *etiological and psychodynamic view points*. It appears that under these circumstances the essential features of the stress experience have not received the attention they deserve (Asthana, 1983).

A *stimulus-oriented* approach regarded stress as an *external force* which is perceived as threatening. Some view threat itself as stress. According to Selye (1956), any *external event* or *any internal drive* which threatens to upset the organismic equilibrium is stress.

The *response-oriented approach* describes how stress is reacted to, and how people function under stress. The way it is presumably experienced is inferred from the *response made to it*. Psychiatrists have identified four phases in

the reaction to stress-the initial phase of *anticipatory threat*, the *impact of stress*, the *recoil phase* and the *post-traumatic phase*.

The *psychodynamic approach* considers *events* (both external and internal) which pose a threat to the integrity of the organism leading to the disorganisation of personality as stress. Stress presages *loss of ego strength* and *loss of ego support*. Stress may be induced by *interpersonal* or *intrapsychic* (between own impulses and ego) factors resulting in anxiety.

In order for an action, situation, or event to result in stress, it must be *perceived* by the individual to be a source of threat, challenge, or harm. If there are *no perceived consequences* - good or bad - there is no potential for stress. *Three key* factors determine whether an experience is likely to result in stress. These factors are importance, uncertainty, and duration. *Importance* relates to how significant the event is to the individual. *Uncertainty* refers to a lack of clarity about what will happen. Frequently, *not knowing* places more demands on people than does knowing, even if the known result is perceived as negative. Finally, *duration* is a significant factor. The longer special demands are placed on us, the more stressful the situation. Stress of short duration is referred to as *acute stress*. It may last a few seconds, a few hours, even a few days. Long duration stress, on the other hand, is referred to as *chronic stress*. Chronic stress may last for months and years.

2.1.2.2. Stress - An Indian Perspective

The concept of stress in the modern sense is not easily found in the traditional texts of Indian culture and tradition such as *Carak Samhita*, Patanjali's *Yogasutra* and *Bhagwad Gita*. However, a number of concepts developed by ancient Indian Scholars relate to or appear similar to phenomenon of stress. Some of these, are *dukha* (pain, misery or suffering), *klesa* (afflictions), *kama* or

trishna (desires), *atman* and *ahamkara* (self and ego), *adhi* (mental aberrations) and *prajnaparadha* (failure or lapse of consciousness). The body-mind relationship, characteristic of modern stress studies, is emphasized in the Ayurvedic (Indian) system of medicine.

Palsane, *et al.* (1993) noted that the Indian tradition is characterized by a *holistic* approach to human phenomena. Behaviour is interpreted in terms of the totality of an individual's lifestyle and total body-mind relationship. They also observed that modern Western psychological literature focusing on ideas related to the strength of motives and frustration and their behavioural consequences, the *frustration-aggression hypothesis*, *ego involvement*, *mind-body interactions* (psychosomatics) and *locus of control* have their parallel in ancient Indian thought.

Rao (1983) has pointed out that there are two Sanskrit words *klesa* and *dukha* in *Samkhya* and *Yoga* systems which approximate stress. *Klesa* are not mental processes but are a set of *hindering load* on our mental process, they produce agitations which act as restrictions or hindrances. The *Samkhya* system postulates that the feeling of *dukha* or stress is experienced by the individual in the course of his/her interaction with the world around him/her. This system mentions three types of stresses: *personal*, *situational* and *environmental*. Personal stressors can again be two types, namely, physiological and psychological (or mental).

Klesa, as stress has been defined, operates through four different modes. The first is *prosuptha* or dormant. Given the right type of conditions, any *mental process* can become a stressor. The second is *tonu* or tenuous denoting comparatively weak stressors which are held in check by more powerful stressors. They are present but without sufficient intensity and urgency. The third type of stressors are *vichchinna* or intercepted; these lack continuity due to conflict with

competing responses. Their demand character is high but they alternate between levels of *high operation* to *dormant*. Naturally, they surrender their stressor value when in a dormant stage. The fourth mode is *Udara* or operative stressors. These are potent stress responses which have found full expression in clearly observable behavioural modes. They have overcome the weaknesses of the first three modes.

This model proposed in the *Yogasutra* is a comprehensive one incorporating cognitive structuring, affective or emotional stages and adaptive reactions. It also presents the concept of *Kriya Yoga* which is aimed at reducing the *number and intensity of the stressors* and facilitates related conservation of mental energy devoid of tension which is defined as *Samadhi bhavana*.

It is evident from this discussion that like Western researchers, Indian scholars also *differently* approached the problem of stress. They viewed this phenomenon from various perspectives ranging from stimulus-oriented to response and psychodynamic points of view. Ancient Indian scholars, seem to have paid due attention to stress. The system of yoga is analytical and not only helps the individual in understanding his own stressors but also leads him to the roots of these stressors. Based on the differently different viewpoints of stress a number of stress theories have evolved.

2.1.2.3. The Background of Stress Theories

Unlike most areas within psychology, the study of stress is basically limited to the twentieth century. As early as 1914, Cannon claimed that the sympathetic nervous system is activated by signals from the *brain* when a person is exposed to an emotionally arousing stimulus. This results in increases in *heart rate, blood pressure, and perspiration* and prepares the individual for significant physical activity. Cannon's work was limited in that the role of *behavioural and psychological factors* in the stress response was ignored; however, his research

paved the way for the most famous theorist in the field, Hans Selye. Selye (1984) maintained that the body responds similarly to a wide range of stressors. He labeled this three-stage response the *General Adaptation Syndrome (GAS)*. Selye's emphasis on the *nonspecific, biological aspects* of stress led to the formulation of many theories of stress and countless research efforts.

Cannon (1939) and Selye (1984) clearly focus on stress as a *biological response* of the person to a wide range of stimuli. Selye emphasizes the nonspecific nature of the stress response. Mason has criticized this view. He viewed stress as *dependent upon* emotional responses to situations. People who are not psychologically aware of the existence of a potentially stressful event are *least* likely to experience a stress response.

The theories of Cannon and Selye emphasize *biological factors*, while Mason's theory is typically described as an *interactionist* approach to stress. The psychological approach to stress is best represented by the work of Lazarus (1966). He claims that the key to a stress response cannot be found in either the nature of a *specific stressful event* or the *person's response* to that event. Rather, the most important factors are cognitive. Lazarus believes that it is the *person's perception* of an event that is crucial. This perception involves a combination of the person's perception of the potential danger of an event and his or her perceived ability to cope with that event. Stress will occur in those circumstances in which the person perceives that he or she does not have the ability or resources needed to cope with the situation.

Whether they support a *biological, interactionist, or psychological* approach to stress, all theorists agree that stress has the capability of increasing the risk of suffering various forms of illness. In addition, many theorists believe that important relationships exist between *stress, personality*, and susceptibility to disease.

2.1.2.4. Stress in the Work Place

Today's workplace are filled with micro-task specialization and greater urbanization. Phenomena like these are closely linked with work settings which have numerous systems such as production, finance, administration as well as macro-organisational sub-systems like inter-organisational systems and organisational level goals, strategies, climates, cultures, structures, management styles and performance. Very often the human in the system is reduced to a mere *insignificant cog in the wheel* of the total technological set-up. This tends to generate feelings of powerlessness, meaninglessness, normiessness and consequent stress. Researchers interested in the studies of stress at workplace treated the concept in *different* ways. This can be categorised as *Traditional Approach* and *Transactional Approach*. These two are briefly described in the following sections.

A. *Traditional Approach*

Traditional approach to Occupational Stress seeks to identify and measure discrete stress concepts on a broad *sociological level*. It attends to the validity of stress constructs, the predictability of dysfunctions and the generalisability of the empirical system findings. When examined collectively, the research generated from the traditional approach has lead to substantial understanding of stress in the work place (Barone, 1994). Industrial psychologists have recognised that stress at work is important, but to continue to do lip service to the most advanced theories about the stress process.

A scanning of the research findings on work stress revealed that attention has been given mainly to the *organisational arrangement* of work as stressful. Less attention to the *person variables* and almost none to the *stress process* (stressful transactions between the workers and the environment, coping).

Traditionally, research attention was concentrated on *antecedent variables* of stress reaction (Environmental and person variables) and treated as separate.

B. Transactional Approach to Work Stress

A transactional *process* and *appraisal* centered approach to stress appears a very *different perspective* on work stress and stress in general than what has been traditional.

Transaction

In a particular adaptational encounter the person influences the environment and vice-versa. *Person-environment* relation is constantly subject to change. Psychological stress occurs when a person had made an *evaluation (appraisal)*. The external or internal demands tax or exceed his/her resources. Stress is not a *property of the person* or of the *environment*. But it arises when there is a conjunction between a particular kind of environment and a particular kind of person that leads to a threat appraisal (Lazarus, 1995). This is the *conceptual root* of transactional approach to work stress.

A comprehensive assessment of Occupational Stress as a transactional process requires the *nature* of the stressors, how it is *perceived* and *appraised* and the *emotional reactions* of the worker. One of the fundamental principles of Transactional Psychology argues that Job Stress research would benefit from viewing stress within the greater context of life stress. This observation serves as the primary logical argument for the adoption of transaction approach in the Occupational Stress field. The depth of the contribution of this approach to the study of Occupational Stress is evidenced by the number of empirical studies Lazarus's theoretical work has generated.

Historical Basis of Transactional Approach

A transactional view of stress is associated primarily with Lazarus but, Dewey and Bentley (1989) are credited with the origin of the concept. Although not widely known today in Psychology, *John Dewey* had spent his whole career advocating a *transactional, contextual, process oriented view* for adequately constructing the new behavioural sciences. There has been a stream of development with in psychology consistent with Dewey's vision. Some of the work in this tradition is particularly *relevant* to a transactional view of work stress. The Hawthorne studies (Mayo, 1933) moved Industrial Psychology *beyond* mental measurement to human relations. Lewin (1943) was another voice researching conclusions similar to Dewey's. Lewin suggested that Social Psychology may take the unit of study as *contextualised transactions* and that experimentation takes place in real life settings within pre-existing social groups. The approach to work stress of the Michigan group which Lazarus noted favourably, built explicitly on Lewin's theory.

Lazarus and associates continue this tradition for the topic of stress. Lazarus's early laboratory studies of reactions to industrial accidents (Lazarus, *et al.*, 1970) have been supplemented in his recent work by repeated assessment of every day stress through questionnaires and interviews. Lazarus has began experimental and field research on appraisal in the 1960's and has continued by Lazarus, *et al.* (1970); Lazarus and Folkman (1987). All these works demonstrated *the way* people evaluate what is happening with respect to their well-being and the way they cope with it.

2.1.2.5. Stress and Physiology

Logically, it would seem that *mind* and *body* are the same thing. Mind, is simply an abstract term for the workings of the brain. And the brain not only is

part of the body but also is directly connected by nerves to all other parts of the body. Therefore, whatever is going on *mentally* inside a person is also going on *physically*, and vice versa. Most of the time, however, one is unaware of the activity going on in one's brains. Individuals are conscious only of the effects of that activity - effects that the individual thinks of as *mental*, not physical. What people experience as a mental event, such as sadness, is also a physical event. Likewise, physical events, such as the *firing of neurons* in the brain, *trigger mental events*. It is not so much that the one causes the other as that they cannot, in truth, be separated. As one researcher explained, the words *psychological* and *physical* refer not to different phenomena but to *different ways of talking* about the same phenomenon (Graham, 1967). Selye and others who discuss stress have used *physiological* and *biochemical* concepts (Asterita, 1985). Therefore some knowledge of physiological functioning is needed in order to understand these discussions.

When to appraise a stressor as threatening, a key reaction is *fear*. Fear is actually a package of *responses* - physical, emotional, and cognitive. Physically, the person perspires, breathing quickens, muscles tense, and heart beat faster. Person may turn pale, lips may tremble, and may feel nauseated. If the situation is extremely threatening, the individual may feel such emotions as horror, dread, and even panic. And fear can interfere with the ability to concentrate and distort the view of the world. These features of the fear and anxiety response are generated by the action of the body's *autonomic nervous system* (ANS), the extensive network of nerve fibers that connects the central nervous system (the brain and spinal cord) to all the other organs of the body. The ANS helps to regulate the involuntary activities of these organs - breathing, heart beat, blood pressure, perspiration and the like.

When the brain interprets a situation as dangerous, it excites a special group of ANS fibers that quickens the heart beat and produces the other changes that one experience as *fear* or *anxiety*. The ANS nerve fibers specifically responsible for these activities are referred to collectively as the sympathetic nervous system. The sympathetic nervous system is also called the *fight - or - flight* system, precisely because it prepares the person for some kind of action in response to danger. When a perceived danger passes, second group of ANS nerve fibers, the *parasympathetic* nervous system, returns the heartbeat and other body processes to normal. Together these two parts of the ANS help to regulate the fear and anxiety reactions, as well as other responses to stress. This enable the body to maintain both the stability and the adaptability essential to life.

The ANS regulates the individuals' fear through several channels (Thayer, *et al.*, 1996) but one of the most important is the body's *endocrine system*. The endocrine system consists of endocrine glands located throughout the body. Under various conditions, the glands release chemicals called *hormones* into the blood stream, and various body organs are propelled into action. When the person is confronted by stressors, the ANS triggers the adrenal glands, located on top of the kidneys, and these glands secrete a group of hormones called *corticosteroids*, including the hormone *cortisol*. These corticosteroids in turn stimulate various body organs as well as certain parts of the brain, setting in motion the rise and fall of anxiety reactions. Eventually the corticosteroids stimulate the *hippocampus*, the brain part that seems to regulate emotional memories, and it helps to turn off the body's anxiety reaction.

2.1.2.6. Stress - Theories

Various theories of stress are generated during twentieth century. These theories are formed by researchers in different fields at different periods. These theories of stress began to play a more important role within psychology as the

potential relationships between stress and illness were systematically investigated. Some of the important theories of stress are described chronologically in the following pages.

a) Selye's General Adaptation Syndrome (GAS)

In this model, Selye (1936, 1946, 1982) proposed that stress is the body's general *defensive* reaction to a stressor. The underlying physiological basis of stress is the prolonged activation of certain hormonal and nervous system mechanisms. The effects of stress are proposed to vary according to an individual's constitutional make up.

The *General Adaptation Syndrome* is a concept that Selye used to describe the process of stress. It consist of three more or less distinct phases: (1) *the initial alarm reaction* (2) *the resistance phase*, and (3) *the exhaustion phase*. During the *alarm stage*, the body mobilizes for action through various hormonal and nervous system changes. At this stage, the individual can cope with the stressor by means of a *fight-or-flight reaction*. The alarm stage is a healthy response to demanding situations. If the stress is relieved, the body returns to its normal state. It is only when stress progresses to the next stage that there are likely to be more serious consequences. During the *resistance stage*, certain superficial signs suggest that the body has returned to normal. However, there are other signs that the body is still in a state of defense. In particular, hormonal levels remain high. Finally, if the stress continues, the person enters the exhaustion stage. Bodily process begin to break down, and illness occurs. If the stress continues without disruption, the person will die.

Selye's emphasize on the nonspecific nature of the stress response has been *criticized* by Mason who maintains that while the General Adaptation Syndrome does exist, responses are different to diverse stimuli. Mason believes that Selye's

Rahe and his associates (1971) proposed a process by which life stress might occur, and they identified changes along the pathway between *an initial stressor* and *ultimate physical illness*. The pathway includes *buffers* and *filters* with which stressful events are screened. *Past experience* is the first filter that either augments or lessens the impact of a stressful event. That is, if an event is similar to one in the past that was harmful, then the individual will perceive the event as *threatening*. The second filter represents *psychological defense mechanisms*, which are proposed to deflect some stressful occurrences. The third filter is the *physiological reaction*. Here, the life event is proposed to be transformed into physiological responses. Following this, later filters determine whether the person attempts to cope and/or whether symptoms of illness result. In conjunction with the model, Holmes and his associates devised the *Social Readjustment Rating Scale*.

In the 1970s, studies were done to evaluate this theory. The reported results were generally *positive* and *supportive* of the model. However, evaluation of the research indicated some serious problems in the measurement and interpretation of life events. Rabkin and Struening (1976) reviewed the research and described that many studies had statistically overestimated the size of the relationship between life events and illness. The reviewers noted that the Social Readjustment Rating Scale was not a *valid* or *reliable measure*.

c) *A Facet Model of the Job Stress Sequence*

Beehr and Newman (1978) developed a model to identify and organize all relevant facets of *components of job stress*. The Facet model incorporates more than 150 variables. These variables are categorized into several different groups or facets such as Personal facet, Process facet, Environmental facet, Human Consequences facet, Adaptive responses facet, Organisational consequences facet and Time facet.

The *personal facet* includes any personal characteristic that can have an impact on how an individual experiences stress. Personal characteristics are proposed to interact with environmental variables through a *process facet* that involves perception and cognitive evaluation of the stressful situation. The *environmental facet* refers to the work environment and includes work-role demands, such as role overload; organisational characteristics, such as size of organisation; and external demands. Both personal and organisational consequences are proposed to result from the person-environment interaction process. *Human consequences* include effects on psychological functioning, such as anxiety; effects on physical health, such as gastrointestinal problems; and effects on overt behaviour, such as drug use and aggression. *Organisational consequences* of stress include such effects as absenteeism, turnover, and productivity losses. *Adaptive responses*, proposed to follow these consequences, represent various attempts to handle the stress.

Beehr and Newman (1978) added the element of time to these facets of stress to show that *stress is a sequential process*. First, the initial experience of stress is felt, and it has immediate human consequences. Following this, the person makes some *initial* adaptive responses aimed at alleviating the stress. If over time, these initial responses are not successful, secondary consequences to the person and to the organisation will occur. Next, the person will make *secondary* adaptive responses. Because the stress problem is now apparent to the organisation, organisational adaptive responses are initiated as well. Again, if time does not show these adaptive responses to be successful, then long-term human and organisational consequences will occur. These can affect the health of both the person and the organisation.

d) *Person-Environment Fit Theory*

The Person-Environment Fit Theory was developed by French and his associates (1982). They studied about how the social world affects an individual's social adjustment and physical and mental health. This theory is oriented specifically *toward stress at work*. A central proposition of the theory is that the resources and demands of the work environment may or may not fit the needs, goals, and abilities of the employee. When work demands do not fit the person's abilities and needs, the individual will show signs of strain that will eventually lead to illness. The primary aim of this model is to identify the kinds of conditions likely to result in strain (French, *et al.*, 1982).

There are four basic concepts in this theory: *organisational stress*, *strain*, *coping* and *social support*. *Organisational stress* is defined as the potentially threatening conditions of the job (or stressor). Important organisational stress conditions include *job complexity*, *workload*, *role ambiguity*, and *underuse of ability*. However, it is noted that the person simply responds to the work environment. The person interacts with the environment. The individual's perception of the stress condition and the extent to which he or she feels personally capable of meeting the demand are important to consider. *Strain* is any unhealthy response that a person makes. Physiological responses, or behavioural characteristics are evidence of strain. Strain encompasses both the long-term results of stress and the immediate stress reaction. *Coping* is defense against stress. Both physiological and behavioural coping mechanisms are used. *Social support*, the emotional support that comes from interpersonal interaction, is proposed to buffer stress and strain.

Lazarus and Folkman (1987) pointed out that the concept of Person-Environment Fit is *static*. It emphasises stable relationships between person and work place. A static or structural approach is indigenous to the field of industrial

stress not to all work settings where stress *constantly changes* over time and varies with specific work related contexts.

e) *Lazarus's Transaction Approach*

Transaction approach examines stress as a *unique process* between the *Person* and *Environment* than a *static arrangement*. By *process* what is implied is the psychological state of the person changes over time and across divers encounters. The goodness of fit between *Person* and *Environment* are not constant overtime or from one work task to another. This approach concentrates on Environment in which a stressful encounter takes place. This environmental emphasis surfaces clearly in the ideas of adaptation (Lazarus, 1968) and Person-Environment Fit. Transaction Psychology predicts stress occurring when the environment is evaluated as either *harmful*, *threatening* or *challenging*. *Harm* refers to damage that has already occurred (Loss of job, poor job evaluation, failure to be promoted and disapproval by management etc.). A *Threat* is a harm that has not yet happened, but is anticipated in the future. *Challenge* refers to a condition of high demand in which the emphasis is on mastering the demand, overcoming obstacles, growing and expanding as an individual etc.

In threat, the focus is on protecting oneself against harm. In challenge, the emphasis is on the positive outcome possibilities. The attitude of challenge allows to feel engaged and expensive rather than endangered, defensive, and self-protected (Lazarus, 1994). This evaluation is the *environmental appraisal* and individual coping (Lazarus & Folkman, 1984). Appraisal is of two types. *Primary appraisal* concerns whether or not there is any personal stake in the encounter. Whereas, *secondary appraisal* concerns the available coping options for dealing with harm, threat or challenge. Each appraisal is based on the integration of the individual's *personal agenda* (Goals and Beliefs) and the subjective realities of the situation.

Since *personal agendas* vary from person to person, from moment to moment, person evaluate it in a diverse way. This results in great variation in the appraisal people make in the same environmental context. Appraisal is not usually filled. A sound theory of psychological stress must be capable of helping to understand *variations* in the ways people appraise adaptational transactions with their environments.

Lazarus's conception of Occupational Stress and Person-Environment Fit theory both have merit and limitations. The approach can be constrained as *complementary* rather than contradictory in providing a meaningful conceptual framework for studying stress in the workplace. Brief and George (1994) criticized Lazarus's emphasis on the *idiographic* nature of Occupational Stress. They argue that it is important to discover these working conditions that are adversely affect workers. In a similar critique of Lazarus's model, Harris (1994) has noted that occupational stressors associated with the *climate* and *culture* of an organisation, and have profound effect on employees. These may differ as a function of gender and differences in personality and coping skills.

A major difference between Lazarus's conception of Occupational Stress and Person-Environment-Fit theory is in the specificity and the size of the unit of measurement for the components of job stress. Person-Environment-Fit theory identifies the *general conditions* that produce job strain whereas, Lazarus's model focuses on how a particular stressor event is *perceived* and *appraised*.

f) Cybernetic Theory of Stress, Coping and Well-being

Cybernetic theory provides a useful general framework for understanding human behaviour. Cybernetic theory was originally developed to describe the functioning of self-regulating systems (Ashby, 1966). According to cybernetic theory, the purpose of self-regulating systems is to minimise discrepancies

between environmental inputs and internal standards that serve as reference criteria. This purpose is achieved through a negative feedback loop, which assess discrepancies between environmental inputs and internal standards.

Principles of cybernetic theory has been applied to explain stress by various investigators. Drawing from cybernetic theory, Edwards (1992) developed an integrative theory of stress, coping and well being in organisations and is briefly explained in the following.

According to this theory, stress refers to a discrepancy between the perceptions and desires of the person, provided this discrepancy is viewed as important by the person. Perceptions are non evaluative subjective representations of *events, situations* and *conditions* including the physical and social environment surrounding the person and the person's own characteristics (Gender, Social status, Competence, Physical appearance). Perceptions are not limited to the present, but may entail the recollections of the past or anticipations of the future. Desires represent what the person consciously wants and encompass goals, values and interests. Importance is the degree to which the person considers a discrepancy central to his/her overall well-being.

Three other key constructs in Edwards (1992) theory are *duration, well being* and *coping*. *Duration* refers to the amount of time the person spends thinking about a discrepancy. *Well-being* refers to psychological and physical health, including short term affective physiological outcomes and chronic, long term mental and physical functioning. (*Coping* represents efforts to prevent or reduce the negative effects of stress on well-being. To avoid confounding coping with its outcomes, coping is defined as efforts to influence stress and well-being, not as the successful implementation of these efforts.

In Figure 2-1 the core constructs of Edwards (1992) cybernetic theory of stress, coping and well-being is depicted.

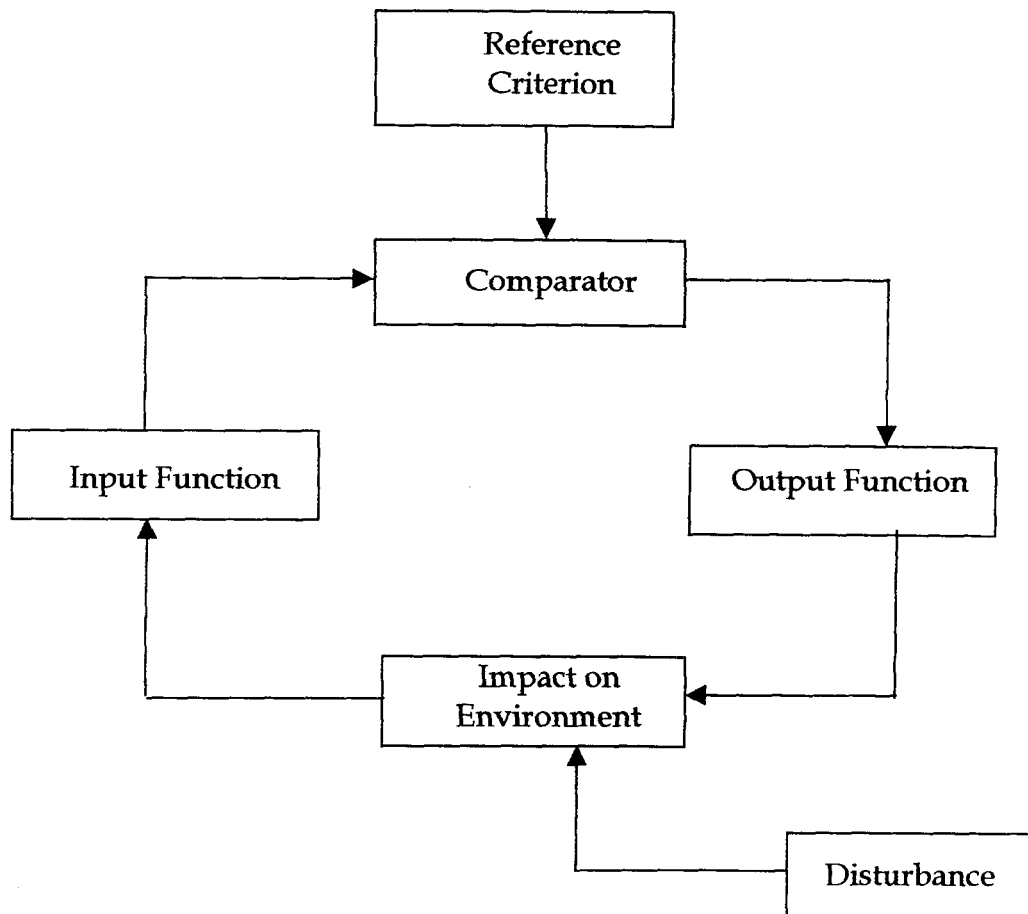


FIGURE 2-1 Cybernetic Model of Stress, Coping and Well-being (Edwards, 1992)

g) The General Research Model

The General Research Model of Occupational Stress within which Summers, *et al.* (1994) concepts of Job Stress embedded. The model is based on two typical models of the *antecedents* and *consequences* of Job Stress. Those models hypothesize a set of *organisational stressors*, a set of *personal characteristics*, an *individual stress response* and a set of *individual*

consequences. The model consists of four categories of variables, all of which have been implicated as factors which *lead* to Job Stress: *Personal characteristics* include *sex, tenure in present job, tenure in the company* and number of dependents. Included in *organisational characteristics* are *formalisation* and *centralisation* in structure. *Organisational characteristics - procedural* refer to the amount and quality of communication, the quality of Training, the equity of the reward system, nature of decision making, performance appraisal and feed back system, work load etc. *Role characteristics* include job levels, leadership received, role conflict and role ambiguity. In Figure 2-2 the General Research Model of Job Stress is presented.

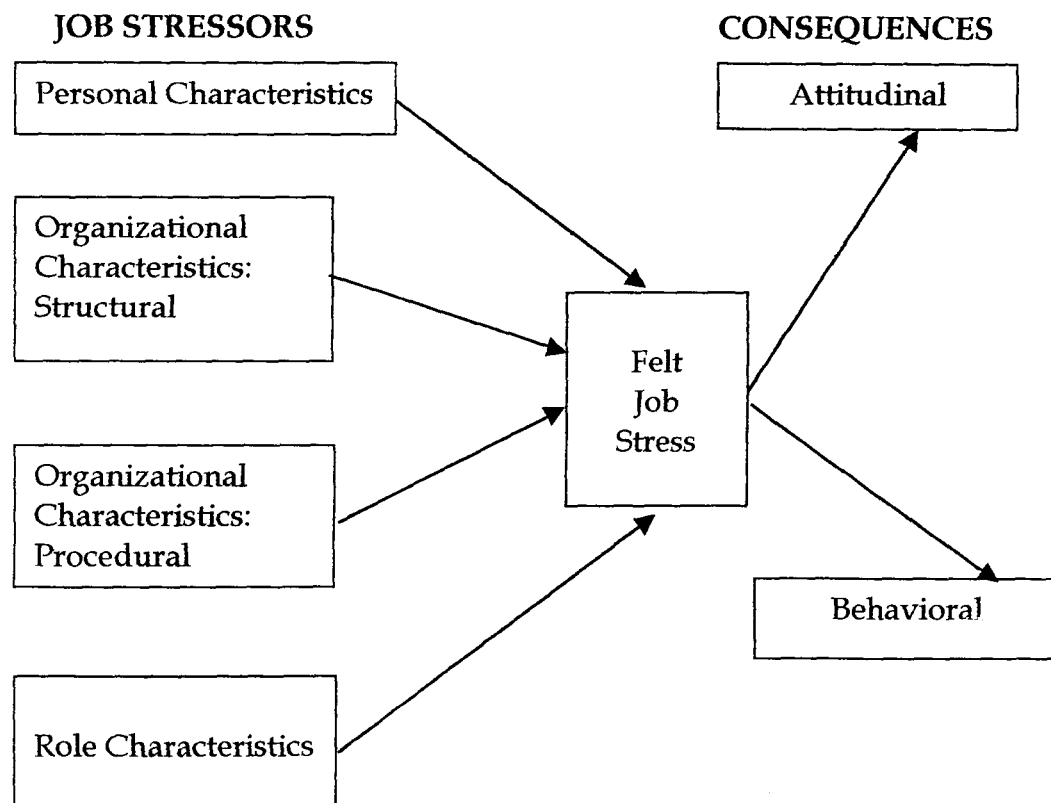


FIGURE 2-2 The General Research Model of Job Stress (Summers, *et al*, 1994)

The model also include two categories of consequences of Job Stress: *Attitudinal* and *Behavioural*.

h) A General Perspective on Stress

In Figure2-3 A general perspective on stress proposed by Berry (1997) is presented.

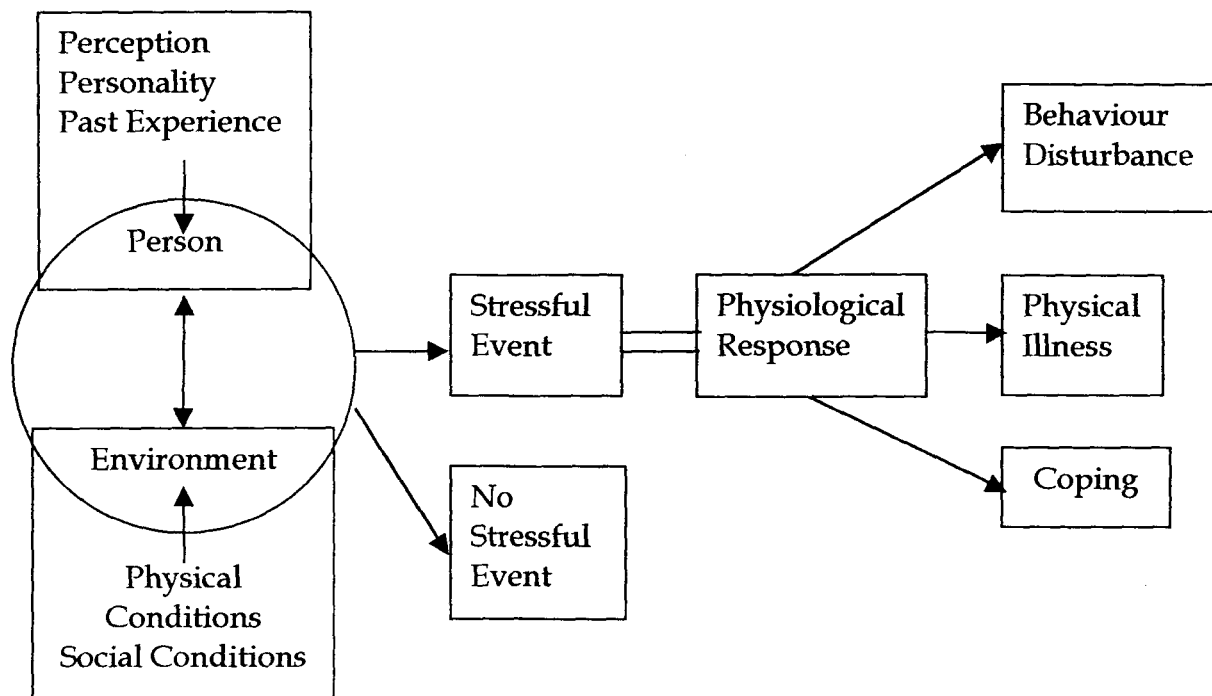


FIGURE 2-3 A General Perspective on Stress (Berry, 1997)

In this model at first, a *person-environment* interaction determines whether or not a stressful event will occur. The environment consist of both *physical* and *social conditions*. Personal variables include *perception* and *cognition*, the *learning* that occurs through experience, and *personality*. These variables account for some individual differences in how people assess situations as threatening. In Figure 2-3, the physiological response is connected to the stressful event by a

double line to emphasize that the response is intimately tied to the stressful event. The physiological response, may lead in any of three directions: to *coping*, to *stress-related illness*, and to *behaviour disturbance*. Without coping efforts, illness and behavioural problems are likely; even with coping mechanisms they may occur.

Concluding Remarks

The theoretical models described are important in current research, and they are typical of the current thinking on stress. In several ways, these theories are complementary. First, they all include a *person-environment interaction*. Life events are considered stressful only if the person experiences them as such. What determines whether the person will perceive an event as stressful depends on his or her *past experience; capabilities and characteristic ways of viewing and interacting with the world*. Second, the theories recognize stress as a *physiological phenomenon*.

The differently different theories which deal Occupational Stress given in the foregoing sections are *not complete*. Theoretical formulations on Occupational Stress seem the *more richer* area of theories other than any area in psychology. The investigator explained only a number of stress theories in this part. They are *chronologically listed* in the following along with the name of the *author* for clarity.

Sl. No.	Author	Year	Name of the Theory
1.	Selye	1946	General Adaptation Syndrome (GAS)
2.	Holmer & Rahe	1967	The Stressful Life Events Model
3.	Beehr & Newman	1978	Facet Model of Job Stress Sequence

Sl. No.	Author	Year	Name of the Theory
4.	French, <i>et al.</i>	1982	Person-Environment Fit Theory
5.	Lazarus	1987	Transaction Approach
6.	Edwards	1992	Cybernetic Theory of Stress, Coping and Well-being
7.	Summers, <i>et al.</i>	1994	The General Research Model
8.	Berry	1997	General Perspective on Stress

2.1.2.7. About Stressors

For humans, most stressors have both *physical* and *psychological* components. Any *event* that forces people to accommodate or change can be a psychological stressor. It is usually *unpleasant circumstances* that have the most adverse psychological and physical effects. These circumstances include *catastrophic events*, *life changes* and *strains*, *chronic stressors* and *daily hassles* (DeLongis, *et al.*, 1988; Gatchel, *et al.*, 1989).

Catastrophic events are sudden, unexpected, potentially life-threatening experiences or traumas, such as physical or sexual assault, natural disasters, and accidents. *Life changes* and *strains* include divorce, illness in the family, difficulties at work, moving to a new place, and other circumstances that create demands to which people must adjust (Cohen & Williamson, 1991; Price, 1992). *Chronic Stress-Stressors* that continue over a long period of time - can involve anything from living near a noisy bustand to being unable to earn a decent living because of adverse economic conditions or job discrimination (Evans, *et al.*, 1995; McEven & Stellar, 1993; Staples, 1996). *Daily hassles* include traffic jams, deadlines, and other irritations, pressures, and annoyances that might not be

significant stressors by themselves but whose cumulative effects can be significant.

Stressors at work are as *varied* as they are in other areas of life. Four major types stressors are *Individual, Group, Organisational, and Extraorganisational*.

Individual-level stressors are those directly associated with a person's job duties. The most common stressors are role conflict, workload, and role ambiguity. These role characteristics create stress because they make people feel both overworked and uncertain about what they should be doing (Netemeyer, *et al.*, 1995). Role conflict is the most widely examined individual stressor (Havlovic & Keenan, 1991). Job security is also a potent stressor that significantly influences employee attitudes and behaviour. Job security is an important stressor to manage because it can result in reduced job satisfaction, organisational commitment, and performance (Davy, *et al.*, 1997).

Group-level stressors are caused by group dynamics and managerial behaviour. Managers create stress for employees by exhibiting inconsistent behaviours, failing to provide support, showing lack of concern, providing inadequate direction, creating a high productivity environment, and focusing on negatives while ignoring good performance (Barnett & Brennan, 1995; Wall, *et al.*, 1996).

Organisational stressors affect large number of employees. A high-pressure environment that places chronic work demands on employees fuels the stress response (Schaubroeck & Ganster, 1993). Organisational Politics, organisational culture, lack of performance feedback, inadequate career development opportunities, downsizing etc. also work as a stressor.

Extraorganisational stressors are those caused by factors outside the organisation. The most common nonwork roles involved in this form of conflict

are those of *spouse* and *parent*. Balancing the demands of work and family roles is a significant daily task for a growing number of employed adults (Williams & Alleger, 1994). Pressure to work late, to take work home, and to frequently relocate in order to advance are some of the potential sources of conflict between *work* and *family*. When both spouses are employed, added conflict potential exists when one partner's career progress may be negatively impacted by the career progression of the other.

In general, stressors lead to stress, which, in turn, produces a variety of outcomes. In Figure 2-4 the outcome of various stressors proposed by Matteson and Ivancevich (1979) are given.

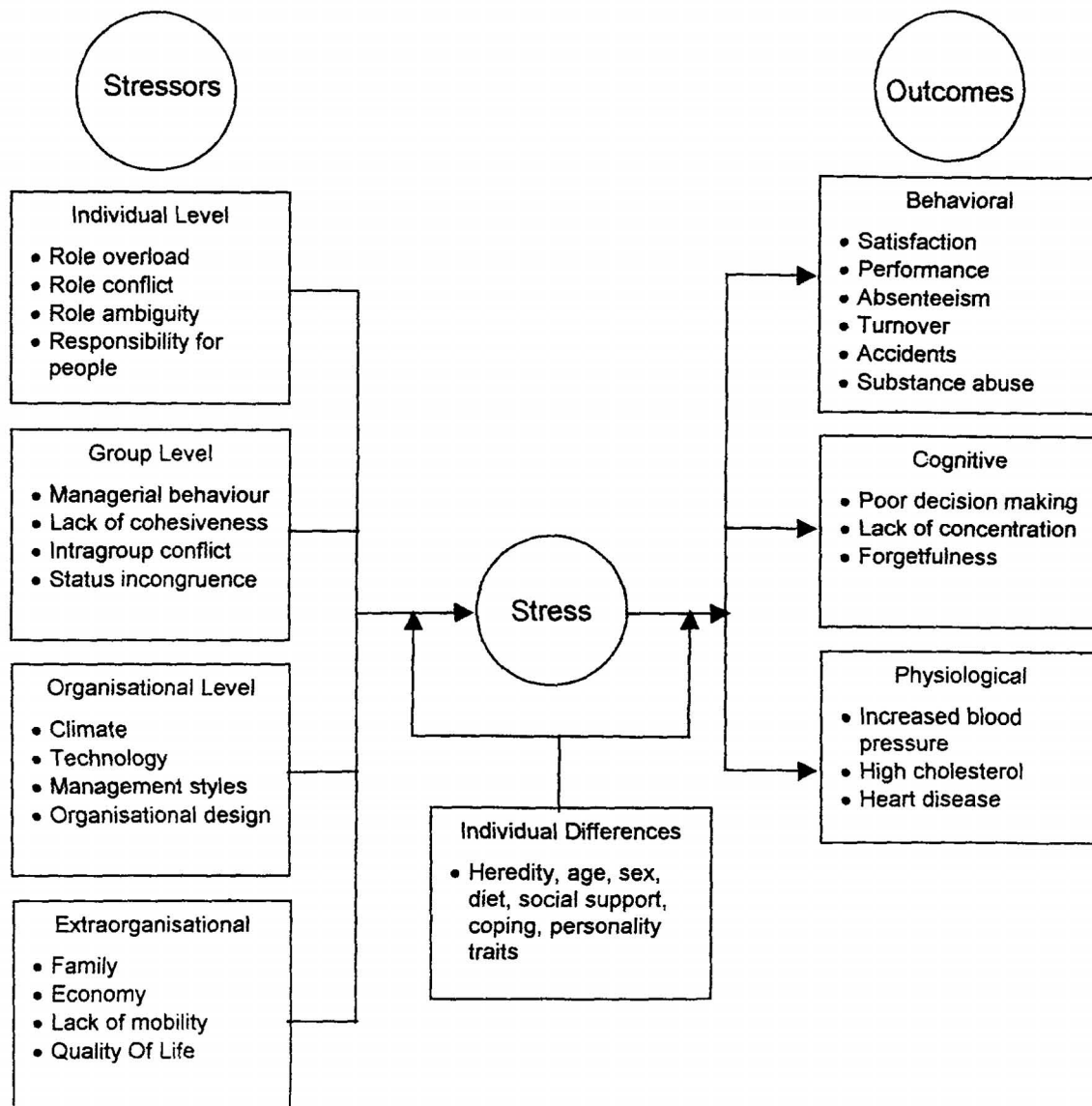


FIGURE 2-4 A Model of Occupational Stress and its Outcomes (Matteson & Ivancevich, 1979)

The model also specifies several individual differences that moderate the stressor-stress-outcome relationship. A moderator is a variable that causes the relationship between two variables.

Consequences/Stress Outcomes

Stress consequences include a range of *behavioural* and *somatic* or bodily changes, such as physical illness, emotional and psychological disturbance, and performance problems. In one sense, these effects are the results of *physiologically* coping with a stressor. That is, they result from the body's mobilization. Stressors may be kept under control by these physiological coping efforts, and if so, they are effective. Of course, some effects of stress are *positive*, such as self-motivation and stimulation to *satisfy individual goals and objectives*. Nonetheless, many stress consequences are disruptive, counter productive, and even potentially dangerous.

Kets de Vries (1979) states that each individual needs a moderate amount of stress to be *alert* and capable of *functioning* effectively in an organisation. It may prove as an asset so long as it is tolerable and helps in creating healthy competition. Organisational excellence and individual success are achieved through *well-managed stressors*. Indian scholars (Mathew, 1985; Pestonjee, 1987) in their conceptual papers agreed with this contention. Stress consequences/outcomes are *individual* and *organisational*. Individual consequences includes psychological, cognitive, behavioural and physiological draw backs. Where as organisational consequences include a number of adverse outcomes like decrease in quality-of-work life and morale and an increase in economic costs and legal liabilities.

Stress and Burnout

Burnout is a stress-induced problem common among members of *helping* professions such as teaching, social work, employee relations, nursing, and law enforcement. The three key phases of burnout are *emotional exhaustion*, *depersonalization* and *feeling a lack of personal accomplishment* (Maslach, 1982).

Emotional exhaustion is due to a combination of personal stressors and job and organisational stressors (Cordes & Dougherty, 1993). People who expect a lot from themselves and the organisations in which they work tend to create *more* internal stress, which, in turn, leads to emotional exhaustion. Similarly, emotional exhaustion is fueled by having too *much work to do*, by *role conflict*, and by the type of *interpersonal interactions* encountered at work. Frequent, intense face-to-face interactions that are emotionally charged are associated with higher levels of emotional exhaustion.

Over time, emotional exhaustion *leads* to depersonalization, which is a state of *psychologically withdrawing from one's job*. This ultimately results in a feeling of being unappreciated, ineffective, or inadequate. The additive effect of these three phases is a host of negative *attitudinal* and *behavioural* outcomes. A recent meta-analysis of 61 studies covering several thousand people uncovered that burnout was positively related to job stressors and negatively associated with job satisfaction (Lee & Ashforth, 1996).

Individual Differences in Stress Vulnerability

Environmental stressors probably affect some people *more readily* than they do others because of differences in people's *susceptibility* to stress. Stress theorists suggest that people contribute to their own stress by interpreting environmental conditions as threatening. Research on individual differences has focused on variables that are thought to affect the perception and interpretation of environmental stressors. These variables are gender (Martocchio & O'Leary, 1989), Race (Anderson, 1989), Culture (Hofstede, 1994; Peterson, *et al.*, 1995), Cognitive and Personality characteristics (Cummins, 1989; Elliott, *et al.*, 1994) and Type A behaviour (Rosenman & Chesney, 1982).

2.1.2.8. Coping

The results of uncontrolled stress are serious and costly to the individual and the work organisation. Therefore it is necessary to cope with the stress. Coping is the *process of managing demands* (external or internal) that are appraised as taxing or exceeding the resources of the person (Lazarus & Folkman, 1984). Effective coping helps to reduce the impact of stressors and stress.

In Figure 2-5 A Model of the Coping Process by Lazarus and Folkman (1984) is presented.

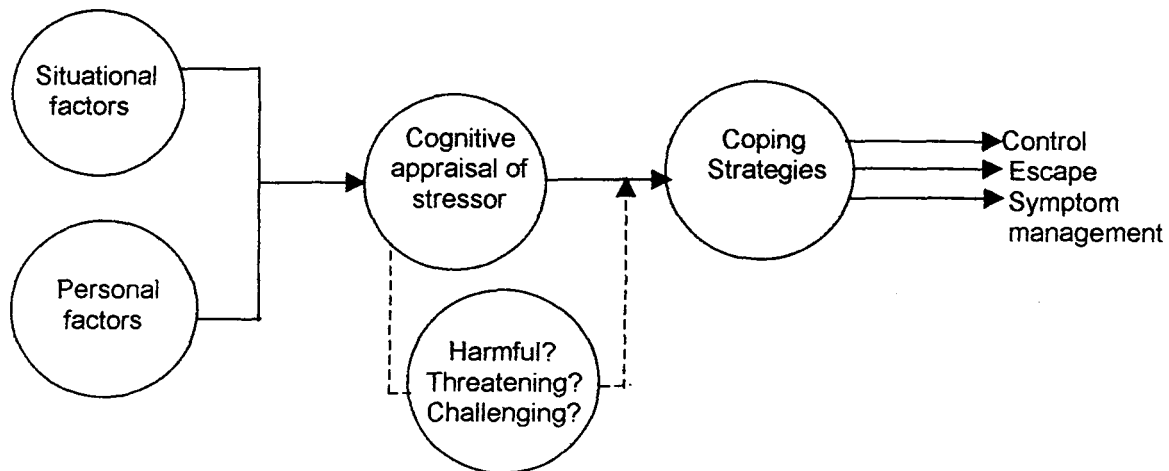


FIGURE 2-5 A Model of the Coping Process (Lazarus & Folkman, 1984)

The coping process has three major components: (1) *situational and personal factors* (2) *cognitive appraisals of the stressor*, and (3) *coping strategies*. Both situational and personal factors influence the appraisal of stressors. In turn, appraisal directly influences the choice of coping strategies.

Coping strategies are characterized by the *specific behaviours* and cognitions used to cope with a situation. People use a combination of three approaches to cope with stressors and stress. The first, called a *control strategy*, consists of using behaviours and cognitions to directly anticipate or solve problems. A control strategy has a take-charge tone. An *escape strategy* amounts to avoiding the problem. Behaviours and cognitions are used to avoid or escape situations. Individuals use this strategy when they passively accept stressful situations or avoid them by failing to confront the cause of stress. Finally, a *symptom management strategy* consists of using methods such as relaxation, meditation, or medication to manage the symptoms of Occupational Stress (Terry, 1994). Like stress responses, strategies for coping with stress can be *cognitive, emotional, behavioural, or physical*.

- a) **Cognitive coping strategies:** It replace catastrophic thinking with thoughts in which stressors are viewed as *challenges* rather than *threats* (Ellis & Bernard, 1985). Cognitive coping does not eliminate stressors, but it can help people perceive them as less threatening and thus make them less disruptive.
- b) **Emotional Coping Strategies:** Seeking and obtaining social support from others are effective. The perception that one has emotional support, and is cared for and valued by others, tends to be an effective buffer against the ill effects of many stressors (Taylor, 1995). With emotional support comes *feedback* from others, along with advice on how to approach stressors.
- c) **Behavioural Coping Strategies:** Involve changing behaviour in ways that *minimize* the impact of stressors. A *time management plan* can help control catastrophizing thoughts by providing reassurance that there is enough time for everything and a plan for handling it all. Behavioural, emotional, and cognitive skills often *interact* closely. Discussing stressors and seeking feedback from others help to think more rationally and calmly, and make it easier to develop and

use sensible plans for behavioural coping. When behavioural coping eliminates or minimizes stressors, people find it easier to think and feel better about themselves.

d) **Physical coping strategies:** Are aimed at directly *altering* one's physical responses before, during, or after stressors occur. The most common physical coping strategy is some form of *drug use*. Prescription medications are sometimes an appropriate coping aid, especially when stressors are severe and acute. But if people depend on prescriptions or other drugs, the drug effects that blunt stress responses may also interfere with the ability to apply coping strategies. If the drug is abused, it can become *a stressor itself*. The resulting loss of perceived control over stressors may make those stressors even more threatening and disruptive.

2.1.2.9. Stress Prevention and Management

There is a very important distinction between *preventing* stress and *managing* it. Stress *prevention* focuses on controlling or eliminating stressors that might provoke the stress response. Stress *management* suggests procedures for helping people cope effectively with or reduce stress already being experienced. The following are the techniques.

a) *Maximizing Person - Environment (P-E) Fit*

A person-environment fit (P-E fit) approach generally focuses on two dimensions of fit (Edwards, 1996). One is the extent to which work provides formal and informal rewards that meet or match (fit) the person's needs. Misfit on this dimension results in stress. The second type of fit deals with the extent to which the employee's skills, abilities, and experience *match* the demands and requirements of the employer. To the extent that the individual's talents are insufficient for or underutilized by job requirements, stress results. By improving

the quality of, or maximizing, the fit between the employee and the organisational environment, potential stressors are eliminated and stress is prevented.

There are numerous strategies for maximizing *P-E fit*. Employee recruitment programs which provide realistic *job previews* help potential employees determine whether the reality of the job matches their needs and expectations. Selection programs that are effective in ensuring that potential employees possess the requisite skills, knowledge, experience, and abilities for the job are key elements in maximizing fit. Fit can be maximized by closely linking personal *predispositions* to relevant aspects of the work environment as well. Once in the organisation, a critical variable in maximizing fit and preventing stress is *effective socialization*. A number of other organisational activities and programs can be helpful in maintaining good fit. That is effective *job design*, *organisational reward systems*, *communication processes*, *effective leadership* etc.

Two specific types of organisational programs have become particularly popular during the last two decades. Employee Assistance Programs (EAP) and wellness programmes.

b) Employee Assistance Programmes (EAPs)

Employee assistance programs (EAPs) are designed to deal with a wide range of stress-related problems, both work and non-work related, including behavioural and emotional difficulties, substance abuse, family and marital discord, and other personal problems. EAPs tend to be based on the traditional medical approach to treatment. General program elements include:

(i) **Diagnosis:** Employee with a problem asks for help; EAP staff attempts to diagnose the problem. (ii) **Treatment:** Counselling or supportive therapy is provided. If in-house EAP staff are unable to help, employee may be referred to

appropriate community-based professionals. (iii) **Screening:** Periodic examination of employees in highly stressful jobs is provided to detect early indications of problems and (iv) **Prevention:** Education and persuasion are used to convince employees at high risk that something must be done to assist them in effectively coping with stress.

Crucial to the success of any EAP is *trust*. Employees must trust that (1) the program can and will provide real help (2) confidentiality will be maintained, and (3) use of the program carries no negative implications for job security or future advancement.

c) Wellness Programmes: (Health Promotion Programmes)

It focus on the employee's overall *physical and mental health*. This includes not only disease identification but lifestyle modification as well. Among the most prevalent examples of such programmes are those emphasizing hypertension identification and control, smoking cessation, physical fitness and exercise, nutrition and diet control, and job and personal stress management. Stress prevention and management is a *vital part* of wellness programmes, because many of the concerns of wellness programmes are at least partially stress related. Stress has been cited as the greatest cause of poor health habits (Randolfi, 1996) and poor health habits are what wellness programmes attempts to change. A major reason organisations are interested in stress management is that it contributes to healthier, more productive, and more effective employees, and consequently to healthier, more productive, and more effective organisations. It is impossible to divorce the topic of stress from health. In a sense, wellness programmes represent a broad-based, contemporary extension of stress programmes, their focus is concern for employee health and quality-of-life issues.

d) Cognitive Techniques

It is that a person's response to stressors is mediated by *cognitive processes*, or *thoughts*. The underlying assumption of these techniques is that people's thoughts, in the form of expectations, beliefs, and assumptions, are labels they apply to situations, and these labels elicit *emotional responses* to the situation. Cognitive techniques of stress management focus on changing labels or *cognitions* so that people appraise situations *differently*. This reappraisal typically centers on removing cognitive distortions such as magnifying, overgeneralizing, and personalization. All cognitive techniques have a similar objective: to help people gain more control over their reactions to stressors by *modifying* their *cognitions*.

e) Relaxation Training

The purpose of this approach is to reduce a person's arousal level and bring about a calmer state of affairs, both *psychologically* and *physiologically*. Psychologically, successful relaxation results in enhanced feelings of *well-being*, *peacefulness* and *calm*, a clear *sense of being* in control, and a *reduction in tension* and *anxiety*; physiologically, decreases in *blood pressure*, *respiration*, and *heart rate* should take place. Relaxation techniques include breathing exercises; muscle relaxation; autogenic training, which combines elements of muscle relaxation and meditation; and a variety of mental relaxation strategies, including *imagery* and *visualization*. Conditions conducive to achieving relaxed states include a quiet environment, a comfortable physical position, and closed eyes. Simply taking a few moments of *mental rest* from job activities can be an effective relaxation activity. Short, more frequent breaks of this sort are more relaxing than fewer, longer breaks (Onciul, 1996).

f) Meditation

The most widely practiced meditation is *Transcendental Meditation*, or *TM*. *TM* is turning the attention toward the subtler levels of thought until the mind transcends the experience of the subtlest state of thought and arrives at the source of thought (Carrington, 1978). The basic procedure used in *TM* is simple, but the effects claimed, for it are extensive. One simply sits comfortably with closed eyes and engages in the repetition of a special sound (a *mantra*) for about 20 minutes twice a day. Studies indicate that *TM* practices are associated with reduced heart rate, lowered oxygen consumption, and decreased blood pressure (Kuna, 1975).

g) Biofeedback

Individuals can be taught to *control* a variety of internal body processes by using a technique called biofeedback. In biofeedback, small changes occurring in the body or brain are detected, amplified, and displayed to the person. Sophisticated recording and computer technology make it possible for a person to attend to subtle changes in heart rate, blood pressure, temperature, and brain-wave patterns that normally would be unobservable. Most of these processes are affected by stress. The potential of biofeedback is its ability to help induce a state of *relaxation* and restore bodily functions to a nonstressed state. One advantage of biofeedback over nonfeedback techniques is that it gives precise data about bodily functions. By interpreting the feedback, individuals know how high their blood pressure is. Biofeedback training has been useful in reducing anxiety, lowering stomach acidity, *controlling tensions* and migraine headaches, and, in general, reducing *negative physiological manifestations of stress*.

2.1.3. TEACHER STRESS

In the last few years the incidence of stress among teachers has received a considerable amount of research attention both abroad and in the country. In an international review of teacher stress, Kyriacou (1987) refers to the wide spread occurrence and consequence of stress among teachers. There are a multitude of studies that draw attention to the prevalence of the perception of stress among teachers of different categories (Siu, 1995; Arnold, 1996; Chen & Miller, 1997; Chan, 1998 and Forlin, 1998).

Teachers are reported as being stressed by the *work load, the behaviour of pupils, lack of promotion prospects, unsatisfactory working conditions, poor relationships with colleagues, pupils and administrators* and a host of *other problems*. Depending on individual *psychological* characteristics, *situational demands* and *past experiences* as well as difference in *appraisal process* a potential stressor may become actual stressor. Although there have been many attempts to investigate the real causes and symptoms of teacher stress, often the findings have not been *consistent*. This inconsistency in research findings on teacher stress is due to varying *methodology of investigations*.

2.1.3.1. Causes of Teacher Stress

A number of causal factors have been identified by various researchers working in the field of Teacher Stress. Those are briefly described in the following part.

Change as Major Factor

Cox, *et al.* (1988) have identified *change* as a major factor among current sources of stress among teachers. Change on change beyond the control of most of the teachers. Even a healthy individual when faced with rapid changes, may find stress unavoidable (Toffler, 1970). There have been changes in the role of the

teacher as a *transmitter of knowledge* in the traditional sense. Teachers are often having to modify their traditional role in order to incorporate the style of powerful media linked sources of information. It is unfair to expect teachers to meet the challenges imposed by a world in rapid transformation if they do not have *adequate resources* at their end.

Estev (1989) analysed the nature and influence of change in the teaching profession and listed the following area where change is affected to a greater extent leading the teachers to job stress.

- 1) *Transformation of the Role of Teachers*: The demands forcing teachers are dramatically changed in the last 20-25 years, leading to the greater responsibilities being imposed up on teachers. These increase in responsibilities are accompanied by appropriate changes in facilities and training to equip them to deal with these demands. Therefore the process of adaptation has not been an easy one and has lead to confusion as to what the role of the teacher actually is.
- 2) *Increasing Contradiction in the Role of the Teacher*: Various roles of the teachers are often contradictory. They are required to fulfil the role of *Friend*, *Colleagues* and *Helper*, a role perhaps incompatible with that of *Evaluator*, *Selector* and *Disciplinarian*. The accelerated social change have increased the number of contradictions.
- 3) *Attitudinal Change of the Society Towards the Teacher*: Teachers are persecuted by the development of a society which forces profound changes upon their profession. The expectations, support and judgements of teachers has changed in the social context with in which they work. There have been changes with regard to society's attitude towards discipline in educational institutions.
- 4) *Uncertainty about the objective of the Educational System*: Many teachers are facing the difficulty of aiming to work towards objectives that no longer correspond to existing societal circumstances and
- 5) *Deterioration of the*

Image: The traditional stereotype of the teacher has been a *Friend, Philosopher* and a *Guide* who maintains an attitude of service. This is changed.

2.1.3.2. Teacher Stress-Consequences

The process of becoming stressed has to do with its causes. When a teacher is exposed to those stressors for a prolonged period of time he/she reacts in a way that have negative effect for the teacher and the institution. These reactions can be physiological, psychological and social (Summers, *et al.*, 1994). Chronic stress on teachers can have a variety of problems such as high absenteeism and turn over, poor relationships, poor organisational climate, low morales and job dissatisfaction, burnout etc. (Chen & Specter, 1992).

2.1.3.3. Gender & Teacher Stress

On the basis of comprehensive survey of stress among teachers Beehr and Schuler (1980) concluded that there was evidence that gender *influence* stress related symptoms in the work place. *No gender difference* was found by Martocchio and O'Leary (1989) in a meta analysis of 15 studies. Disalvo, *et al.* (1994) observed that from a broad perspective men and women perceive stressors quite *similarly*. But *contradictory findings* on gender difference were obtained by many researchers. Nelson and Quick (1985) reported *women* experience greater stress than *men* because of the unique sources of job stress typically faced by women. This include lower salaries, career blocks, discrimination, stereotyping and the interface of marriage and work. Gender difference in scores on the *Job Stress Survey* were evaluated for University teachers and found the existence of sex difference in job stress (Speilberger & Reheiser, 1994).

Survey of literature on teacher stress revealed *inconsistent findings* not only in Gender difference but, in many aspects of the overall perception of stress among teachers. Regardless of the contradictions found in some studies the net

results suggest that all teachers will experience *some degree* of Occupational Stress. But the frequency with which stressful incidents occur and the strength of their occurrence *varies* from teacher to teacher.

2.1.3.4. Models of Teacher Stress

A number of investigations were made by various researchers to develop an understanding about the potential stressors among teachers. Cox (1977) reported that stress resulting from training and career development, the nature of the work and the physical working conditions, systems in the school organisation and relationship between the school and the community.

Kyriacou and Sutcliffe (1978) suggested a *model of teacher stress* which explained the following stressors and the aspects in the process of being stressed.

1. **Potential Occupational Stressors:** These are the objective aspects of the job that could cause excessive stress *ie*, noise level, high work load, inadequate buildings and physical working conditions.
2. **Appraisal:** This refers to how potential stressors in the teachers job are perceived. This will largely depends upon the personal characteristics and this interaction will determine the consequence of the potential stressor becoming an actual stressor.
3. **Actual Stressors:** These are the potential occupational stressors that a teacher has seen as being a threat to his/her well-being or self-esteem.
4. **Coping Strategies:** These are the attempts that an individual teacher makes in order to reduce a perceived threat.
5. **Teacher Stress:** This describes an individual teacher's response to negative affect that has corresponding psychological, physiological and behavioural reactions.

6. *Characteristics of the Individual teacher:* Personality, value system and the ability to cope with any demand encountered in the work place.
7. *Potential Non-Occupational Stressors:* Those negative aspects of teacher's life outside the school, ie, ill-health, family crisis etc.

Needle, *et al.* (1980) highlighted the stressors from job content, conditions of work, relationship with co-workers, promotional opportunities, financial rewards, resource adequacy and role in the organisation as *categories* of stress. Wanberg (1984) presented the categories of teacher stress consisting of *societal*, *institutional* and *personal* sources of stress. Cooper, *et al.* (1988) outlined a *six factor model of teacher stress* which explains the following stressors.

1. *Stressors Intrinsic to the Job:* Physical working conditions, level of participation and decision making latitude and work load.
2. *Role in the Organisation:* Role ambiguity and role conflict and levels and types of responsibility.
3. *Relationships at Work:* Relation with superiors, colleagues and subordinates and the demands made interpersonally.
4. *Career Development:* This include the presence of over or under promotion, possible lack of job security.
5. *Organisational Structure and Climate:* These stressors may be those that restrict behaviours ie, the politics and culture of the organisation. Specific features include level of participation and involvement in decision making.
6. *Home and Work Interface:* This refers to the stressors resulting from a mismatch in the relationship between work demands and family or social demands.

In Figure 2-6 the Model of Teacher Stress proposed by Cooper, *et al.* (1988) is presented.

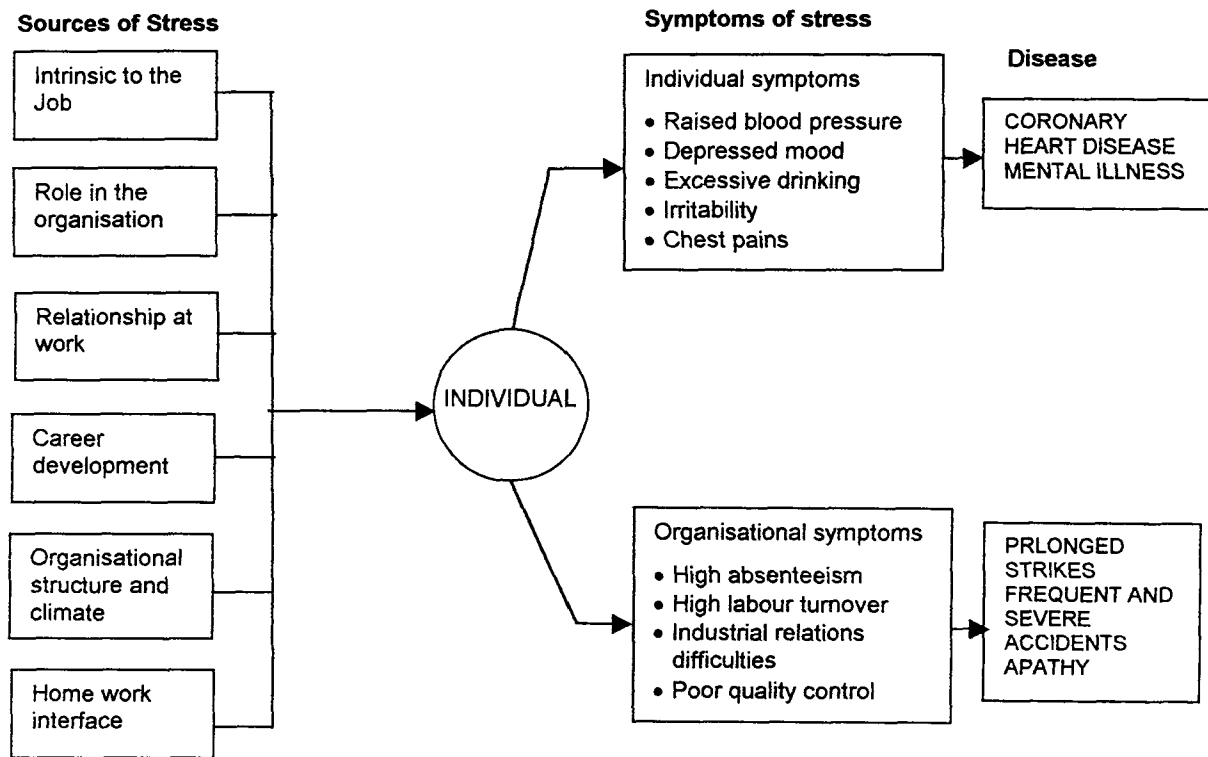


FIGURE 2-6 A Model of Teacher Stress (Cooper, *et al.*, 1988)

One must view the sources of stress in the light of social systems to which the individuals belong (Pestonjee, 1987). There are two such systems: The *primary system*, such as family and religious, regional and linguistic groups; and the *secondary system* to which we relate such as neighbourhood, schools, colleges, technical institutes and work organisations. As the functional requirements and role expectations from both these systems differ, the demands made on the individual in one system have their effects on his/her performance in the other. Moreover, resources from one system can also be invested in the other system to take care of the problems arising in it.

Basically, there are three important sectors of life in which stress originates: (a) *job* and the *organisation* (b) the *social* sector, and (c) *intrapsychic* sector. The first, namely, job and organisation, refers to the totality of the work environment (task, atmosphere, colleagues, compensations, policies etc). The social sector refers to the social/cultural context of one's life. It may include religion, caste, language, dress and other such factors. The intrapsychic sector encompasses those things which are intimate and personal like temperament, values, abilities and health. It is contended that stresses can originate in any of these three sectors or in combination thereof.

2.1.3.5. Measurement of Stress

Stress reactions are measured in three broad ways: by means of *self-report*, *through behavioural observations*, and on the basis of *physiological arousal*. The *self-report technique* is the technique most commonly used by behavioural scientists to evaluate subjective stress levels. Self-report scales may be administered and scored easily and quickly. They may be administered repeatedly and still provide valid measures of momentary changes in stress levels. They have been criticized by some, however, because they are face valid, people who are motivated to disguise their stress levels can readily do so.

Overt behavioural measures of stress include *direct* and *indirect* observational measures. Direct measures focus on behaviours associated with stress-related physiological arousal such as heavy breathing, tremors, and perspiration; self-manipulations such as nail biting, eyeblinks, and postural orientation; and body movement such as pacing. Another way in which people commonly express fear reactions is by means of facial expressions. The facial features that takes on the most distinctive appearance during fear are the eyebrows (raised and drawn together) the eyes (open, lower lid tensed), and the

lips (stretched back). *Indirect* observational measures involve evaluating the degree to which people avoid feared objects.

Physiological arousal is an integral component of the stress response. The most frequently monitored response systems are *cardiovascular responses*, *electrodermal responses*, and *muscular tension*. These measures are important in their own right as *independent indicators* of stress level, and in particular as possible indices of stress-related diseases.

2.1.3.6. Tools in Occupational Stress Research

A large number of instruments used in Occupational Stress research were identified by the investigator through a comprehensive survey of literature in the field concerned. They are compiled and presented in this section. The survey revealed a limited number of tools constructed along the traditional psychometric lines.

1. *Occupational Stress Inventory (Osipow & Spokane, 1981)*

A promising generic measure to person-environment fit variables was developed by Osipow and Spokane (1981). The variables include role overload, role ambiguity and psychological strain across different occupational levels and work environments.

2. *Occupation Stress Index (Srivastava & Sing, 1981)*

This psychometric instrument was constructed and standardized by Srivastava and Singh. It includes 46 items which measure 12 occupational stressors. These 12 stressors are Role overload, Role ambiguity, Role conflict, Group and political pressures, Responsibility for persons, Under-participation, Powerlessness, Poor peer relations, Intrinsic impoverishment, Low status, strenuous working conditions and unprofitability.

3. *Police Stress Survey (Speilberger & Westberry, 1981)*

Consistent with Lazarus's transactional approach, this tool is developed. The tool evaluates perceived severity and frequency of occurrence of 60 specific stressors encountered by law-enforcement officers.

4. *Teacher Stress Survey (Grier, 1982)*

This was designed to assess sources of stress relevant to secondary school teachers and to compare teacher stress with police stress.

5. *Organisational Role Stress Scale (Pareek, 1983)*

Pareek developed and standardized the Organisational Role Stress Scale (ORSS) to measure role stressors. It measures 10 types of role stressors. These role stressors are Inter-role distance, Role stagnation, Self-role distance, Role ambiguity, Role expectation conflict, Role overload, Role erosion, Resource inadequacy, Personal inadequacy and Role isolation. ORSS scale can be used for several purposes. It can be used to investigate the nature and dynamics of role stress in various organisations and to develop interventions for the use of individuals, groups and organisations.

6. *Work Stress Inventory (Barone, et al., 1988)*

This psychometric instrument similar to the Police Stress Survey and Teacher Stress Survey assesses the frequency and intensity of stressors in the work place.

7. *Questionnaire on Stressors (Dewe, 1989)*

This tool provides an alternative to using a general purpose inventory of work stress. The questionnaire gives information about the appraisal of stressors and coping strategies.

8. *Life Events and Difficulties Schedule (Brown, 1990)*

This include standard interviews to assess work stress through more individualising transactions.

9. *Stress Diaries (Weber & Laux, 1990)*

This is another alternative method in the measurement of occupational stress.

10. *The Work Stress Inventory (Turnage & Speilberger, 1991)*

This inventory identifies the large comparable factors across many occupations. One involves appraised stress from organisational policies and supervision. Other involves pressures and risks experienced on the Job.

11. *The Job Stress Survey (Speilberger & Reheiser, 1994)*

This was designed to eliminate the shortcomings in existing measures of occupational stress. The Job Stress Survey was adopted from the Police Stress Survey and the Teacher Stress Survey. The 30 items psychometric instrument was designed to assess the perceived intensity and frequency of occurrence of working conditions that adversely affect the psychological well-being of employees.

12. *Teacher Stress Questionnaire (Traverse & Cooper, 1996)*

This instrument was designed based on the models of teacher stress proposed by Kyriacou and Sutcliffe (1978) and Cooper, *et al.* (1988). It consists of six sections designed in such a way as to identify the main stressors and stress factors.

2.2. BODY OF RELATED STUDIES PERTAINING TO THE VARIABLES

In this part of the chapter, research findings related to the variables of the study are presented. The investigator conducted a comprehensive review of related studies in the area concerned and presented in the following sub sections.

2.2.1. STUDIES ON QUALITY OF LIFE OF TEACHERS

Research interest of Psychological and Socio-Psychological investigators of the concept of Quality Of Life had been growing since 1970's. Due to the ambiguity of the conceptual structure, multidimensional structural variables, difficulties in developing suitable instrument and methodological issues, research on Quality Of Life became very slow than the usual. Most of the studies on QOL were conducted by researchers abroad. Studies on QOL was abundant conducted upon samples like students, nurses, patients of different kinds, peoples of different communities and workers from different sectors. The investigator could not locate enough studies related to the QOL of Teachers through a comprehensive review of literature. However, the located studies were reviewed and presented in this section.

Relationship between Quality of working life and Quality in general were investigated by *Sinha (1977)*. The study suggested *Quality of Life is depending on quality of working life in general*.

Alen (1980) studied the Quality of working life. Job satisfaction is a measure of working life quality and is *related to how people evaluate their work*.

In a study *Career education: A challenge for Canadian educators France and Bruce (1981)* explored the necessity of appropriate policies and action for improving the Quality Of Life of Teachers. The study *focussed the deficiencies* of Canadian career education for enhancing the Teachers' Quality Of Life.

Lasley (1981) in a study suggested certain measures to improve the Quality Of Life of teachers. This include working with teacher education institutions to *strengthen the theoretical basis* for teacher education, cooperating with educational institutions to establish *programmes to assist new teachers* and creating conditions *conducive to teacher satisfaction*.

Inorder to test the validity of a measure of Australian Teachers' views on the Quality Of Life within their schools, *Batten and Girling (1981)* conducted a small scale study. The 52 item survey instrument was administered to 651 Teachers. The study results were mixed, *failing to provide clear-cut guidelines for designing a school with optional quality of life*.

Mykietun (1984) investigated the association of teachers' Stress and their perceived Quality Of Life. *Significant relationships were* obtained between *Stress and Quality Of Life of teachers*.

Sinha (1986) assessed and compared the Quality Of Life of Railway Officers, Bank Managers and University teachers within the age range 25-40 years. It was found that *Bank Officers were showing better QOL than Railway Officers and University teachers*.

Huberman (1989) conducted a study on primary school teachers in Washington city schools and *established the relationship of teacher's life satisfaction and the amount of Stress* they experienced.

Pelsma (1989) administered Quality of Teachers work life survey on 227 teachers to examine the life satisfaction. The result indicated to *factors contributing to Teachers' Satisfaction*.

Lunenburg and Schmidt (1990) examined the relationship of teacher control ideology and behaviour and their influence on Quality Of Life. Subjects were 239

elementary and secondary school teachers and their students from five school districts. Results revealed *significant relationship between teacher control ideology, behaviour and Quality Of Life*.

In a cross-cultural study conducted by *Menlo and Poppleton (1990)* on quality of teaching life among secondary school teachers reported that Quality Of teaching Life is *related to Job Satisfaction, work centrality and Occupational Stress*.

Teacher's perception of the Quality Of Life was studied by *Divins (1991)* to determine the impact of certain variables on teachers perceptions of the quality of their professional life. 68 Indian teachers were surveyed. Findings indicated that females were more comfortable with the job market than were males, *elementary teachers were more satisfied and less stressed than secondary teachers*, on the secondary level *elder teachers were less satisfied and more stressed than younger teachers* and there were *no difference between teachers with Bachelor's degrees and those with master's degrees*.

Carlson (1992) in his study noted explicitly the predominant *issues related to Quality Of Life of professionals working in rural schools*.

Quality Of work Life of secondary teachers and principals was investigated by *Rossmiller (1992)*. It is found that *principals positively influenced* the respect accorded teachers, teacher participation in decisions affecting their work, professional collaboration and interaction, use of skills and knowledge and the teaching learning environment.

Schmidt (1992) examined whether Teacher's orientations concerning pupils control are related to Quality Of School Life. The study revealed in the analysis of data from 250 teachers and 5,000 students statistically *significant relationship between pupil control ideology and Quality Of school Life*.

The study conducted by *Canadian Teachers Federation* (1993) explored the elusive concept of Quality Of Life of women teachers in Canada. It is clear from the study that *both gender and profession mediate Quality Of Life* and overlap in ways researchers are just beginning to understand.

Dinham (1994) conducted a study on 57 teachers of Australia to determine general measures and specific strategies to improve teacher satisfaction and reduce teachers' dissatisfaction. The study revealed that teachers' greatest *sources of satisfaction was clearly pupil's achievement*. Other sources were changing pupil behaviour and attitudes, recognition from others, self growth, and mastery of subject content and teaching skills, relations with students and parents.

Kershaw (1994) conducted a study to assess teacher's perceived levels of satisfaction with the Quality Of their School Life according to school level, gender and years of teaching experience. Data were collected from 701 teachers in 21 Tennessee public schools. Findings indicated that perception *vary according to school site*. School level factors were found to be significantly different in terms of importance. Communication, support, workload, working conditions and resources were consistently ranked important to teachers. While work enrichment, leadership and recognition were ranked least important.

Olsen and Wear (1994) conducted a study on University faculty in first (N=52) and third (N=47) years of appointment investigated relationships among work and non work satisfaction, interdomain conflict and life satisfaction. Findings indicated that *balance and conflict explained variance in life satisfaction* beyond that explained by work and non-working satisfaction.

Sabo (1995) investigate the Quality Of Life of middle school teachers and principals of New Jersey and found out that Quality Of Life is *significantly related to organisational climate*.

Dinham and Scott (1997) examined the teacher satisfaction on 892 teaching staff at 71 schools of Sydney – Australia. Results of the study revealed that *teachers are satisfied by matters intrinsic to the role of teaching*, such as student achievement, positive relation with students, self-growth and mastery of professional skills. They are found dissatisfied with a second set of factors that are extrinsic to the task and out of control of the teachers viz., the rapid pace and nature of educational change, increased expectations on schools and lack of support of implementation of policies.

Rahamin (1997) in a study investigated the perceptions of 78 special education Teachers in Ohio about the role of community to enhance the overall Quality Of Life of Teachers. Findings indicated that the role of community *for higher likelihood of employment benefits and development of better self-help skills* for the overall better Quality Of Life.

Quality of Life among a Metropolis population was studied by *Latha and Karthikeyan (1998)*. The sample consists of 200 urban peoples. Factor analysis of the data revealed the *emergence of Eight factors* related to significant spheres of individual's life. *Men were found to reveal better Quality Of Life than women.*

In a study of Relationship between life satisfaction and post retirement employment among older women *Choi (2001)* reported the effect of post retirement employment and life satisfaction. Findings show that post retirement employment did not *contribute to older women's life satisfaction*. But, financial resources are *potential determinants* of their life satisfaction.

In a study conducted by *Wehmeyer and Schalock (2001)*, the findings mainly focussed on *self determination and quality of life in special education teachers*. It discusses essential *characteristics of self-determined behaviour, core Quality of Life dimensions, Quality Of Life assessment* and instruction etc.

Chaudhary, et al. (2001) studied the Quality Of Life of 200 adult males and females in Uttarpradesh. *A significant variance was found in case of locale and gender on the three dimensions of Quality Of Life.* Females were found to have *low Quality Of Life* than males.

In a comparative study of subjective well being and Psychological Resources of Students of South Thailand and Kerala *Satpretpry (2002)* found the following results. Students of Kerala *score low in subjective well-being* when compared to students of South Thailand. Subjective well-being is *positively correlated to self acceptance* in case of Kerala and Thailand students.

2.2.2. STUDIES ON QUALITY OF WORK LIFE

Since the concept of QOL is an *emerging* and *developing* one, the investigator could not locate enough studies on QOL of Teachers. In this section of the report reviewed studies on *Quality Of Work Life* is presented.

Kleiner (1990) in his paper argued that a truly holistic approach to school empowerment would legitimize the student as a stakeholder in the educational process. Developmentally appropriate focus group questions were designed based on sixth graders ability to use active imagination. The responses of these urban students were *remarkably similar to those given in interviews conducted with adult workers in large organisations about the Quality of Work Life.*

Schalock (1990) edited a book which deals with the concept of Quality Of Life for persons with mental retardation and developmental disabilities. The book reflects different aspects of QOL like, *QOL : Personal perspectives, QOL - a parent's perspective, QOL and Individual's perspectives, QOL from childhood to adulthood, QOL of old persons, methodological issues in measuring the QOL of Individuals with mental retardation, etc.*

Fisher and Brin (1991) conducted a study on organisational development and change focuses on parallel organisation, a theory that combine changes in organisational theory with *Quality Of Work Life (QWL)* theory. The study concludes with the criteria for *effective employee participation possible only with enhanced Quality of Work Life*.

Hyllegard and Lavin (1992) in a paper examined the influence of higher educational credentials on the two work qualities of Job authority, work complexity and asks whether education provides white and minority men and women comparable access to jobs involving such work. Findings are based on 3,525 Blacks, Hispanics and Whites who attended the City University of New York. The findings show that for the large number of Blacks and Hispanics who earned bachelor's and post graduate degree, the *Quality of Work Life is well ahead* of where it would have been without the opportunity created by the policy.

Eby and Buch (1992) in a study investigated gender difference in reaction to involuntary job loss and tested a model of career growth through Job loss. The sample was 456 males and 62 females of a nation wide replacement firm. *Significant gender difference was found on Quality of Work Life*.

In a study, *Eaton (1992)* surveyed 630 union members and received 400 replies indicating that members *who participate in Quality of Work Life programmes were more loyal* to the Union. *High impact* of Quality of Work Life programmes and grievance system effectiveness on union commitment was noted.

Ohio State Government (1992) examined the Ohio vocational system and its direct relationship to the National Education Goals presented in America 2000. This involves Ohio's Adult Vocational Education Full-Service Centres enhance on the job performance and *improve Quality of Work Life*.

In a study conducted by *Bloom and Shreer (1992)* evaluated the outcome of a leadership training programme based on Pre and Post-training measures documents the results related to the *Quality of Work Life* of the participants.

Canadian Teachers' Federation (1993) conducted a study to explore the elusive concept of Quality Of Life of women teachers. It is clear that both gender and profession mediate Quality Of Life and overlap in ways researchers are just beginning to understand. The experience of *men have been the yardstick against which women's progress in the teaching profession has been measured*. The research shows that the *positions of women in education have been segregated internally* by the profession.

Lowe and Beth (1994) prepared the bibliography of 886 citations in an annual accounting of the literature on collective bargaining in higher education and the profession for 1993. Various aspects of Higher Education were discussed with *special emphasis on the positive influence of Quality Of Work Life on higher education programme success*.

Ginsburg (1994) studied various aspects accounting for the human factor. From the findings it is suggested that college governing boards must address six areas of campus human resources management of which, *more importance is given to the impact of Quality Of Work Life*.

Murphy and Louis (1994) wrote a book which focuses on the ways in which the *work of principals is being shaped by transformational reform measures*. Part two of the book exclusively dealt with school leadership and teacher Quality Of Work Life in restructuring schools.

Gomes (1994) studied the effectiveness of Rhode Island Child Care Training System (RICCTS) intended to tie all the aspects of states' child care education system into a single system. Data were gathered from 125 trainees and

23 comparison group subjects and their supervisors on the training's effectiveness in improving the Quality Of Work Life of the trainees. Findings showed that there were *no significant difference in effectiveness across the three types of training offered*.

Bowden (1995) conducted a study in three small to mid size manufacturing companies revealed considerable formal and informal human resources development activities that support the companies unique market niche by developing knowledge, skills and abilities, integrate employees into company work practices and *enhanced Quality Of Work Life*.

Lopez and Jeanne (1995) designed a hand book for individuals responsible for planning employee education, technical training and other human resource development services in a work place setting. It provides informations on integrating basic education with technical training and organisational change activities to enable all employee to participate actively in the improvement of productivity and *Quality Of Work Life*.

Lam (1995) surveyed 350 teacher trainees from Singapore were used to examine relationships among Quality Of Work Life, Career Commitment, Job Satisfaction and Withdrawal Cognition. Results show that *perceptions of the social status of teaching strongly related to commitment to and satisfaction with teaching*.

Dent (1995) in his book focussed on the ongoing revolution in the work settings. Down sizing entrepreneurship, businesses within businesses and the Quality Of Work Life are discussed. The author concluded that enhanced Quality Of Work Life of the employees is the *crucial variable* that determine the *success of the work setting* and businesses.

In the book edited by *Oakes and Riewe (1996)* includes 26 papers from a lecture series explaining issues in the lives of northern and aboriginal Canadian peoples. In one of the papers, 'An Ethnographic study exploring Quality Of Work Life issues of outpost nurses in Northern Manitoba *highlights the importance of Quality Of Work Life.*

In a study conducted by *Bradekamp and Willer (1996)* evaluates the Quality Of Work Life of teachers of early childhood programmes. Conclusions focus on the *positive effect* of teachers' Quality of Work Life that determine the effectiveness of the early childhood programmes.

Cheng (1996) studied the relationship between teacher professionalism and educational process and outcomes, teachers' job attitudes and feelings and school organisational factors. Surveys of primary principals, teachers and students in Hong Kong indicated that *teachers' professionalism positively related to students' affective outcomes and teacher's Quality Of Work Life.*

In a book written by *Shalock and Siperstein (1997)* summarises the current policies and programmatic practices that are influencing the *Quality Of Life* of persons with mental retardation and developmental disabilities. Various aspects of the Quality of Work Life are discussed and *highlights the ways and means for enhancing the Quality Of Work Life* of persons having mental retardation.

Louis (1998) explored how teachers' Quality Of Working Life contributes to their commitment to work and sense of efficacy in eight schools. Classroom observations and survey data suggest that *Quality Of Work Life measures are strongly associated with teacher commitment and sense of efficacy.*

Zoe and Johnson (1998) prepared a bibliography reviews the current research and literature concerned with collective bargaining in higher education

and the professions and the various programs to *improve Quality Of Work Life* of teachers.

In a book *Reifel (1999)* providing a forum for current thinking related to early care and education, this book presents a wide range of views regarding research methodology, the nature of experience while teaching, teaching and programme improvement and using climate assessment to *improve the Quality Of Work Life*.

Kerka (2000) studied the effectiveness of learning community and found that *academy teachers are satisfied with the Quality of their Work Life*.

In an article by *Lock and Hogan (2000)* described the issues affecting career assessment. This includes change in the focus and definition of career and emphasis on Quality Of Work Life. An expanded model of career assessment *favours the improved Quality Of Work Life of the employees*.

Mentz (2001) conducted a study to determine the Quality Of Work Life of teachers on farm schools in South Africa. The sample consist of 60 teachers in 15 farm schools. Findings indicate that teachers in rural schools are *generally satisfied with circumstances and enjoy teaching*; they are satisfied with classroom size, physical facilities and teacher student relations.

Sylvester and Umpierre (2001) prepared a report which presents lessons learned from the National Partnership for Reinventing Government (NPR) and offers advice for state and local reinvention efforts, describing how NPR's leaders built political and public support and focussing on five aspects of reinvention. Importance is given to *enhance the Quality Of Work Life*.

2.2.3. STUDIES ON TEACHER STRESS

The exhaustive review has been done in order to acquire up-to-date information about what has been thought and done in the area of Teacher Stress. Such a familiarity with the studies in Teacher Stress area will help the investigator to discover what is already known, what others have attempted to find out, what methods of attack have been promising or disappointing and what problems remain to be solved. The studies located are presented in the following sections. A large body of research findings related to Occupational Stress of Teachers were located by the investigator. Each and every study emphasised various aspects of stress, stressors and coping strategies. The review of studies are presented through the categories as *Foreign Studies* and *Indian Studies* under the following subheadings.

2.2.3.1. Review of Foreign Studies – Teacher Stress and Job Satisfaction

From the review of related studies, investigator found that the studies relating *teachers' stress* and *job satisfaction* are very few in Indian context. So to get a better idea about the nature of relationship between the two variables and to understand methods adopted for analysis, sample size chosen, and also to formulate hypotheses investigator reviewed foreign studies and presented in the following part.

Bensky (1979) conducted a study on 136 teachers enrolled in special education courses responded to a questionnaire which focused on stress in relationship to compliance with the mandates of Public Law 94-142 (Education for All Handicapped Children Act). The teachers were divided into three groups - special education teachers, resource room teachers, and regular classroom teachers. Among findings were that *special education teachers tend to experience less stress, that the increased frequency of meetings mandated by P.L. 94-142 has*

increased the amount of stress experienced by special education teachers in compliance with the law, that the presence of clear role expectations greatly reduces stress, and that the more satisfied a teacher is in the professional role the less stress is experienced.

Ashton (1981) studied the attitudes of middle and junior high school teachers toward their job and school climate. Twenty-nine teachers from a school having a modern middle school orientation were compared with twenty teachers from a departmentally organized junior high school. The results shows that *the differences in teacher stress and student intergroup conflict at the schools were not significant*. Other findings showed that the *middle school teachers, compared to junior high school teachers, considered teaching to be more important to them, were more satisfied with teaching and were more likely to choose teaching as a career again.*

Feitler and Tokar (1981) conducted a survey of 3,789 teachers in 60 school districts in Ohio and Pennsylvania found that feelings of *job stress and job satisfaction are inversely related*. When compared with a similar British study, the survey results show that the same high proportions of teachers in both countries are *satisfied with their jobs*. Further *student misbehaviour and overwork are the main sources of stress in American schools.*

A study of absenteeism, job satisfaction, job stress and locus of control among special education teachers in selected countries of West Virginia was conducted by Knowles (1981) and found out that *special education teachers are generally absent, more or less satisfied their jobs, are more stressful*. Furthermore, behaviour disordered teachers were found to be absent more, *less satisfied with their jobs, and more stressful* than mentally retarded or learning disabled teacher.

A statewide teacher stress survey conducted with 365 full time special education teachers in Connecticut by *Fimian and Santoro (1982)*. Of the 365 respondents, *58 were identified as low stress, 250 as moderate stress, and 57 as high stress teachers*. Among findings were that the strongest and most frequent sources of stress included *inadequate salary, frustration over lack of time for individual students, and frustration because of poor attitudes and behaviours of the administration*. Many of the teachers surveyed enjoy and are *satisfied with their jobs regardless of the moderate to high stress levels* that may be incurred.

Approaches to studying the relationships between stress and school organisational sources of stress were examined by *Hubert (1983)*. For a sample of 1300 high school teachers in Connecticut. *The results indicated that the methodology did matter, and that correlation values obtained directly from teacher scores were not indicative of the role of school organisations in teacher stress*.

Barter (1984) reviewed six topics of research reports on teacher effectiveness (school effectiveness, teacher shortage, teacher stress, classroom organisation, professional growth and job satisfaction) and *suggested 13 activities for meeting faculty members' needs* (including the establishment of faculty improvement and cultural funds, housing allowances, merit pay, summer grant, and foreign travel programs).

Farber (1984) conducted a study on a group of elementary and secondary suburban school teachers to assess the sources and extent of satisfaction, stress, and burnout. It is found that *satisfaction resulted from experiences that made teachers feel sensitive to and involved with students and colleagues. Excessive paper work and unsuccessful administrative meetings caused stress*.

By using a path analytic model, *Hubert (1984)* determined the relationship of school organisational stressors to teacher stress in public high schools. Surveying 786 teachers from a group of 50 Connecticut high schools, it was found that variation in stress from school to school was strongly related to selected organisational health variables but that stress does not vary much among schools. *Need satisfaction proved valuable in explaining how organisational variables related to stress.*

The Wilson Stress Profile for Teachers was administered by *Sutton and Huberty (1984)* to 10 public school teachers and 10 teachers of the severely handicapped in private schools to explore differences in stress. They found no differences existed in sources of stress or strategies for coping with stress and *an inverse relationship between job satisfaction and stress levels existed.*

The extent of job dissatisfaction among female elementary school teachers were explored by *Wangberg (1984)* from 255 subjects with varying demographic and socio economic backgrounds from different parts of the country. Nearly 40 percent of the women indicated they would not again choose elementary teaching as a career. Two factors were *identified as underlying themes related to teacher job dissatisfaction.*

Ettingoff (1985) conducted a study on teacher stress as a function of pupils behaviours and characteristics of regular and special education and the result showed *no significant difference between teacher groups on perceived satisfaction in teaching or the reported frequency of the symptom of stress.*

Sources of stress among 61 elementary and secondary school teachers were investigated by *Jones (1985)*. *Job satisfaction appeared to increase with teaching higher grade levels.* Teachers with higher job satisfaction scores thought less frequently about leaving the profession.

Laughlin (1985) studied the occupational stress and its relationship to social supports and life turbulence of the teachers in New South Wales. The study revealed that nearly one third of the teachers considered their job to be extremely stressful. Self reported teacher *stress was found to be negatively related to job satisfaction* and intention to continue teaching.

Litt and Turk (1985) surveyed high school teachers to identify sources of stress and dissatisfaction that may induce teachers to leave teaching. Data on perceived role, school climate, coping resources, and specific work problems were canonically *correlated to create a construct of teacher stress*.

Mykletun (1985) examined the stress levels and work satisfaction in 73 Norwegian comprehensive school teachers. Results indicated *stress and satisfaction were primarily attributed to social interaction at work but also to control over the work process, adequacy of job demands, and perception of meaning and pride from work*.

Blase (1986) studied the relationship between principals' leadership style and teacher stress and satisfaction *indicates that teachers' performances are influenced by their perception of principals' behaviour*.

Fimian (1986) presented the results of a statewide teacher stress survey conducted with 187 teachers of learning disabled students and 178 teachers of non learning disabled handicapped students (total N = 365) revealed that LD teachers differed from NLD teachers in terms of experience, educational status, and caseload size; there were *similarities in terms of job satisfaction, support and stress issues*.

Newburg (1987) studied the relationships between job burnout, job stress and job satisfaction among school teachers. The preponderance of the evidence implied that job burnout, job stress and job satisfaction are best considered as

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separate concepts. In addition it was found that *poor correlation exists between a goal measure of stress and teaching events stress inventory.*

Pelsma (1987) investigated the psychometric characteristics of the Quality of Teacher Work Life Survey (QTWL) and examined which factors can be addressed by the school counselor in working to improve teacher well-being. The QTWL survey was completed by 251 teachers who rated their present degree of *satisfaction* and the degree of *stress experienced* in each of 36 job-related areas, such as salaries, time for preparation, relationships with parents, and student interest. The results suggest that *job satisfaction and job stress for teachers are multidimensional rather than unidimensional in nature.* Job satisfaction and job stress, as measured by the QTWL, appeared to be *strongly related.* Overall job satisfaction and job stress for the teachers surveyed *did not appear to be significantly related to most demographic variables.* A slight but *significant relationship may exist between satisfaction and educational level and between age and stress.*

Langford (1988) studied the relationship between stress and job satisfaction for seventh day Adventist boarding academy teachers in the southern and south western unions. The findings of the study indicated that *stress was a significant determiner of teacher job satisfaction.*

Wolpin (1988) studied the psychological burnout among Canadian teachers and the result indicated that teacher with high degree of burnout exhibit more psychosomatic symptoms and are *less satisfied with their job.*

De Prank and Stroup (1989) studied about the teacher stress and their health problems. Result suggested that demographic factors and teacher background did not influence stress, satisfaction, or health concerns. However,

while *job stress was the strongest predictor of job satisfaction*, this stress had no direct relationship with health problems.

Pelsma (1989) administered Quality of Teacher Work Life Survey (QTWL), Maslach Burnout Inventory, and Educational Values Scales to 227 teachers. Results identified *10 factors contributing to teacher satisfaction and stress*. The 10 factors accounted for 66.3 percent of the total item variance.

Borg and Falzen (1990) studied the stress and job satisfaction among primary school teachers in Malta. The result showed the prevalence of stress and level of job satisfaction. *Over thirty per cent of subjects rated their job as stressful*, and length of teaching experience and age group taught was moderators of teacher stress. Seventy five per cent of subjects were satisfied with teaching, sex and age group taught were moderators of job satisfaction. *Significant negative correlation existed between self-reported teacher stress and job satisfaction* and between teacher stress and intention to take up a teaching career a second time.

From his study *Barkdoll (1991)* shown that for teachers, *job satisfaction is related more to intrinsic rewards than to the external conditions of their employment*. However, the coping strategies for teachers' stress and recommendations for reforms in education address the teachers' external environment and offer extrinsic rewards. *Positive mental health variables such as positive affect, dispositional optimism, and self-esteem have been shown to be related to intrinsic motivation, coping with unavoidable stress and increased job involvement*. *Positive affect is related to extraversion, satisfaction and subjective well-being*.

Borg (1991) studied Occupational Stress, Job Satisfaction and Career Commitment among primary school teachers of Malta. The study identified four factors that contribute to teacher stress viz., pupil misbehaviour, time/ resource

difficulties, professional recognition needs and poor relationships. *Positive and significant correlation obtained between Stress and Job Satisfaction.*

Occupational Stress and satisfaction in teaching was studied by *Borg and Riding (1991a)* on secondary school teachers of Malta. Result of the study concluded that *teachers who reported greater stress were less satisfied with teaching*, more frequently absent and more likely to leave teaching.

Billingsley and Cross (1992) conducted a study on 463 special educators and 493 general educators in Virginia. Analysis indicated that work-related variables, such as leadership support, role conflict, role ambiguity, and *stress, are better predictors of commitment and job satisfaction* than are demographic variables. Findings were similar for general and special educators.

McCormick and Solman (1992) studied teacher's attributions of responsibility for Occupational Stress and satisfaction in Australia. The study suggests *different levels of stress exist at elementary and secondary levels and pointed out that stress and job satisfaction is related.*

Starnaman and Miller (1992) developed and tested a causal model of the relationship among burnout, communication, organizational stressors and outcomes in the educational setting. Finds that these *role stressors*, in turn, *influenced perceptions of burnout, job satisfaction* and occupational commitment.

Juul and Repa (1993) conducted a study to improve and enrich understanding of how the disclosure or non-disclosure of a lesbian, gay male, or bisexual teacher's sexual orientation at work influences his or her perceptions of job satisfaction and job stress. This study was concerned only with the effects of openness on job satisfaction and job stress. The significance of being either open or closed about *one's sexual orientation at work influenced the perceived levels of job stress and job satisfaction of lesbian, gay male, and bisexual teachers.*

Olsen (1993) studied Work Satisfaction and Stress in the first and third year of appointment on 52 and 47 teachers respectively. Findings indicated *a decrease in Job Satisfaction and increase in job related stress*. Factor driving stress and satisfaction varied over time.

Russell and Wiley (1993) conducted a survey of 154 rural special educators in the areas of mental retardation, learning disabilities and emotional conflict found no significant differences in stress levels among groups, as measured by the teacher stress inventory. An ad-hoc analysis found *no significant differences among groups in supervisor support, room type, or job satisfaction*.

Heston (1996) examined the association of Job Satisfaction and Job Stress among 200 mid west public school teachers. *Strong relationship was found between job satisfaction and job stress* experienced by the sample.

Richardson (1997) conducted a study to discover the sources of stress in elementary school teachers in the Caribbean. The subjects were 645 elementary school teachers (310 males and 335 females). Teacher Stress Inventory which contain seven scales: role ambiguity, role stress, organisational management, job satisfaction, life satisfaction, task stress and supervisory support were used for the study. *Task stress emerged as the major source of stress for the teachers. Male teachers showed higher levels of stress on role stress and life satisfaction*.

A survey of 235 virginia vocational teachers conducted by Adams (1999) examined six internal characteristics that would affect stress: role preparedness, job satisfaction, life satisfaction, illness symptoms, locus of control, and self-esteem. *Role preparedness, illness symptoms, and self-esteem were significant contributors in explaining teacher stress*.

Tang and Yeung (1999) investigated factors that affected stress, burnout, and job satisfaction among Hong Kong high school teachers. A group of 259 high

school teachers from Hong Kong responded to the survey, which examined sources of stress, burnout, and job satisfaction. Data analysis indicated that *all six of the stress sources significantly related to all of the burnout outcomes. Among the six stressors, teacher workload was the strongest determinant of teacher burnout. The students and others factors had the strongest impact on job satisfaction.*

2.2.3.2. Studies on Teacher Stress and Personality Characteristics

Studies related to Teacher Stress and personality are very few in Indian conditions. At the same time most of the studies conducted in abroad, concentrated only in certain aspects of personality. It may be due to the complexity involved in the measurement, analysis and interpretation of the nature of personality. Investigator reviewed the studies from 1980 onwards and presented it in the following part.

Goodman (1980) reviewed literature on stress among teachers in urban schools and examines the stress concept. Among the sources of stress identified are pupil misbehaviour, environmental factors such as poor working conditions, poor organisational management, and non-participation in decision-making; *personality characteristics*, life experiences, interpersonal relationships; and structural variables such as school location, school racial composition and student's socio-economic status.

Parkay (1980) studied how teachers respond to environmental stress and whether certain personality traits are related to these response patterns. It concludes that *generalized personality traits are indicative of teaching styles that emerge in response to anxiety-provoking environmental conditions.*

The stress experienced by regular classroom teachers and the stress experienced by special education teachers were examined by *Moracco (1981)*.

Subjects were elementary and secondary school teachers. Results indicated that individual psychological characteristics influence the perception of stress. *No difference was found between regular and special education teachers in their perception of stress.* It is concluded that *stress is largely an individually perceived phenomenon caused by personality traits* and individual belief systems, rather than by purely environmental or occupational factors.

Fielding and Gall (1982) conducted a study to determine whether teachers' personality characteristics affect their perceptions of stress and burnout and whether school climate interacts with personality factors to influence stress and burnout. A random sample of 162 teachers in nine junior high/middle schools were selected. *Teachers reported a moderate to substantial amount of stress and burnout.* The highest level of stress was generally reported in *interpersonal situations*, and the second highest level was reported in new situations.

Tellenback (1982) presents a complex causal model of teacher stress based on data received from the responses of 1,466 teachers from Malmo, Sweden to a questionnaire. Results show that *individual personality characteristics, rather than biographical ones, are associated with stress variables.* Teachers' relationships with pupils are by far the most important source of stress.

Hudson and Meagher (1983) investigated the extent of teacher stress and burnout reported by 200 certified teachers from four midwestern states and analysed factors relating to differences in perceived stress by regular and special educators. Findings revealed no major *difference between regular and special education teachers in terms of teacher stress (stress-prone personality, recent personal stressors, internal coping skills, support within the environment, perception of work-related stressors, level of psychological symptoms of stress, level of physiological symptoms of stress, type of reactions to stress utilised, rate*

of absenteeism, intention to leave the profession, willingness to re-enter the field, and rate of burnout).

The research conducted by *Harris (1984)* indicated that teachers with a humanistic orientation have fewer problems with classroom discipline and are less subject to stress than are those with an authoritarian approach. An investigation of *teacher stress focussed upon teachers' personality*, ideology, gender, age, locus of control, and pupil control orientation. Participants in the study were 130 elementary and secondary school teachers. Findings indicated that *an authoritarian pupil orientation was associated with high stress* for four of the five stress factors. An *external locus of control was associated with stress* for three of the five factors.

A study involving Nine male and 109 female graduate students in educational psychology, who are or have been teachers, was conducted by *Hughes (1987)* to investigate the relationship between teacher burnout and personality type, self-perceptions, and critical thinking ability. Subjects included 23 blacks and 95 whites, and the mean age of the sample population was 34.12 years. Results provide *significant predictive associations between teacher stress and specific variables related to personality type*, demographics, and perceptions of the self. A more salient finding was that *teachers with higher self-concepts and extraverted and sensing personality types were more resistive to stress and more likely to maintain a sense of personal accomplishment while working under pressure*. Conversely, it was found that *teachers with personalities weighted toward the feeling and perceptual type were significantly more likely to suffer from stress*.

Soh (1988). The relationships between teachers' attitudes toward responsibility and locus of control and other characteristics such as stress, educational attitudes, and attitudes towards change were studied in 54 (35 female

and 19 male) experienced primary and secondary school teachers taking a course on classroom-based research. Result shows that *there were significant correlations with responsibility and teacher stress.*

A survey of secondary classroom teachers as perceived organisational structure, role ambiguity, locus of control and job stress was carried out by Arney (1989). It was found that five combinations of person-environment variables were significant predictors of teacher job stress. Under low formalisation conditions *subjects with external locus of control experienced a significantly higher degree of stress than internal, under, high role ambiguity conditions.*

Orpen and King (1989) conducted a study on job stress and personality types. *The result indicated that the relationship between stress and response was equal for subjects with type A or type B personality.*

Relationships among secondary school teachers' Occupational Stress, Personality type and Social Supports were examined by Mo (1991). Results of the study reported that greater stress among single and newer teachers, graduate status teachers undergoing less social support. The results also indicated that *teachers with Type A personality suffered less from burnout and the harmful effects of stress.*

The study conducted by Schonfeld (1991) to examine the link between Occupational Stress and Depressive symptoms of newly appointed teachers in the New York city. The sample consists of a highly representative group of 255 newly appointed female teachers. Findings suggest that *teachers in the most difficult schools showed increased stress and depressive symptoms.*

2.2.3.3. Studies on Teacher Stress and Stressors

After reviewing various theoretical aspects of Stress, investigator reviewed studies which identified the *sources of Teacher Stress.* This is done with an

intention that investigator thought it will help him to construct a teacher stress factor inventory. Since there are numerous studies conducted in this area only studies from 1980 and onwards are included here.

Brown and Goodall (1980) identified many stress-producing factors in the life of a teacher. While *discipline seems to be the major problem, social and personal problems also increase the pressure of daily living.*

Clagett (1980) reported about a faculty workshop which was held to identify the sources of stress affecting the faculty and to examine possible strategies for managing stress. 218 stress generators were identified in six categories: Administration (118), student-related (36), Peer-related (23), financial (20), working conditions (16), and personal (5). *The stress factors most frequently cited included lack of faculty participation in decision-making, the increase in under-prepared students coupled with student expectations of high grades, apathetic peers, and low salaries.*

Mazer and Griffin (1980) summarised the results of a study conducted by joint committee of a local teachers' association and the Tacoma Public Schools. Teachers estimated the magnitude of stress for forty-four events and noted those which they had actually experienced. *Involuntary transfer was perceived as the most stressful event*; seventeen per cent of the teachers reported having been involuntarily transferred during the year of the study. Seventy-five per cent reported having to *manage disruptive children*, as event which ranked fourth in the perceived stress gradings.

Truch (1980) identified many factors that contribute to teacher stress and burnout including *discipline problems, physical and emotional abuse of teachers, low pay, little support from superiors, public criticism of educational quality and an almost traditional attitude to low esteem for teachers as professionals.*

Bausch (1981) identified the educational stressors that are the predominant sources of teacher distress and burnout. The twenty educational stressors identified by female teachers involved *all areas of the educational spectrum from paper work to the future of education. While male teachers viewed concern with the lack of adequate salary and inconsistent educational methods and philosophies.* The teachers with the least experience should be the most distressed, particularly in the areas of school policy and populace.

A recent survey of K-12 teachers conducted by *Dedrick (1981)* in a middle-sized midwestern school system sought to identify the stressful conditions of the teaching profession as perceived by teachers. *Women ranked lack of time as the greatest source of stress while men ranked disruptive students as the most stressful condition.*

Views on sources of stress on college faculty and strategies for its management were obtained by *Larkin and Clagett (1981)*. Sixteen faculty groups generated 218 responses expressing sources of job stress. The responses were aggregated into the following four categories: academic affairs or faculty-associated problems, student affairs or student-associated problems, business affairs, and college-wide or miscellaneous problems. Concerns included the following: *time pressures or constraints related to the functioning of the college bureaucracy (nonteaching duties, the evaluation process); dissatisfaction with support for the faculty (marketing and retention pressures, not enforcing prerequisites); concerns about wages and contracts and physical plant operations; and not being involved in college decision-making.*

Secondary school teachers in the Houston Independent School District were asked for their perceptions of variables that contributed to difficulty of teaching by *Bruner (1982)*. The findings indicated that *racial and socio-economic demographics of students and personal family life do not create difficult teaching*

settings, but that problems were created by disruptive students, emotionally disturbed students, student absenteeism, and parents who do not value education.

Sources of teacher stress in private boarding schools was identified by Cohen (1982). It include *the expectations placed on teachers, poor administrative leadership, the physical environment, time pressures, and age differences or similarities with colleagues and students.*

The results of a statewide teacher stress survey conducted with 365 full time special education teachers in Connecticut is reported by Fimian and Santoro (1982). Of the 365 respondents, 58 were identified as low stress, 250 as moderate stress, and 57 as high stress teachers. Among findings were that *the strongest and most frequent sources of stress included inadequate salary, frustration over lack of time for individual students, and frustration because of poor attitudes and behaviours of the administration.*

A number of specific stressors have been explored by Schnacke (1982). These are *conduct and discipline of pupils, misbehaviuor and poor student attitudes, personnel teaching competence, maintenance of values and standards within the classroom and disagreement with supervisor or administrator.* Other factors also appear as major contributors to stress, such as *pressures precipitated by accountability laws, large classes, low salaries, intense pupil dependence and declining community support.* Another factor compounding the effects of such stressors was seen to be related to the *teacher's perception of self as well as the profession.*

Meagher (1983) studied the variables associated with stress and burnout of regular and special education teachers and the analysis of data revealed that there was no major difference between regular and special education teachers in terms of teacher stress. When the two groups were compared on each of the eight scales

included in the questionnaire, considered collectively, *the most frequently reported stressors were lack of support from administrators, working with other teachers and discipline/behaviour problems.*

A survey of 130 teachers in 4 Buffalo (New York) school district elementary schools conducted by *Milstein and Golaszewski* (1983) indicate that feelings of organisationally based stress did not vary significantly according to such demographic variables as sex or age. Of stress factors unique to educational systems, *lack of materials, student motivation, and discipline problems ranked highest.* Urban teachers reported more than average stress levels. Clear relations were revealed between organisational variables, such as work relationships and career development, and individual stress manifestations. *Classroom-based issues proved more stressful than organisationally based issues.*

A survey conducted by *Welch* (1983) revealed that self-contained special education teachers averaged the greatest number of school days missed, and principals the fewest. *Notification of unsatisfactory performance, last week of school, overcrowded classrooms, and disruptive students were rated as high sources of stress;* planning for instruction, attending meetings, conferring with parents and the principal, and evaluating students performance were rated as presenting relatively less stress.

The extent to which various factors were stress producing, the effects of stress, and coping methods used by 274 regular and special educators and administrators were examined by *Faas* (1984). Subjects completed questionnaires on descriptive variables (such as age, sex, type of assignment and level of academic preparation) and indicated stress of 52 factors. Results revealed differences in levels of stress reported by teachers of learning disabled (LD) and mentally handicapped students (*Scheduling problems were significantly more stress producing for teachers of LD students*); by special education and regular

education teachers (*lack of breaks and preparation time was significantly more stress producing for special education teachers*); and by teachers in self-contained and resource room programs (*discipline and behaviour problems and feeling of personal isolation were significantly more stress producing for teachers in self-contained classrooms*). *Paper work, procedural red tape, discipline and behaviour problems and disinterested parents were high stress producers for all groups.*

Kalker (1984) reports that stress and burnout seem to be more prevalent in helping and service professions, such as teaching. *Poor public image of teachers and education, role related distress, and lack of support all lead to teacher stress.*

Predictors of job-related stress were explored by Sutton (1984) in a sample of 200 public school teachers. It was found that *stress was related to personal strain; predictors of strain, in order of importance, were role demands, instructional problems (discipline, student competence, placement, standardised tests, and grading systems), and interpersonal relations.*

Hazelwood (1985) discussed the factors inherent in the job of teacher that make stress as an integral part of the profession, such as *lack of resources, poor parental and political support and low student respect.*

An investigation of the emotional exhaustion aspect of burnout and stressors in resource learning disability (LD) teachers was carried out by Shea (1985). The result showed that teachers who reported feeling higher intensities of emotional exhaustion also reported higher stress associated with the following: *finding time to do assessment, to complete test write-ups, to attend to the needs of severe and mild cases, balancing grouping with individualisation, securing parental and administrative support, finding a colleague with whom to discuss ideas, and encouraging adaptations in regular classrooms.*

Zastrow (1985) studied the causes and prevention of burnout and reported that structural factors that are contributing causes of high stress levels are also contributing factors in burnout such as *too much paper work, too much travel, isolation from peers, no social life.*

Kloska and Ramasut (1986) conducted a survey concerning the perceived degree of stress of various situations and the strategies used to cope with stress in terms of their frequency of use. Findings indicated that thirty five per cent of subjects reported to be either very or extremely successful. *The major sources of stress included lack of pupil motivation, lack of time to resolve problems with individual children, pupil's lack of discipline, lack of consensus on discipline by staff, completion of records and reports, and lack of resources and equipment.*

Through an anonymous mail survey Raschke, et al. (1986) found out the causes of stress in teachers and their suggestions for improving their school's overall environment. The subjects' report showed that the decline in *public respect for teaching, decreasing lack of enthusiasm among students, collective bargaining in teacher administrator relationships, lack of time, excessive paper work, lack of parental support, low pay and disruptive students are the causes of teacher stress.*

Tishler and Ernest (1987) conducted a study to determine the primary sources of stress for 48 Alabama school teachers. Results of the survey revealed that for the group, there was a relatively low incidence of vulnerability for stress. However, a tendency, for physical stressors such as a lack of vigorous exercise and inappropriate weight had a greater effect on vulnerability than did emotional stressors. *Highest job stressors were associated with lack of time, disruptive students, small instructional funds, and relationship with supervisors.*

Byrne and Hall (1989) conducted a study to investigate the importance of particular background variables on three dimensions of burnout (emotional

exhaustion, depersonalisation, reduced personal accomplishment) for elementary (n=98), intermediate (n=163), secondary (n=162), and university (n=219) teachers. A secondary purpose was to delineate factors which teachers perceive as contributing most to feelings of work-related stress. *Organisational factors related to the administration of educational institutions ranked high as a substantial contributor to feelings of stress by teachers at all levels of the educative system.*

In a study by Vance (1989) on Occupational Stress among 30 American, Indian, Hispanic and white teachers at a reservation school, concludes that, regardless of race or sex, *major sources of stress were inadequate salary, lack of professional recognition, and time management problems.*

Vance, et al. (1989) investigated the job stress in full time laboratory school teachers and the result showed that the strongest sources of stress identified by these subjects were: *not enough time for relaxation and preparation, personal life change, inadequate salary and poorly motivated students.*

The study by Kirby (1990) explored the perceived stress levels of 115 Kentucky elementary school principals. Findings show that *the most stressful events involved forcing the resignation or dismissal of a teacher and dealing with unsatisfactory performance of professional staff. The two most stressful events correlated significantly with the variables such as gender, age, and number of years as a principal.*

Borg (1991) conducted research on Occupational Stress among elementary school teachers. Identifies four factors that contribute to teacher stress: pupil misbehaviour, time/resource difficulties, professional recognition needs, and poor relationships. Results reveal that *stress is most affected by pupil misbehaviour and time/resource difficulties.*

Borg and Riding (1991b) conducted an investigation on Occupational Stress of 545 teachers in Malta. It is revealed that one-third of the respondents rated teaching as stressful or very stressful. Also identified *pupil misbehaviour, poor working conditions, poor staff relations and time pressures as leading contributors to stress.*

Whether different amounts of general job stress and stress related to the Alabama Performance - Based Accreditation standards were experienced by teachers and principals was studied by *Hipps and Halpin (1992)* in a sample of 65 principals and 242 teachers from 9 Alabama school systems. Teachers experienced more stress than principals, with *largest sources of stress being job overload, relationships with students, salary and compensation, and subordinate-superordinate relationships.*

Pullis (1992) conducted a survey of 244 teachers of the behaviourally disordered indicated that *school/setting factors, career issues, and workload variables were perceived as more stressful* than direct contact with students. Exhaustion, frustration, and negative carryover to life outside the classroom were frequent effects of stress.

In a study conducted by *Ryme (1992)* on 599 elementary, 203 intermediate and 715 secondary teachers found out that *role conflict, work overload, classroom climate, decision making and peer support as the primary organisational determinants of teacher stress.*

Brown and Ralph (1994) conducted a research study with teachers in the University of Manchester to identify stressors and stress management strategies. Sample comprises 100 teachers. Findings indicated that certain work related factors were common stressors, even though causes of stress may differ. These

stressors are teacher/pupil relationship, relation with colleagues and parents, innovation and change, school management and administration and time factors.

Soyibo (1994) conducted a study on 230 high school teachers in Jamaica using a 40 item self report instrument to identify the significant stress factors. From the results it can be seen that *institutional, environmental and personal factors were identified as significant stress factors.*

Teachers' perceptions of their working conditions, based on survey and interview data from special educators in six large urban school districts is reported by Gersten (1995). Major findings include *perceived role conflicts and difficulties in prioritising their many diverse responsibilities, a sense of role overload and increasing work challenges further intensified by shortages of resources, a sense of weakened autonomy regarding their professional judgement, and difficulties relating to the larger school culture and collaboration with general educators.*

Time pressures, meeting children's needs, dealing with nonteaching tasks, maintaining early childhood philosophy and practice, meeting personal needs, parent issues, interpersonal relationships, and attitudes and perceptions about early childhood programs were the major sources of stress that were identified in a study of eight Australian preschool teachers by Kelly and Berthelsen (1995).

In a study by Forlin (1996) on 225 regular primary teachers and 42 principals western Australia found that *the inclusion of a child with mild intellectual disability significantly increased the teachers' appraisal of stress severity.*

A study by Keiper and Busselle (1996) on stress in 120 rural teachers in Washington revealed that *time management issues were* listed most frequently as the stress factor, followed by *lack of administrative support, poor student*

motivation and discipline. Salary levels and violence toward teachers were found non significant.

In a survey conducted by *Thorsen (1996)* in 494 teachers in four disciplines at four Ontario Universities found that quality rather than nature of academic work was stressful. *Hours spent on the job with a time constraint were found significant sources of stress.*

Chen and Miller (1997) reviewed the International literature on Teacher stress. They summarised research on both organisational and individual characteristics positively correlated to Teacher Stress. Organisational characteristics are *time constraints, work load, job demands, role conflict, role ambiguity, income resources, class size, participation in decision making and student discipline and interaction* etc. Individual characteristics are *age, marital status and gender.* Teachers found increased stress by *time factors, work load, role conflict and role ambiguity* etc.

In the paper presented by *Forlin (1998)* on Teacher Stress of Australian Teachers, discussed the top four stressful issues as perceived by the sample. These are *teacher accountability for the child's educational outcomes, the child physically attacking others, obtaining funding and reduced ability to teach other students.*

2.2.3.4. Studies on Other Aspects of Teacher Stress

To get an idea about the effect of other variables like Gender, Age, Marital Status, School Locale, Teaching Sector etc. on teacher stress investigator reviewed such studies and presented in this section.

Meadow (1980) studied sources of stress for educators. It is found that *Deaf educators face the additional stress of slow student progress, antagonism from parents, the existence of additional handicaps in deaf children, increased*

requirements on teacher time due to federal regulations, and controversies in the field. Teacher stress and burnout can be prevented by building support systems, changing job assignments, recognising teachers' achievements, granting time out from the classroom during the day, and enlisting the help of mental health consultants.

Based primarily on data collected on a sample of nearly 700 public school teachers, *Farber (1982)* critically examined several key issues in the field of teacher burnout and came to the conclusions that *teacher stress and teacher burnout are distinct and separate concepts.*

Literature on teacher stress is examined in relation to Occupational Stress by *Hoover-Dempsey and Kendall (1982)*. From the analysis *important issues are social support, role factor in the workplace and person-environment fit.*

Alexander (1983) conducted a study to determine factors emerge from the responses of teachers to the Teaching Events Stress Inventory (TESI). In a series of three studies during the years 1980 to 1982, data were collected to assess the levels and sources of stress experienced by 660 teachers in central and western Kentucky. Factor Analysis procedure produced five factors that were relatively stable and independent as well as logically sound. These were labeled as *personal/professional threat, interpersonal relationships, racial issues, non-contact teaching tasks and change in normal routine.*

Cook (1983) examined the elements affecting teacher stress and also found out the relationships between teacher perceived job stress, attribution of responsibility, social support, and the teacher characteristics of sex, age, years of teaching experience, and grade level taught. *The study revealed relationships exist between teacher stress, attribution of responsibility, social support, and the teacher characteristics of sex and age.*

Crane and Iwanicki (1983) measured two components of stress. Organizational stress (role conflict and role ambiguity) and perceived teacher burnout. Surveys completed by 443 special education teachers in Connecticut. Results revealed that *role conflict accounted for the greatest variance in emotional exhaustion and depersonalisation and only role ambiguity accounted for significant variance in the subscale of personal accomplishment.*

Dunham (1983) identified signs and sources of stress among approximately 220 special educators. The most prevalent being *feeling of exhaustion, frustration, disturbed sleep, and withdrawal.* Coping resources included personal, interpersonal, organisational and community approaches.

Foxworth and Karnes (1983) studied elementary resource room teachers (N=144) of gifted students about Occupational Stress. Results revealed *no significant independent relationship between stress and continuous or age variables. Eleven items, led by financial security and relationships with teachers, were identified as extremely stressful.*

Results of a follow-up to a study of Teacher Stress reported by Hawkes and Dedrick (1983) show that *teachers' concerns are shifting. Stress levels caused by finances are higher and demands for professional support are greater than in the earlier study.*

Helge (1983) explained stress factors and aids in the development of a personalised stress management program for rural special educators. Stress reduction through cognitive, affective, and physiological methods are discussed. Suggested *cognitive activities include identifying stress patterns, recognising emotions, applying an emotional continuum to stress reduction, identifying currently used stress reduction methods and resources, and practicing new methods.* Suggested *affective stress reduction activities include structuring appropriate releases for anger, structuring a social support group, building*

positive attitudes, and desensitising oneself to anxiety-producing situations. Physiological methods of stress reduction focus on increasing circulation, relaxation techniques and nutrition.

A comparison of levels of stress of special education elementary teachers and secondary teachers was done by *Pipkin (1983)*. The result of the study showed that there was a significant difference in the levels of job related stress between secondary and elementary special education resource teachers. *The elementary teachers experienced a significantly higher degree of stress than did the secondary teachers.* No significant difference was revealed between the elementary and secondary teacher's level of stress regarding non-job related life events.

A model of teacher stress was designed to provide empirical support for a cognitive model of teacher stress. A modified form of *Kyraicou and Sutcliffe's* model of teacher stress was presented for investigation by *Hargens (1984)*. The following findings and conclusions were drawn from this study: *When teachers rated themselves as having less coping skills to deal with stressful events, their state anxiety scores increased. Contrary to the population at large, male teachers had higher depression scores than female teachers.*

Norris (1984) examined the burnout, stress and job satisfaction of the administrators of former Kansas school and found out that no significant difference appeared between scores of superintendent and principals. *A significant difference was evident when scores of former administrators were compared with scores of current administrators.* This indicated that former administrators were significantly more dissatisfied with their jobs during their last year in that position than were current administrators.

Gorrell (1985) studied 204 elementary and secondary public school teachers and student teachers and were presented with an inventory of potentially

stressful school situations in five categories. Analysis of data revealed that *elementary school teachers reported significantly higher levels of stress than secondary school teachers.*

Bradfield and Fones (1986) examined the effects of perceived job-related stress on the lives of special education teachers and the result showed that *high stress teachers indicated an average of 5.2 physical distress symptoms compared to an average of only 2.9 symptoms for the low stress teachers.* High stress teachers indicated an average of 6 days per years taken in sick leave, while the low stress teachers required 1.8 days. *42 percent of high stress teachers indicated plan to change careers while 8 percent of low stress indicated such plan.*

Connolly and Sanders (1986) examined the amount of perceived stress and its dimensions on 121 elementary and secondary school teachers. Correlations were found between the 'Emotional Exhaustion' dimension of stress and gender (*males experienced more burnout*) and years of teaching (*teachers with more years at their present job experienced more burnout*). Correlations were also found between the 'Depersonalisation' dimension of stress and education level (*secondary teachers experienced more burnout*). Correlations were found between the third dimension of stress, 'Personal Accomplishment' and gender, years of teaching, and years at the present job. *The years at the present job made a significant contribution to the prediction of the three dimensions of burnout.*

Evans (1986) analysed the effect of intrinsic and extrinsic job stressors on grades K through 12 physical education teachers. Perceived levels of stress were compared among physical education teachers when physical illness, psychological strain and absenteeism were functions. Subjects were 47 physical education teachers randomly selected from the Florida public schools. *Results indicated that physical education teachers who experienced either physical illness or psychological strain during the school year had significantly higher levels of*

both intrinsic and extrinsic job-related stress than teachers who did not. *Stress also appeared to be a significant factor among teachers who experienced excessive absenteeism from work.*

Role, stress, and burnout of 379 special education teacher trainees and 36 first year teachers were examined by *Fimian and Blanton (1986)*. Results indicated that the majority of such problems were significantly interrelated, *not all background variables predicted significant stress and burnout levels, and different levels of problems were observed at various stages of professional development.*

Gorell, et al. (1986) conducted a study on the analysis of perceived stress in elementary and secondary student teachers and full time teachers, and the results indicated that *elementary school teachers reported significantly higher levels of stress than secondary school teachers.*

An evaluation study of the effectiveness of two stress reduction programmes were conducted by *Higgins (1986)* and the result indicated that *subjects in both programme had significant decrease in emotional exhaustion and personal strain relative to the controls.* No significant difference was found between the two stress reduction programmes. Results suggested that both of the programmes can be effective in helping workers cope with and reduce Occupational Stress.

Misra (1986) studied the life stress and burnout among teachers and find out that *stress is positively related to burnout. There was significant negative relationship between meaning and stress* which means if people find meaning in their work, they generally, do not feel stress from work.

In a study by *Retish* (1986) the impact of stress burnout and on the educational organisation is discussed. Observations include the *need for clarity on the part of special educators concerning expectations of self and others.*

Schlansker (1986) analysed the teacher stress and burnout and perceived its source by conducting a survey. Results of this study indicated that *teachers, regardless of their setting, urban or suburban, identified stressful events with a high degree of correlation.* About ten per cent of the teachers in the study were found to be experiencing stress leading to burnout. *Teachers who were experiencing the least amount of burnout identified the principal as a significant source of support.* Other significant sources of support included course work and inservice programmes.

Tupes (1986) conducted a study to measure, analyse and compare the degree of stress perceived by public elementary and secondary school teachers in the Prince William country school system. The findings of the study revealed that eventhough a moderately high level of stress was reported, *the respondents at the secondary school level did not appear to differ from those at the elementary school level.* Sex was a significant predictor of perceived stress level, and that *there are differential level of stress across selected levels of key demographic variables, such as sex, age, marital status, race, degree and percentage of total family income.*

Wallace and Kass (1986) studied the amount of stress difference between regular and special education elementary teachers. Subjects included 75 teachers in regular classrooms and 62 teachers in special education classrooms. The data were analysed using the general linear model form of the multivariate analysis of variance (MANOVA). *Some differences in stress between the two groups were identified.*

Read (1987) examined the causes of teacher stress. Research reports on the causes and management of stress focuses upon the areas of the classroom, the school organisation, and individual and personal factors. The purpose of the study was to present evidence supporting the concept that individual stress management plans are a necessary tool for teachers. The second purpose was to call attention to the fact that the organisational structure of school systems is a contributing factor to teacher stress.

The relationship of teachers' stress to institutional complexity and perception of working conditions were studied by Jones (1988) and was found that elementary teachers and junior high teachers are significantly more emotionally exhausted than high school teachers, whereas junior high and high school teachers are more depersonalized.

Wirth (1988) reported the results of 1986 Boston Women's Teachers Group study. It concluded that teachers' feelings about burnout, isolation, job satisfaction, and efficacy were rooted in school-based working relations and institutional structures. Teacher Stress is an institutionally derived problem, not a result of individual personality failures.

Jenkins and Calhoun (1989) examines the problem of stress within the teacher's environment and ways in which teachers can manage stress. Results indicated that the teachers trained in the individual approach reported that they significantly increased the time spent on managing their stress, and used more diversity in applying methods to alter major stressors.

Manthei (1989) surveyed the school counsellors about the job-related stress. Results indicated that females reported significantly more stress due to job over load than males. But they experienced less stress than males when performing non professional duties. Males reported more stress regarding

financial concern than did females. Older subjects reported less stress than younger subjects. Stressors included role ambiguity, role overload and the role conflict.

Dedrick and Raschke (1990) examined stressors encountered by special educators, ways of coping with professional demands, and reasons why some teachers handle job stress better than others. Ten stress management strategies are analysed: diet and exercise, relaxation techniques, social support systems, goal setting, creative problem solving, time management, networking, self-talk, stroking and self-given gifts.

Long and Gessaroli (1990) conducted a survey to find out the relationship between teacher stress and perceived coping effectiveness. The study revealed that males felt more stressed than females. Unmarried subjects felt more role stress and life dissatisfaction compared with married subjects. Males felt that avoidance coping was more effective and female felt that problem solving was more effective. Relationships between stress and coping differed depending on whether males were married. Absenteeism was related to stress but not to coping factors.

Shea (1990) tried to develop a clearer understanding of the correlates of the emotional exhaustion aspect of burnout among learning disabilities (LD) teachers in resource programs. Specifically, the study examined the relationship between the emotional aspect of burnout as measured by the Maslach Burnout Inventory (MBI) and (1) background variables (age, marital status, teaching experience, level of education, and grade level teaching); (2) Job conditions (number of students, time pressures, instructional complexity, and assessment responsibility); and (3) perceived degree of stress associated with job tasks. Among the conclusions reached were that teachers who experience more demands on themselves experience more emotional exhaustion; LD teachers do not sense support from

parents and administrators, and teachers who share assessment duties with other professionals experience less intense feelings of exhaustion.

Watts and Short (1990) examined relationship of work-related stress in teachers with wanting to leave the teaching profession and drug use in 277 teachers. *Teachers reported higher rates than a national sample of lifetime alcohol, amphetamine, and tranquilizer use and higher rates of alcohol use.*

Kelley (1991) developed and tested a model of stress and burnout in dual-role teacher coaches. Result indicated that more specifically, *perceived stress predicted all components of burnout*, with coaching issues adding slightly to the prediction of emotional exhaustion and coaching problem to the prediction of depersonalization. *Social support satisfaction predicted all three stress appraisal components*, with greater entering as a predictor for perceived stress and coaching issues. Generally, *greater perceived stress lead to greater burnout*, and *greater satisfaction with social support led to less perceived stress*. Also, *females had slightly higher perceived stress than did males*.

Burns and Gmelch (1992) examined the stress factors for Academic department chairs for institutions of higher education. The sample consists of 523 department heads at 100 institutions. Analysis of data revealed that *chairs who have high role ambiguity experience high stress regarding their career*. *Chairs who have high role conflict characterised as significantly more stress* than those chairs with low perceived role conflict. *Stress of the chairs was found highly correlated with role conflict and role ambiguity*.

A comprehensive investigation into psychological distress among Australian teachers was conducted by the Tuettemann and Punch (1992). The data showed high stress levels. *Stressors correlated positively with distress and distressors correlated negatively*.

In a cross-cultural study on Occupational Stress of 373 Jewish and Arab teachers in Jerusalem by *Gaziel (1993)* found *higher stress among Jewish teachers, whereas Arab teachers were most stressed by working conditions and professional image*. Two groups were found different in coping strategies.

In another study by *Johnstone (1993)* on 58 primary and 32 secondary Scottish teachers conducted to examine the workload and stress found the following results. *The teachers experienced between three and five occasions of stress in those week in which they had extra work and registering high scores on the measure of Occupational Stress*.

Teacher's work load and associated stress was studied by *Johnstone (1993a)* on 570 Schottish classroom teachers. *The results indicated that 93% of teachers reported at least one occasion of stress during the week. The longer the hours worked, the more stress occasions reported*.

Minner and Lepich (1993) examined the Occupational Stress of rural and urban special educational teachers. A 60 item questionnaire was administered on 265 beginning special education teachers in Illinois. *Significantly higher levels of job related stress were found for rural compared to urban teachers*.

Russell and Wiley (1993) studied the Occupational Stress levels among rural teachers in the area of Mental retardation, learning disabilities and emotional conflict. The survey of 154 rural special educators found *no significant difference in stress levels among groups* as measured by the teacher stress inventory.

Smith and Witt (1993) compared the Occupational Stress among African, American and White University faculty members. The sample consists of 1,000 college faculty. It was found that *African - American faculty reported higher levels of Occupational Stress than white counterpart*.

Occupational Stress among 400 university teachers was investigated by Blix (1994). The results show 40% of the teachers felt a good fit between motivational style and job rewards. Females had higher misfit scores. *Two-thirds of the teachers perceived Occupational Stress at least half the time.*

Elliot (1994) studied the negative affectivity, emotional stress and the cognitive appraisal of Occupational Stress among 127 public school teachers. Results indicated that *negative affect did not completely explain the relationship of cognitive appraisal of stress and degree of distress.*

Littrell (1994) investigated the effects of principal's support on teacher stress on 385 special 313 general education teachers in Virginia. Result of the study indicated that *specific type of support were significant predictors of Job Stress.*

Miller (1995) attempted to determine the personal and work place variables which predict a special educator's decision to stay, transfer, or leave the classroom. A sample of 1,576 special education teachers in Florida was surveyed. Results show that both *current certification status and stress were significant predictors of likelihood of leaving special education.*

The study by Pennington (1995) examined the extent of stress among elementary teachers in a very small Seventh Day Adventists schools with multigrade classes. The result indicated that *71% of the sample experienced moderate to high emotional exhaustion and 60% experienced low personal accomplishment.*

Relation between Occupational and marital stress of 48 elementary and secondary public school teachers was examined by Price, Jr. (1995). Results revealed *a significant but low correlation between Occupational Stress and Marital Stress among the sample.*

The extent to which sources of stress, coping resources, background variables and different ways of coping in the fall terms was studied by *Salo (1995)* with 66 finish school teachers on 4 occasions. *Results showed a clear accumulation of stress as the term advanced.*

Policy changes in Hong Kong and expansion of Educational Psychological Services were suggested by *Siu (1995)* after reviewing conceptions of teacher stress on prevalence sources and effects of Occupational Stress on school teachers.

Arnold (1996) investigated the influence of institutional characteristics on teacher stress on nearly 43,000 teachers at 300 secondary education institutions in USA. *Results revealed that institutional variables did not appear to be predictors of faculty stress.* Among professional status variables, *academic rank was identified as a significant predictor of general stress with higher rank predicting higher stress.*

Cooley and Yovanoff (1996) studied 92 special educators and related service providers evaluated two interventions (a series of stress management workshops and a peer-collaboration program) on factors correlated with turnover (burnout, job satisfaction and organisational commitment). *The interventions showed promise as a means of providing on-the-job support for professionals at risk of burnout or exiting the field.*

Work load and stress of 555 college teachers was investigated by *Hardie (1996)* in New Zealand. The results show that *most teachers were experiencing increasing level of work load and stress.*

Sources of stress in Hong Kong teachers were investigated by *Hui and Chan (1996)* with specific reference to guidance work as a potential source of stress. A survey of 415 secondary school teachers revealed guidance-related aspects of work constituted a major dimension of stress, with guidance teachers.

They found that *female teachers, younger teachers, and junior teachers perceiving more stress than their counterparts.*

A study by *Mercy (1996)* at the University of Missouri - Columbia investigated the stress factors and Coping Mechanisms among 196 faculty members in 16 departments. It was found that *individual faculty feelings about life in general strongly affected perceptions of Occupational Stress.* Results indicated the *faculty differed by discipline type in the perceived stress.*

Schamer and Jackson (1996) conducted an investigation on Teacher Stress and burnout. The sample consists of 515 secondary level teachers of Ontario city. The study suggests that *more than any other public service professionals, teachers are affected by continued stress leading to burn-out. This in turn result in a negative attitude towards student and a loss of idealism, energy and purpose.*

In a study conducted by *Warnemuende (1996)* on 108 primary school teachers in England yielded *individual characteristics susceptible to stress and burn-out* such as *Charisma, idealism, perfectionism, and goal orientation* etc.

Brownell (1997) discussed the stress that special education teachers may feel by role overload and lack of autonomy. *Stress relieving strategies* are described, including *setting realistic expectations, making distinctions between the job and personal life, increasing autonomy, looking for alternative sources of reinforcement, increasing efficacy and developing personal coping strategies.*

Professional isolation and Occupational Stress in teachers were studied by *Dussault (1997)* on a sample of 1158 French Canadian teachers. *The results indicated a positive and significant correlation between isolation and occupational stress.*

From the study conducted by *Green, et al. (1997)* on the index of teaching stress suggests that *teaching stress can be conceptualised as one measure of student teacher compatibility.*

Biographical differences in Occupational Stress of teachers were investigated by *McCormick (1997)* in Australia. *Significant difference in Occupational Stress between elementary and secondary school teachers were found.*

Chan (1998) studied the stress, coping strategies and psychological distress among 412 secondary school teachers in China. Result of the study shows *significant relationship between stressors, active and passive coping strategies and psychological distress.*

Guglielmi and Tatrow (1998) reviewed the health effects of Teacher stress and reported *serious health problems as suffered by teachers having Occupational Stress.*

A study of Occupational Stress and personal-strain levels among new and experienced male and female college faculty conducted by *Lease (1999)* found *no differences in stress or strain between male and female faculty or between new and experienced faculty. Role overload and avoidant coping were significant predictors of strain,* with hardiness and responsibility for home-centered tasks accounting for variance in some measures.

Kyriacou (2001) In a study of teacher stress, he identified sources of teacher stress and suggested directions for research. They are *monitoring the effect* of education reforms on *stress level*, exploring *why some teachers cope with career reappraisal better than others* and assessing the *effectiveness of interventions.*

In a study conducted by *Jacobson, et al. (2001)* investigating relationship of stress reactions and feelings of mastery among 826 Swedish teachers in 27 comprehensive schools. They found that Teacher Stress reactions were *best predicted by learning orientation, positive feedback and goal clarity*.

2.2.3.5. Review of Indian Studies on Various Aspects of Teacher Stress

Since *culture* is an important factor in the study of psychological well-being and organisational stress, the findings based on western samples were not only inconclusive but also restrictive. So the investigator included the studies related to Teacher Stress conducted *in India also*. A few of these studies from 1989 and onwards have been presented in this review.

Fernandes and Murthy (1989) carried out a study on job-related stress and burnout in middle and secondary school teachers. A structured information schedule, the stress symptom questionnaire and MBI were administered to a sample of 50 female middle and secondary school teachers drawn from seven schools of Bangalore east region. It was found that *76 percent of the total sample faced stress on the job, though the degree to which they experienced stress differed. Pupil misbehaviour was found to be the most stressful, followed by time pressures, poor working conditions and poor school ethos*. Chi-square analysis revealed *non-significant results* between teacher characteristics and stress and burnout.

Vadra and Sultan Akhtar (1989) conducted a study on university teachers (N=120) to determine the stressors emanating from home and family situations. The SFRS Scale developed by them was used. The results showed that *male teachers experienced more social and family role stress* as compared to female teachers and *the married experienced more stress* than the unmarried teachers.

The study shows that *extraorganizational stressors are as potent as factors relating to work situation.*

A study of extra organisational stress among women teachers was carried out by Akhtar and Vadra (1990). The sample comprised 60 women teachers. The SFRS (Social Family Role Stress) Scale developed by Vadra and Akhtar (1989) was used for measuring extraorganisational role stress. The results indicated that *for women teachers' job tenure emerged as the significant predictor of social and family stress.*

Ushasree and Jamuna (1990) conducted a study to examine role conflict and job stress among special and general school teachers. The sample comprised 40 special school teachers (20 men and 20 women) for deaf and dumb, and a random sample of 60 teachers (30 men and 30 women) from high school. The analysis of data *did not reveal any sex differences among teachers from special schools on role conflict and job stress.* Teachers from special schools, both men and women, were found to experience *significantly greater role conflict and job stress* compared to their counterparts in general schools.

Biswas and De (1993) studied the role of organisational climate on professional stress experienced by 34 male teachers working in an open climate (OCT) and 34 male teachers working in a paternal climate (PCT). The analysis of the data revealed that the *teachers working in an open climate experienced less composite professional stress, powerlessness and social isolation than the teachers working in a paternal climate.* It was also found that the *teachers in an open climate had less negative orientation and affection towards different aspects of their job and professional lives.*

Mishra (1995) conducted a study to explore the relationship between job-related stress and depressed mood at work among male teachers of higher

educational institutions. The study was conducted on a sample of 70 male teachers employed in higher educational institutions in Lucknow. Results showed *a highly significant and positive relationship of overall job-related stress and its four dimensions*, i.e., role based stress, task based stress, boundary mediating stress and conflict mediating stress with depressed mood at work.

Sultana (1995) investigated the level of organisational role stress among male and female teachers of professional and non-professional courses. A group of 50 teachers from professional courses and another group of 50 teachers from non-professional courses were compared on role stress. It was found that there exists *a significant difference between professional male and female teachers, non-professional male and female teachers and professional and non-professional teachers in all the role stress variables*.

Mishra (1996) conducted a study to compare the levels of occupational stress and job satisfaction among male and female teachers of higher educational institutions. The study was conducted on a sample of 80 degree college teachers comprising 40 males and 40 females. Results indicated that *significant differences observed between male and female teachers on overall stress and overall job satisfaction scores. Stress was found to be correlated negatively and significantly with job satisfaction in both the groups*.

Joshi and Singhvi (1997) examined the effect of teachers' personality factors on their experience of role stress using a sample of 167 teachers drawn from different universities of Rajasthan. The following conclusion were obtained: (a) *The maximum role stress was experienced on the dimension of role erosion*. Similar role stresses were experienced by the teachers in all the four colleges, i.e., arts, science, agriculture and medical. *No significant differences* were observed in the role stress scores among teachers at different levels, i.e. assistant professors, associate professors and professors. (b) Adventurous – withdrawal dimension of

contact personality factors (CPF) was *correlated with all the role stress dimensions* except role erosion. Group identity – self sufficiency was *correlated negatively with all the role stress dimensions* except role stagnation. Dominance-submission was *correlated positively* with role overload and personal inadequacy. (c) Alienation was found to be *correlated positively* with all the role stress dimensions and total role stress. (d) Machiavellianism was also *correlated positively* with total role stress and all the dimensions of role stress except inter-role distance. (e) Locus of control was *associated negatively* and significantly with role ambiguity. On the whole, internality was *associated positively* and *significantly* with role stagnation, and was *associated negatively* and *significantly* with role ambiguity. Externality by others and externality by chance were *correlated positively* with all dimensions of role stress.

Job stress among secondary school teachers in relation to Management, Sex and Marital Status was studied by Singh and Singh (1998). They reported *significant main and interaction effects of sex, marital status and management of secondary school teachers on Job Stress*.

Sud and Malik (1999) investigated job related stress, social support and trait anxiety among 200 school teachers in Haryana. Results of the study indicated *very weak relation between overall Job related stress and teachers' characteristics*. Job stress was found *slightly related* to trait anxiety.

2.2.4. META ANALYSIS

Studies on QOL of teachers were mainly conducted to evolve the contributing factors of the life quality. Comparisons were also done between groups of teachers of various categories. Few studies were located which relate QOL of teachers and their Occupational Stress. But studies relating the QOL of

teachers and Occupational Stress in Indian context is rare. Hence, the investigator reviewed and presented studies on *Quality Of Work Life*.

The reviewed studies on Stress among teachers reflect certain important issues. Most of the research on stress concentrated in identifying *major stressors*, *comparison of stress* among different category of teachers, *influence of age*, *gender*, *institutional characteristics* etc. Of which most of the studies were conducted upon Elementary, Secondary and University teachers.

From the review of studies on Stress and Job satisfaction among teachers it can be seen that, most of the studies were conducted by foreign researchers. Relationship between stress among teachers and Job satisfaction at different levels and categories, factors affecting stress and job satisfaction, effect of other variables on stress and job satisfaction, etc. were reviewed. Results of these studies indicated that Teacher Stress and Job Satisfaction has a *significant relationship*.

Review of studies related to Stress and Personality Characteristics among teachers revealed an adequacy of *indepth research* in this area. Most of the studies which were examined relationship between *teacher's personality characteristics* and *stress*. Other studies in this area were done to analyse the relationship between *locus of control* and *stress*, and *personality types* and *stress*. Studies relating the various aspects of Teacher Stress in Indian context is very rare.

To get a clear picture about the nature and trend of the variables – QOL and Teacher Stress in the reviewed studies, the investigator subjected the studies for a *meta analysis*. Meta analysis is the statistical summary of all the studies reviewed. For this purpose, the studies were statistically analysed using simple percentage analysis to find out the percentage of studies reviewed in each

category during the concerned period of years. Details of the meta analysis is given in Table 2.1.

TABLE 2.1
Details of Meta Analysis

Category of Studies		Year	No. of Studies reviewed	Total No. of Studies	Per-centage
FOREIGN STUDIES AND INDIAN STUDIES	Quality Of Life	1977-2002	27	55	49
	Quality Of Work Life	1990-2001	28	55	51
	Teacher Stress & Job Satisfaction	1979-1991	40	173	23
	Teacher Stress & Personality characteristics	1980-1991	14	173	8
	Teacher Stress & Stressors	1980-1998	41	173	24
	Other aspects of Teacher Stress	1980-2001	67	173	39
INDIAN STUDIES	Various aspects of Teacher Stress	1989-1999	11	173	6.4

As per Table 2.1, the meta analysis of the reviewed studies revealed the following aspects. For the variable *Quality Of Life* of Teachers, studies conducted during the year 1977-2002 were reviewed. Twenty seven studies relating QOL of Teachers were reviewed, of which only a few studies were conducted in India. Twenty Eight studies on *Quality Of Work Life* is reviewed from the year 1990 to

2001. Out of 55 studies reviewed on Quality Of Life and Quality Of Work Life, 49 per cent of studies dealing QOL of teachers and 51 per cent of studies highlighted the Quality Of Work Life. *Twenty three per cent* of studies relating *Teacher Stress* and *Job Satisfaction* out of 173 studies on Teacher stress conducted during the year 1979-1991. Out of the 173 studies from the year 1980 to 1991, *eight per cent* of studies were related to *Teacher Stress* and *Personality characteristics* of Teachers. Studies related to *Teacher Stress* and *Stressors* were *24 per cent* during 1980-1998. Sixty seven studies (*39 percent*) of studies were dealing the *other aspects of Teacher Stress* during 1980-2001. The percentage of studies on *various aspects of Teacher Stress* during the period 1989-1999 was 6.4.

The meta analysis data clearly revealed the trend in research on Teacher Stress and Quality Of Life of Teachers. Majority of the studies reviewed conducted abroad. Need for research on these variables in Indian context is highly evident.

Chapter Three

M E T H O D O L O G Y

Selection of Variables	3.1
Objectives	3.2
Hypotheses	3.3
Procedure	3.4
Sample	3.4.1
Tools for Data Collection	3.4.2
Design for Stress Management	3.4.3
Intervention Programme	
Mode of Data Collection	3.4.4
Mode of Analysis of Data	3.4.5

3

METHODOLOGY

The methodology adopted for the investigation has been described in this chapter. The major objective of the present study was to investigate the extent of association and level of Quality Of Life and Occupational Stress among Teachers of various categories. The study also focussed to implement a Stress Management Intervention Programme (SMIP) to a group of Teachers who are experiencing high level of stress among the sample chosen and to evaluate the effectiveness of the Stress Management Intervention Programme. The study further aimed to identify the latent factors underlying the Teacher Stress Inventory used to collect data.

The methodology followed at the various phases of the investigation is presented under the following sub-sections.

- 3.1. SELECTION OF VARIABLES
- 3.2. OBJECTIVES
- 3.3. HYPOTHESES
- 3.4. PROCEDURE

3.1. SELECTION OF VARIABLES

The variables in the study have been selected on the basis of the following rationale. At the first step, Psychological Variables those are considerably related to the *work life* and *individual performance of teachers* were identified and scrutinised by a comprehensive review of socio-psychological literature. The investigator reviewed a wide spectrum of researches in this area conducted by

domestic researchers and researchers abroad in detail. Selection of any variable as an independent variable was based on the assumption that the variable might be related to *Teacher's work life*, *Teacher effectiveness* and *Individual performance* as a member of an academic organisation. The variable also might be directly linked with *Organisational Climate* and *culture*. Such variables could be used as a probable *predictor* and *indicator* of organisational effectiveness. Extensive review of literature minimised the effort to locate *prime variables* which showed relationship with *teacher's work life* and *organisational effectiveness*. The following variables which have close association with worker life and organisational effectiveness were identified.

Occupational Stress, Job Satisfaction, Morale, Leadership, Organisational Structure and Climate, Communication, Absenteeism, Burnout, Job Involvement, Personality Characteristics, Quality Of Life, Quality of Work Life and the like were scrutinised with the help of research evidence with regard to various kinds of organisational settings.

3.1.1. Criteria Used for Selection of Variables

Identification of a wide array of factors affecting work life and individual performance in organisational settings as described earlier, directed the investigator to make a cautious selection of variables. Selection of variables was made on the following major considerations:

- The factors selected should be related to *organisational settings* and *work life*.
- High degree of *relationship* should be shown by the selected factors with work life in organisational settings.
- The factors selected should be amenable for *objective* and *group measurement*.
- For the selected factors, standardised tools should, as far as possible, be readily available or that could be *developed within a reasonable period of time*.

Considering these criteria, the Independent and Dependent variables selected for the study are as follows:

3.1.1.1. Occupational Stress of Teachers

In the present study, *Occupational Stress* (Stressorwise and Total Stress) is treated as *Independent Variables*. It is a person's response to some threatening or disturbing stimuli emerged from the occupation (Traverse & Cooper, 1996). This conception of Occupational Stress imply how the person *perceives* the various sources/causes of job stress. Review of literature revealed a vast array of studies on stress in various work settings, specifically in the teaching profession (Traverse & Cooper, 1996; Wisniewski & Gargiulo, 1997; Forlin, 1998; Guglielmi & Tatrow, 1998).

3.1.1.2. Quality Of Life of Teachers (QOL)

The variable *Quality Of Life* is conceived in the present study as the *Dependent Variable*. It is the total *life satisfaction* or *well-being subjectively perceived by Teachers*. Studies of Rice, *et al.* (1980), Brief and Nord (1990) and a host of others examined the level of life satisfaction among workers of various occupational settings. Krause and Stryker (1984), Mykietun (1984), Pelsma (1989), Sabo (1995) and a number of other researchers particularly studied the *Quality Of Life* of teachers in relation to *work stress*. It was evident from the related literature that *Quality Of Life* is to be considered as one of the significant variable in stress research.

3.2. OBJECTIVES

The following were the objectives of the study up on which the investigation and the procedure is designed.

3.2.1. To study the *Personal* and *Institutional demographics* of the sample.

- 3.2.2. To study the *extent* and *levels* of Quality Of Life and Occupational Stress of Teachers (Total sample and relevant Subsamples).
- 3.2.3. To study whether *significant gender difference* exists or not in Quality Of Life and Occupational Stress of Teachers (Total sample and relevant Sub samples).
- 3.2.4. To *compare* the Quality of Life and Occupational Stress of Teachers with regard to the Type, Locale and Management of Institutions.
- 3.2.5. To *compare* the Quality Of Life and Occupational Stress of Teachers with regard to Age, Qualification, Experience, Marital Status and Type of Career of the Couples.
- 3.2.6. To study the *nature* and *extent of association* Between Quality Of Life and Occupational Stress of Teachers (Total sample and relevant Sub samples).
- 3.2.7. To study the *Future Expectations* of Teachers (Male – Female, School – College, Rural – Urban and Govt. – Private).
- 3.2.8. To *identify the best predictors* of Occupational Stress and Quality Of Life of Teachers.
- 3.2.9. To study the *effectiveness* of a Stress Management Intervention Programme (SMIP) for Teachers.
- 3.2.10. To *identify the latent factors* involved in the Teacher Stress Inventory.

3.3. HYPOTHESES

The following are the major hypotheses of the study.

- 3.3.1. There will be *Significant gender difference* in Quality Of Life and Occupational Stress of Teachers (Total sample and relevant Subsamples).
- 3.3.2. There will be *Significant difference* in Quality Of Life and Occupational Stress of Teachers with regard to the Type, Locale and Management of Institutions.
- 3.3.3. There will be *Significant difference* in Quality Of Life and Occupational Stress of Teachers with regard to Age, Qualification, Experience, Marital Status and Type of Career of the Couples.
- 3.3.4. There will be *Significant correlation* between Quality Of Life and Occupational Stress of Teachers (Total sample and relevant Subsamples).
- 3.3.5. Occupational Stress and Quality Of Life of Teachers *can be predicted* from a set of predictor variables.
- 3.3.6. The Stress Management Intervention Programme (SMIP) *will be effective* for reducing high level of Occupational Stress of Teachers.
- 3.2.7. The *latent factors* involved in the Teacher Stress Inventory *can be identified*.

3.4. PROCEDURE

The following procedure was adopted for the investigation.

3.4.1. SAMPLE

For the study the Secondary, College and University level Teachers of Kerala State are considered as the population. Due to practical reasons, the study was conducted on a proportionate, stratified sample of 200 Teachers drawn from

the Schools, Colleges and Universities of Northern, Southern and middle regions of Kerala State. Due representation was given to the category of Teachers (Secondary, College and University level), gender, locale and management of institutions and is presented in the following.

3.4.1.1. Factors Represented in the Sample

Since proportionate, stratified sampling technique is adopted for the present investigation, the following strata were considered during sampling.

a. Category of Teachers

Two categories of Teachers were represented in the study. They were Secondary School and College (including University) Teachers. Equal proportion is taken in the ratio 1:1.

b. Sex of the Subjects

Male and Female Teachers in the ratio 1:1 is considered.

c. Locale of Institutions

The Rural-Urban locality of the institutions were represented in the ratio 2:1.

d. Management of Institutions

Both Private and Government secondary Schools and Colleges were given representation in the ratio 2:1.

According to the strata and the proportions, the sample chosen was divided. In the following break-up the scheme of sampling and actual number of subjects taken for the study are presented.

Break-up of the Sampling Scheme and Number of Subjects

Category	Locale	Male		Female		Total
		Govt.	Pvt.	Govt.	Pvt.	
School	Rural	23	11	23	11	68
	Urban	10	6	10	6	32
College + University	Rural	23	11	23	11	68
	Urban	10	6	10	6	32
Total		66	34	66	34	200

3.4.2. TOOLS FOR DATA COLLECTION

The data were collected for testing the Hypotheses framed, the following tools were made use of. The tools are specifically designed, constructed and standardised by the investigator for the purpose of measuring *Quality Of Life* and *Occupational Stress* among Teachers.

The various *steps* and *procedures* undertaken by the investigator in the construction, development and standardisation of the tools are described and presented in the following sections.

3.4.2.1. Professional Life Satisfaction Scale (PLSS)

The *Professional Life Satisfaction Scale* was constructed and developed by the investigator for the purpose of quantifying the index of *Quality Of Life of Teachers*. Various procedures and steps used in the construction and standardisation of Life Satisfaction Scale are described in this subsection of the report.

Planning of the Scale

The available literature on Quality Of Life research has been examined and studied extensively by the investigator. Special emphasis was given to Cantril's self anchoring Ladder Scale (Szalai & Andrews, 1980) which has been using world widely as an instrument for measuring the *Life Satisfaction* or *well-being* of the subjects. Review of literature in the field of Quality Of Life research revealed that Cantril's Ladder Scale was proved efficient to assess the life satisfaction. The scale has been used extensively in the Quality Of Life research in different countries. Hence, the investigator decided to construct the Life Satisfaction Scale using the format of Cantril's self anchoring Ladder Scale. This format was adapted due to the reason that life satisfaction is a subjectively perceived aspect of the person's life. Ladder Scale format is best suitable for reporting the level of satisfaction as perceived by oneself.

Preparation of the Scale

In consultation with experts in the field of Psychological research, informal interviews and discussions with Teachers of various categories, the investigator prepared a list of probable *goals* embedded in the professional life of Teachers. Due care was taken to link these goals with the *aims* and *objectives* of Teaching. This is done based on the assumption that the degree and the level of attainment of these goals lead to satisfaction in the life. If these goals are related to the work life, attainment of which inturn lead to satisfaction in the profession. The list was then submitted for examination by three experts. To avoid *ambiguity* and to preserve clarity in the statement of goals, some statements were modified, some were deleted. Then the list of *life goals* in the work was finalised. It includes statement of goals which may be aimed to achieve by School, College and University Teachers during their profession and life. The following are the illustrative examples of the statements of professional life goals.

1. To get ACCEPTANCE in the society.
2. Keep myself ENGAGED always.
3. Improve my STANDARD OF LIFE in the society.

The Tryout

The investigator prepared a list of 25 major professional life goals as a three point scale with alternative responses as *Strongly Agree*, *Agree* and *Disagree*. The draft list of goals thus prepared was given to a group of 100 (School, College and University) Teachers selected randomly. For the selection of standardisation sample, appropriate weightage was given to the factors like gender, locality, type of management of institution to make the sample representative of the population. Teachers were requested to mark their agreement or disagreement concerning with the statement of professional goals on the three point scale as *Strongly Agree*, *Agree* and *Disagree*. For each statement a score *Two* was given for the response *Strongly Agree*, *One* to *Agree* and *Zero* to *Disagree*.

Item Analysis

The response sheets from 100 teachers were selected for item analysis. Since the number of statement of goals is 25, all Teachers responded to the 25 statements of professional life goals. Hence, there was no need to delete incomplete response sheets.

Item analysis was done as per the method suggested by Edwards (1969). The 100 respondents were arranged in the descending order of scores. The upper and lower 27% of the responses were treated as upper group and lower group respectively. Under each group, for each statement the number of Teachers making response to *Strongly Agree*, *Agree* and *Disagree* were found out and presented in the form of a frequency table. Then the *t* value of each statement was calculated to find out the discriminating power. The value of *t* is a measure

of the extent to which a given statement of goal differentiates between the high and low group. The t value was calculated using the following formula

$$t = \frac{\overline{X}_H - \overline{X}_L}{\sqrt{\frac{\sum (X_H - \overline{X}_H)^2 + \sum (X_L - \overline{X}_L)^2}{n(n-1)}}$$

$\overline{X}_H$ = The mean score on a given statement for the high group

$\overline{X}_L$ = The mean score on the same statement for the low group

n = Number of cases

$$\sum (X_H - \overline{X}_H)^2 = \sum X_H^2 - \frac{(\sum X_H)^2}{n}$$

$$\sum (X_L - \overline{X}_L)^2 = \sum X_L^2 - \frac{(\sum X_L)^2}{n}$$

Those statements exceeding the t value of 2.58 were selected for the final scale. The obtained t values for the 25 statements of professional life goals are given in Table 3.1.

TABLE 3.1

Details of Item Analysis of Professional Life Satisfaction Scale

Sl. No.	Statements of Professional Life Goals	t-values	Selected Statements
1.	Contribute to NATIONAL DEVELOPMENT	2.50	
2.	Make REFORMS in the field of Education	4.82	
3.	Prepare the FUTURE GENERATION	2.10	
4.	To be a GREAT TEACHER	5.03	✓
5.	To DEVELOP PERSONALITY	3.29	✓
6.	To know MYSELF	2.78	✓
7.	Attain SELF SATISFACTION	4.50	✓
8.	Acquire STATUS IN SOCIETY	5.09	✓
9.	EARN MONEY with minimum effort	1.56	
10.	Generate and DEVELOP KNOWLEDGE	2.88	✓
11.	RECEIVE RESPECT from society	4.15	✓
12.	Acquire highest PROFESSIONAL GROWTH	3.19	✓
13.	Attain the HIGHEST POSITION	4.13	✓
14.	To GET ACCEPTANCE in the society	3.20	✓
15.	Improve STANDARD OF LIFE	4.18	✓
16.	Keep myself ENGAGED always	2.61	✓
17.	CONTACT different types of students	1.51	
18.	Find NEW IDEAS	3.04	✓
19.	For derive PLEASURE	2.93	✓
20.	INFLUENCE & MANAGE others	2.11	
21.	To EXCEL other Teachers	2.01	
22.	To SHOW my ability	1.98	
23.	To keep TOUCH with the Subject	2.51	
24.	To be a good FRIEND of students	2.15	
25.	REMEMBERED always by students	2.00	

The final scale thus consists of 14 statements of professional life goals. In the preparation of final scale the selected items were separately given with all necessary instructions.

Finalisation of The Professional Life Satisfaction Scale

The selected 14 statements of professional life goals were arranged in the Ladder Scale format.

Subjects have to select the professional life goals which are important to them as they perceive, by putting a (✓) mark against those statement of goals. In the next step they have to rank the most important goals which they have already selected. The ranking can be done using 1, 2 and 3 against each of the important goals according to their preference. Finally, they have to find out their *level of satisfaction* from the Ladder Scale given. The Ladder Scale indicates the highest possible level to the lowest possible level of satisfaction represented by 11 to 1. Subjects have to *anchor* any level of satisfaction from the highest to the lowest level they derived with respect to the ranked goals for the *Past, Present* and *Future* years. The level of satisfaction in the form of Ladder values determined by the subjects have to be marked in the space provided for each professional life goals which were ranked by them.

11
10
9
8
7
6
5
4
3
2
1

An illustrative example is given in the following:

Example:

Life Satisfaction - Past Year	Rank	Professional Life Goals	Ladder Scale Value
	1	ACCEPTANCE	6
	2	ENGAGED	4
	3	STANDARD OF LIFE	2

The final Professional Life Satisfaction Scale in English Language is given in Appendix II.

Scoring Procedure

Index of the Quality Of Life of the subjects will be obtained by adopting the following scheme.

The *means* of the scale values for three important goals preferred and ranked by them as 1, 2 and 3 in the Ladder Scale will be taken as the index of their Quality Of Life. This can be done separately for the Past, Present and Future years' life satisfaction as reported by the subjects.

Validation

The final scale was subjected to the examination of a group of experts in the field of Social-Psychological research. They examined the 14 statements of *Professional life goals* of Teachers and the *format* of the scale. Their judgement on the basis of the thorough examination was that the statements of life goals are related to the professional life of Teachers and the scale as a whole is sufficient to

measure Professional Life Satisfaction of Teachers. Hence *face validity* is ensured.

Criterion related validity of the Professional Life Satisfaction Scale was established using *Pearson's Product Moment* correlation. For this purpose the scale was administered on a sample of 40 Teachers and the scores were collected. This scores were correlated against the set of scores obtained from the same sample by administering the *College Goals and Life Satisfaction Scale* (Farooqi & Kumar, 1987) as an external criteria. The correlation coefficient thus obtained was 0.68.

Establishment of Reliability

Reliability of the Professional Life Satisfaction Scale was established through *test-re-test* method. It was worked out on representative sample of 40 Teachers on whom the validation of the scale was done. *Two* consecutive administration had an interval of *three weeks* of time. The two sets of scores thus obtained were correlated using Pearsons Product Moment technique. The Reliability Coefficient obtained as 0.74.

The validity and reliability indices of the Professional Life Satisfaction Scale show that the scale is a valid and reliable tool for measuring the QOL of teachers.

3.4.2.2. Teacher Stress Inventory (TSI)

The *Teacher Stress Inventory* (TSI) developed by Sasidharan and Kumar (2000) was used to assess the Occupational Stress experienced by Teachers of various categories. The steps taken by the investigator during the construction and standardisation of the TSI is briefly explained in the following part of the report.

Planning

The investigator reviewed the literature related to Occupational Stress measurement and studied in detail. The tools used by previous researchers to measure Occupational Stress in various work settings were also examined. Special emphasis was given to the assessment of Job Stress experienced by Teachers. Most of the traditional Occupational Stress Inventories located by the investigator measure either *organisational stressors* or *personal strain* (Jones & Dubois, 1989). These tools were based upon the traditional theoretical models of work stress given emphasis to *antecedent* variables of stress reaction (Environmental and Person variables) treated as separate (Lazarus, 1995). A number of stress instruments purely based on the transactional view of Job Stress were reviewed with a view to offer a more *transactional approach* than relying solely on *traditional inventories*. The following tools in these line were caught special attention:

Occupational Stress Inventory (Osipow & Spokane, 1981), *Work Stress Inventory* (Barone, et al., 1988), *Life Events and Difficulties Schedule* (Brown, 1990) and the *Job Stress Survey* (Speilberger & Reheiser, 1994) etc. These instruments are more *general* in nature to assess Occupational Stress.

From the review of literature, the investigator located some instruments which are *more specific* to assess the Occupational Stress in certain *particular work settings* (*Police Stress Survey* - Speilberger, et al., 1981; *Teacher Stress Survey* - Grier, 1982 and the *Teacher Stress Questionnaire* - Traverse & Cooper, 1996). Instruments which measure generally the Occupational Stress are seemed inadequate to measure Teacher Stress due to the peculiarities of the nature of the profession and the involvement of Teachers. Hence it is decided to construct and develop an Inventory specifically useful to measure Teacher Stress in Indian context.

To get a strong theoretical basis for the proposed Inventory, the investigator examined the different theoretical models of Occupational Stress of Teachers. This include the model proposed by Cox (1977), Kyriacou and Sutcliffe (1978), Needle, et al. (1980), Wanberg (1984) and Cooper, et al. (1988). Details of these models are presented in Chapter 2, section 2.1.3.4.

It is decided to adopt an *amalgam* of the six factor theory outlined in the work and model of Kyriacou and Sutcliffe (1978) and Cooper, et al. (1988) to examine the potential source of Teacher Stress. Along with this, findings from researchers working in the field of stress of Teachers were also studied. *Six potential sources* for Teacher Stress were identified from this model and they are presented as follows:

Sources of Stress – Stressors

1. *Intrinsic to Job* – Physical working conditions, level of participation and decision making latitude and work load.
2. *Role in the Organisation* – Role ambiguity, role conflict and levels and type of responsibility.
3. *Relationship at Work* – Superiors, Colleagues and Subordinates.
4. *Career Development* – Over or under promotion, possible lack of job security, status incongruency.
5. *Organisational Structure and Climate* – These Stressors may be those that restrict behaviours i.e. politics and culture of the organisation and how individuals interact with these. Specific features include the level of participation and involvement in decision making, performance appraisal etc.

6. *Home work Interface* – This refers to Stressors resulting from a mismatch in the relationship between work demands and family or social demands – dual career couples, conflict, overload, relationship dilemmas, dilemma of equality etc.

Preparation

The investigator made informal discussions and interviews with selected Teachers working in some of the Secondary Schools, Colleges and Universities of Kerala State. This was done with a view to get clarity about the aspects of major Stressors adopted from the models proposed by Kyriacou and Sutcliffe (1978) and Cooper, *et al.* (1988). The discussions and interviews gave more insight to the aspects of *six* major components. Experts in the field of stress research were also consulted. As a result of these, it is decided to construct a 50 item self reporting inventory suitable to give a satisfactory measure of Teacher's Stress in the Indian context following Likert format. The major Stressors and the related aspects that are used in the TSI are presented in Table 3.2.

TABLE 3.2
Stressors and Related Aspects in TSI

Sl. No.	Major stressors	Related aspects
1.	Intrinsic to Job	Class size, Unsuitable building, Noise level, Inadequate resources, level of participation in decision making, work load etc.
2.	Role of Teachers	Role ambiguity, Role conflict, Responsibility for others and Role preparedness
3.	Relationship at Work	Quality of relationship with Colleagues, Head, Office Staff, Pupils and Parents
4.	Career Development	Status incongruency, over/under promotion and Job security etc.
5.	Organisational Structure	Participation in decision making, Performance appraisal, Change in curriculum, Personal freedom, Poor communication, Inadequate feedback about performance, Unfair control system and Lack of effective consultation
6.	Home work Interface	Stressful life events, Conflict between organisational and personal beliefs, Financial difficulties, Dual career couples, Dilemma of equality and Interaction between home and work

Item Writing

Based on the models of Teacher Stress adapted and the discussions and interviews with Teachers, the investigator prepared items in English language. The items are then subjected to the evaluation of experts in the field of Occupational Stress research. On the basis of their criticisms and suggestions necessary modifications, additions and deletions were made to improve the clarity of statements. The investigator thus prepared 114 positive and negative statements regarding the various aspects of the six major Stressors/causes of

Teacher Stress. All the items were scrutinised further by a panel of experts. Modifications were again made and then, the draft inventory is finalised.

Some illustrative items from the draft inventory are the following as examples:

Stressor : Intrinsic to Job – *Class size*

1. Due to the increased number of students I am worried about the effectiveness of teaching.

Stressor : Relationship at Work – *Relation with Head/Principal*

2. I feel irritated in some of the actions taken by the Head/Principal.

Stressor : Career Development – *Under promotion*

3. There is no possibility for a promotion in the nearest future if I am sticking on this job.

Mode of Responding and Scoring

Subjects have to be decided how far each statement in the inventory is true for their case. Responses can be made in a five point scale as *Strongly Agree, Agree, Undecided, Disagree* and *Strongly Disagree*. For a positive statement the score given will be 5, 4, 3, 2 and 1 respectively for the response *Strongly Agree, Agree, Undecided, Disagree* and *Strongly Disagree*. Scoring scheme is reversed for a negative statement.

The draft Inventory in English version and the Response Sheet are presented as Appendix III and IV.

Try out

The draft inventory comprising 114 items was tried out on a sample of 110 School and College Teachers. The standardisation sample was drawn randomly after giving due representation to gender, locale, type of management of institutions etc. The sample was directed to mark their agreement/disagreement towards the items in the TSI on a five point scale as *Strongly Agree, Agree, Undecided, Disagree* and *Strongly Disagree*. Separate response sheet was supplied to the sample. The tryout was done to analyse each item in the TSI.

Item Analysis

Response sheets completed in all respects were scored. Incomplete response sheets were deleted. Finally, response sheets of 100 sample were obtained for item analysis. Item analysis was done according to the procedure recommended by Edwards (1969). The scores of 100 Teachers were arranged in the decreasing order of magnitude. From this upper 27% (27 response sheets) and lower 27% (27 response sheets) were taken for item analysis and considered as the upper and the lower group. From both the groups, response towards each point were found out and arranged in a frequency table as suggested by Edwards (1969). t values of 114 items in the TSI was calculated to find out the discriminating power of each item. The following formula was used to find out the t -value.

$$t = \frac{\overline{X}_H - \overline{X}_L}{\sqrt{\frac{\sum (X_H - \overline{X}_H)^2 + \sum (X_L - \overline{X}_L)^2}{n(n-1)}}$$

- $\bar{X}_H$ = The mean score on a given statement for the high group
 $\bar{X}_L$ = The mean score on the same statement for the low group
 n = Number of cases

$$\sum (X_H - \bar{X}_H)^2 = \sum X_H^2 - \frac{(\sum X_H)^2}{n}$$

$$\sum (X_L - \bar{X}_L)^2 = \sum X_L^2 - \frac{(\sum X_L)^2}{n}$$

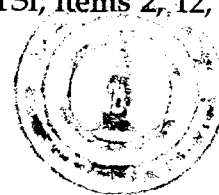
Those statements having a t value of 2.58 and above is taken for the final inventory. The item analysis data is presented in Appendix V.

Finalisation of the TSI

Fifty items having the highest t values were selected for the final TSI and were serially arranged with respect to the six Stressors concerned. Items were selected from six major category of major Stressors and related aspects as given in Table 3.2. The following break-up will give the number of items in each category of major Stressors.

Sl. No.	Stressors	Number of Items	Sl. No. in the Final Inventory
1	Intrinsic to Job	10	1 - 10
2	Role of Teachers	9	11 - 19
3	Relationship at Work	7	20 - 26
4	Career Development	4	27 - 30
5	Organisational Structure	11	31 - 41
6	Home work Interface	9	42 - 50
Total Items		50	

The following are the number of negative items in the final TSI; items 2, 12, 19, 23, 49, 53, 68, 72 and 97.



Validity

Criterion related validity of the TSI was established using the *Teacher Stress Questionnaire* (Traverse & Cooper, 1996) as the external criteria. Both tools were administered on a sample of 40 Teachers and responses were collected. Scores on TSI and Teacher Stress Questionnaire were correlated through Pearson's Product Moment method. The coefficient of correlation was 0.71.

Reliability

Reliability of the TSI was established by *split-half* method. Items in the TSI was divided into two equal halves (1st half and 2nd half) and each half is treated as separate inventory. These were administered on 40 Teachers, two sets of responses were collected and correlated. The correlation coefficient obtained was 0.69.

The internal structure of the inventory is examined by correlating the scores on *six category of major Stressors* with the *Total score* on the inventory. The intercorrelation matrix is presented in the break-up follows.

	Intrinsic to Job	Role of Teachers	Relationship at Work	Career Development	Organisational Structure	Home work Interface	Perceived Stress (Total)
Intrinsic to Job	1.00	-0.03	0.05	0.11	0.16	0.01	0.31**
Role of Teachers		1.00	0.09	0.17	0.06	0.15	0.35**
Relationship at Work			1.00	0.044	0.20	0.08	0.32**
Career Development				1.00	0.11	0.17	0.25**
Organisational Structure					1.00	0.21	0.43**
Home work Interface						1.00	0.35**
Perceived Stress (Total)							1.00

** P < 0.01.

Validity and reliability indices pointed out that the Teacher Stress Inventory (TSI) has acceptable psychometric properties and is sufficient to measure the Occupational Stress among Teachers.

Separate response sheets were designed, necessary instructions were framed and hence the inventory is finalised. The final TSI consists of two parts. *Part 1. Biographical Information* and *Part 2. Sources of Stress in Teaching Profession*. Part 1 of the inventory demands information relating to age, gender, qualification, marital status, experience in the profession and the like. In Part 2 items covering the six categories of major stressors were included. A copy of the final Teacher Stress Inventory in English and response sheet are presented in Appendix VI and VII.

3.4.3. DESIGN FOR STRESS MANAGEMENT INTERVENTION PROGRAMME (SMIP)

The study was carried out in the form of a descriptive survey with built-in-Experimental Design. The present study is also focussed to implement a Stress Management Intervention Programme (SMIP) and to assess the effectiveness of the programme. The intervention is applied to a group of Teachers who experienced high level of stress among the sample. To evaluate whether the SMIP is effective or not for those subjects having high level of stress, *Pre-Intervention - Post-Intervention group comparison design* is used. The design is illustrated as follows:

R O_1 X O_2 Intervention Group

R O_1 O_2 Control Group

R = Randomization

O_1 = Measurement of Stress before Intervention (Pre Intervention)

X = Experimental treatment / Intervention programme

O₂ = Measurement of Stress after Intervention Programme
(Post Intervention)

The Pre Intervention-Post intervention Group comparison design is chosen because this design is more appropriate due to the fact that the target population is much larger than the programme participants. One group of 10 Teachers who were associated to have high level of Occupational Stress is randomly selected among the sample as *Experimental* group. Other group of 10 Teachers having high level of stress is also selected as *Control* group. Intervention programme was given to the Experimental group for one month. The Control group was given no intervention programme. Measurement of stress before and after intervention is done and the stress levels are compared between the Experimental and Control group.

3.4.3.1. Stress Management Intervention Programme (SMIP)

The particular intervention techniques used as SMIP for Experimental treatment is described in this subsection. The investigator used *Progressive Muscle Relaxation (PMR)* (Jacobson, 1938) technique with a *Cognitive Strategy (CS)*. Each of which is described as follows.

Progressive Muscle Relaxation (PMR)

It is an extension to the technique of deep breathing, developed by Jacobson (1938). In the technique of Progressive Muscle Relaxation, the subject assumes a comfortable position and begins to breath deeply. Then the subject relaxes groups of muscles one at a time, beginning with the hand and forearms. Through this technique the mind gets relaxed because the relaxed muscles are associated with a decrease in emotional tension.

The various steps and procedures in the PMR is explained in the following part.

Steps and Procedures of Progressive Muscle Relaxation

Now is the time to relax. Find a nice comfortable position of a bed or on a floor mat and try to relax as much as you can right now. I am going to ask you to tighten certain muscles and study the sensations that come from these muscles while they are tense, and then notice what happens when you relax them and continue to relax them further and further. Please close your eyes. Slowly while I count one ... two ... three ... ten OK.

Hands and Forearms

To start with, clench your right fist and try to keep all the other muscles in your body relaxed. Your forearm will be down flat (*holding it up makes some tension in your upper arm*). Study the feelings of tension in your forearm. Notice the location of the muscles and how they feel when they are tensed. [*Pause for tensing*] Relax now, all at once – don't ease off – let everything go all at once and then study the sensations in that muscle group as muscles relax further and further [*Pause for relaxing*] Now, of course, it goes more quickly if you can do it with both fists at once – so this time clench both fists. Once more study the sensations in these tense muscles – and as they begin to get a little tired locate them very clearly and specifically. [*Pause for tensing*] And again, let go all at once without easing off – relax. Now study the sensations as these muscles relax further and further. [*Pause for relaxing*]

Upper arms

Now pull your forearms up against your upper arms as far as you can, keeping your forearms relaxed – you can tell they are relaxed when your wrists are limp. Fold them up right now and feel your biceps work and study the pattern of tension in your biceps – locate these muscles in your upper arms. [*Pause for tensing*] And relax. Let your arm flop and each time notice the contrast between how the muscles feel when they are tense and when they are relaxed. [*Pause for relaxing*]

Now straighten your arms out – completely straight – and try to turn your elbows inside out. Feel the muscles work up the back of your upper arms – study the feeling of tension in this muscle. [*Pause for tensing*] Relax now. [*Pause for relaxing*] And a final word about the thing that you do in order to relax the muscle – *enjoy the good feeling* as the tension gradually goes off more and more. [*Pause for relaxing*]

Now raise your arms out to the side. You have nothing to push against so it will take a little more time before the muscles get tired enough for you to feel the tension in them. These will be the muscles up across the tops of your upper

arms and the muscles from the joints of your shoulders upto the back of your neck. [Pause for tensing] And now relax and study the sensations as these muscles relax. [Pause for relaxing]

Forehead

Now raise your eyebrows and pull your scalp down to meet your eyebrows so that you can feel the tension in your forehead and up across the top of your skull. Study the pattern of tension. Don't worry if you can't feel your scalp - lots of people can't. [Pause for tensing] And relax now and just feel your forehead smoothing out and enjoy the good kind of creeping sensation as the muscles in your forehead and scalp relax. [Pause for relaxing]

Once more raise your eyebrows and feel the muscles work up there. [Pause for tensing] And relax. [Pause for relaxing]

This time instead of letting everything go, try to let go approximately half the tension in your forehead and try to keep it in a disciplined way at that level - stamping out the fluctuations so that the level remains constant. [Pause] Then let half of that go and once more try to keep it at that level without letting it vary upward or downward. [Pause] And half of that. [Pause] And half of that. Try to maintain just a tiny level of tension so that you can become aware of it when your forehead begins to tighten up just a little bit. [Pause] And relax now - let it all go and just enjoy the good feeling as your forehead relaxes and smooths out - gradually lets go and relax [Pause for relaxing]

Now frown - pull your eyebrows together across the top of your nose - feel the muscles work there? Almost makes you feel angry, doesn't it? [Pause for tensing] Then relax. Let it go. [Pause for relaxing]

Eyes (remove contact lenses)

Now close your eyes tightly - this will perhaps use a little bit of your frowning muscles. You can feel the circular muscles that go all around your eye and your eyelids and may be a little of your muscle that wrinkles your nose is there. [Pause for tensing] Then relax - let all the tension go out and let your upper lids rest very gently on your lower lids. [Pause for relaxing]

Now as we continue through the rest of these muscles I want you to leave your eyes closed so that you will be able to attend more easily to the sensations that are coming from your muscles without the interference of seeing things around you. If you find it uncomfortable to keep your eyes closed, open them for just a second and then close them again as soon as you can comfortably do it. Now, keeping your eyes closed, roll your eyes in a large circle and feel the muscles work as you move your eyes to the right - now notice those muscles that

move your eyes downward - to the left - and up - and around - don't work them too hard because it's easy to strain your eyes. [*Pause for moving eyes in circle*] Then relax. Study the sensations as the tension goes out of these muscles that move your eyeballs about - think of looking at nothing and just let all those muscles go. [*Pause for relaxing*]

Mouth

Now act as if you were going to brush your upper teeth and retract your upper lip. You will find the two muscles that you use to do this - one that pulls up the middle of your upper lip and the other that pulls up the corners of your mouth - like when you smile. Now feel these muscles work. [*Pause for tensing*] And relax now - each time noticing what you do to relax and just observing for a moment the sensations those relaxed muscles give rise to [*Pause for relaxing*]

Now pucker your mouth - feel the circular muscle around your mouth work. [*Pause for tensing*] And relax now. [*Pause for relaxing*]

Jaws

Clench your teeth - but try to leave your lips relaxed - clench your teeth and feel the muscles work there and in the corners of your jaw and on up to your temples. If you can't feel them in your temples, reach your finger up to your temple and feel them work there. Study the sensation of tension in these powerful muscles that close your jaw. [*Pause for tensing*] Relax now and just let your jaw hang slack and let all the tension go out of it. [*Pause for relaxing*]

Tongue

Now push your tongue forward against your teeth and feel the muscles work. Now pull your tongue back and feel the muscles work there. [*Pause for tensing*] And relax now - just let your tongue lie very passively in the front of your mouth. [*Pause for relaxing*]

Throat

Now push the back of your tongue upwards and feel your voice box move with it. One more, if you have trouble feeling this, put your fingers on your Adam's apple - feel it move - now push the back of your tongue down and feel your voice box go down and feel the tension go in the upper part of your throat. [*Pause for tensing*] And relax now. Let your tongue relax, as well as muscles that operate your tongue in the upper part of your throat. Pretend that you are going to clear your throat and feel your throat close. Feel it - hold it - study it - let go. Relax now. [*Pause for relaxing*]

Now swallow and observe what happens – notice the wave of relaxation that follows the wave of tension down your throat. Try swallowing now and note the wave of relaxation that follows it. And next, elaborate that wave of relaxation – just let your throat open up and relax. *[Pause for relaxing]* Now, swallow and stop in the middle with your throat contracted. Study the tension pattern. *[Pause]* Then relax it. Just enjoy the good feeling as your throat opens up and relaxes. *[Pause for relaxing]*

Now think of humming a high note. Feel the tensions in the muscles that tighten your vocal cords. *[Pause]* Relax now by singing the scales downward – feeling the changes in the level of tension in the muscles and finally ending up by picturing yourself forming a very low restful note as your vocal cords relax. *[Pause for relaxing]*

Shoulders

Now move the points of your shoulders forward and together. Feel the muscles work from the points of your shoulders down to your breastbone. These are your pectoral muscles. *[Pause for tensing]* Now relax a minute. *[Pause for relaxing]*

Now pull your shoulders back as if you were trying to touch the points of your shoulders behind your back. Feel the muscles work in *between* your shoulder blades and *around* your shoulder blades. *[Pause for tensing]* And relax now – and just feel the relaxation spreading all around your shoulders, all the muscles around your shoulder blades and upper back muscles and over the top of your chest – just let your shoulders droop and sag. *[Pause for relaxing]*

Neck

Now move your chin as you try touching your chin to your chest. Feel the tension *[Pause for tensing]* Now try to move your head to the right and to the left at the *same* time. Now, holding your neck stiffly, study the tension *[Pause for tensing]* And let all the muscles in your neck relax – just let them all go at once. Let them relax so deeply that if a breeze came along it would blow your head from one side to the other, almost as if you had no bones in your neck at all. Take no responsibility for the position of your head. Don't worry about its position – just let it be carried passively. *[Pause for relaxing]*

Back and Pelvis

Now, leaving your neck relaxed and working just from your shoulders down to your pelvis, arch your back gently – raise your back up. Arch it and feel the muscles work, the two great columns of muscles down your spine. *[Pause for tensing]* And relax. *[Pause for relaxing]*

Now rock a little bit – just rock your pelvis from side to side and feel a little more tension in one of these muscles and then in the other [*Pause for tensing*] Now relax and just lie still and feel yourself sinking deeper and deeper into the bed [floor] as your muscles let go and relax more and more. Each time notice what you do in order to relax the muscles so that you can use this later. [*Pause for relaxing*]

Buttocks

Now tighten your buttocks. [*Pause for tensing*] This should be easy to feel because this includes the largest muscle in your body along with a couple of others. Now relax and just sink back into the bed [floor]. [*Pause for relaxing*]

Thighs

Now tighten all the muscles in your thighs. In order to do this, tighten the muscles that would move your knees together and at the *same* time the muscles that would move your knees apart – and at the *same* time the muscles that would push down and would raise your thighs – and then, to top it off, think of crossing your right leg over your left, similarly your left leg over your right. Study the pattern of tension. [*Pause for tensing*] And relax now and just let all these muscles lengthen and smooth out – relax. Feel the muscles let go as they gradually lengthen and expand. [*Pause for relaxing*]

Lower Legs

Now point your toes downward so that they are in a direct line with your legs. Feel the muscles working in your calves – study the pattern of tension there. [*Pause for tensing*] And relax now. [*Pause for relaxing*]

Pull your toes toward you and feel your muscles work up your shin. [*Pause for tensing*] And relax now. [*Pause for relaxing*]

Feet

On the next one you have to be rather careful because it is easy to cramp these muscles. Try this with your toes. Curl your toes under – feel the muscles work up under your arch [*Pause for tensing*] And relax now. [*Pause for relaxing*]

Feel all your muscles smoothing out and relaxing so that you are completely relaxed now from the top of your head to the tip of your toes and that you continue to let all these muscles relax more and more. After being good and tight when you have tensed them, the muscles can continue to be more and more deeply relaxed for as long as 20 minutes.

Abdomen

Now, harden your abdominal muscles as if somebody were going to hit you in the stomach. [Pause for tensing] And relax. [Pause for relaxing]

Now harden your abdominal muscles again and study the pattern of tension - perhaps adding a little bit of an attempt to sit up. [Pause for tensing] And relax now. [Pause for relaxing]

Okay - once more - tighten these stomach muscles. This time pull your stomach in and tense [Pause for tensing] Now push it out - and in - and out - and relax. [Pause for relaxing]

Chest

Now take about three-quarters of a deep breath, hold your breath and at the same time *try* to breathe in. Feel the muscles work - now, *try* to breathe out - feel the muscles work [Pause for tensing] And relax now. [Pause for relaxing] Now, focus on your diaphragm muscle, which lies between your chest and the abdominal cavity. Tense this muscle by pushing out your stomach as you try to breathe in. You'll notice that the diaphragm is flat and tense as you breathe in; as you breath out, it arches up, helping to push air out of the lungs.

Now, for a few breaths, try making no effort whatever when you are breathing. Just relax your tongue and jaw as you breathe in easily. As you breathe out, let the natural elasticity of your abdomen pour the air from your lungs. [Pause for relaxing] As you continue breathing easily, let all the muscle tension go. You'll know you're breathing correctly if you feel easier and easier, heavier and heavier.

Keep your chest relaxed as you breathe in, letting your abdominal muscle wall move out a little, then letting it fall back in as the air goes out. Try to relax all your breathing muscles more and more. Breathe very gently and more and more slowly. Feel your diaphragm working more gently and your chest feeling more still as you breathe. Feel your stomach going in and out more easily. Relax all your other muscles as you breathe more and more slowly.

[If you breathe rapidly and deeply and use only your chest to move the air, you can blow off too much carbon dioxide. Your blood will turn alkaline, reducing its flow to your brain. This causes feelings of faintness, confusion, spaciness, numbness, or tingling; eventual muscle tension in the intestines, stomach, and around the heart; and easy cramping. Sometimes improper breathing produces panic, sweating, crying, and emotional upset. Your hands and feet may become cold. You are in danger of hyperventilating. Anytime you find yourself sighing, gasping, feeling short of breath, taking deep breaths, or holding in your stomach, immediately relax your breathing muscles. Just let your chest

tension go completely. Resist the temptation to take deep breaths; relax your chest and stomach and breathe ever more slowly. If you notice any of the symptoms above, practice this abdominal breathing from the diaphragm for twenty minutes twice a day.]

Now just continue relaxing like that for a while – easier and easier. Attend to the sensations which are coming from your muscles. If any muscle has a little bit of residual tension left in it then you should be able to feel this tension – it will kind of "stick out" above the others. Lie quietly and passively and feel these sensations coming from your muscles as they relax further and further – perhaps finding one that sticks out a little bit. [Pause for only three or four more breaths and signs of relief]

Now, relax from the tip of your toes to your head. Relax consciously, now your toes [3-5 second pause between parts of the body] feet ankles calves thighs pelvis stomach chest shoulders arms wrists fingers throat neck mouth eyes eyebrows

If you notice any little bit of residual tension, just try to find the source of that muscle and turn it off – don't try to relax by moving because you always have to shorten a muscle in order to move. It will take longer to relax the muscle if you move it. Just take the muscles where you find them and let them go down from there.

Now, in order to impress your overall feeling of relaxation, start counting backwards from 10 to 1. With each count, see if you can become a little bit more relaxed and perhaps get a little more of a drowsy, sleepy feeling. 10 9 8 7 6 5 4 3 2 1 Now continue relaxing your muscles – deeper and deeper Just let the chemicals of relaxation do you all the good they can. Relax for 10 to 20 minutes – or simply go to sleep. When you are ready to arouse yourself, gently move a hand, then an arm, a foot, then a leg. Open your eyes gradually. Treat yourself to a quiet, relaxed arousal!

Cognitive Strategy (CS)

Cognitive intervention Strategies are based upon the basic principle of *cognitive model of stress reactions*. One's cognitive structure of a situation is an active and continuing process that includes successive appraisal of the external situation. Depending upon the control of the cognitive structure of the individual, the behavioural inclination may be a desire to *flee, attack, approach* or *avoid*. *The mental image of the stress situation depends upon the cognitive characteristic of*

the person. This cognitive characteristics determines which aspects are to be *perceived as stressful* and which are *to be excluded*. Cognitive intervention Strategies concentrate this aspect of the person's cognitive structure. By *developing* some specific *cognitive sets* and *patterns* and *restructuring the situation*, individuals can prevent experiencing Occupational Stress to a considerable degree.

For developing such stress resistant cognitive sets and patterns, the person would require *modifications in their beliefs, attitudes, values, attributions and orientations*.

In the intervention programme this stress resistant cognitive sets and patterns could be developed among the Experimental subjects through *counselling* and *training*. Counselling with this end in view in the programme mainly concentrated the following aspects.

- ❑ Increasing objectivity in *perception* and *evaluation* of stressors.
- ❑ Avoiding *misinterpretations, distortions* and *exaggerations* of situations by the person.
- ❑ Helping to view the situation in a *broader perspective*.
- ❑ Helping to analyse the stressful situation *as a whole*.
- ❑ Helping *to rationalise* the situation by providing insight to the person why the situation is stressful.
- ❑ Helping to think about the things *not relevant* to the stressful situation.

3.4.4. MODE OF DATA COLLECTION

After having finalised the sample and the necessary tools, School, College and University teachers were personally contacted and informed the need for collecting data from them. Those who are willing, their convenient time is sought

and a schedule is fixed. As per the fixed time and schedule, the investigator again personally contacted them with all the printed test materials and response sheets.

Before starting the testing of stress, subjects were clarified all the doubts regarding the tests and they were instructed how to take the tests. All subjects were firmly convinced about their identity and the informations given by them will be treated confidential for research purpose only.

3.4.4.1. Scoring and Consolidation of Data

Scoring was done according to the scheme of scoring determined with *Professional Life Satisfaction Scale* and *Teacher Stress Inventory*. All relevant biographical informations and test scores were consolidated with appropriate coding to facilitate computer processing.

3.4.4.2. Stress Management Intervention Programme (SMIP)

After obtaining the index of Occupational Stress of the sample the investigator made an attempt to implement the Stress Management Intervention Programme (SMIP). The main purpose of this programme was to examine the effectiveness of the programme in reducing the level of stress among a group of Teachers. The following procedures were adopted for the implementation of the programme.

Identifying the High Stress Group

The Total sample were divided into three groups as *High*, *Moderate* and *Low* stress groups based on the level of stress the subjects perceived in the work settings. The classification is done using Mean $\pm$ 1SD as *High* and *Low* groups. Subjects whose level of stress is in between Mean + 1SD and Mean - 1SD is considered as the *moderate* stress group.

Allocation of Experimental and Control Groups

Among the High stress group of subjects 20 Teachers were randomly selected by lot. From this group two groups of 10 subjects each were again selected using lot. One group is considered as the *Experimental Group* and the other was the *Control Group*. The subjects in both the groups were not known themselves.

Pre Intervention Measurement

Subjects in both Experimental and Control group were informed of and their permission and cooperation was sought for participating the intervention programme. The investigator personally contacted the subjects in the Experimental and Control group and measured the level of stress as the subjects perceived before the programme had started using the Teacher Stress Inventory.

The Experimental Treatment

Subjects in the Experimental group were personally contacted at their residence and explained the procedure for practicing *Progressive Muscle Relaxation* (PMR) technique. The technique is demonstrated to 10 Experimental subjects with necessary instructions. They were requested to practice the PMR two sessions a day, 30 minutes in the early morning and 30 minutes before sleep during night. For this purpose pre-recorded cassettes in Malayalam language containing procedure and directions of PMR were supplied to the Experimental subjects. Subjects were requested to practice the relaxation technique for one month.

During the one month of Experimental treatment, Four counselling sessions were allotted by the investigator to each of the 10 Experimental subjects. During each session, subjects were helped to *restructure* their cognitive sets and

characteristics related to the situation as they perceive stressful. Counselling was mainly based upon the *key elements* as explained in section 3.4.3.1.

The Control group was not given the Stress Management Intervention Programme during the period of treatment. They were left as such.

Post Intervention Measurement

Immediately after one month the stress level of the subjects in the Experimental and Control group was measured using the Teacher Stress Inventory. The Pre-intervention stress levels and Post-intervention stress levels of the Experimental and Control group were statistically compared using ANCOVA.

3.4.5. MODE OF ANALYSIS OF DATA

The data collected from the sample chosen were analysed to test the hypotheses formulated. The following statistical techniques were employed for analysis of data.

3.4.5.1. Percentage Analysis

Simple percentage analysis was employed to study the extent and level of Quality Of Life and Occupational Stress among the sample. This was done for the Total sample in different categories (Secondary, College including University Teachers) as well as for relevant Subsamples formed on the basis of age, gender, marital status, qualification, experience, type of management of institution etc.

3.4.5.2. Test of Significance of Difference Between Means

To examine the Gender difference in Quality Of Life and Occupational Stress and also to compare the Quality Of Life and Occupational Stress between the relevant categories of the sample, Mean Difference analysis was utilised. This was done for the Total sample in both categories of Teachers, and relevant

Subsamples formed on the basis of age, gender, marital status, qualification and experience, and type of management of institutions etc.

3.4.5.3. Pearson's Product Moment Coefficient of Correlation

To estimate the extent and level of association between Quality Of Life and Occupational Stress among Teachers, this correlational analysis was employed for the Total Sample and relevant Subsamples.

When X and Y are two continuous variables then the coefficient of correlation between the two variables is computed by the machine formula,

$$r_{xy} = \frac{N\sum XY - \sum X \sum Y}{\sqrt{[N\sum X^2 - (\sum X)^2][N\sum Y^2 - (\sum Y)^2]}}$$

3.4.5.4. Step-wise Multiple Regression Analysis

Multiple Regression analysis (step-wise) was used to identify the best predictors of Occupational Stress and QOL of Teachers.

Multiple Regression is a statistical device used for analysing the collective and separate contributions of two or more independent variables (X_i) to the variation of a dependent variable (Y). It can be used to check whether certain variables are caused or preceded by others to derive a functional relationship between the two sets.

This statistical technique helps to *predict* a criterion or dependent variable from a set of *predictor* or independent variables (Tacq, 1997). The predictor variables are entered one by one to find out the influence of each variable in predicting the criterion variable. First, the predictor variable having the highest correlation with the criterion variable is entered and then calculate the measures

like F , R , R^2 , adjusted R^2 , Partial Regression Coefficients B , the Intercept B_0 , Beta weights and Significance of t etc.

Using the F value obtained, it is possible to check whether the regressor (predictor variable entered) is significant or not. If the F -value exceeds the tabled value of F for a particular level of significance for appropriate degree of freedom, the regressor is significant. The investigator can then prepare the equation to the regression line using these quantities.

In step II the predictor variable having the next largest correlation is entered. If the percentage variance contributed by the two variables is considerably higher than the percentage variance contributed by the first variable, then it can be assumed that this variable is also a significant predictor. Along with this, the equation to the regression line and R can be calculated from the regression weights computed. If the R also has increased considerably from the previous R , this is an evidence that the predictor variable second entered is also significant in predicting the criterion variable.

The general regression equation for any number of variables is given as follows:

Y	-	Dependent Variable
X	-	Independent Variable
Y'	=	$B_0 + B_1X_1 + B_2X_2 + B_3X_3 + \dots B_KX_K$
B_0	-	The slope (intercept), the value of Y when X_1 is equal to zero
B_1	-	Regression coefficient for the Independent Variable X_1 - The change in Y per unit increase in X_1
X_1	-	First predictor variable
B_2X_2	-	Coefficient and variable for the second predictor variable X_2
B_KX_K	-	Coefficient and variable for the ' K^{th} ' predictor variable - X_K .

To determine the predictive strength of the relationship we have to compute a static referred to as Multiple R. This static is just the Pearsons correlation (r) between the subjects real Y score and the Y' (predictive) based on the equation $Y' = B_0 + X_1B_1 + X_2B_2 \dots X_KB_K$. Thus

$$\text{Multiple } R = r_{y,y'}$$

If the R is high, then the equation predicts the real scores well. Multiple Regression analysis will throw light upon the following issues:

1. Does the equation right?
2. What variable should there be in the equation?
3. How should test them?
4. How good is the equation?

Objectives of the Technique

1. To look for a function $Y_1 = B_0 + B_1X_1 + B_2X_2 \dots + B_KX_K$ which represents the linear relationship between X_1 and Y better than among other equations. This comes down to the calculation of Regression Coefficient B_1 and the intercept B_0 .
2. To investigate the magnitude of relationship between X_1 and Y and to predict which part of the variance of Y is explained by the variance of X_1 . This comes down to the calculation of the correlation coefficient r_y and its square r^2_y respectively.
3. To investigate whether the relationship between X_1 and Y that is found in the sample can be generalised to the population. This comes down to the application of a significance test of the relationship.

1. Calculation of the Standardised Partial Regression coefficient β & B_0

$$\beta_1 = \frac{\sum X_1 Y - n \bar{Y} \bar{X}_1}{\sum X_1^2 - n \bar{X}_1^2}$$

$$B_0 = \bar{Y} - \beta_1 \bar{X}_1$$

$\bar{X}$, $\bar{Y}$ - Mean values of X_1 and Y_1

Standard deviation is made equal to 1. Beta weights are most suitable to determine the relative importance of the predictors X_1 and X_2 . *Beta must not be greater than 1.*

If Beta greater than 1 is obtained, the reason is an excessively strong association between the causal factors X_1 and X_2 (Multicollinearity). Tolerance is used for dealing multicollinearity. When multicollinearity measured, tolerance will decrease, hence standard error will become greater, so that precision becomes smaller.

2. Strength of Association of the Relationship and the Explained Variance

R = the linear association between Y on the one hand and X_1 and X_2 on the other, by means of the multiple correlation coefficient R and the square of R is the multiple determination and represents the proportion of explained variance.

$$R = r_{y,y'}$$

t-tests for the significance of B_0 , B_1 and B_2 terms are used to determine whether the term is to be included in the equation. If the term is not statistically significant then it really should not be used in the equation, despite its numerical value.

3.4.5.5. Analysis of Covariance (ANCOVA)

Single factor ANCOVA was employed to test the effectiveness of Stress Management Intervention Programme (SMIP) by controlling the Pre Intervention scores.

Through Analysis of Covariance the investigator can control or adjust the effects of one or more uncontrolled variables and thereby permit a valued evaluation of the outcome of the experiment. It is applied when there are one or more correlated variables existing with the Dependent Variable. It can control the effects of any of the Covariates on the Dependent Variables using ANCOVA.

An application of a simple Analysis of Covariance requires paired observations on 'k' groups of the experimental subjects. The number of pairs of observations in the 'k' groups is denoted by $N_1, N_2 \dots N_k$. The paired observations are assumed to be paired samples drawn from 'k' populations. The data may be represented as follows.

Representation of Data for ANCOVA

Group 1	Group 2	Group k
$Y_{11} X_{11}$	$Y_{12} X_{12}$	$Y_{1k} X_{1k}$
$Y_{21} X_{21}$	$Y_{22} X_{22}$	$Y_{2k} X_{2k}$
$Y_{31} X_{31}$	$Y_{32} X_{32}$	$Y_{3k} X_{3k}$
.....		
$Y_{N1} X_{N1}$	$Y_{N2} X_{N2}$	$Y_{Nk} X_{Nk}$
Mean $Y_1 X_1$	$Y_2 X_2$	$Y_k X_k$

In this notation X is the variable under study, the Dependent Variable, whereas Y is the uncontrolled variable, or Covariate. In the Analysis of Covariance, sums of products for the observations in the j^{th} group is denoted by

$$\sum_{i=1}^{N_j} (X_{ij} - X_j) (Y_{ij} - Y_j)$$

The sum of products for all observations in the ' k ' groups, that is the total sum of products is

$$\sum_{j=1}^k \sum_{i=1}^{N_j} (X_{ij} - X) (Y_{ij} - Y)$$

The computation formula for the *total* sum of products is

$$\sum_{j=1}^k \sum_{i=1}^{N_j} (X_{ij} - X) (Y_{ij} - Y) = T_{XY} - \frac{T_X T_Y}{N}$$

The *within-groups* sums of products may be obtained by

$$\sum_{j=1}^k \sum_{i=1}^{N_j} (X_{ij} - X_j) (Y_{ij} - Y_j) = T_{XY} - \sum_{j=1}^k \frac{T_{Xj} T_{Yj}}{N_j}$$

The *between-groups* sums of products is

$$\sum_{j=1}^k N_j (X_j - X) (Y_j - Y) = \sum_{j=1}^k \frac{T_{Xj} T_{Yj}}{N_j} - \frac{T_X T_Y}{N}$$

These formulae are applicable to groups of unequal or equal size.

The calculation of the required sums of squares may be simplified by the use of computation formulae. The formula for the *total* sum of squares is

$$\sum_{j=1}^k \sum_{i=1}^{N_j} (X_{ij} - \bar{X})^2 = \sum_{j=1}^k \sum_{i=1}^{N_j} X_{ij}^2 - T^2/N$$

The *within-groups* sum of squares is

$$\sum_{j=1}^k \sum_{i=1}^{N_j} (X_{ij} - \bar{X}_j)^2 = \sum_{j=1}^k \sum_{i=1}^{N_j} X_{ij}^2 - \sum_{j=1}^k (T_j^2/N_j)$$

The *between-groups* sum of squares is

$$\sum_{j=1}^k N_j (\bar{X}_j - \bar{X})^2 = \sum_{j=1}^k (T_j^2 / N_j) - T^2/N$$

The above formulae are generally applicable to groups of unequal or equal size.

To assist in the interpretation of the results, the adjusted group means are calculated. This computation requires the pooled within class regression coefficients.

$$b_w = E_{XY} / E_{XX}$$

The adjusted group means are calculated using the following formulae.

The adjusted group mean for the Experimental group is

$$Y_{1(adj)} = Y_1 - b_w (X_1 - \bar{X})$$

The adjusted group mean for the Control group is

$$Y_{2(adj)} = Y_2 - b_w (X_2 - \bar{X})$$

3.4.5.6. Principal Component Factor Analysis

In the present study the statistical technique factor analysis was used to identify the *underlying factors* that are involved in the Teacher Stress Inventory. For this purpose the scores obtained for the items in the six potential Stressors were considered as independent variables and were subject to *factor analysis*.

Factor analysis is a statistical technique used to identify a relatively small number of factors that can be used to represent relationships among sets of many interrelated variables. Factor analysis helps to identify the *underlying constructs* that are not directly observable.

The mathematical model for factor analysis appears somewhat similar to a multiple regression equation. Each variable is expressed as a linear combination of factors that are not *actually observed*. These variables are not single independent variables. Instead, they are labels for groups of variables that characterise these concepts. These groups of variables constitute the *factors*. Usually, the factors characterising a set of variables are not known in advance but are determined by *factor analysis*.

In general, the model for the i^{th} standardised model is written as $x_i = A_{i1} F_1 + A_{i2} F_2 + \dots + A_{ik} F_k + U_i$ where F 's are the common factors, the U is the unique factor and the A 's are the coefficients used to combine the k factors. The unique factors are assumed to be uncorrelated with each other and with the common factors.

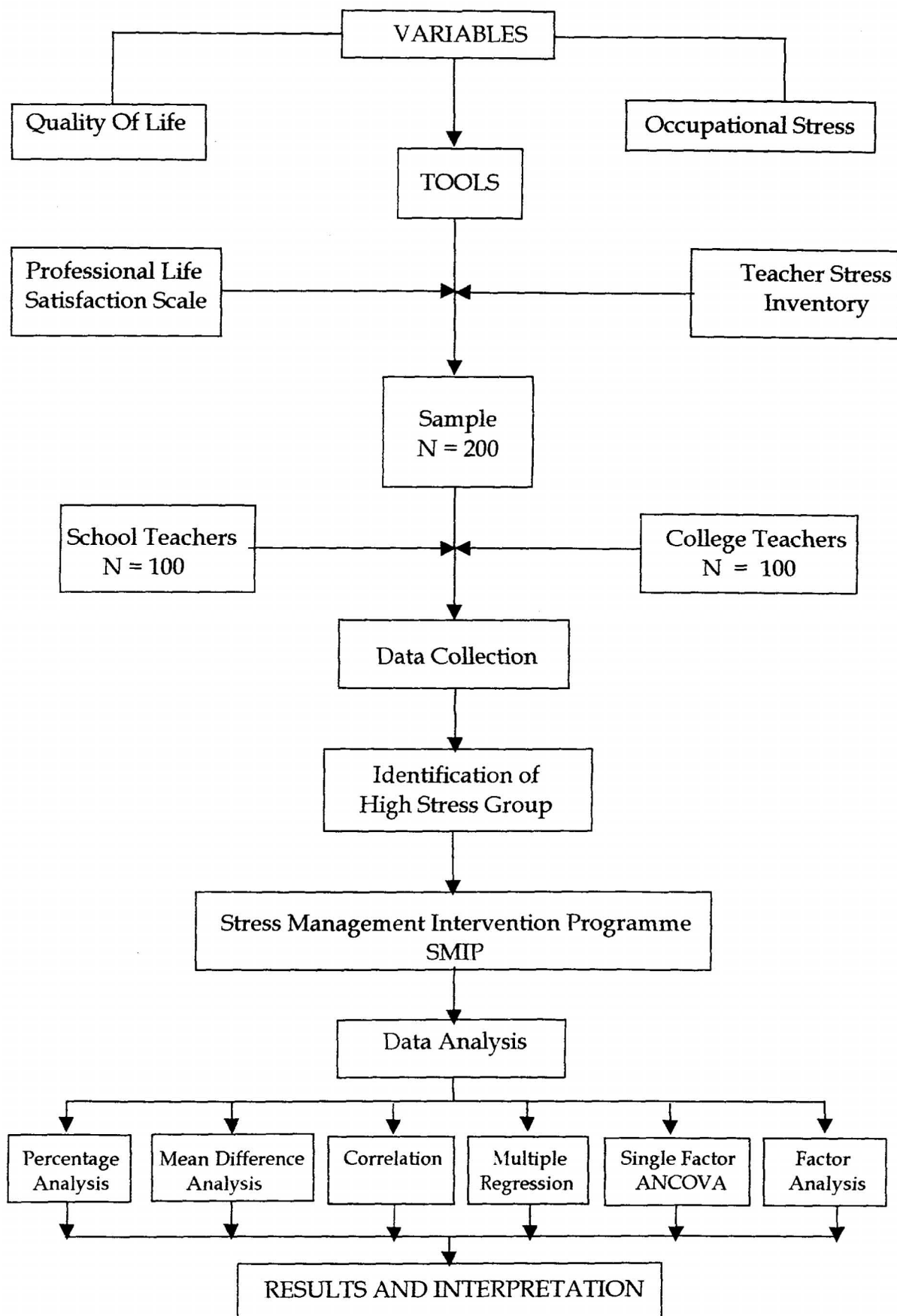
The factors are inferred from the observed variables and can be estimated as linear combination of variables. The general expression for the estimate of the j^{th} factor, F_j is:

$$F_j = \sum_{i=1}^P w_{ji} X_i = w_{j1} X_1 + w_{j2} X_2 + \dots w_{jp} X_p$$

The w_j 's are known as factor score coefficients, and P is the number of variables.

3.4.6. SUMMARY OF PROCEDURE

In the following part the whole procedures adopted for the study are summarised in a flow chart.



Chapter FOUR

ANALYSIS AND INTERPRETATIONS

Preliminary Analysis	4.1.
An Overview of Test Scores	4.1.1.
Extent and Levels of QOL and Occupational Stress	4.1.2.
Investigation of Gender Difference in QOL and	
Occupational Stress of Teachers	4.1.3.
Major Analysis	4.2.
Comparison of QOL and Occupational Stress of Teachers	4.2.1.
Extent and Degree of Association Between QOL and	
Occupational Stress of Teachers	4.2.2.
Investigation of Future Expectations of Teachers	4.2.3.
Prediction of Occupational Stress	
and QOL of Teachers	4.2.4.
Effectiveness of Stress Management	
Intervention Programme (SMIP)	4.2.5.
Identification of the Latent Factors Involved in	
the Teacher Stress Inventory (TSI)	4.2.6

4

ANALYSIS AND INTERPRETATIONS

This chapter deals with the analysis of data carried out to test the hypotheses formulated for the study. It is followed by the interpretations of the results obtained through data analysis. Analysis and interpretations throw light upon the major objectives already framed. The analysis and interpretations are presented under the following scheme of organisation.

4.1. PRELIMINARY ANALYSIS

4.1.1. AN OVERVIEW OF TEST SCORES

4.1.2. EXTENT AND LEVELS OF QOL AND OCCUPATIONAL STRESS

4.1.3. INVESTIGATION OF GENDER DIFFERENCE IN QOL AND OCCUPATIONAL STRESS OF TEACHERS

4.2. MAJOR ANALYSIS

4.2.1. COMPARISON OF QOL AND OCCUPATIONAL STRESS OF TEACHERS

4.2.2. EXTENT AND DEGREE OF ASSOCIATION BETWEEN QOL AND OCCUPATIONAL STRESS OF TEACHERS

4.2.3. INVESTIGATION OF FUTURE EXPECTATIONS OF TEACHERS

4.2.4. PREDICTION OF OCCUPATIONAL STRESS AND QOL OF TEACHERS

4.2.5. EFFECTIVENESS OF STRESS MANAGEMENT INTERVENTION PROGRAMME (SMIP)

4.2.6. IDENTIFICATION OF THE LATENT FACTORS INVOLVED IN THE TEACHER STRESS INVENTORY (TSI)

4.1. PRELIMINARY ANALYSIS

This part of the chapter includes the preliminary examination of the test scores on the variables under consideration, investigation of the extent and level of Occupational Stress, and the study of gender difference in QOL and Occupational Stress of Teachers.

4.1.1. AN OVERVIEW OF TEST SCORES

The test scores on the variables under consideration of the study are examined and the distribution is observed. The *statistical constants* like the mean, median, mode, standard deviation, skewness and kurtosis of the different variables are presented for the Total sample and for the relevant Sub samples in Tables 4.1, 4.2 and 4.3.

TABLE 4.1

Statistical Constants of QOL and Occupational Stress
(Stressor wise and Total Stress) for Total sample, School and College Sample

Variables		Total Sample (N = 200)						School (N = 100)						College (N = 100)					
		Mean	Me- dian	Mode	SD	Skew- ness	Kurto- sis	Mean	Me- dian	Mode	SD	Skew- ness	Kurto- sis	Mean	Me- dian	Mode	SD	Skew- ness	Kurto- sis
Q O L	Past	6.60	6.33	6.00	1.62	0.41	0.28	6.47	6.33	6.35	1.58	0.01	0.10	6.73	6.33	6.00	1.65	0.75	0.25
	Present	7.12	7.00	7.00	1.73	-0.04	0.39	6.77	6.66	8.33	1.54	-0.03	-0.46	7.48	7.66	8.00	1.85	-0.24	0.93
	Future	8.69	9.00	9.00	1.67	-0.50	-0.34	8.39	8.66	9.00	1.65	-0.57	0.04	8.99	9.00	11.00	1.64	-0.48	-0.81
STRESSORS	Intrinsic to Job	28.76	28.00	26.00	4.54	0.63	0.84	27.90	28.00	26.00	3.94	0.50	1.02	29.62	29.00	29.00	4.97	0.53	0.43
	Role of Teachers	27.40	28.00	26.00	3.40	0.02	1.07	26.67	26.00	26.00	3.55	0.16	0.52	28.12	29.00	29.00	4.30	-0.22	1.52
	Relationship at work	19.41	19.00	19.00	4.47	0.57	0.15	18.52	18.00	19.00	3.40	0.32	0.54	20.30	20.00	19.00	5.19	0.35	-0.59
	Career Development	10.61	10.00	10.00	2.64	2.88	20.62	10.21	10.00	10.00	2.01	0.19	-0.45	11.01	10.50	10.00	3.11	3.29	20.12
	Organisational Structure	31.14	30.00	30.00	4.93	0.20	0.80	30.44	30.00	28.00	4.92	-0.13	1.92	31.84	30.00	29.00	4.86	0.57	-0.64
	Home work interface	21.49	20.00	18.00	6.19	0.44	-0.02	20.98	20.00	18.00	5.23	0.51	0.27	21.99	21.00	18.00	7.00	0.30	-0.40
Perceived Stress (Total)		137.86	138.00	131.00	15.27	-0.45	2.79	133.88	132.00	131.00	13.01	0.17	0.39	141.83	142.00	142.00	16.35	-01.11	5.28

TABLE 4.2
Statistical Constants of QOL and Occupational Stress
(Stressor wise and Total Stress) for Male, Female and Rural Sample

Variables		Male (N = 100)						Female(N = 100)						Rural (N = 136)					
		Mean	Me- dian	Mode	SD	Skew- ness	Kurto- sis	Mean	Me- dian	Mode	SD	Skew- ness	Kurto- sis	Mean	Me- dian	Mode	SD	Skew- ness	Kurto- sis
QOL	Past	6.85	6.66	6.33	1.46	0.53	0.33	6.34	6.00	5.00	1.73	0.49	0.29	6.60	6.33	7.33	1.59	0.21	0.41
	Present	7.39	7.50	7.00	1.61	-0.54	2.21	6.85	6.66	6.00	1.82	0.39	-0.25	7.23	7.33	7.00	1.78	0.21	0.41
	Future	8.95	9.00	9.00	1.48	-1.01	1.70	8.43	8.66	11.00	1.81	-0.01	-1.13	8.69	9.00	9.00	1.66	-0.20	0.52
STRESSORS	Intrinsic to Job	28.40	28.00	26.00	3.81	0.82	1.30	29.12	29.00	29.00	5.17	0.94	0.34	28.82	29.00	29.00	4.55	0.68	1.36
	Role of Teachers	26.97	27.00	26.00	3.93	-0.09	1.20	27.82	28.00	26.00	4.04	0.11	1.03	27.38	28.00	26.00	3.85	0.04	0.62
	Relationship at work	19.23	19.00	19.00	4.71	0.60	0.19	19.59	19.00	16.00	4.23	0.57	0.14	19.13	19.00	19.00	4.42	0.39	-0.13
	Career Development	10.56	10.00	10.00	2.30	3.86	27.19	10.66	10.00	10.00	2.30	0.69	0.34	10.67	10.00	10.00	2.25	0.50	0.38
	Organisational Structure	30.65	30.00	30.00	5.05	0.07	1.89	31.63	31.00	32.00	4.77	0.39	-0.61	31.88	31.00	28.00	4.77	0.53	-0.43
	Home work interface	21.45	20.00	18.00	6.08	0.36	0.37	21.52	20.00	18.00	6.33	0.51	-0.30	21.18	20.00	18.00	6.40	0.52	-0.01
Perceived Stress (Total)		136.52	138.00	139.00	14.03	0.15	0.57	139.19	140.50	131.00	16.38	-0.90	4.33	137.68	137.50	131.00	14.86	-0.72	4.81

Analysis

TABLE 4.3
Statistical Constants of QOL and Occupational Stress
(Stressor wise and Total Stress) for Urban, Government and Private Sample

Variables		URBAN (N = 64)						GOVERNMENT (n = 138)						PRIVATE (N = 62)					
		Mean	Me- dian	Mode	SD	Skew- ness	Kurto- sis	Mean	Me- dian	Mode	SD	Skew- ness	Kurto- sis	Mean	Me- dian	Mode	SD	Skew- ness	Kurto- sis
Q O L	Past	6.60	6.33	6.00	1.69	0.24	0.58	6.61	6.33	7.33	1.59	0.41	0.17	6.58	6.33	6.00	1.68	0.42	0.59
	Present	6.70	6.83	6.00	1.62	0.30	0.39	7.24	7.33	8.33	1.60	0.14	-0.09	6.86	7.00	7.00	1.99	-0.12	0.58
	Future	8.70	9.00	9.00	1.71	-0.81	0.75	8.79	9.00	9.00	1.69	-0.66	0.04	8.48	8.33	10.00	1.62	-0.15	-1.01
STRESSORS	Intrinsic to Job	28.63	28.00	26.00	4.57	0.54	-0.17	28.80	29.00	29.00	4.88	0.55	0.56	28.68	28.00	27.00	3.70	0.95	1.51
	Role of Teachers	27.44	27.50	26.00	4.32	0.01	1.77	27.04	27.00	26.00	3.84	-0.35	0.76	28.19	28.00	26.00	4.26	0.54	1.08
	Relationship at work	20.02	19.00	18.00	4.55	0.93	0.50	20.02	19.00	19.00	4.60	0.50	-0.09	18.05	18.00	19.00	3.86	0.58	0.89
	Career Development	10.48	10.00	10.00	3.34	4.32	27.15	10.76	10.00	10.00	2.73	3.48	25.58	10.24	10.00	10.00	2.41	0.88	1.05
	Organisational Structure	29.56	29.00	27.00	4.91	-0.35	2.48	31.31	30.00	30.00	5.04	0.09	1.05	30.76	30.00	28.00	4.68	0.46	0.22
	Home work Interface	22.13	22.00	18.00	5.71	0.28	0.17	21.91	20.00	18.00	6.30	0.57	0.12	20.55	20.00	18.00	5.89	0.03	-0.85
Perceived Stress (Total)		138.23	138.50	123.00	16.22	-0.02	-0.29	138.54	139.50	142.00	15.47	-0.86	4.08	136.34	135.00	121.00	14.83	0.55	0.27

As presented in Tables 4.1, 4.2 and 4.3, the distributions of the statistical constants of QOL (Past, Present & Future years) and Occupational Stress (Stressor wise and Total Stress) for Total sample and relevant Subsamples are not departed greatly from the concerned mean.

The distributions of the scores on QOL (Present year) and Occupational Stress (Total) are again examined graphically. For this purpose, frequency curves for the concerned variables were constructed and presented in the following figures. Frequency curves in respect of the Total sample is displayed in Figures 4-1 and 4-2.

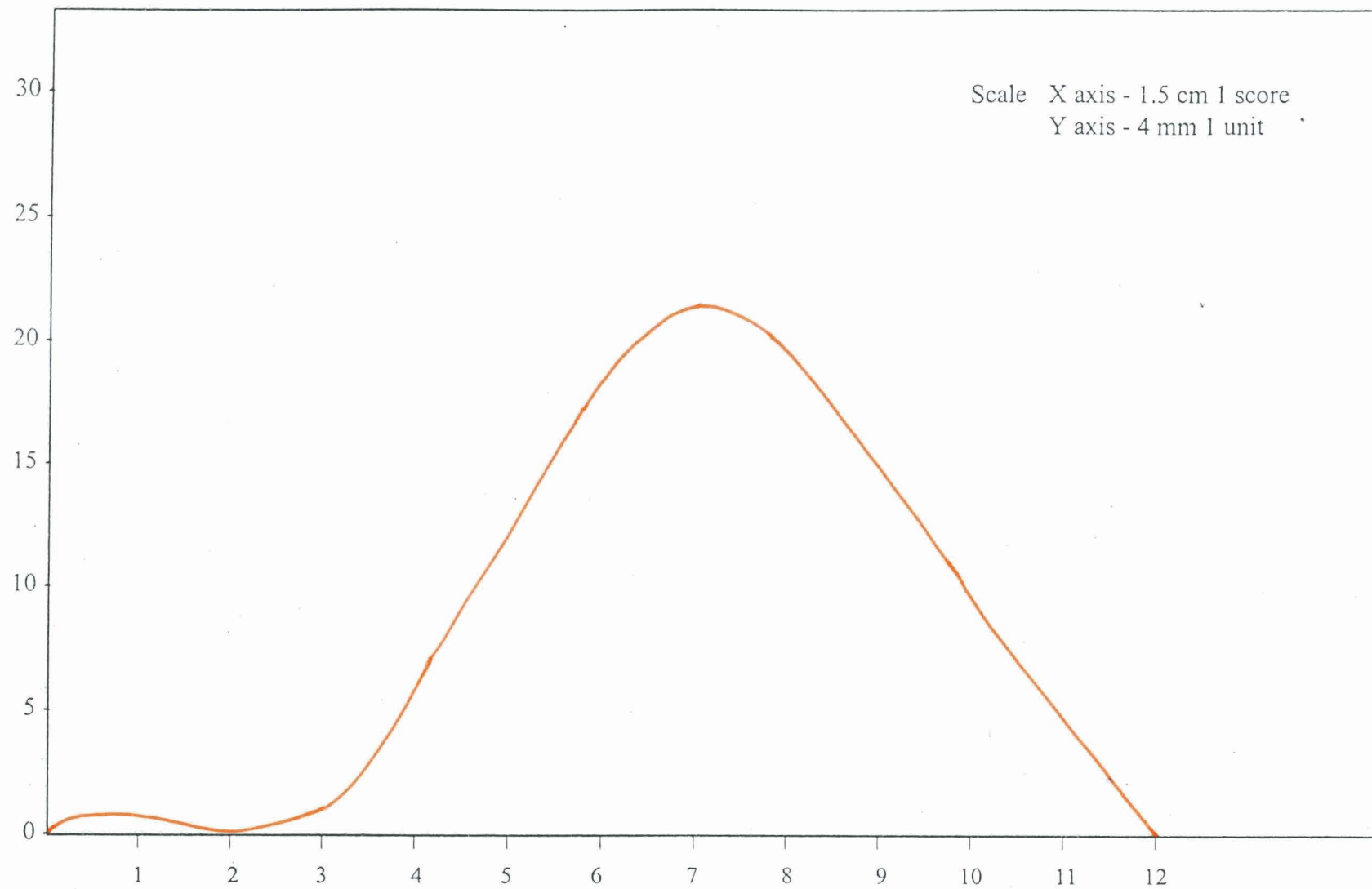


FIGURE 4 - 1 Frequency Curve of QOL (Present) - Total Sample

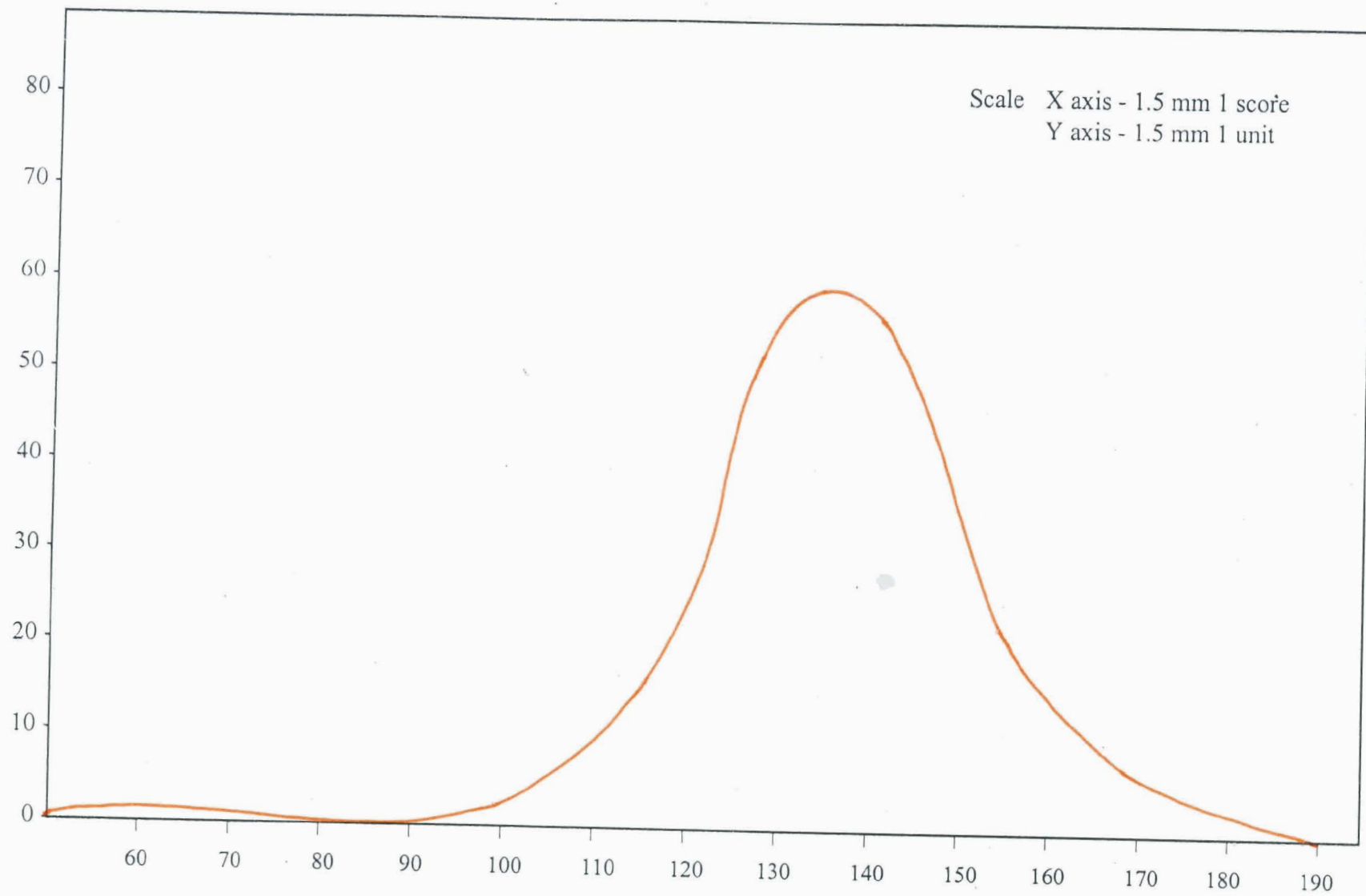


FIGURE 4 - 2 Frequency Curve of Occupational Stress - Total Sample

4.1.1.1. Personal and Institutional Demographics of the Sample

In the following part, the personal and institutional demographics of the sample are presented. This includes demographics with respect to Gender, Qualification, Age, Marital Status, Experience, Type of Career of Couples, Type of Management and the Locality of the Institution etc. These demographics are presented because of the reason that these factors have considerable effect on QOL and Occupational Stress of Teachers as shown by many previous studies in this area of research.

For this purpose, the number and percentage of the sample with respect to the factors mentioned earlier are calculated and presented along with means and SD's of QOL (Present year) and Occupational Stress (Total).

Personal Demographics

Gender

Gender	N	Per-centage	QOL (Present year)		Occupational Stress (Total)	
			M	SD	M	SD
Male	100	50.0	7.39	1.61	136.52	14.03
Female	100	50.0	6.85	1.82	139.19	16.38
Total	200	100.0				

The sample for the present study comprises 50 per cent each of Male and Female Teachers. As per the break-up, the professional life satisfaction of the Males are *higher* than the Females. At the same time Female Teachers experience *more Stress* than the males.

Age

Age Range	N	Per-centage	QOL (Present year)		Occupational Stress (Total)	
			M	SD	M	SD
20 – 30	10	05.0	7.07	1.55	141.00	19.29
31 – 40	66	33.0	7.02	1.57	137.06	16.51
41 – 50	99	49.5	7.20	1.87	138.10	14.45
51 – 60	25	12.5	7.13	1.74	137.72	14.05
Total	200	100				

As given in the break-up, Teachers in the age range *41-50* is more satisfied professionally (49.5%). Five per cent of the Teachers in the age range *20-30* years experiencing *more stress* than Teachers in other age ranges. This may be due to the beginning stage of their profession.

Qualification

Qualification	N	Per-centage	QOL (Present year)		Occupational Stress (Total)	
			M	SD	M	SD
Graduate	67	33.5	6.69	1.52	132.91	12.52
Post Graduate	93	46.5	7.39	1.64	140.29	15.18
Above Post Graduation (M.Phil/Ph.D.)	33	16.5	7.43	2.26	141.21	19.22
Others	07	03.5	6.09	0.79	137.00	8.78
Total	200	100				

About 35.5 per cent of the sample comprises Graduate Teachers whereas 46.5 per cent are Post Graduate Teachers. Teachers having M.Phil/Ph.D. (Above Post Graduation) qualifications are 16.5 per cent. They are found *more satisfied* in the profession and also having *high stress* compared to the other categories of Teachers. Teachers having other qualifications other than graduation are of 3.5 per cent.

Experience

Experience (years)	N	Per-centage	QOL (Present year)		Occupational Stress (Total)	
			M	SD	M	SD
1 - 10	56	28.0	7.58	1.64	140.30	14.58
11 - 20	78	39.0	6.87	1.66	137.08	14.12
21 - 30	57	28.5	6.96	1.88	136.14	17.85
31 - 40	09	04.5	7.48	1.65	140.22	10.41
Total	200	100				

With regard to experience, Teachers having experience in the range 1-10 years are found more satisfied (QOL - Present year) and more stressed (28 per cent) than the Teachers having more years of professional experience.

Marital Status

Marital Status	N	Per-centage	QOL (Present year)		Occupational Stress (Total)	
			M	SD	M	SD
Married	173	86.5	7.07	1.65	138.17	14.10
Single	27	13.5	7.45	2.20	135.82	21.55
Total	200	100				

When marital status of the sample is examined with respect to their QOL (Present year) and Occupational Stress (Total) single Teachers (13.5%) are noted to have more professional *life satisfaction* than the married Teachers (86.5%). But married Teachers are *more stressed* than the single Teachers.

Type of Career of Couples

Type of Career of Couples	N	Per-centage	QOL (Present year)		Occupational Stress (Total)	
			M	SD	M	SD
Same Career	84	48.55	7.13	1.75	138.77	17.41
Dual Career	59	34.10	7.01	1.79	137.56	13.03
Unemployed partner	30	17.35	7.23	1.67	136.81	14.17
Total	173	100				

As per the break-up, *Same career couples* (Teacher couples) experience *more stress* than the dual career and couples having unemployed partner (48.55%). Couples with unemployed partner is found to have more professional life satisfaction than other counterparts (17.35%).

Institutional Demographics

Type of Institution

Type of Institution	N	Per-centage	QOL (Present year)		Occupational Stress (Total)	
			M	SD	M	SD
School	100	50.0	6.77	1.54	133.88	13.01
College	100	50.0	7.48	1.85	141.83	16.35
Total	200	100				

As per the break-up, *College Teachers* are *more professionally satisfied* and having *more stress* than the *School Teachers*.

Locality of Institution

Locality	N	Per-centage	QOL (Present year)		Occupational Stress (Total)	
			M	SD	M	SD
Rural	136	68.0	7.23	1.78	137.68	14.86
Urban	64	32.0	6.70	1.62	138.23	16.22
Total	200	100				

With regard to QOL (Present year) the *Rural Teachers* (68%) are *more satisfied* than the *Urban counterparts* (32%). But the *Urban Teachers* reported *more stress* than the *Rural sample*.

Type of Management

Type of Management	N	Per-centage	QOL (Present year)		Occupational Stress (Total)	
			M	SD	M	SD
Government	138	69.0	7.24	1.60	138.54	16.22
Private	62	31.0	6.86	1.99	136.34	14.83
Total	200	100				

The sample comprises of 69 per cent Teachers working in the *Government Institutions* (School/College/University) and 31 per cent are working in the *Private Institutions*. Teachers in the *Government Institutions* experience *more*

stress than Teachers in the Private Institutions *whose QOL is more than the former.*

4.1.2. EXTENT AND LEVELS OF QOL AND OCCUPATIONAL STRESS

The investigator made an attempt to study the *extent* and *levels* of life satisfaction experiencing by the sample in their profession and the amount of Occupational Stress they perceive. This is done with a view to report how much per cent of the sample (Total and Subsamples) perceived *Higher, Moderate* and *Low* levels of QOL and Stress.

For this purpose, QOL (Present year) score and Occupational Stress (Total) were classified into High, Moderate and Low levels using mean as a cut off point. The mean QOL score (Present year) of different categories of the sample ± 1 SD is considered as having High QOL and Low QOL. The subjects' scores which fall in between $M \pm 1$ SD is taken as having Moderate QOL.

Similarly, the mean Occupational Stress (Total) score ± 1 SD is classified as having *High* and *Low* levels of Occupational Stress. Subjects, whose score fall in between $M \pm 1$ SD is considered as having *Moderate* levels of Occupational Stress.

In the next step, to get a visual representation regarding the extent and different levels of QOL and Occupational Stress, respective Pie diagrams were constructed and explained.

4.1.2.1. Extent and Levels of QOL of Teachers

The extent and different levels (High, Moderate and Low) of QOL (Present year) of the Total sample and relevant Subsamples were studied. Respective Pie diagrams were prepared and presented in Figures 4-3 to 4-11.

Extent and Levels of QOL in Total sample

The extent and different levels of QOL (High, Moderate and Low) for the Total sample were examined and the details are presented in Figure 4-3.

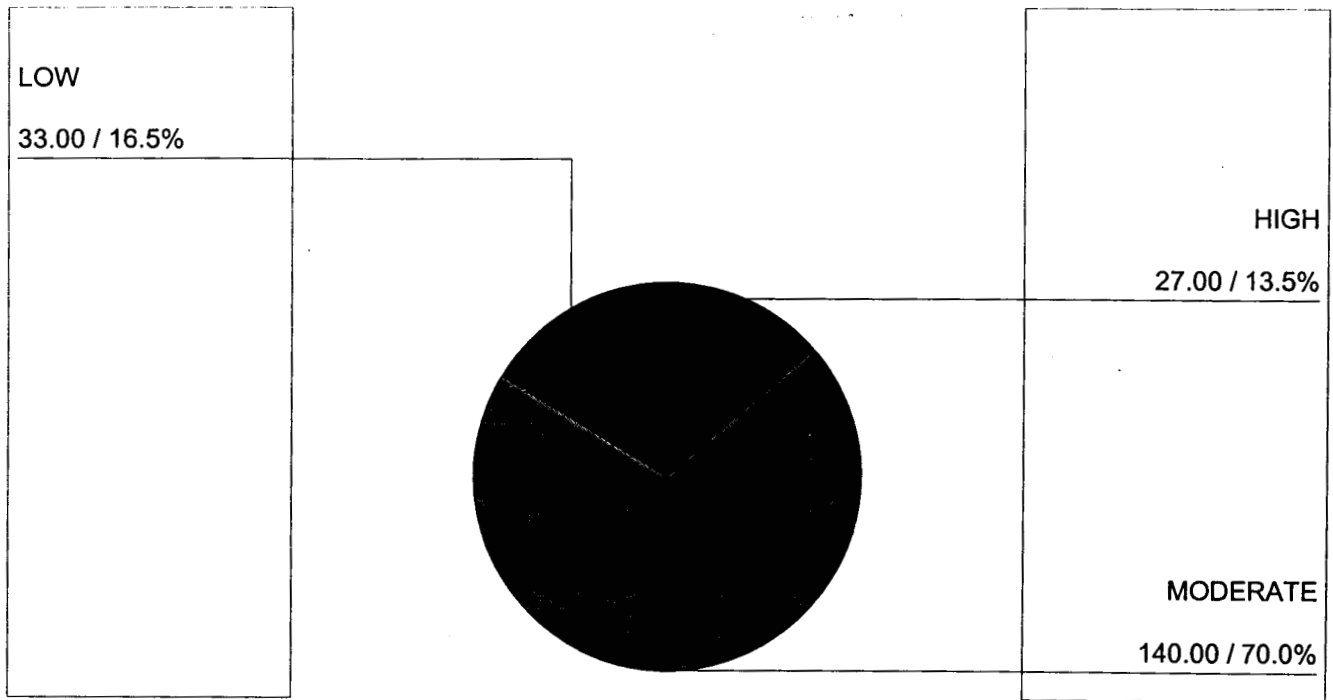


FIGURE 4-3 Extent and Levels of QOL in Total sample

As per Figure 4-3, *13.5 per cent* of the Teachers have *High* professional life satisfaction whereas *70 per cent* reported *Moderate* level of satisfaction. *Low level* of QOL is reported by *16.5 per cent* of Total Teachers.

Extent and Levels of QOL in School Teachers

School Teachers in the sample were studied to understand the extent and levels of QOL (Present). The details are presented in Figure 4-4.

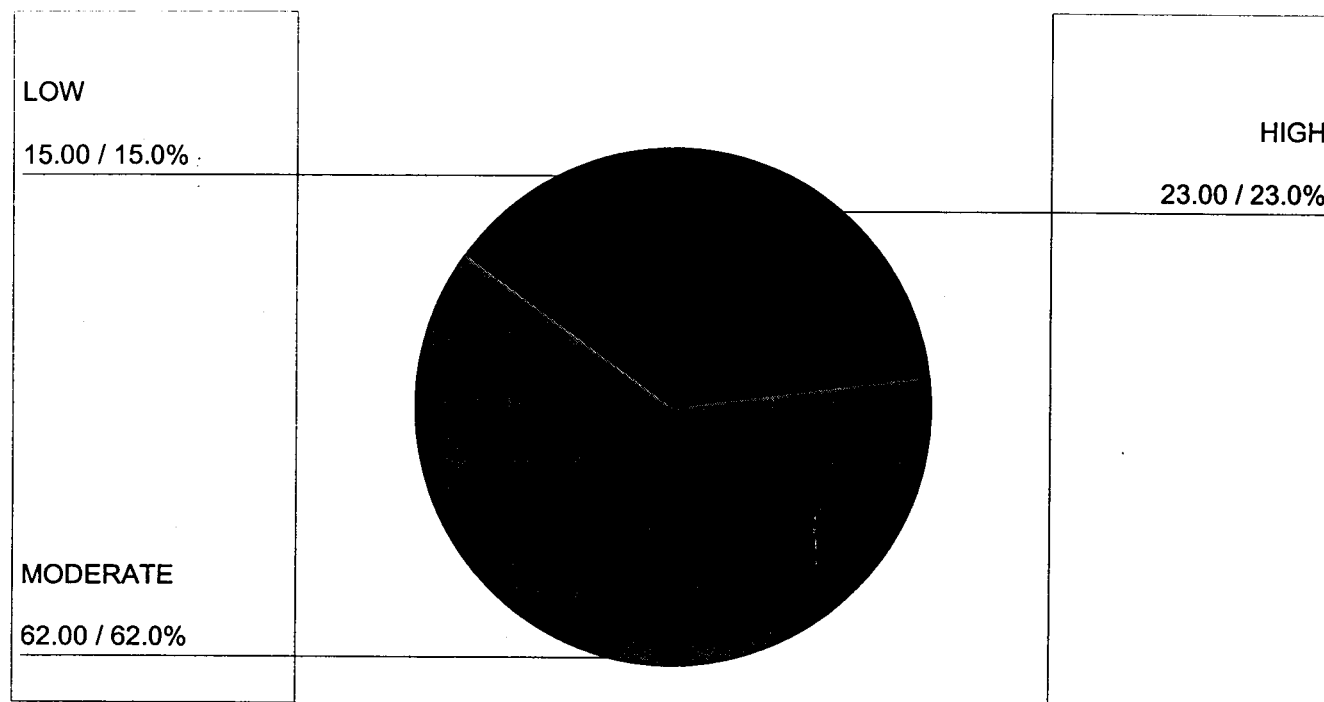


FIGURE 4-4 Extent and Levels of QOL in School Teachers

Of the 100 School Teachers selected for the study *High, Moderate* and *Low* levels of QOL were noted in 23, 62 and 15 per cent respectively.

Extent and Levels of QOL in College Teachers

Among the 100 College Teachers participated in the study *17 per cent* have *High level* of QOL. Moderate level of professional life satisfaction was reported by *70 per cent* of the College Teachers. *Thirteen per cent* have *Low level* of professional life satisfaction. The visual details are given in Figure 4-5.

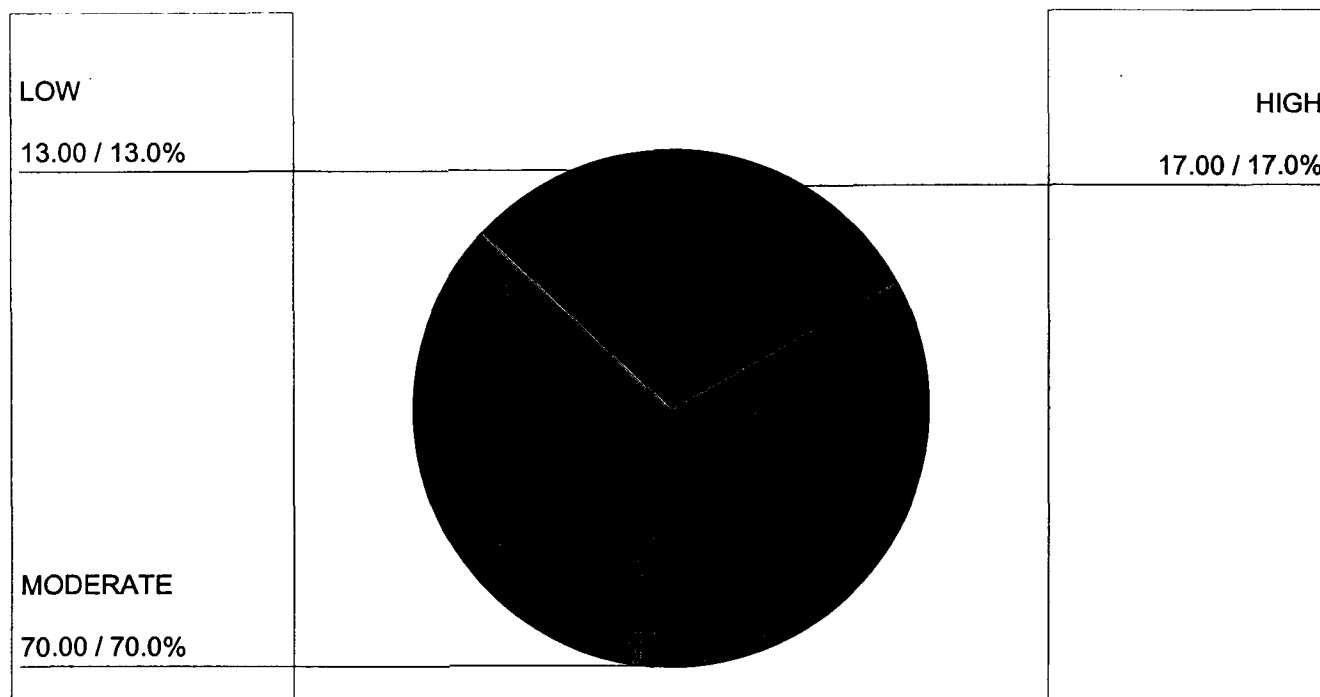


FIGURE 4-5 Extent and Levels of QOL in College Teachers

Extent and Levels of QOL in Male Teachers

Male Teachers (N = 100) were examined to get the extent and levels of QOL in the Present year. Figure 4-6 gives the details as follows.

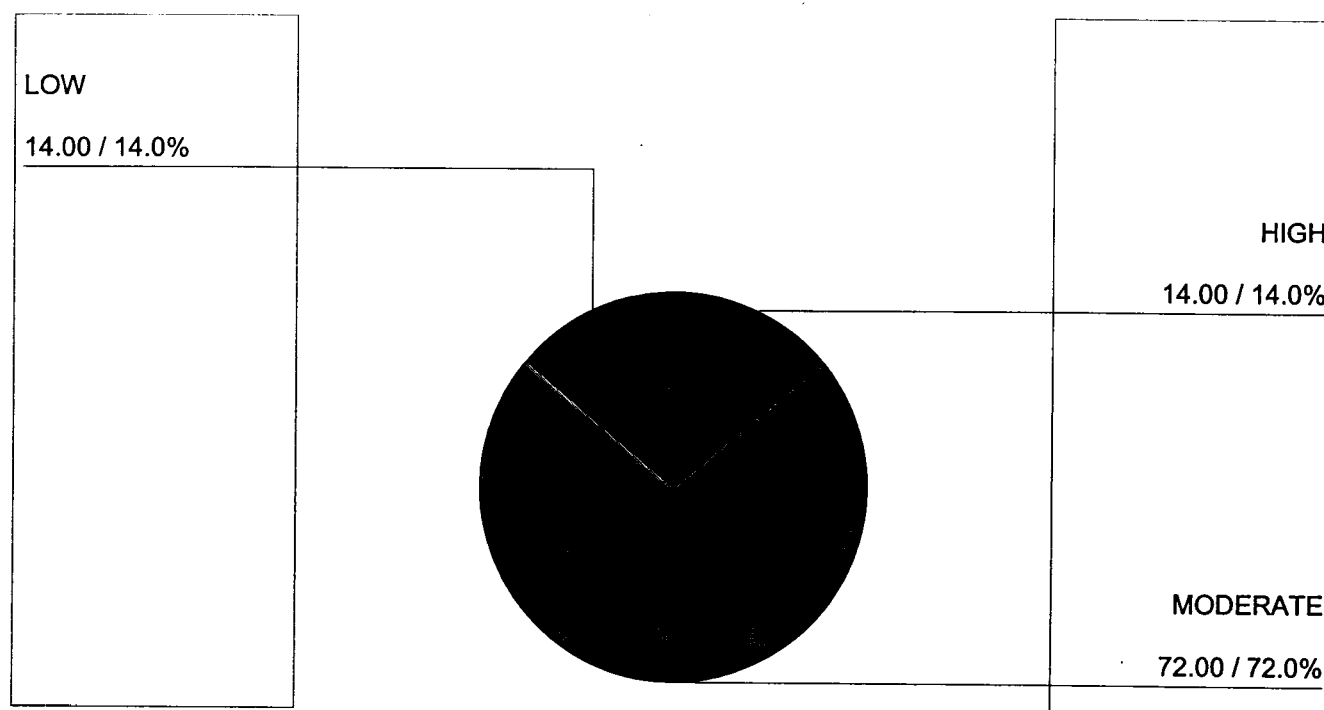


FIGURE 4-6 Extent and Levels of QOL in Male Teachers

Of the Male Teachers *14 per cent* feel their professional life satisfaction is *High*. *Seventy two* and *14 per cent* experienced their professional life satisfaction is *Moderate* and *Low* respectively.

Extent and Levels of QOL in Female Teachers

The extent and levels of professional life satisfaction of the Female Teachers in the sample are presented in Figure 4-7.

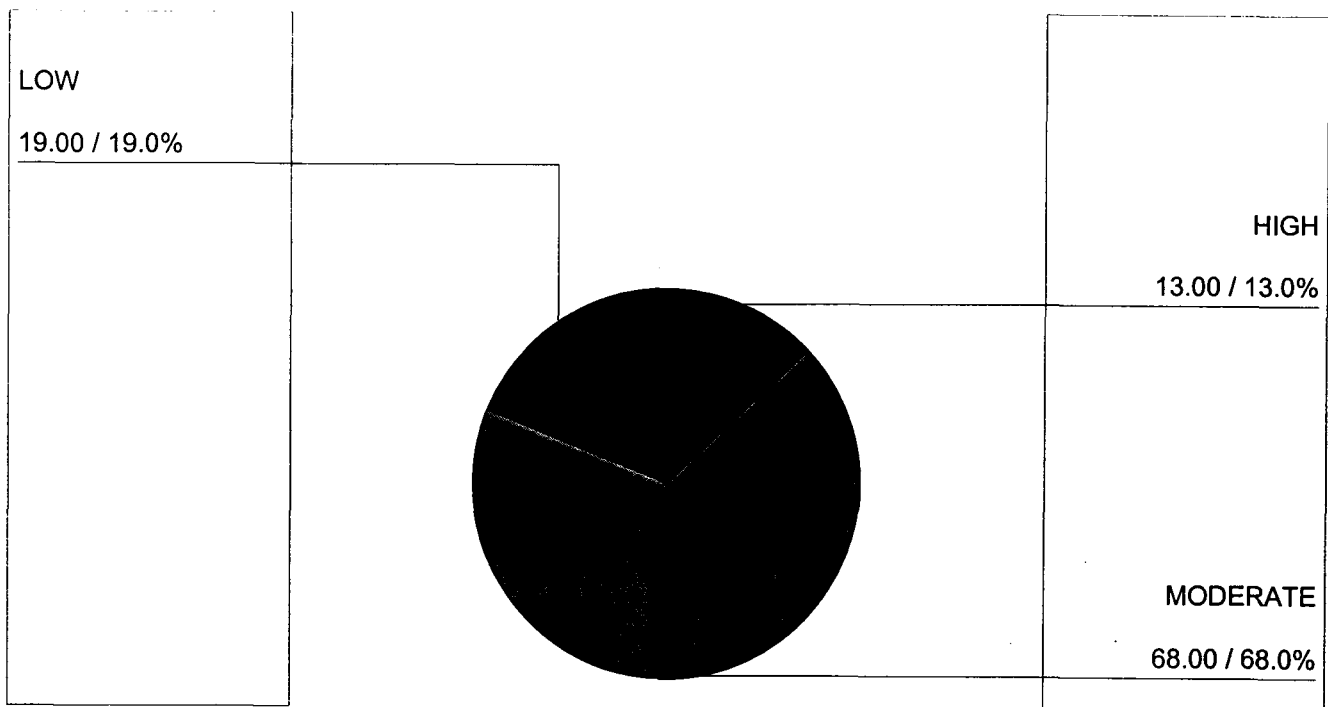


FIGURE 4-7 Extent and Levels of QOL in Female Teachers

As per Figure 4-7, *13 per cent* of the Female Teachers felt that their QOL is in *High level*, *68 per cent Moderate* and *19 per cent Low level*.

Extent and Levels of QOL in Rural Teachers

Teachers in the Rural institutions (N = 136) have *High level* of QOL in *13.2 per cent* and *71.3 per cent* reported that their life satisfaction is in *Moderate level*. *Low level* of QOL was seen with *15.4 per cent* of Rural Teachers. The following visual representation in Figure 4-8 gives the details.

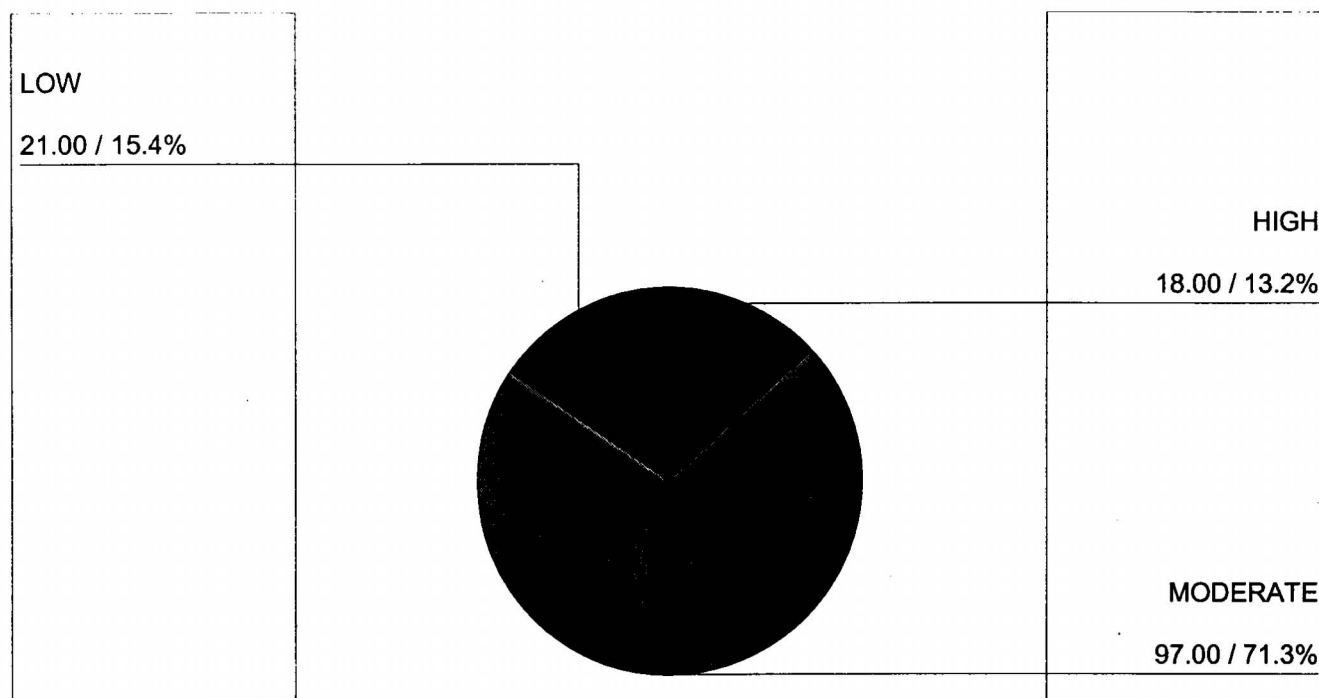


FIGURE 4-8 Extent and Levels of QOL in Rural Teachers

Extent and Levels of QOL in Urban Teachers

Urban Teachers were examined the extent and levels of their professional life satisfaction in the Present year and is given in Figure 4-9.

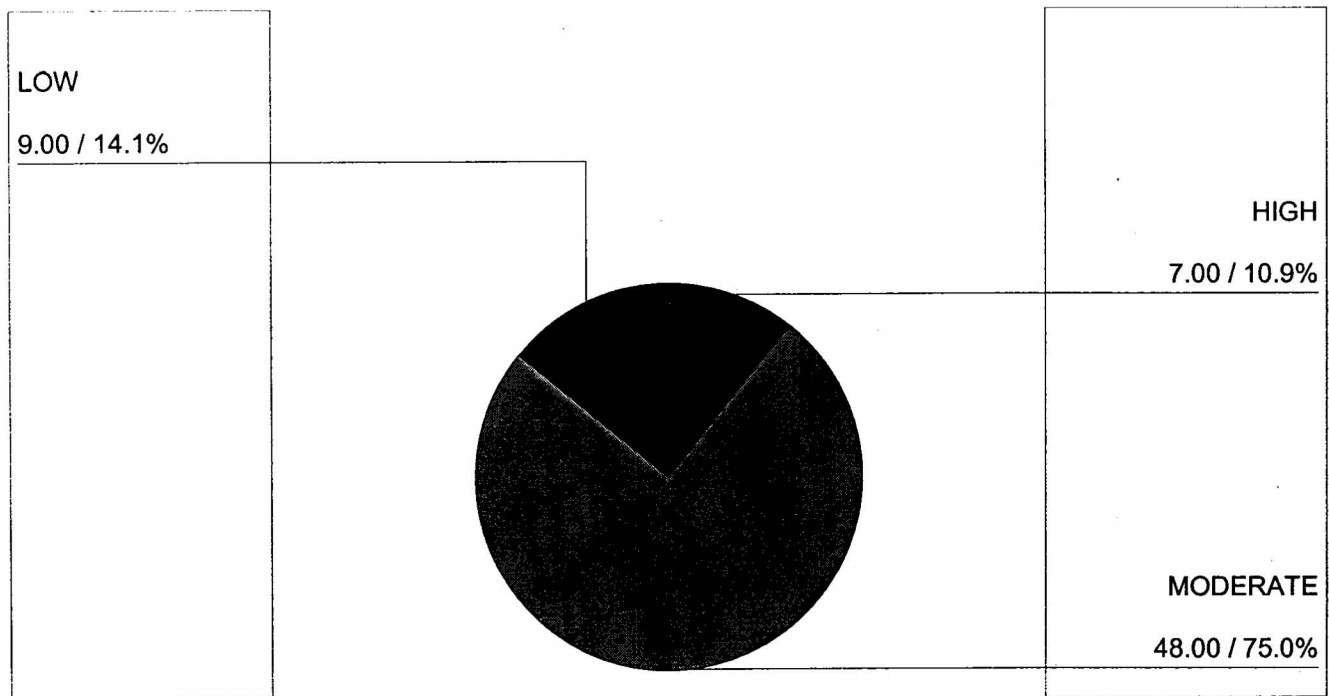


FIGURE 4-9 Extent and Levels of QOL in Urban Teachers

Figure 4-9 shows that *10.9 per cent* of Urban Teachers have *High level* of life satisfaction and *14.1 per cent* have *Low level*. Of the 64 Urban Teachers participated in the study, *75 per cent* have *Moderate* level of professional life satisfaction.

Extent and Levels of QOL in Government Teachers

The extent and levels of QOL of the Government Teachers (N = 138) are displayed in Figure 4-10.

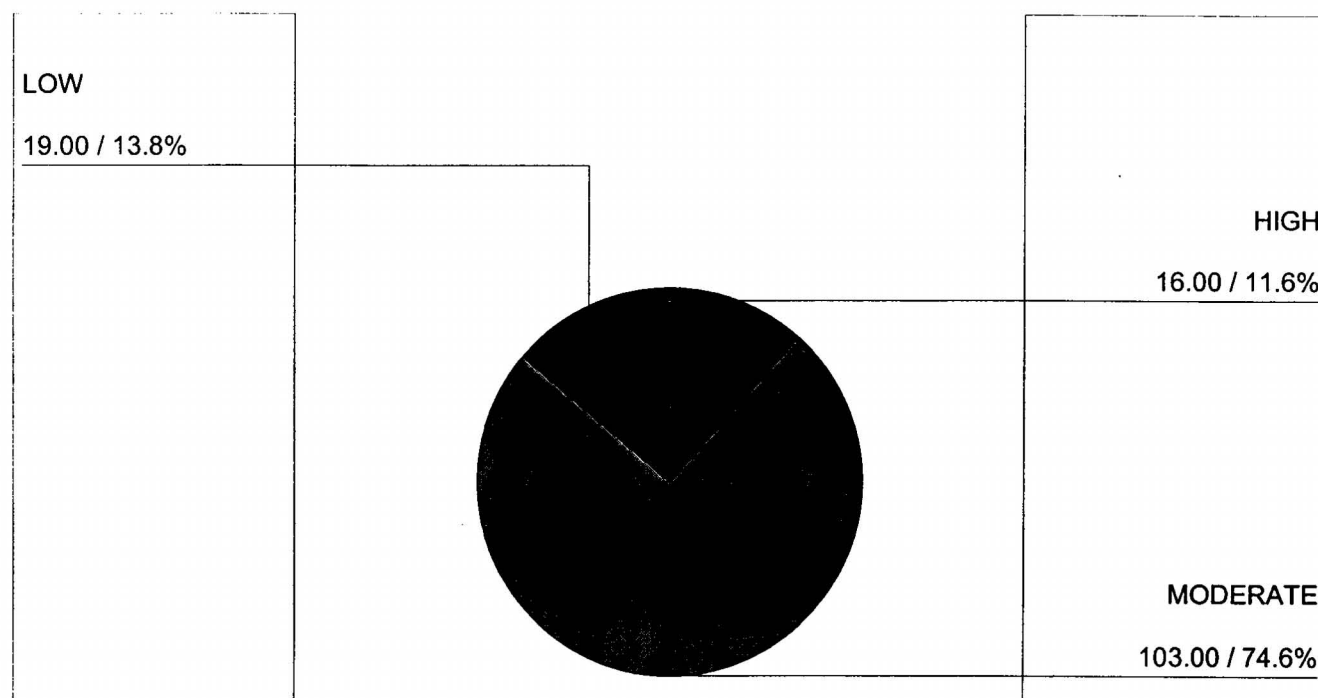


FIGURE 4-10 Extent and Levels of QOL in Government Teachers

As per Figure 4-10, *High level* of QOL is reported by *11.6 per cent*, *Moderate level* by *74.6 per cent* and *13.8 per cent* reported Low level of QOL – Present year.

Extent and Levels of QOL in Private Teachers

Teachers working in the Private institutions (N = 62) were examined for the extent and levels of professional life satisfaction – Present year. Among the 62 Private Teachers *17.7 per cent* have reported their life satisfaction *High*. *Seventy one per cent* felt their life satisfaction is *Moderate level* and *Low level* was reported by *11.3 per cent* of the Private Teachers. In Figure 4-11, details are presented visually.

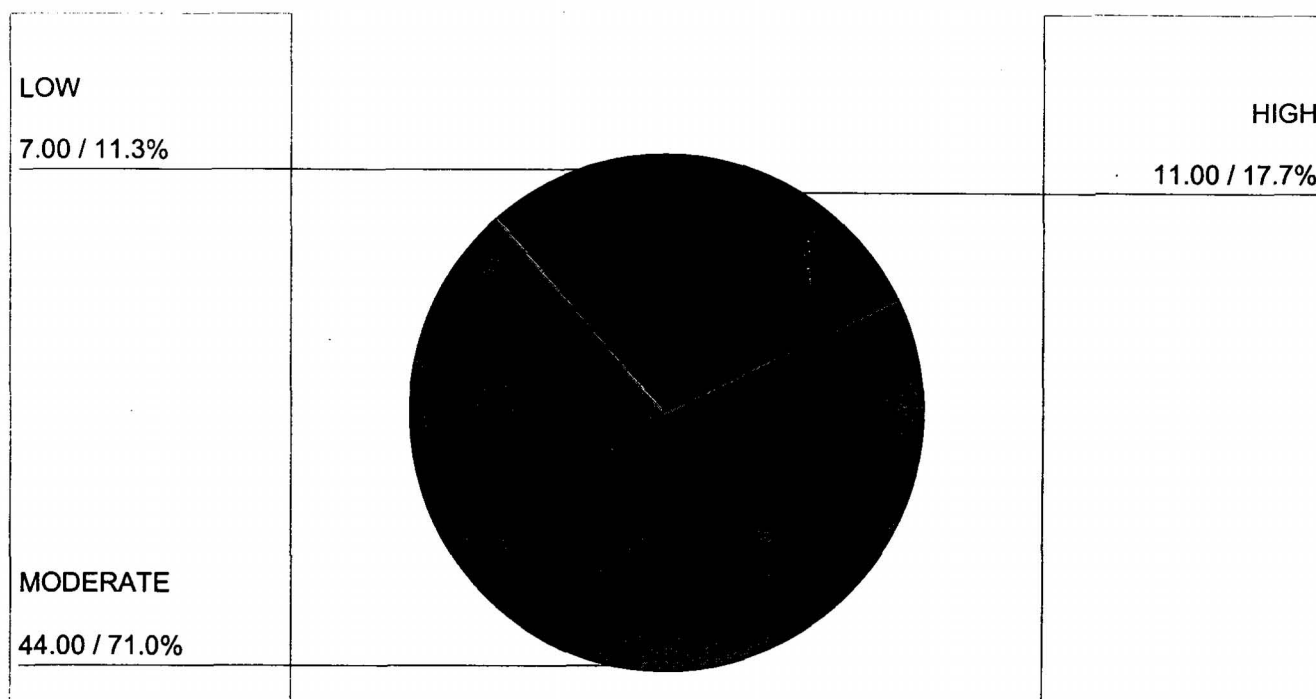


Figure 4-11 Extent and Levels of QOL in Private Teachers

4.1.2.2. Extent and Levels of Occupational Stress of Teachers

To understand how many of the sample experienced the extent and different levels of Occupational Stress (High, Moderate and Low), percentage of the sample in the three stress levels were studied. Pie diagrams were prepared and displayed in Figures 4-12 to 4-20.

Extent and Levels of Stress in Total sample

The extent and levels of stress in *Total sample* are presented in the Figure 4-12.

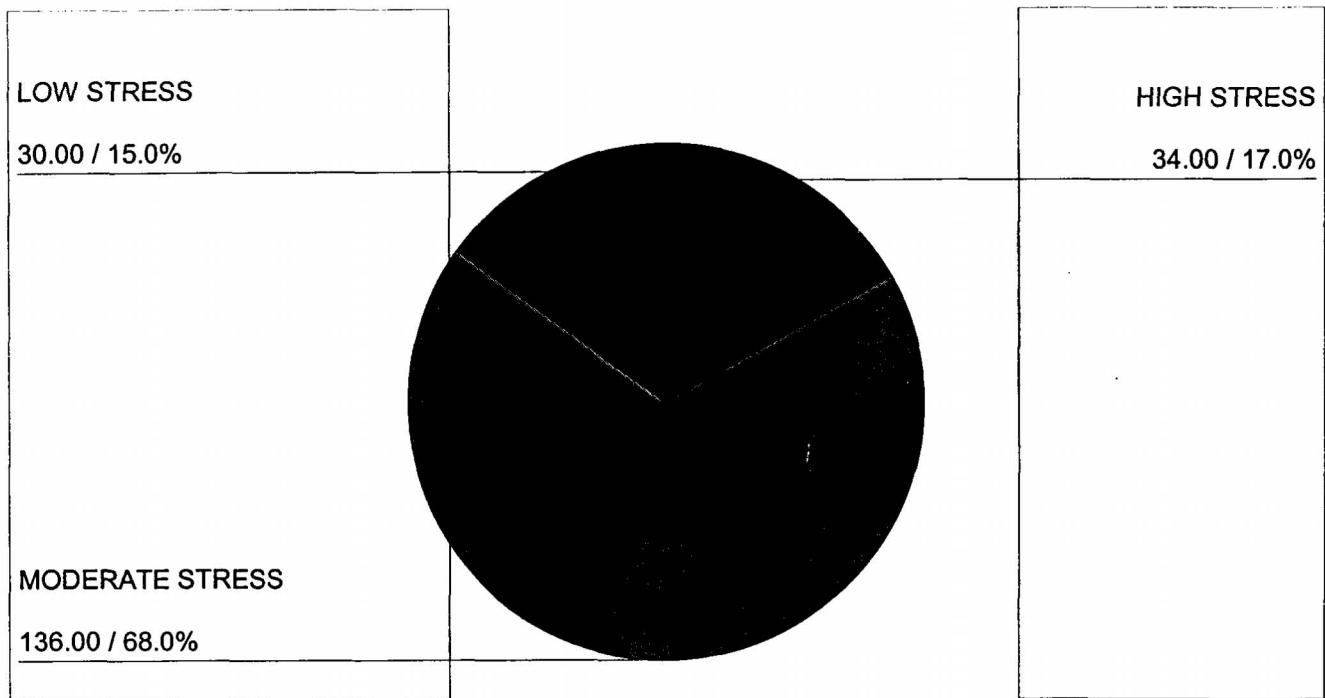


FIGURE 4-12 Extent and Levels of Stress in Total Sample

As seen in Figure 4-12, 17 *per cent* of the Total sample perceived their profession is *Highly stressful* whereas, 15 *per cent* reported that they feel *Low level* of stress in their job. But among the Total sample 68 *per cent* experience Moderate level of stress in teaching profession.

Extent and Levels of Stress in School Teachers

Sixteen *per cent* of the School Teachers participated (N = 100) in the present study experience *High level* stress. The *Low stress* group comprises 14 *per cent* and 70 *per cent* of School Teachers feel *Moderate level* of stress. The following Figure 4-13 gives the visual details.

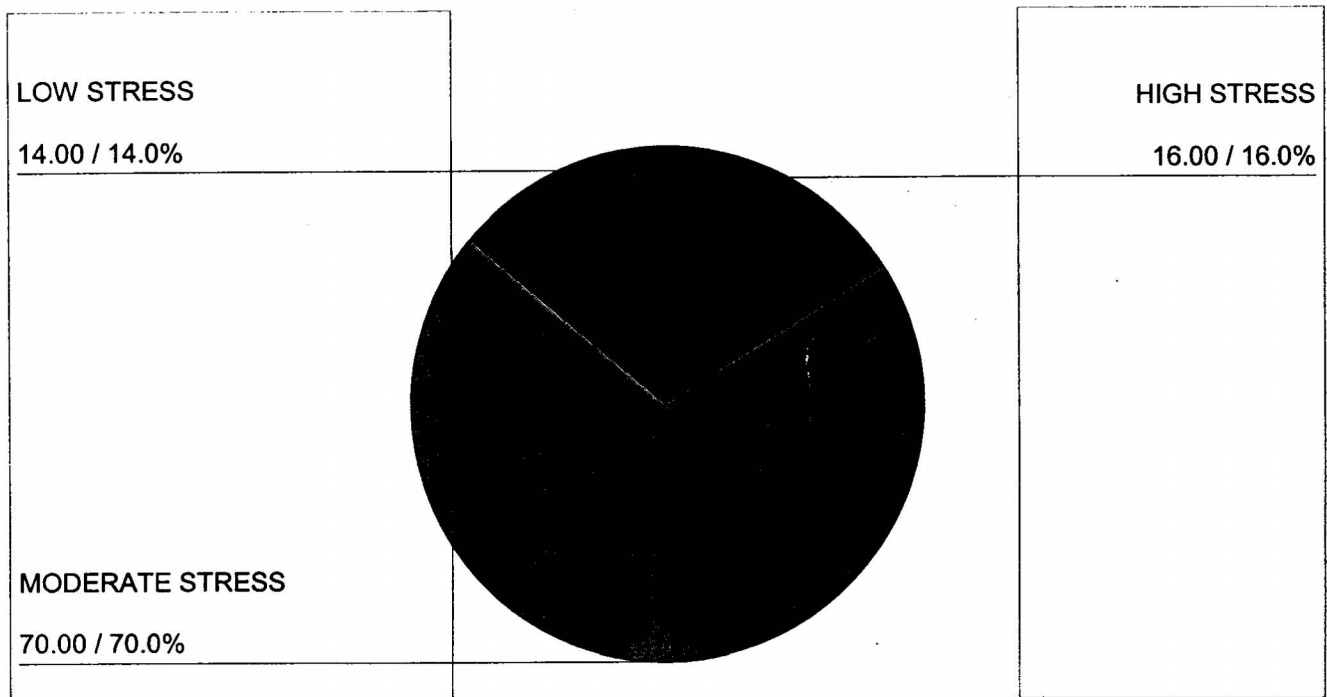


FIGURE 4-13 Extent and Levels of Stress in School Teachers

Extent and Levels of Stress in College Teachers

Details of the extent and levels of stress among College Teachers are presented in Figure 4-14.

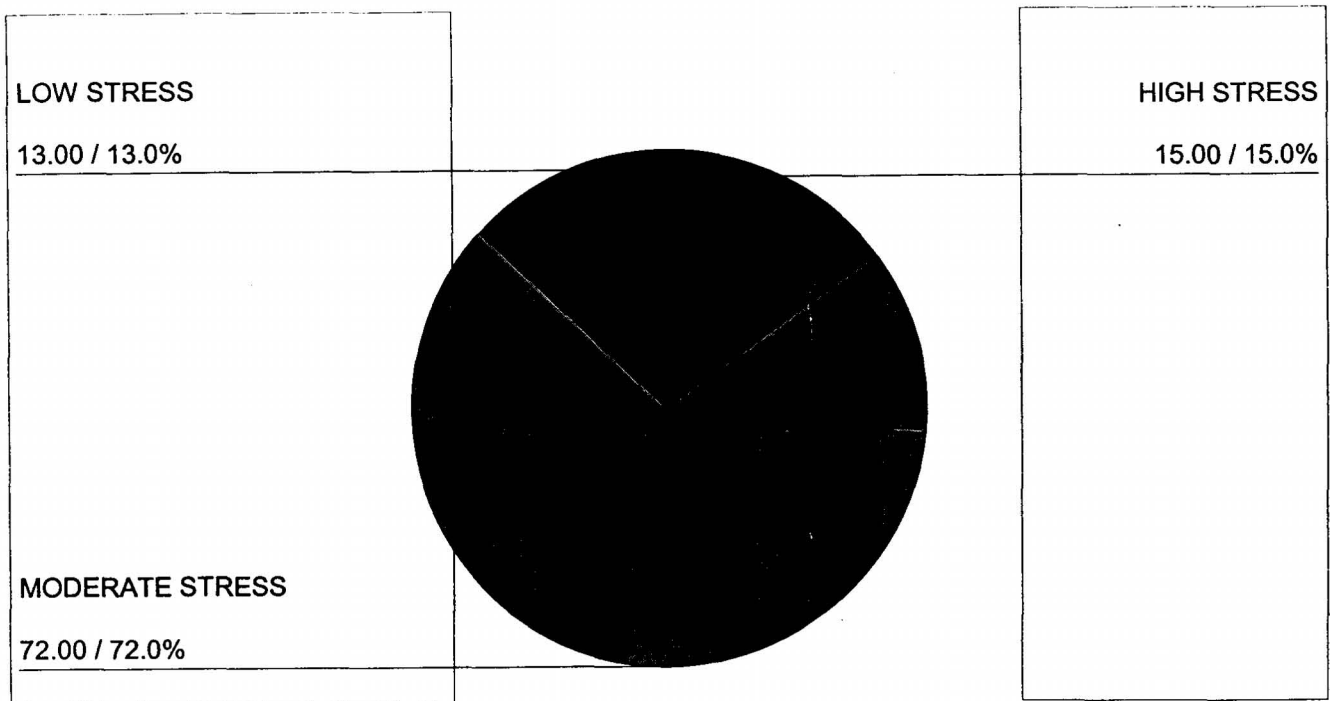


FIGURE 4-14 Extent and Levels of Stress in College Teachers

As per Figure 4-14 the percentage of College Teachers having different levels of stress are 15 *per cent* (High), 13 *per cent* (Low) and 72 *per cent* (Moderate).

Extent and Levels of Stress in Male Teachers

The stress levels and its extent in Male Teachers were studied and the details are presented in Figure 4-15.

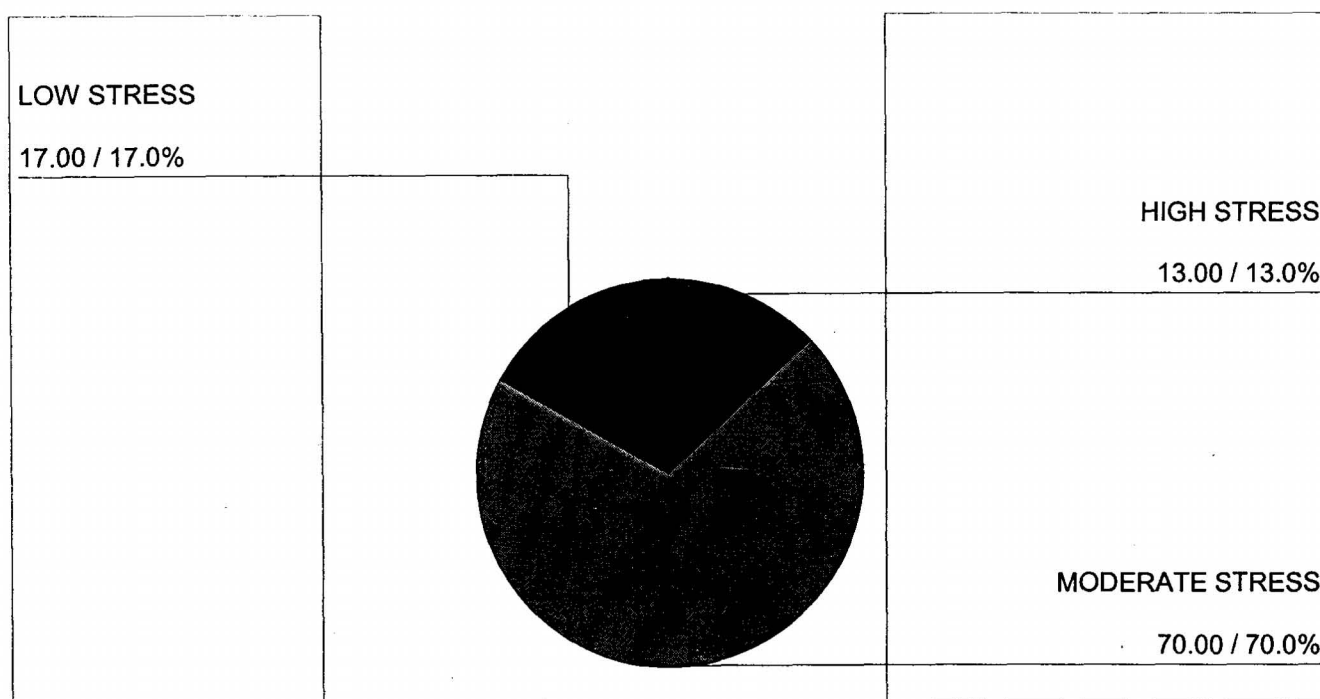


FIGURE 4-15 Extent and Levels of Stress in Male Teachers

As in Figure 4-15, 13 *per cent* and 17 *per cent* of Male Teachers reported having *High* and *Low* level of stress in their profession. *Seventy per cent* of the Male Teachers (N = 100) regard that they feel teaching profession is *Moderately* stressful.

Extent and Levels of Stress in Female Teachers

The Female Teachers in the sample (N = 100) experience *High* level stress (18%), *Low* level (13%) and *Moderate* level (69%). The Figure 4-16 in the following gives the details of the extent and different levels of stress in Female Teachers.

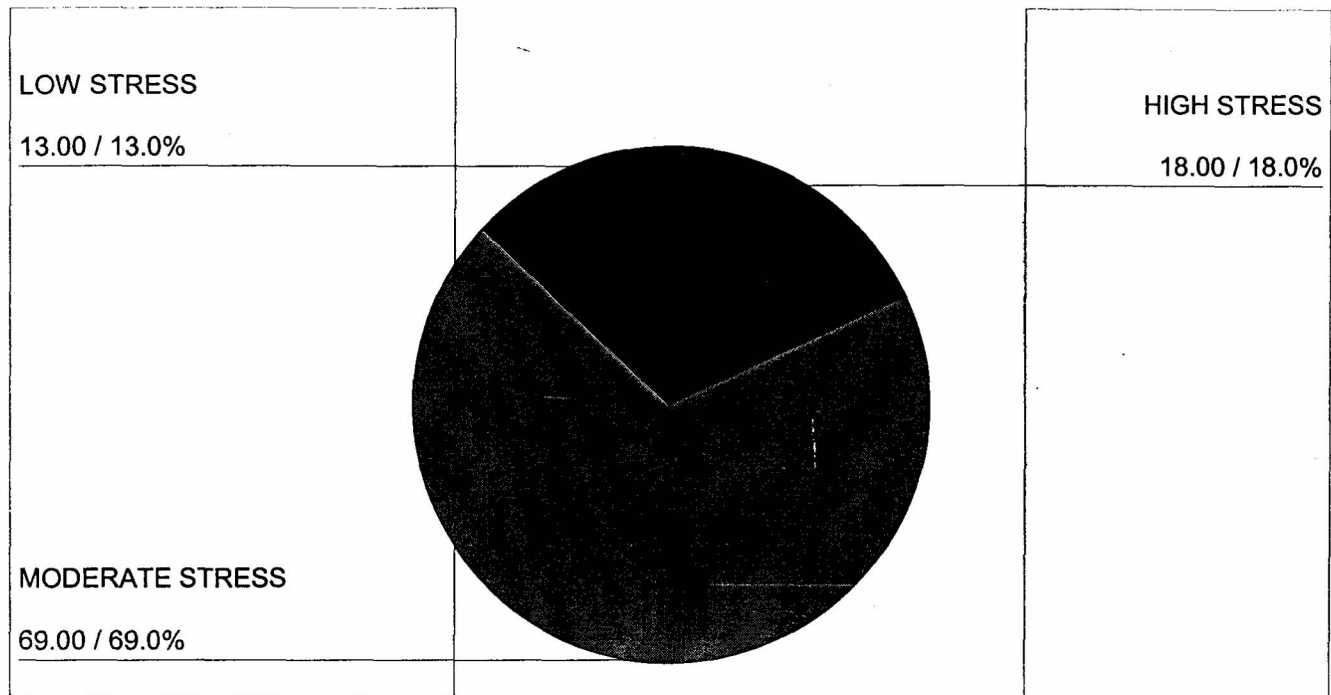


FIGURE 4-16 Extent and Levels of Stress in Female Teachers

Extent and Levels of Stress in Rural Teachers

Figure 4-17 reveals how different levels of Occupational Stress and its extent are being perceived by Rural Teachers (N = 136) in the sample of the study.

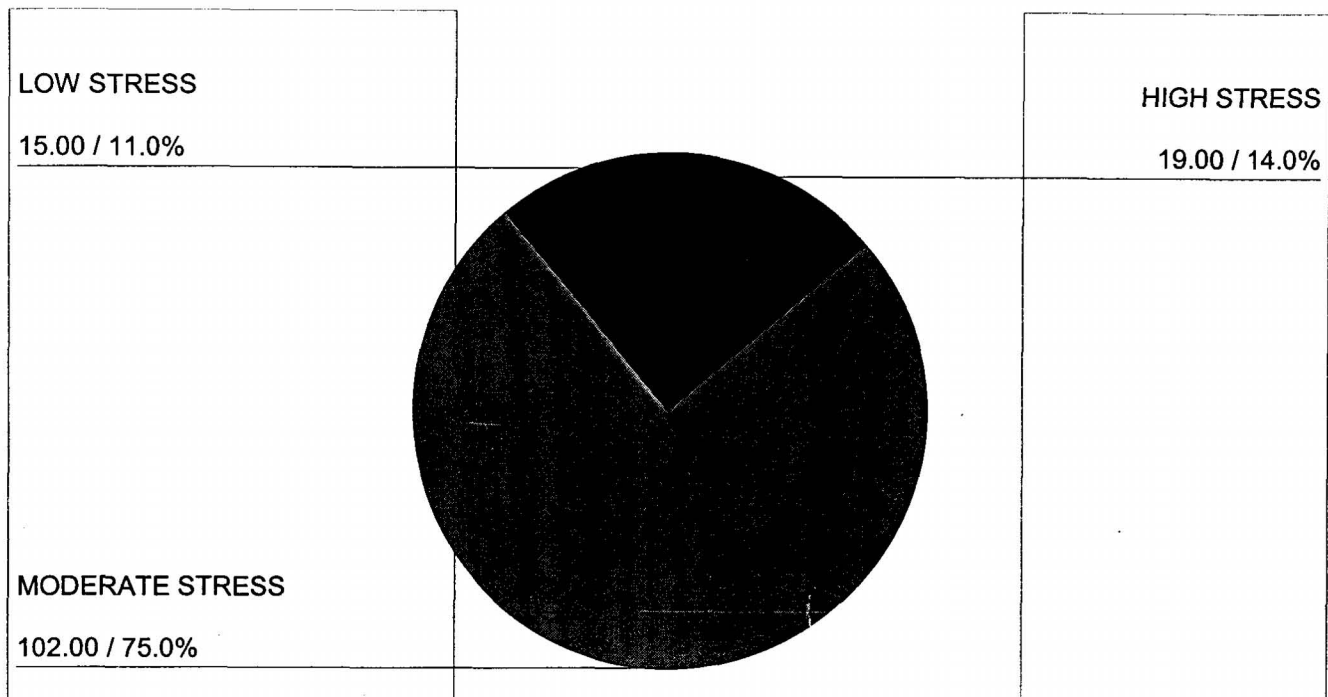


FIGURE 4-17 Extent and Levels of Stress in Rural Teachers

Among the Rural Teachers *14 per cent* experience the *High* stress, *11 per cent* perceive *Low* stress and *75 per cent* Teachers experience *Moderate* level of stress.

Extent and Levels of Stress in Urban Teachers

In Urban Teachers the extent and levels of Occupational Stress is examined and the details are presented in Figure 4-18.

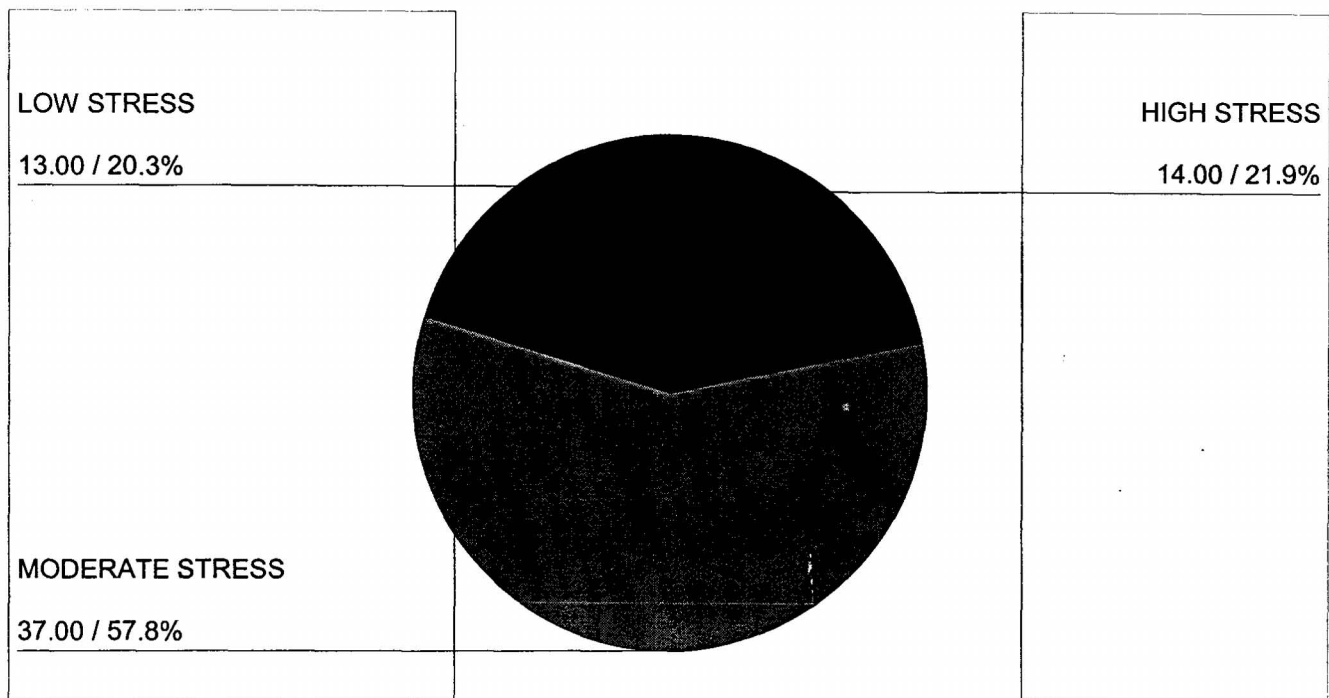


FIGURE 4-18 Extent and Levels of Stress in Urban Teachers

About 22.9 per cent, 20.3 per cent and 57.8 per cent of Urban Teachers reported that they have *High*, *Low* and *Moderate* levels of stress in their profession respectively.

Extent and Levels of Stress in Government Teachers

In Figure 4-19 the extent and the levels of stress in Government Teachers are presented.

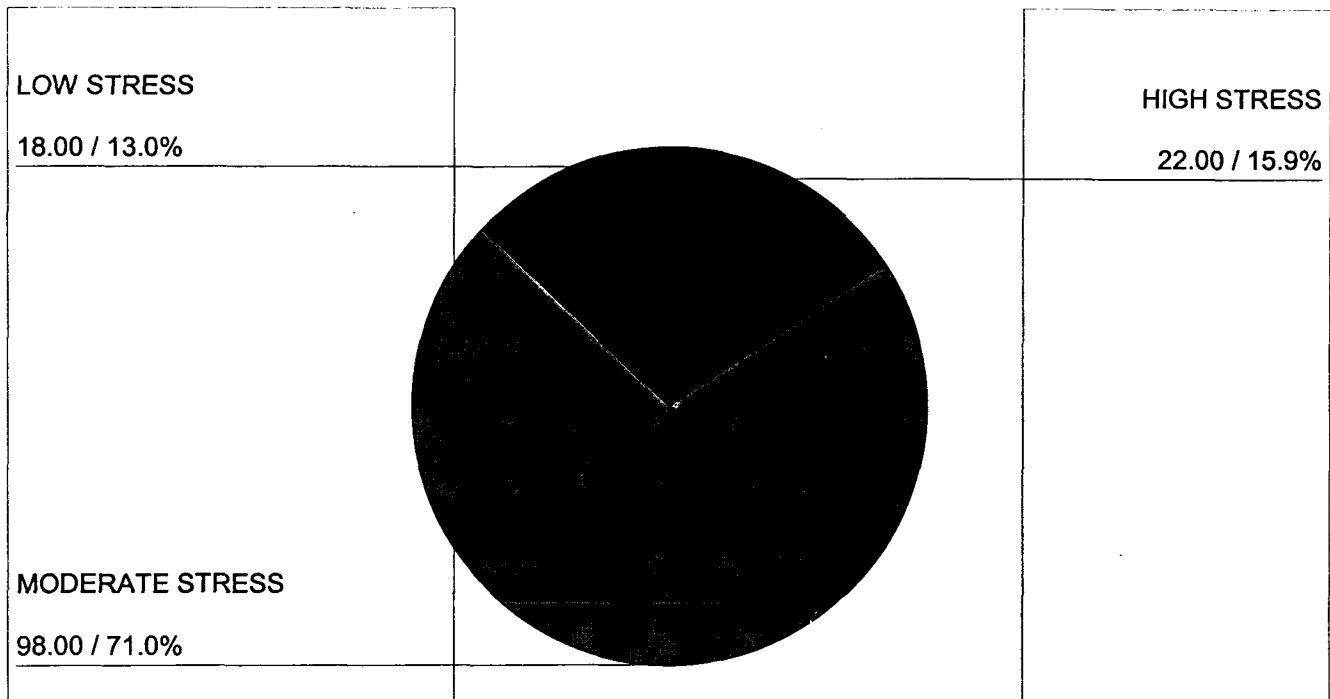


FIGURE 4-19 Extent and Levels of Stress in Government Teachers

Of the 138 Teachers working in the Government institutions *High* stress is experienced by *15.9 per cent*, *Low 13 per cent* and *Moderate* level of stress is perceived by *71 per cent*.

Extent and Levels of Stress in Private Teachers

Private Teachers in the sample were examined to find out the extent and levels of stress experienced in their profession. In Figure 4-20 the details are displayed.

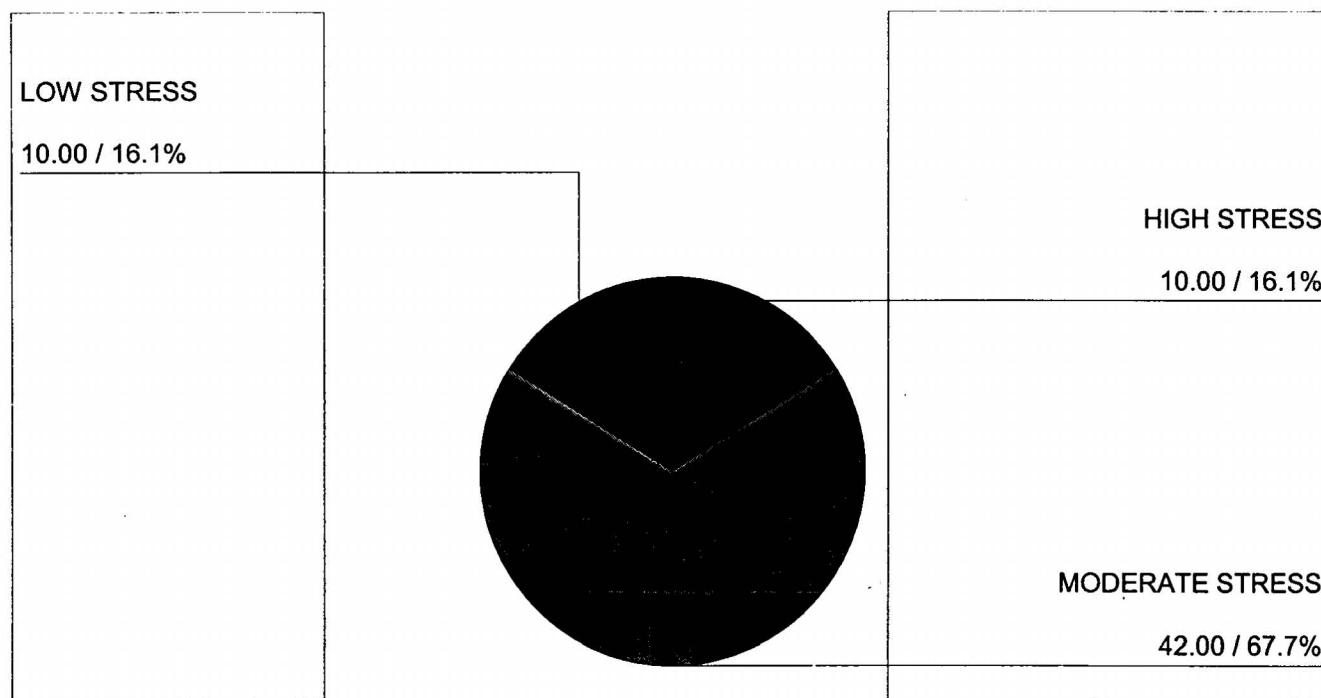


FIGURE 4-20 Extent and Levels of Stress in Private Teachers

About *16.1 per cent* of the Teachers working in the Private institutions reported that they experience *High* stress in their profession. *Low* level of stress in the job is experienced by *16.1* and *Moderate* level of stress is reported by *67.8 per cent*.

4.1.2.3. Summary of the Extent and Levels of QOL and Occupational Stress of Teachers

In this part of the report, a summary of the extent and levels of QOL and Occupational Stress as perceived by the Total sample and relevant Subsamples are presented in Table 4.4 to get an overall view regarding the issue.

TABLE 4.4

**Summary of the Extent and
Levels of QOL and Occupational Stress of Teachers**

Type of Sample	Q O L						Occupational Stress					
	High		Moderate		Low		High		Moderate		Low	
	N	%	N	%	N	%	N	%	N	%	N	%
Total (N = 200)	27	13.5	140	70.0	33	16.5	34	17	136	68	30	15
School (N = 100)	23	23.0	62	62.0	15	15.0	16	16	70	70	14	14
College (N = 100)	17	17.0	70	70.0	13	13.0	15	15	72	72	13	13
Male (N = 100)	14	14.0	72	72.0	14	14.0	13	13	70	70	17	17
Female (N = 100)	13	13.0	68	68.0	19	19.0	18	18	69	69	13	13
Rural (N = 136)	18	13.2	97	71.3	21	15.4	19	14	102	75	15	11
Urban (N = 64)	7.0	19.9	48	75.0	9.0	14.1	14	21.9	37	57.8	13	20.3
Government (N = 138)	16	11.6	103	74.6	19	13.8	22	15.9	98	71	18	13
Private (N = 62)	11	17.7	44	71.0	7.0	11.3	10	16.1	42	67.8	10	16.1

Table 4.4 revealed that *School Teachers* are found *highly satisfied* in the professional life (23 per cent). *Moderately satisfied Teachers* are 70 per cent of the Total sample taken for the study. Teachers working in the Private institutions are noted for their *Lowest level* of professional life satisfaction (11.3 per cent).

In case of Occupational Stress, 21.9 per cent of the Teachers working in the *Urban* institutions were characterised by *Higher* level of stress. Teachers in the *Rural* institutions experience the *Lowest* level of stress (11 per cent).

4.1.3. INVESTIGATION OF GENDER DIFFERENCE IN QOL AND OCCUPATIONAL STRESS OF TEACHERS

This part of the Preliminary Analysis was devoted to present the results and interpretation of the investigation of *Gender Difference* in QOL and Occupational Stress of the sample, especially (*Total sample* and *relevant Subsamples*). Results of the investigation have thrown light upon one of the pertinent research question that whether any gender difference exists in QOL and Occupational Stress of the Teachers or not? To find answer to this question, Mean Difference analysis was employed and the results are interpreted and presented.

4.1.3.1. Gender Difference in QOL and Occupational Stress Among the Total Sample

Gender difference in QOL and Occupational Stress among the Total sample were studied. For this purpose, QOL for the Past, Present and Future years were utilised. In case of Occupational Stress, six Stressor wise scores and a Total Stress score were included in the Mean Difference analysis.

Means and standard deviations were found out and subjected to the two tailed test of significance of difference. Data and results were presented in Table 4.5.

TABLE 4.5

Data and Results of the t-test for the Means of QOL and Perceived Stress between Males and Females (Total sample)

Variables		MALE			FEMALE			t-value	Level of significance
		M ₁	N ₁	σ_1	M ₂	N ₂	σ_2		
QOL	Past year	6.85	100	1.46	6.34	100	1.73	2.27	0.05
	Present year	7.39	100	1.61	6.86	100	1.82	2.21	0.05
	Future year	8.95	100	1.48	8.43	100	1.81	2.22	0.05
STRESSORS	Intrinsic to Job	28.40	100	3.81	29.12	100	5.17	1.12	NS
	Role of Teachers	26.97	100	3.93	27.82	100	4.04	1.51	NS
	Relationship at Work	19.23	100	4.71	19.59	100	4.23	0.57	NS
	Career Development	10.56	100	2.96	10.66	100	2.30	0.27	NS
	Organisational Structure	30.65	100	5.04	31.63	100	4.77	1.41	NS
	Home work Interface	21.45	100	6.08	21.52	100	6.33	0.08	NS
Perceived Stress (Total)		136.52	100	14.03	139.19	100	16.38	1.24	NS

NS : Not significant.

As given in Table 4.5 *significant gender difference* in QOL (Past, Present and Future years) of the Total sample is observed. The t-values for QOL – Past, Present and Future years are 2.27, 2.21 and 2.22 respectively. These values were well beyond the value set for 0.05 level of significance. With respect to the QOL of Total sample in Past, Present and Future years, better QOL is noticed for the Male Teachers since high mean QOL scores are associated with the Male Teachers.

When gender difference in Occupational Stress is studied (Stressor wise and Total Stress) *no significant difference* between the Male and Female Teachers is noted. Results of the t-test clearly indicated that Male and Female Teachers in the Total sample perceived the Occupational Stress in a similar way.

4.1.3.2 Gender Difference in QOL and Occupational Stress Among School Teachers

The professional life satisfaction (QOL) and perceived Occupational Stress of School Teachers were studied to understand whether any gender difference exists or not. The corresponding means and SD's of the variables were subjected to the two-tailed test of significance of difference.

The data and results of the t-test are presented in Table 4.6.

TABLE 4.6

Data and Results of the t-test for the Means of QOL and Perceived Stress between Males and Females (School Teachers)

Variables		MALE			FEMALE			t-value	Level of significance
		M ₁	N ₁	σ_1	M ₂	N ₂	σ_2		
QOL	Past year	6.80	50	1.30	6.14	50	1.77	2.11	0.05
	Present year	7.22	50	1.42	6.32	50	1.54	3.06	0.01
	Future year	8.77	50	1.59	8.00	50	1.65	2.37	0.05
STRESSORS	Intrinsic to Job	27.80	50	3.74	28.00	50	4.10	0.25	NS
	Role of Teachers	26.28	50	3.62	27.06	50	3.46	1.10	NS
	Relationship at Work	18.42	50	3.33	18.62	50	3.49	0.29	NS
	Career Development	10.34	50	2.16	10.08	50	1.86	0.64	NS
	Organisational Structure	30.90	50	5.73	29.98	50	3.95	0.93	NS
	Home work Interface	21.58	50	5.11	20.38	50	5.34	1.15	NS
Perceived Stress (Total)		134.30	50	13.95	133.46	50	12.14	0.32	NS

NS : Not significant.

As per Table 4.6 significant difference in QOL (Past year $P < 0.5$; Present year $P < 0.01$ and Future year $P < 0.05$) between the Males and Females were noted among the School Teachers ($N = 100$) taken for the study. From the results it can be inferred that for the School Teachers *gender difference exists* in the Past, Present and Future years' professional life satisfaction (QOL). In all the three years, better professional life satisfaction is noted for the Male School Teachers than the Female Teachers. This is evident from the higher mean QOL scores attached with the Male Teachers.

No statistically significant difference is noticed in the perception of Occupational Stress between the Male and Female School Teachers (Stressor wise and Total Stress). The obtained t-values are found below the values required for significance at 0.05 level. From the results of the t-test, it can be concluded that *no gender difference* exists between the Male and Female School Teachers. They experience the stress in their profession as statistically equal.

4.1.3.3. Gender Difference in QOL and Occupational Stress Among College Teachers

An attempt was made by the investigator to study the gender difference in QOL and Occupational Stress of College Teachers in the sample. For this purpose the mean scores and SD's on QOL and Occupational Stress (Stressor wise and Total Stress) were compared using the two-tailed test of significance of difference between means. The data and results were presented in Table 4.7.

TABLE 4.7

Data and Results of the t-test for the Means of QOL and Perceived Stress between Males and Females (College Teachers)

Variables		MALE			FEMALE			t-value	Level of significance
		M ₁	N ₁	σ_1	M ₂	N ₂	σ_2		
Q O L	Past year	6.91	50	1.62	6.54	50	1.68	1.13	NS
	Present year	7.56	50	1.78	7.39	50	1.93	0.45	NS
	Future year	9.13	50	1.36	8.86	50	1.88	0.83	NS
STRESSORS	Intrinsic to Job	29.00	50	3.82	30.24	50	5.88	1.25	NS
	Role of Teachers	27.66	50	4.14	28.58	50	4.45	1.07	NS
	Relationship at Work	20.04	50	5.68	20.56	50	4.70	0.50	NS
	Career Development	10.78	50	3.59	11.24	50	2.56	0.74	NS
	Organisational Structure	30.40	50	4.31	33.28	50	4.98	3.09	0.01
	Home work Interface	21.32	50	6.97	22.66	50	7.05	0.96	NS
Perceived Stress (Total)		138.74	50	13.88	144.92	50	18.10	1.92	NS

NS : Not significant.

Table 4.7 shows *statistically no significant difference* in the mean QOL (Past, Present and Future years) scores. The t-test revealed that the t-values obtained are even below the values set for 0.05 level of significance. For College Teachers, it is clear that *no gender difference* exists in QOL (Past, Present and Future years). Results of the t-test indicated that Male and Female College Teachers are statistically equal in deriving professional life satisfaction.

As per Table 4.7 *no significant difference* is noted in Occupational Stress of College Teachers except for the stressor *Organisational Structure*. The t-value obtained is far above ($t = 3.09$) the value required for significance at 0.01 level. So it can be inferred that Male and Female College Teachers experienced the stress *differently which is caused by the Organisational Structure* of the institution. Female College Teachers perceive *high stress* than the Males because the high mean score is obtained by the Female Teachers. Female Teachers cannot cope with the stress induced by the structure of the organisation. Comparatively high responsibilities and the peculiar nature of working conditions may be the reasons for the perception of higher stress induced by the stressor Organisational Structure.

4.1.3.4. Gender Difference in QOL and Occupational Stress Among Teachers in the Rural Institutions

Rural Teachers were examined to find out any gender difference exists in their QOL (Past, Present and Future years) and Occupational Stress (Stressor wise and Total Stress) scores.

Test of significance of difference between means were utilised for this purpose. The corresponding means and standard deviations on the QOL and Occupational Stress of Male and Female Teachers in the Rural institutions were analysed. In Table 4.8, the data and results of the t-test are displayed.

TABLE 4.8

Data and Results of the t-test for the Means of QOL and Perceived Stress between Males and Females (Rural Sample)

Variables		MALE			FEMALE			t-value	Level of significance
		M ₁	N ₁	σ_1	M ₂	N ₂	σ_2		
QOL	Past year	6.92	68	1.59	6.28	68	1.53	2.40	0.05
	Present year	7.58	68	1.69	6.88	68	1.82	2.32	0.05
	Future year	9.01	68	1.45	8.37	68	1.79	2.28	0.05
STRESSORS	Intrinsic to Job	28.07	68	3.78	29.57	68	5.12	1.94	NS
	Role of Teachers	27.43	68	3.76	27.32	68	3.98	0.16	NS
	Relationship at Work	18.79	68	4.67	19.46	68	4.15	0.87	NS
	Career Development	10.35	68	2.02	10.99	68	2.44	1.65	NS
	Organisational Structure	31.28	68	4.92	32.49	68	4.58	1.48	NS
	Home work Interface	21.68	68	6.89	20.69	68	5.87	0.90	NS
Perceived Stress (Total)		136.34	68	13.30	139.02	68	16.26	1.05	NS

NS : Not significant.

Table 4.8 shows that *statistically significant difference* in QOL (Past, Present and Future years) at 0.05 level exists between the Male and Female Teachers in the Rural Institutions. The inference is that significant gender difference exists in the mean QOL scores (Past, Present and Future years) between the Male and Female Rural Teachers. In the three comparisons, high mean score is seen attached with the Male Teachers signifying their *better QOL* than the Female Teachers.

No statistically significant difference is observed in the Occupational Stress (Stressor wise and Total Stress) of Rural Teachers. From the results of the mean difference analysis, it can be concluded that the Male and Female Rural Teachers experience the same level of stress in their work place.

4.1.3.5. Gender Difference in QOL and Occupational Stress Among Teachers in the Urban Institutions

The means and standard deviations on QOL (Past, Present and Future years) of the Urban Male and Female Teachers were subjected to the t-test. Data and results of the t-test are given in Table 4.9.

TABLE 4.9

Data and Results of the t-test for the Means of QOL and Perceived Stress between Males and Females (Urban Sample)

Variables		MALE			FEMALE			t-value	Level of significance
		M ₁	N ₁	σ_1	M ₂	N ₂	σ_2		
QOL	Past year	6.72	32	1.15	6.48	32	2.11	0.57	NS
	Present year	6.99	32	1.38	6.80	32	1.84	0.48	NS
	Future year	8.83	32	1.57	8.56	32	1.87	0.63	NS
STRESSORS	Intrinsic to Job	29.09	32	3.84	28.16	32	5.21	0.82	NS
	Role of Teachers	26.00	32	4.18	28.88	32	4.02	2.80	0.01
	Relationship at Work	20.16	32	4.71	19.88	32	4.46	0.25	NS
	Career Development	11.00	32	4.34	9.97	32	1.82	1.24	NS
	Organisational Structure	29.31	32	5.16	29.81	32	4.72	0.40	NS
	Home work Interface	20.97	32	3.87	23.28	32	6.97	1.64	NS
Perceived Stress (Total)		136.91	32	15.67	139.56	32	16.88	0.65	NS

NS : Not significant.

For QOL (Past, Present and Future years) *no statistically significant difference is obtained* for the Urban sample. All the t-values obtained from the comparisons are below the critical value required for significance at 0.05 level. From the results it is evident that male and female Urban Teachers are *similar* in the perception of QOL (Past, Present and Future years).

When gender difference is examined in case of Occupational Stress, significant t-value ($P < 0.01$) is obtained for the Stressor *Role of Teachers* ($t = 2.80$). In all other Stressors and Total Stress, no significant difference is noted. The conclusion is that Urban male and female Teachers perceive the Occupational Stress in the same level.

But with regard to the Stressor *Role of Teachers* high mean score was associated with the female Teachers. This points out the fact that female Teachers in the Urban Institutions felt *high stress* than the Urban male Teachers due to the Stressor Role of Teachers.

4.1.3.6. Gender Difference in QOL and Occupational Stress Among Teachers in the Government Institutions

Scores of Government Teachers on QOL and Occupational Stress were analysed using the t-test with a view to understand any gender difference exists in these variables.

Means and SD's of the corresponding variables were utilised for the t-test. In Table 4.10 data and results are presented.

TABLE 4.10

Data and Results of the t-test for the Means of QOL and Perceived Stress between Males and Females (Government sample)

Variables		MALE			FEMALE			t-value	Level of significance
		M ₁	N ₁	σ_1	M ₂	N ₂	σ_2		
QOL	Past year	6.79	72	1.42	6.41	66	1.76	1.40	NS
	Present year	7.43	72	1.40	7.04	66	1.78	1.42	NS
	Future year	8.96	72	1.54	8.59	66	1.83	1.27	NS
STRESSORS	Intrinsic to Job	28.40	72	3.81	29.23	66	5.84	0.97	NS
	Role of Teachers	26.93	72	3.58	27.15	66	4.12	0.33	NS
	Relationship at Work	19.71	72	5.09	20.36	66	4.01	0.84	NS
	Career Development	10.92	72	3.27	10.62	66	2.01	0.65	NS
	Organisational Structure	30.38	72	5.04	32.33	66	4.88	2.32	0.05
	Home work Interface	21.97	72	6.18	21.83	66	6.47	0.13	NS
Perceived Stress (Total)		137.35	72	14.29	139.83	66	16.67	0.94	NS

NS : Not significant.

No significant difference is obtained for QOL (Past, Present, Future years) between the male and female Teachers in the sample under study.

In Occupational Stress, the male and female Teachers in the Government sample do not differentiate (Stressor wise and Total Stress) except in the Stressor *Organisational Structure*. The t-value obtained ($t = 2.32$) in the Stressor Organisational Structure is being very high compared to their counterparts. The t-values obtained for other Stressors and Total Stress are below the critical value set for even 0.05 level of significance.

Results of the t-test indicated that *gender difference is evident* only in case of the Stressor *Organisational Structure*. Female Teachers experience more stress due to the structure of organisation than male Teachers in the Government Institutions. No gender difference is noticed in other Stressors and Total Stress.

4.1.3.7. Gender Difference in QOL and Occupational Stress Among Teachers in the Private Institutions

To examine the gender difference in QOL and Occupational Stress among Private Teachers, mean difference analysis is employed. Data and results are presented in Table 4.11.

TABLE 4.11

Data and Results of the t-test for the Means of QOL and Perceived Stress between Males and Females (Private sample)

Variables		MALE			FEMALE			t-value	Level of significance
		M ₁	N ₁	σ_1	M ₂	N ₂	σ_2		
QOL	Past year	7.02	28	1.58	6.21	34	1.69	1.96	0.05
	Present year	7.29	28	2.08	6.50	34	1.86	1.58	NS
	Future year	8.93	28	1.36	8.12	34	1.75	2.05	0.05
STRESSORS	Intrinsic to Job	28.39	28	3.88	28.91	34	3.59	0.54	NS
	Role of Teachers	27.07	28	4.79	29.12	34	3.58	1.87	NS
	Relationship at Work	18.00	28	3.30	18.09	34	4.31	0.09	NS
	Career Development	9.64	28	1.66	10.74	34	2.82	1.89	NS
	Organisational Structure	31.36	28	5.12	30.27	34	4.29	0.90	NS
	Home work Interface	20.11	28	5.69	20.91	34	6.08	0.54	NS
Perceived Stress (Total)		134.39	28	13.35	137.94	34	15.97	0.95	NS

NS : Not significant.

The t-values obtained for the comparison of QOL (Past and Future years) are 1.96 and 2.05 respectively. These values are found *significant* at 0.05 level. Whereas, for QOL Present year *no significant difference* is noted since the obtained t-value is not upto the critical limit for 0.05 level of significance. It is inferred from the result that *gender difference exists in QOL - Past and Future years* of Teachers in the Private Institutions. Since high mean value is associated with the Male Teachers, it can be said that they are *more satisfied* in the past year and they expect more life satisfaction in the *Future year* than the Female Teachers in the Private Institutions.

Table 4.11 further shows that in Occupational Stress (Stressor wise and Total Stress) *no statistically significant difference* between the male and female Teachers was noted. All the t-values are below the level set for 0.05 level of significance. Hence, it is concluded that *no gender difference* is noted in the perception of Occupational Stress between the male and female Teachers in the Private Institutions.

4.1.3.8. Summary of the Investigation of Gender Difference in QOL and Occupational Stress of Teachers

Gender difference in QOL (Past, Present and Future years) and Occupational Stress (Stressor wise and Total Stress) was studied for the Total sample and relevant Subsamples. Mean difference analysis was employed in this regard. In this part of the chapter, the results are summarised and significant t-values are presented in Table 4.12 to get an overall picture.

TABLE 4.12

Significant t-values of Gender Difference in QOL and Occupational Stress

Variables		S A M P L E						
		Total	School	College	Rural	Urban	Govt.	Private
QOL	Past year	2.27*	2.11*	NS	2.40*	NS	NS	1.96*
	Present year	2.21*	3.06**	NS	2.32*	NS	NS	NS
	Future year	2.22*	2.37*	NS	2.28*	NS	NS	2.05*
Stressors	Intrinsic to Job	NS	NS	NS	NS	NS	NS	NS
	Role of Teachers	NS	NS	NS	NS	2.80**	NS	NS
	Relationship at Work	NS	NS	NS	NS	NS	NS	NS
	Career Development	NS	NS	NS	NS	NS	NS	NS
	Organisational Structure	NS	NS	3.09**	NS	NS	2.32*	NS
	Home work Interface	NS	NS	NS	NS	NS	NS	NS
Perceived Stress (Total)		NS	NS	NS	NS	NS	NS	NS

NS : Not significant.

* : Significant at 0.05 level.

** : Significant at 0.01 level.

Table 4.12 shows the significant t-values obtained in the comparison of QOL (Past, Present and Future years) and Occupational Stress (Stressor wise and Total Stress) between the male and female Teachers in the Total and various Sub samples.

Gender Difference in QOL

Clear *gender difference in QOL* (Past, Present and Future years) was noticed in Total sample, School Teachers and Teachers in the Rural and Private Institutions. In case of the Private Teachers *no gender difference* was noted in QOL - Present year. In College, Urban and Government Teachers, the results indicated *no gender difference*.

Gender Difference in Occupational Stress

Table 4.12 shows that *gender difference in Occupational Stress exists* in College Teachers (Organisational Structure), Urban Teachers (Role of Teachers) and Teachers in Government Institutions (Organisational Structure) only. In Total sample, School, Rural and Private Teachers the t-values were found *not significant*. Hence *no gender difference* is noticed in Occupational Stress (Stressor wise and Total Stress). It can be noted that the level of perceived stress in male and female Teachers in these categories are found the same.

4.2. MAJOR ANALYSIS

In this part of the report, the major statistical procedures employed to analyse the data collected are presented. The section major analysis is subdivided under the following headlines.

4.2.1. COMPARISON OF QOL AND OCCUPATIONAL STRESS OF TEACHERS

4.2.2. EXTENT AND DEGREE OF ASSOCIATION BETWEEN QOL AND OCCUPATIONAL STRESS OF TEACHERS

- 4.2.3. INVESTIGATION OF FUTURE EXPECTATIONS OF TEACHERS
- 4.2.4. PREDICTION OF OCCUPATIONAL STRESS AND QOL OF TEACHERS
- 4.2.5. EFFECTIVENESS OF STRESS MANAGEMENT INTERVENTION PROGRAMME (SMIP)
- 4.2.6. IDENTIFICATION OF LATENT FACTORS INVOLVED IN THE TEACHER STRESS INVENTORY

Results of the specific analytic procedure for the purpose in each sub section is presented in detail.

4.2.1. COMPARISON OF QOL AND OCCUPATIONAL STRESS OF TEACHERS

In this sub section, comparison of QOL (Past, Present and Future years) and Occupational Stress of Teachers (Stressor wise and Total Stress) is mainly attempted. Comparisons are mainly done on the basis of the *Institutional* and *Personal demographics* of the sample. *Institutional demographics* include the type of the institution (School/College), locality of the institution (Rural/Urban) and Management category of the institution (Government sector/Private sector).

Under *Personal demographics*, the following aspects of the sample were taken into consideration. They are *Age*, *Qualification*, *Experience* in the profession, *Marital Status* and *Type of Career of the couples*. Test of significance of difference between means was used as a technique of analysis for this end in view. The results of the analysis have shed light upon how the Teachers in various demographic categories perceived their professional life satisfaction (QOL) and Stress in the job.

4.2.1.1. Comparison of QOL and Occupational Stress of School and College Teachers

The QOL (Past, Present and Future years) and Occupational Stress scores (Stressor wise and Total Stress) of School and College Teachers were compared. The means and standard deviation of the QOL and Occupational Stress scores were subjected to the two-tailed test of significance of difference. The details of the analysis are presented in Table 4.13.

TABLE 4.13

Details of the t-test for the Means of QOL and Perceived Stress Between School and College Teachers

Variables		School Teachers			College Teachers			t-value	Level of significance
		M ₁	N ₁	σ_1	M ₂	N ₂	σ_2		
QOL	Past year	6.47	100	1.58	6.72	100	1.65	1.11	NS
	Present year	6.77	100	1.54	7.48	100	1.85	2.93	0.01
	Future year	8.39	100	1.65	8.99	100	1.64	2.61	0.01
STRESSORS	Intrinsic to Job	27.90	100	3.90	29.62	100	4.97	2.72	0.01
	Role of Teachers	26.67	100	3.55	28.12	100	4.30	2.60	0.01
	Relationship at Work	18.52	100	3.39	20.30	100	5.19	2.87	0.01
	Career Development	10.21	100	2.01	11.01	100	3.11	2.16	0.05
	Organisational Structure	30.44	100	4.92	31.84	100	4.86	2.03	0.05
	Home work Interface	20.98	100	5.23	21.99	100	7.00	1.16	NS
Perceived Stress (Total)		133.88	100	13.01	141.83	100	16.35	3.80	0.01

NS : Not significant.

The details of the comparison as presented in Table 4.13 show that *statistically significant difference* in QOL (Present and Future years) of School and College Teachers were found. The t-values obtained in the respective comparisons are well beyond the critical limit for 0.01 level of significance (2.93 and 2.61). Hence it is noted that School and College Teachers differ in QOL (Present and Future years). *College Teachers feel higher level of QOL* than the School Teachers since higher mean scores are attached with them. Regarding the Past year's life satisfaction both category of Teachers show *no difference*. The t-value obtained for this comparison is below the limit set for 0.05 level of significance ($t = 1.11$).

In the comparison of Occupational Stress of School and College Teachers, Table 4.13 revealed that significant difference exists (except the Stressor Home work Interface). School and College Teachers differ in the Stressors Intrinsic to Job, Role of Teachers, Relationship at Work ($P < 0.01$), Career Development and Organisational Structure ($P < 0.05$) and also in Total Perceived Stress ($P < 0.01$). In the Stressor Home Work Interface, School and College Teachers are *not different*. They perceived the stress due to this Stressor in the equal way. In the Stressor wise and Total Stress comparisons the results revealed that College Teachers experience more Stress than School Teachers.

The QOL (Past, Present and Future years) and Perceived Stress (Total) of School and College Teachers were graphically examined and presented in Figures 4-21 and 4-22.

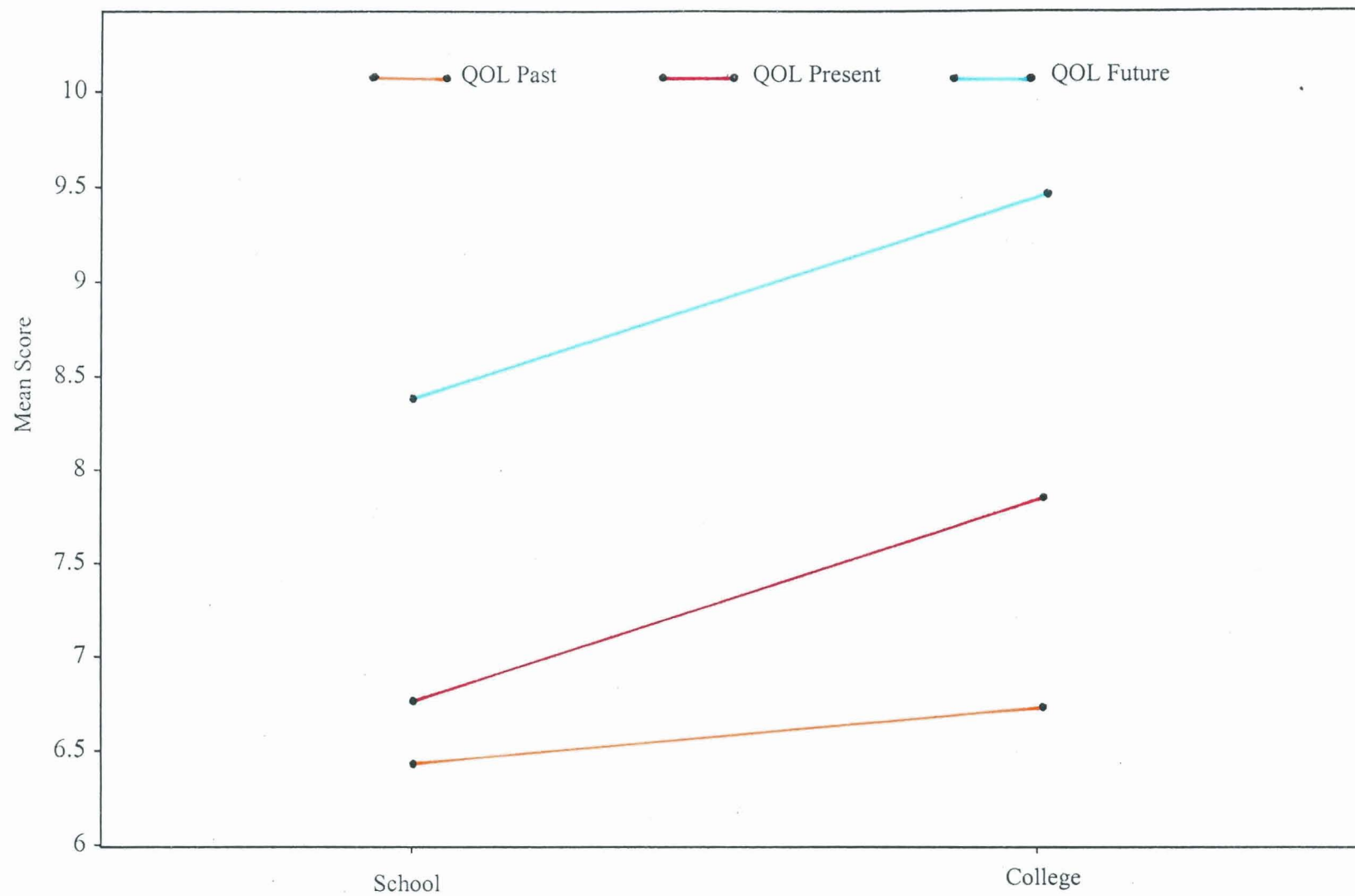


FIGURE 4 - 21 QOL (Past, Present and Future Years) of School and College Teachers

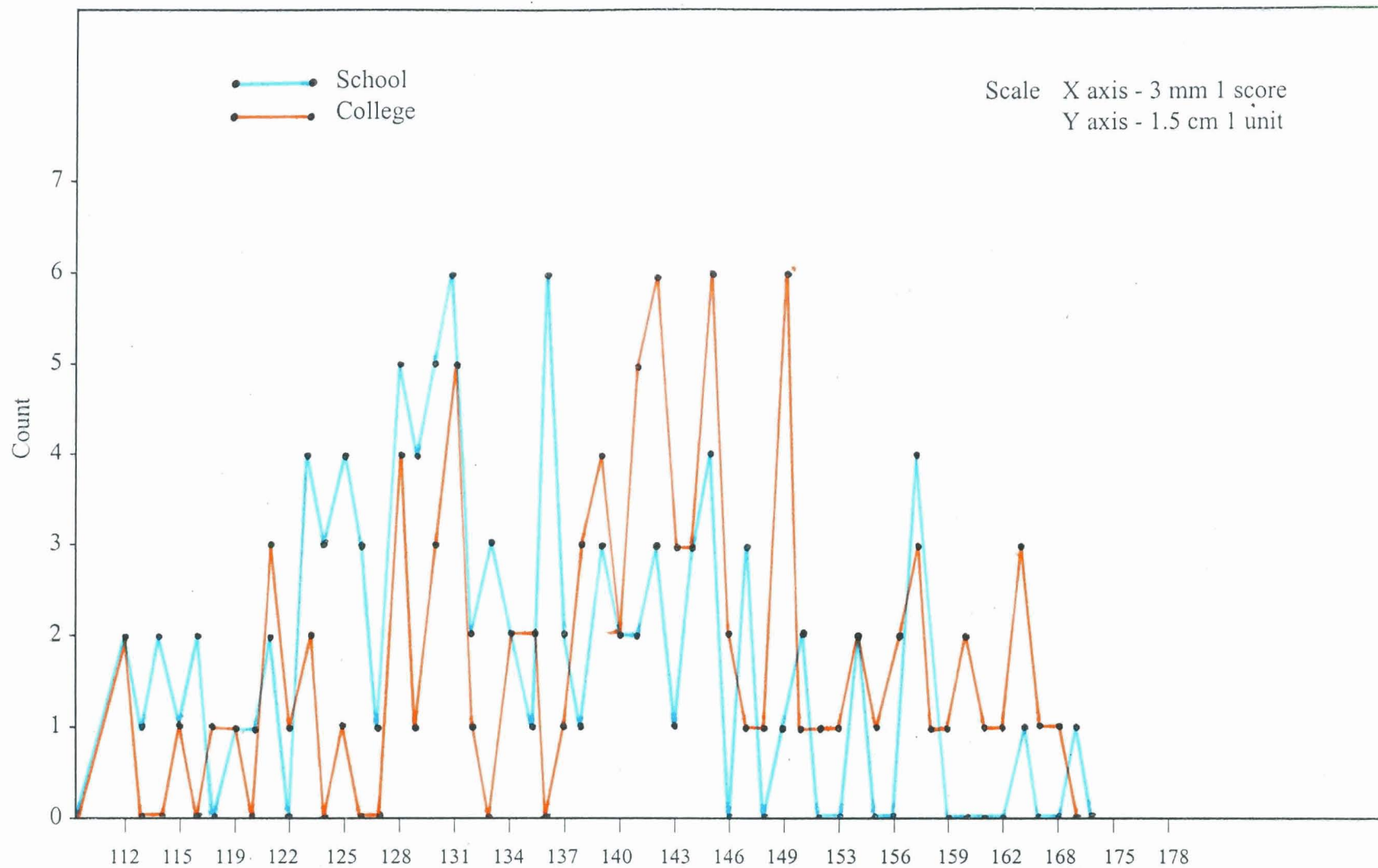


FIGURE 4 - 22 Perceived Stress (Total) of School and College Teachers

Figures 4-21 and 4-22 revealed the nature of QOL and Occupational Stress (Total) of School and College Teachers. College Teachers have high QOL (Past, Present and Future years) and they are *more stressed* than the School Teachers as the Figures highlighted.

4.2.1.2. Comparison of QOL and Occupational Stress of Rural and Urban Teachers

Teachers in the Rural and Urban institutions were compared with regarding their QOL and Occupational Stress. Details of the comparison are presented in Table 4.14.

TABLE 4.14

Details of the t-test for the Means of QOL and Perceived Stress Between Rural and Urban Teachers

Variables		Rural Teachers			Urban Teachers			t-value	Level of significance
		M ₁	N ₁	σ_1	M ₂	N ₂	σ_2		
QOL	Past year	6.59	136	1.59	6.60	64	1.69	0.40	NS
	Present year	7.23	136	1.79	6.89	64	1.62	1.30	NS
	Future year	8.69	136	1.66	8.70	64	1.71	0.02	NS
STRESSORS	Intrinsic to Job	28.82	136	4.55	28.63	64	4.56	0.29	NS
	Role of Teachers	27.38	136	3.85	27.44	64	4.32	0.10	NS
	Relationship at Work	19.13	136	4.42	20.02	64	4.55	1.30	NS
	Career Development	10.67	136	2.25	10.48	64	3.34	0.40	NS
	Organisational Structure	31.88	136	4.77	29.56	64	4.91	3.14	0.01
	Home work Interface	21.18	136	6.39	22.13	64	5.71	1.05	NS
Perceived Stress (Total)		137.68	136	14.86	138.23	64	16.22	0.23	NS

NS : Not significant.

In the comparison of QOL (Past, Present and Future years) of School and College Teachers, as per Table 4.14 *no significant difference* is obtained. The concerned t-values are found below the limit set for 0.05 level of significance. Both category of teachers have the same level of QOL.

But, for the comparison of Stress (Stressor wise and Total Stress), only in the Stressor *Organisational Structure*, the t-value (3.14) is found exceeding the critical limit for 0.01 level of significance. School and College Teachers *differently experiencing the stress* induced by the Organisational Structure of the Rural and Urban institutions. In case of all other Stressors and Total Stress, Rural and Urban Teachers feel the stress in their profession almost in the *same way*. Urban Teachers experience stress in the Organisational Structure *more*.

To enable a visual examination of QOL and Occupational Stress of Rural and Urban Teachers, graphical comparison is attempted and presented in Figures 4-23 and 4-24.

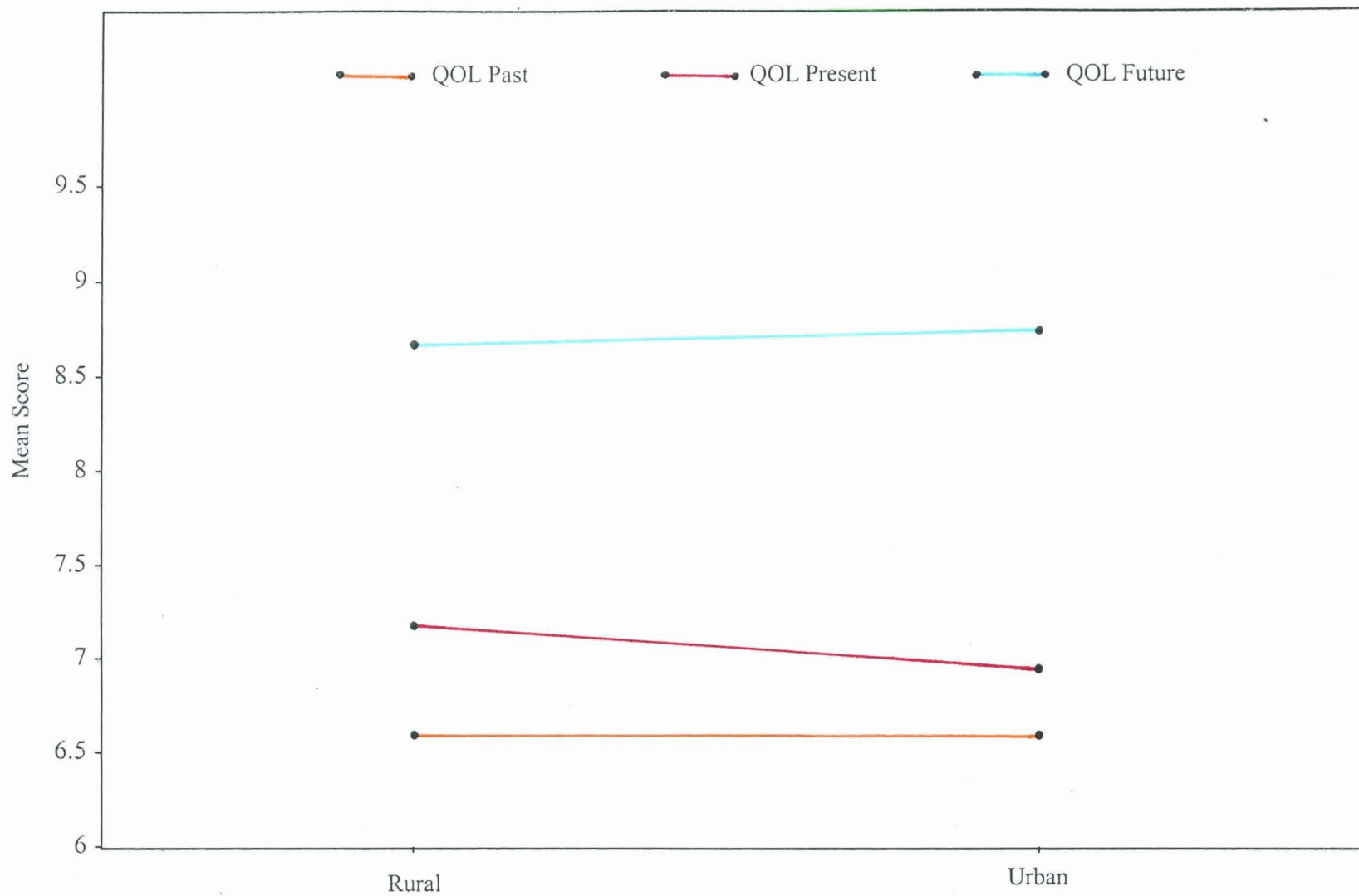


FIGURE 4 - 23 QOL (Past, Present and Future Years) of Rural and Urban Teachers

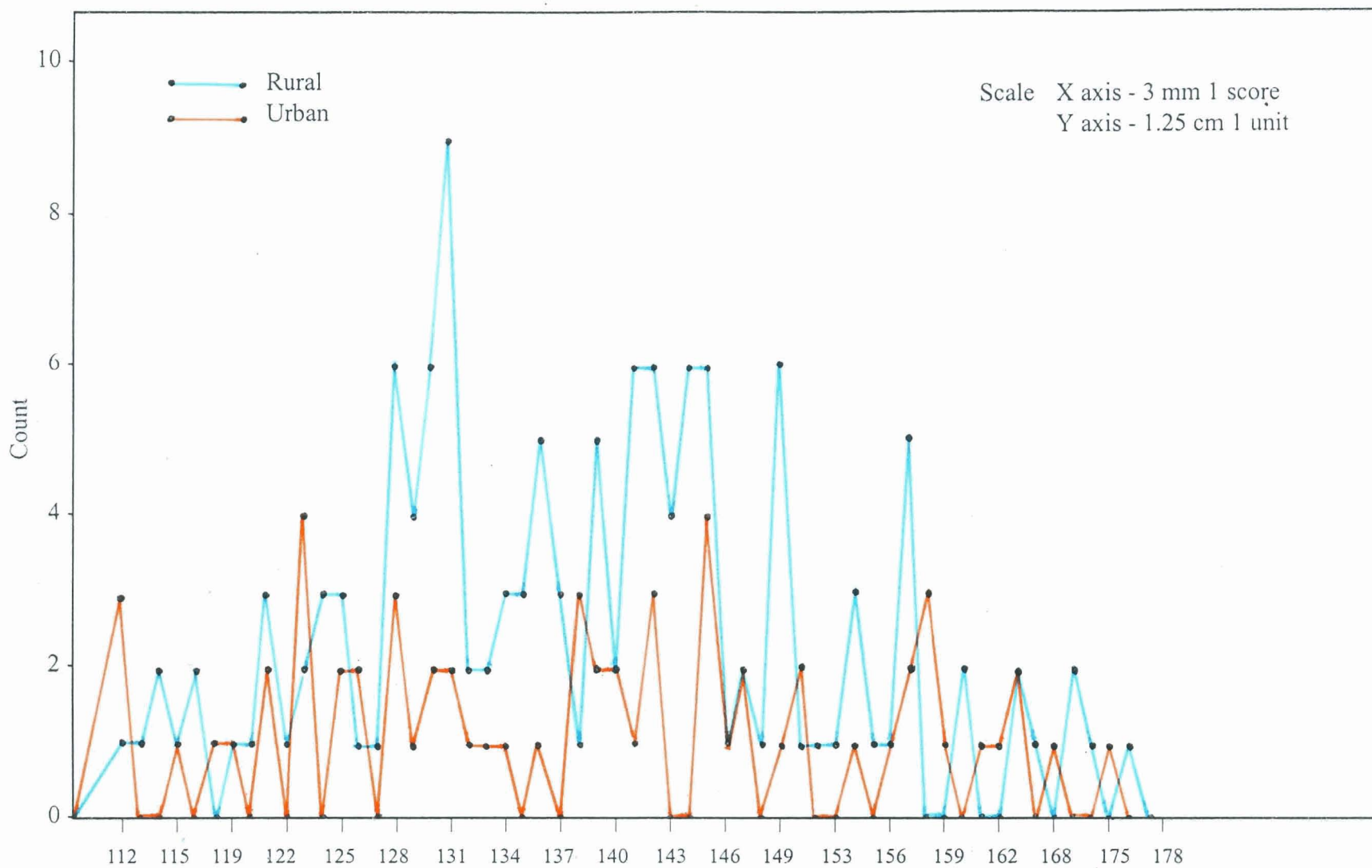


FIGURE 4 - 24 Perceived Stress (Total) of Rural and Urban Teachers

The pattern in the figures are in tune with the results of mean difference analysis. The QOL (Past, Present and Future years) are *almost the same* for Rural and Urban Teachers. As the Figure 4-23 shows, life satisfaction in the Present year is *higher in Rural Teachers* than the Urban Teachers. But this difference is not found *statistically significant*.

4.2.1.3. Comparison of QOL and Occupational Stress of Government and Private Teachers

QOL and Occupational Stress of Teachers in the Government and Private institutions were compared using the t-test. Details are given in Table 4-15.

TABLE 4.15

Details of the t-test for the Means of QOL and Perceived Stress Between Government and Private Teachers

Variables		Government Teachers			Private Teachers			t-value	Level of significance
		M ₁	N ₁	σ_1	M ₂	N ₂	σ_2		
QOL	Past year	6.61	138	1.59	6.58	62	1.68	0.01	NS
	Present year	7.24	138	1.60	6.86	62	1.99	1.33	NS
	Future year	8.79	138	1.69	8.48	62	1.62	1.21	NS
STRESSORS	Intrinsic to Job	28.79	138	4.88	28.68	62	3.70	0.19	NS
	Role of Teachers	27.04	138	3.84	28.19	62	4.26	1.83	NS
	Relationship at Work	20.02	138	4.59	18.05	62	3.86	3.15	0.01
	Career Development	10.78	138	2.73	10.24	62	2.41	1.39	NS
	Organisational Structure	31.31	138	5.04	30.76	62	4.68	0.76	NS
	Home work Interface	21.91	138	6.30	20.55	62	5.87	1.48	NS
Perceived Stress (Total)		138.54	138	15.47	136.34	62	14.83	0.96	NS

NS : Not significant.

Results of the t-test show that *no statistically significant difference* in their QOL (Past, Present and Future years). All t-values are not upto the limit set even for 0.05 level of significance. Government and Private Teachers perceive same *level of professional life satisfaction*.

But the t-value obtained for the comparison of Occupational Stress due to Relationship at Work is found significant ($t = 3.15$; $P < 0.01$). Government and Private Teachers differ in the perception of stress due to this Stressor. This may be due to the management style of the institution. Since high mean score is associated with the Government Teachers, it can be noted that they *feel more stress* due to Relationship at Work than the Private Teachers.

In all other Stressors and Perceived Stress (Total) *no significant t-values* are obtained. Hence both category of Teachers *do not differ significantly* in this regard. They feel the *same level of stress* due to the Stressors except Relationship at Work.

The QOL and Occupational Stress of Government and Private Teachers were graphically represented and given in Figures 4-25 and 4-26.

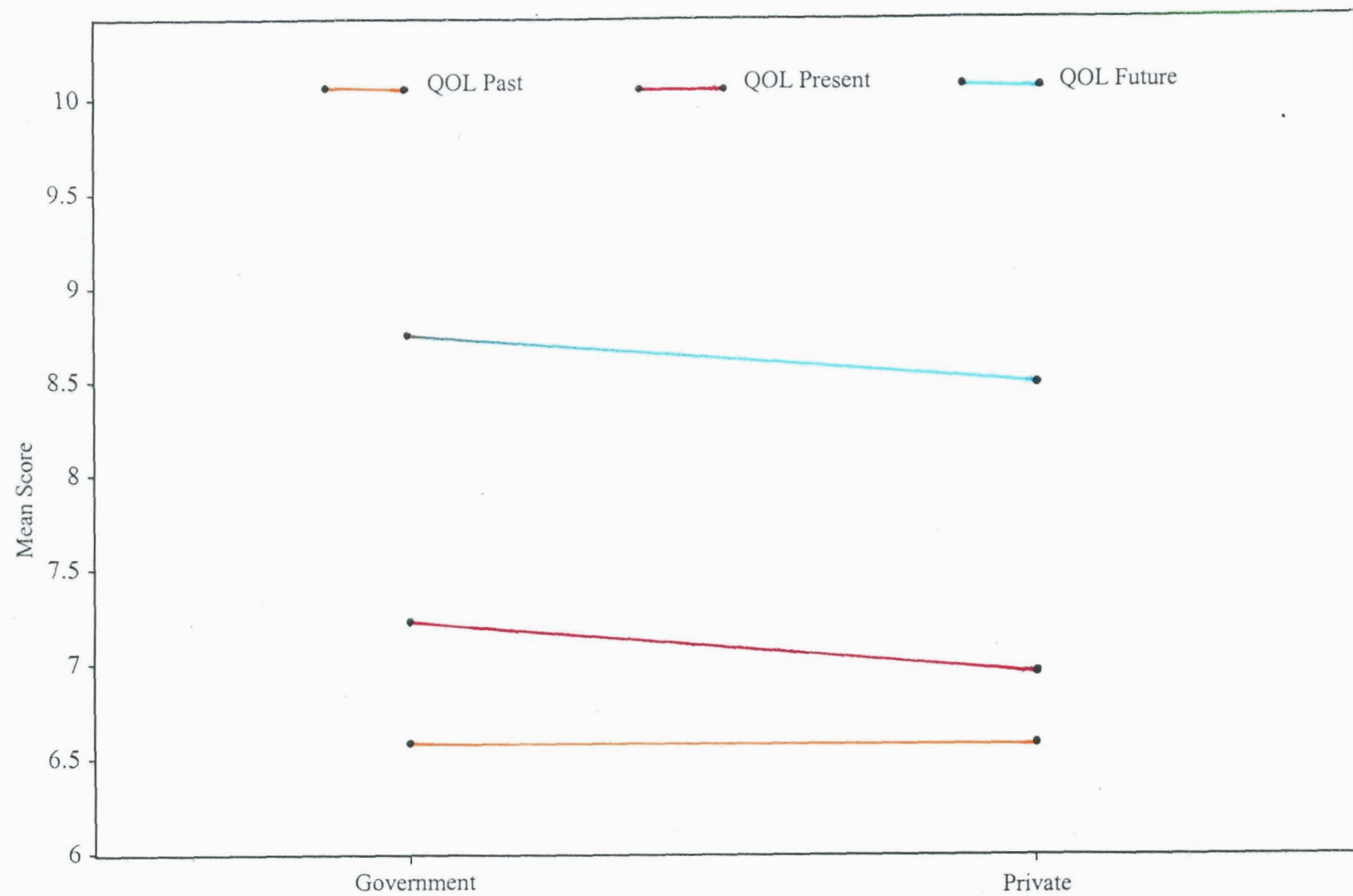


FIGURE 4 - 25 QOL (Past, Present and Future Years) of Government and Private Teachers

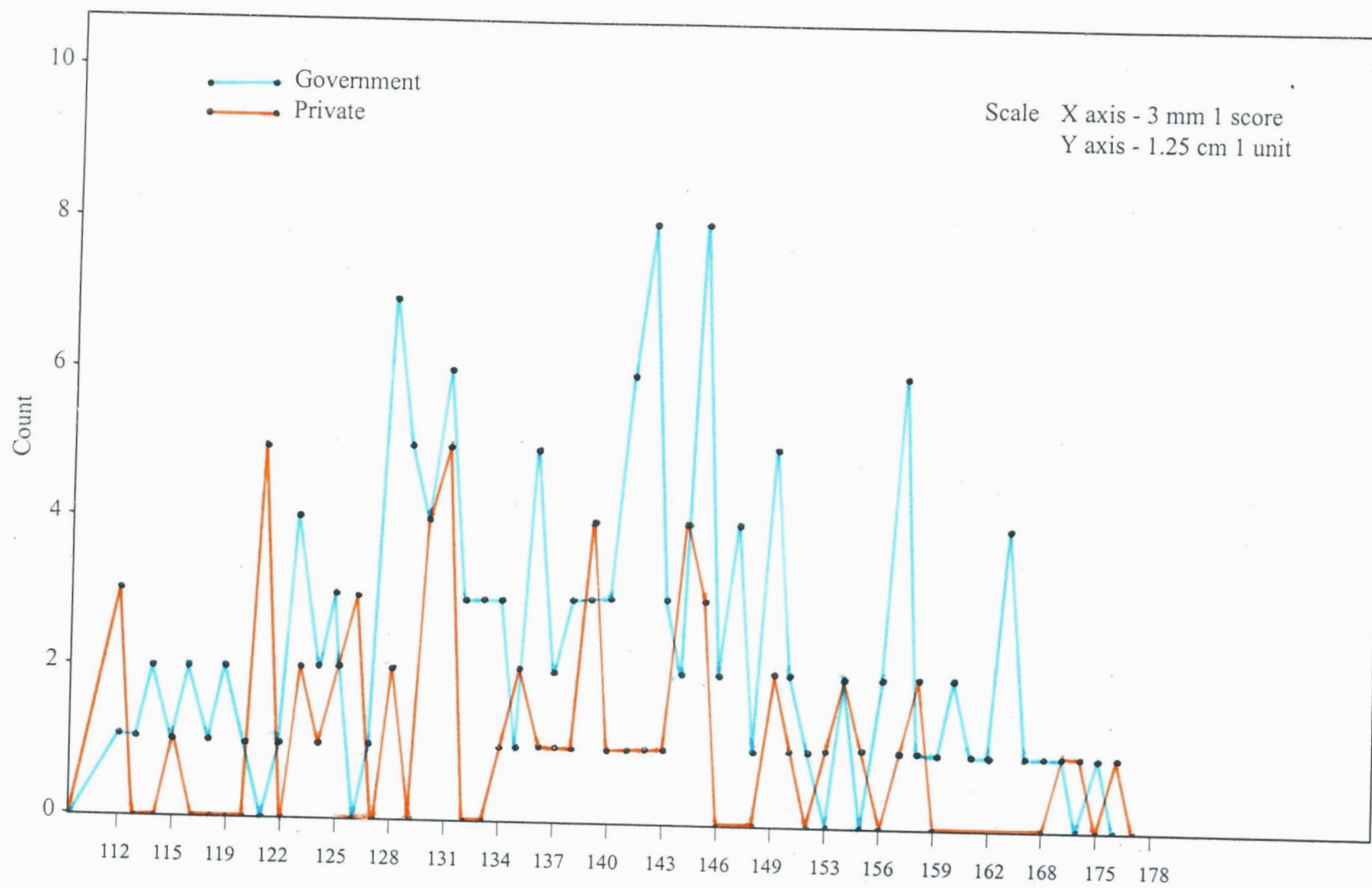


FIGURE 4 - 26 Perceived Stress (Total) of Government and Private Teachers

In Figure 4-25, slight difference in the QOL (Present and Future years) of the Government and Private Teachers were noted. But this difference is not *statistically significant* as the results of the t-test revealed.

Teachers in the Government and Private institutions experienced the Total Stress differently as seen in Figure 4-26. Government Teachers are seen more stressed than the Private Teachers. This difference also is not found *statistically significant*.

4.2.1.4. Comparison of QOL and Occupational Stress of Teachers in Different Age Groups

Teachers under study were divided into four groups based on the age range. The QOL (Past, Present and Future years) and Occupational Stress (Stressor wise and Total Stress) were compared among the four groups. This is done with a view to study whether *variation in the age of the sample causes any difference in Professional life satisfaction and in Perceived Stress in the job*. The four groups based on the four age range and the number of Teachers come under each group is given as follows:

Age Range	Number of Teachers
20 - 30 years	10
31 - 40 years	66
41 - 50 years	99
51 - 60 years	25
Total	200

Altogether six paired comparison was done among the four groups using the t-test. The t-values obtained for the six paired comparisons are presented in Table 4.16.

TABLE 4.16

t-values of the Six Paired Comparison Based on Four Different Age Groups

Variables		AGE RANGE					
		20 - 30 & 31 - 40 years	20 - 30 & 41 - 50 years	20 - 30 & 51- 60 years	31 - 40 & 41 - 50 years	31 - 40 & 51 - 60 years	41 - 50 & 51 - 60 years
Q O L	Past year	0.36	0.24	0.43	0.29	0.54	0.37
	Present year	0.09	0.25	0.11	0.67	0.29	0.17
	Future year	0.33	0.25	0.17	1.31	0.20	0.66
STRESSORS	Intrinsic to Job	1.07	0.86	0.62	0.50	0.43	0.15
	Role of Teachers	0.67	0.48	0.74	0.42	1.69	1.53
	Relationship at Work	0.19	1.03	0.58	1.41	0.57	0.46
	Career Development	1.54	1.21	1.61	0.72	0.26	0.85
	Organisational Structure	0.73	0.99	0.79	0.46	0.16	0.22
	Home work Interface	0.14	0.59	0.73	0.61	0.73	0.34
Perceived Stress (Total)		0.61	0.46	0.49	0.42	0.19	0.12

In the comparison of QOL (Past, Present and Future years) of Teachers under four different age groups, *no significant t-values are obtained*. This indicated that *no difference in Professional life satisfaction* of Teachers in four different age ranges. The perception of QOL in the Past, Present and Future years are the same.

Table 4.16 pointed out that in the comparison of Occupational Stress (Stressor wise and Total Stress) of Teachers among different groups, *no statistically significant difference* is noted. The t-values obtained in this regard are below the limit set for 0.05 level of significance. It can be noted that the stress experienced in the profession of Teachers among the four groups based on different age range has *no difference*. Teachers among the four groups perceive the same level of stress.

4.2.1.5. Comparison of QOL and Occupational Stress of Teachers Based on Qualification

To study whether there exists any significant difference in QOL (Past, Present and Future years) and Occupational Stress (Stressor wise and Total Stress) of Teachers based on qualification, the mean scores on QOL and Stress were compared.

To enable the comparison, Teachers were categorised into four groups based on qualification as given in the following.

Qualification	Number of Teachers
Graduation	67
Post Graduation	93
Above Post Graduation (M.Phil/Ph.D. etc.)	33
Others	07
Total	200

The QOL and Occupational Stress were compared among the four groups to study whether difference in qualification create any difference in the QOL and experience of Stress. Six paired comparisons were done, the details of the t-test are summarised and the obtained t-values are presented in Table 4.17.

TABLE 4.17

t-Values of the Six Paired Comparison Among Four Groups of Teachers Based on Qualification

Variables		QUALIFICATION					
		Graduate & PG Teachers	Graduates & Above PG's	Graduates & Others	PG's & Above PG's	PG's & Others	Above PG's & Others
Q O L	Past year	0.75	0.77	1.02	0.25	0.77	0.62
	Present year	2.78**	1.67	1.72	0.06	3.81**	2.70**
	Future year	1.48	0.80	0.31	0.34	1.25	0.86
STRESSORS	Intrinsic to Job	2.07*	1.84	1.49	0.23	0.19	0.02
	Role of Teachers	0.93	2.71**	1.66	1.88	0.62	1.44
	Relationship at Work	1.77	2.59**	1.36	1.27	0.43	1.75
	Career Development	0.53	1.63	0.66	1.42	0.92	0.68
	Organisational Structure	1.97*	1.98*	0.96	0.36	0.46	0.89
	Home work Interface	0.18	0.36	1.12	0.25	0.90	0.46
Perceived Stress (Total)		3.36**	2.26*	2.32*	0.25	2.51*	2.91**

* P < 0.05

** P < 0.01

As per Table 4.17 *significant difference in QOL* (Present year) was noticed in the comparison of *Graduate* and *Post Graduate Teachers* ($P < 0.01$), *Post Graduate* and *Teachers with other qualifications* and *Teachers with Above Post Graduation* and *Other Qualifications*. The t-value obtained are 2.78, 3.81 and 2.70 respectively.

In the three groups of Teachers, where significant t-value is obtained for QOL (Present year) high mean scores were noticed with Teachers of higher qualification (PG and Above PG). The results of the t-test indicated that these categories of Teachers have *more professional life satisfaction* than the *Graduates* and *Teachers with other qualifications*.

For the comparison QOL - Past and Future years *no significant t-values obtained*. Hence Teachers in the six groups based on qualification show no difference in their QOL - Past and Future years.

When Occupational Stress is compared among the six groups, *significant difference* in the Stressors *Intrinsic to Job* and *Organisational Structure* ($P < 0.05$) and *Total Stress* ($P < 0.01$) is noted for *Graduates* and *Post Graduate Teachers*. As the mean scores are high for the *Post Graduate Teachers*, they experience *more stress* than the *Graduate Teachers*.

Significant difference in the Stressors *Role of Teachers*, *Relationship at Work* ($P < 0.01$), *Organisational Structure* ($P < 0.05$) and in *Perceived Stress Total* ($P < 0.05$) is noted in the comparison of Teachers with Graduation and above Post Graduate qualification. Here also Teachers with *above Post Graduate qualification* is *more stressed* than Graduate Teachers.

Significant difference in Perceived Stress (Total) is observed in the comparison of Graduates and Post Graduate Teachers ($t = 3.36$, $P < 0.01$), Graduates with Teachers having above Post Graduation ($t = 2.26$; $P < 0.05$),

Graduates and Teachers with other qualifications ($t = 2.32$; $P < 0.05$), Post Graduates and Teachers with other qualifications ($t = 2.51$; $P < 0.01$) and Teachers with above Post Graduation and Teachers having other qualifications ($t = 2.91$; $P < 0.01$). Teachers with higher qualification than the other group compared *are found more stressed*.

When Post Graduates and Teachers with above Post Graduate qualification were compared *no significant difference* in Occupational Stress (Stressor wise and Total Stress) is found. They experience the *same level of stress* from the profession.

4.2.1.6. Comparison of QOL and Occupational Stress of Teachers Based on Experience

QOL (Past, Present and Future years) and Occupational Stress (Stress wise and Total Stress) of Teachers were compared with respect to their experience in the job. To facilitate the comparison, experience in years were classified into four categories which are presented as follows with the number of Teachers in each category.

Experience in Years	Number of Teachers
1 – 10 years	56
11 – 20 years	78
21 – 30 years	57
31 – 40 years	09
Total	200

Six paired comparison using Test of Significance of difference between means were employed among the group of Teachers under each category of Experience. Details of the comparisons were consolidated and the t-values are presented in Table 4.18.

TABLE 4.18

t-values of the Six Paired Comparison Among Four Groups of Teachers Based on Experience

Variables		EXPERIENCE					
		1 - 10 yrs & 11 - 20 yrs	1 - 10 yrs & 21 - 30 yrs	1 - 10 yrs & 31 - 40 yrs	11 - 20 yrs & 21 - 30 yrs	11 - 20 yrs & 31 - 40 yrs	21 - 30 yrs & 31 - 40 yrs
QOL	Past year	2.30*	1.00	0.32	1.15	1.57	0.91
	Present year	2.47*	1.87	0.17	0.30	1.05	0.85
	Future year	0.88	0.68	0.06	0.13	0.44	0.37
STRESSORS	Intrinsic to Job	0.29	0.48	0.68	0.20	0.55	0.47
	Role of Teachers	0.02	0.46	1.58	0.43	1.57	1.40
	Relationship at Work	0.04	0.05	0.85	0.02	0.94	0.96
	Career Development	0.05	0.44	0.58	0.47	0.55	0.78
	Organisational Structure	1.24	2.19*	1.01	1.18	0.47	0.01
	Home work Interface	1.75	1.42	0.69	0.22	1.79	1.61
Perceived Stress (Total)		1.28	1.36	0.02	0.33	0.82	0.97

* P < 0.05.

As displayed in Table 4.18 the t-values obtained for the comparison of QOL (Past and Present years) between the group of Teachers with experience in the range 1 – 10 years and 11 – 20 years are found *significant* at 0.05 level ($t = 2.30$ and 2.47 respectively). Statistically *significant difference* in QOL (Past and Present years) is noticed between these category of Teachers. Perception of QOL *is different* in Teachers with experience in the range 1-10 and 11-20 years. It is also noted that 1-10 year experienced Teachers are more satisfied than 11-20 years experience. In other groups of teachers having different experience range QOL (Past, Present and Future years) are found *not statistically significant*. The obtained t-values in this regard are not upto the limit for 0.05 significance level. Teachers with varied experience, perceived the QOL as *identical*.

In the six paired comparisons of Occupational Stress (Stressor wise and Total Stress) *no significant difference* is noticed except in the Stressor *Organisational Structure* in the group of Teachers with 1-10 years and 21-30 years of experience ($t = 2.19$; $P < 0.05$). In this case, Teachers *differ statistically* in the stress induced by *Organisational Structure*. Since the mean score of 1-10 years experienced Teachers are high, it is inferred that they are *more stressed* than Teachers in the 21-30 years experience in the job. In all other groups of Teachers based on experience, they experience the *same level of stress*.

4.2.1.7. Comparison of QOL and Occupational Stress of Teachers Based on Marital Status

Married and single Teachers were compared with regard to their QOL (Past, Present and Future years) and Occupational Stress (Stressor wise and Total Stress). The means and standard deviations on QOL and Occupational Stress were utilised for the mean difference analysis. Details are presented in Table 4.19.

TABLE 4.19

Details of the t-test for the Means of QOL and Perceived Stress Between Married and Single Teachers

Variables		Married Teachers			Single Teachers			t-value	Level of significance
		M ₁	N ₁	σ_1	M ₂	N ₂	σ_2		
QOL	Past year	6.55	173	1.62	6.87	27	1.59	0.97	NS
	Present year	7.07	173	1.65	7.45	27	2.20	0.85	NS
	Future year	8.68	173	1.67	8.75	27	1.72	0.20	NS
STRESSORS	Intrinsic to Job	28.71	173	4.65	29.71	27	3.83	0.50	NS
	Role of Teachers	27.30	173	3.69	28.04	27	5.64	0.66	NS
	Relationship at Work	19.21	173	4.35	20.70	27	5.08	1.45	NS
	Career Development	10.62	173	2.72	10.56	27	2.15	0.14	NS
	Organisational Structure	31.03	173	4.95	31.82	27	4.81	0.78	NS
	Home work Interface	21.54	173	6.14	21.11	27	6.61	0.32	NS
Perceived Stress (Total)		138.17	173	14.10	135.81	27	21.55	0.55	NS

NS : Not significant.

Table 4.19 shows that *no t-value is found significant* for the comparisons of QOL (Past, Present and Future years) and Occupational Stress (Stressor wise and Total Stress) between the married and single Teachers. The results of the comparison indicated that married and single Teachers are *not different* in the QOL index and in the experience of stress in the profession.

4.2.1.8. Comparison of QOL and Occupational Stress of Teachers Based on Career Details

The QOL (Past, Present and Future years) and Occupational Stress (Stressor wise and Total Stress) of Teachers categorised on the basis of their career details were compared and the results were studied. For this purpose the Total, married sample were classified into three groups base on their career details (Same career, Dual career couples and Unemployed spouse). Actual number of Teachers came under each category is as follows.

Career Details	Number of Teachers
Same career couples	84
Dual career couples	59
Spouse unemployed	30
Total	173

Means and standard deviations of the QOL and Stress of each category Teachers were subjected to the two-tailed test of significance of difference. Altogether three paired comparisons were attempted. Results of the t-test were summarised and the t-values are presented in Table 4.20.

TABLE 4.20

**t-Values of the Three Paired Comparison
Among Groups of Teachers Based on Career Details**

Variable		Type of Career of Coupled		
		Same career & Dual career couples	Same career couples & spouse unemployed	Dual career couples & spouse unemployed
QOL	Past year	2.39*	2.56*	0.10
	Present year	0.01	0.31	0.67
	Future year	0.21	0.19	0.02
STRESSORS	Intrinsic to Job	1.16	0.55	1.72
	Role of Teachers	0.74	0.57	0.10
	Relationship at Work	0.68	0.64	0.11
	Career Development	0.02	0.32	0.34
	Organisational Structure	1.21	0.05	1.21
	Home work Interface	0.94	0.03	0.90
Perceived Stress (Total)		0.48	0.74	0.30

* $P < 0.05$.

Statistically significant difference at 0.05 level was observed in the comparison of QOL (Past year only) of Same career couples and Dual career couples in the sample. The Same career and Dual career couples differently perceived the life satisfaction (Past year). When the Same career couples and Spouse unemployed were compared with regard to the QOL, only in Past year *significant t-value is obtained* ($P < 0.01$). This indicated that this category of Teachers differently perceived the life satisfaction in the last year. Same career couples were found *more satisfied last year* as the high mean is associated with them. *No significant t-value* is noted for the comparison of QOL (Present and

Future years) among the three groups. This is indicative of the fact that the three paired groups of Teachers have somewhat equal level of QOL (Present and Future years).

In case of Occupational Stress (Stressor wise and Total Stress) *no significant t-value* is obtained in the three paired comparisons. The results of the t-test show that the three paired groups of Teachers experience the stress identically and accordingly there is no difference among the three paired groups of Teachers in experiencing stress in the profession.

4.2.2. EXTENT AND DEGREE OF ASSOCIATION BETWEEN QOL AND OCCUPATIONAL STRESS OF TEACHERS

In this part of the chapter the *extent and degree association* of QOL and *Occupational Stress* among the sample are investigated using *correlational analysis*. For this purpose, the QOL scores of the sample for the Present year is correlated with the scores of Occupational Stress (Stressor wise and Total Stress) using Pearson's Product Moment Coefficient of Correlation technique. The correlational analysis was done for the Total sample taken for the study and relevant Subsamples viz., Male and Female Teachers, School, College, Teachers in the Rural and Urban institutions and Teachers working in the institutions under Government and Private sectors. The correlational analysis will help to examine how the index of Professional life satisfaction (QOL) is *associated* with Stressors and Total Perceived Stress by the Teachers under various categories. The following assumptions were observed during the correlational analysis.

Assumptions underlying the use of 'r'

(a) Assumption of Identity: The relationship between variables can be represented by a straight line. *Whenever relationship is not clearly curvilinear,*

Straight line relation is the simplest and the most reasonable hypothesis (Garrett, 1981). This can be determined as a rule and by inspection of the scatter diagram.

(b) The distribution of the two variables, should be normal, or atleast not badly skewed.

This can be determined by studying the distribution graphically.

(c) Condition of homoscedasticity: The condition of equal scattering in columns is reasonable.

Interpretation of 'r'

The following statistical techniques were used in the interpretation of 'r's obtained.

(a) *Testing the significance of the obtained correlation against the null hypothesis: $H_0 : r = 0$*

The significance of obtained 'r's were tested against the hypothesis that the population 'r' is infact zero. The acceptance or rejection of a null-hypothesis is based upon some level of significance, as an intention; usually 0.05 level or 0.01 level.

The significance of 'r' was tested against the Fisher's t which is calculated by the formula $r \sqrt{[(N-2)/(1-r^2)]}$. If the value obtained for t is greater than the tabled value for (N-2) degrees of freedom, and for a given level of significance, the relation is said to be significant for that level of significance (0.05or 0.01).

(b) *Working out 0.05 confidence interval for 'r'*

The 0.05 confidence interval for 'r' was worked out using the formula suggested by Garrett (1981).

$$r \pm \frac{1 - r^2}{\sqrt{N}} \times 1.96$$

r = The value of correlation

N = The size of the sample.

The 0.05 confidence interval gives an indication about the interval within which the equivalent population value would lie at 0.05 level of probability (Garrett, 1981).

(c) Verbal interpretation of the correlation coefficient 'r'

The significance of 'r' is verbally interpreted using the following classification suggested by (Garrett, 1981).

- (i) 'r' from the 0.00 to ± 0.20 denotes indifferent or negligible relationship.
- (ii) 'r' from the ± 0.20 to ± 0.40 denotes low correlation present but slight.
- (iii) 'r' from ± 0.40 to ± 0.70 denotes substantial or marked relationship.
- (iv) 'r' from ± 0.70 to ± 1.00 denotes very high relationship.

(d) By determining the percentage of overlapping (shared common variance)

The square of 'r' expressed as percentage ($r^2 \times 100$) gives an idea of the percentage of variance that is common for the two variables correlated.

The correlational analysis and its results are presented and interpreted in the sub-sections following.

4.2.2.1. Relationship of QOL with Occupational Stress of Total sample

The Total sample ($N = 200$) selected for the present study were examined to understand how their QOL index (Present year) is related to Occupational Stress (Stressor wise and Total Stress) scores. The 'r's, 0.05 confidence interval, shared variance and significance of Fisher's t etc. were found out and presented in Table 4.21.

TABLE 4.21
Correlation of QOL (Present year) with
Occupational Stress (Stressor wise and Total Stress) of Total sample
(N = 200)

Variables	'r'	Confidence Interval		Shared Variance	Fisher's 't'	Level of Significance
		Lower limit	Upper limit			
Intrinsic to Job	-0.315	-0.190	-0.439	09.92	4.67	0.01
Role of Teachers	-0.341	-0.218	-0.464	11.63	5.10	0.01
Relationship at Work	-0.299	-0.173	-0.425	08.94	4.41	0.01
Career Development	-0.318	-0.193	-0.443	10.11	4.72	0.01
Organisational Structure	-3.69	-0.249	-0.489	13.61	5.59	0.01
Home work Interface	-0.300	-0.174	-0.426	09.00	4.43	0.01
Perceived Stress (Total)	-0.410	-0.295	-0.525	16.81	6.33	0.01

Table 4.21 shows that *significant but negative correlation coefficients* were obtained between the QOL (Present year) and Occupational Stress (Stressor wise and Total Stress) of the sample.

All the 'r's between the QOL and Occupational Stress (Stressor wise and Total Stress) were found *significant at 0.01 level*. The negative sign of all the coefficient indicated that an increase in QOL causes a decrease in stress and vice versa.

The confidence intervals at 0.05 level was calculated for each Stressor and Perceived Stress (Total). The population ' r ' is expected to fall within the corresponding limits at 0.05 level of probability.

The correlation coefficients were again interpreted using the descriptive categories suggested by Garrett (1981). Based on the descriptive categories the relationships between the QOL (Present year) and Occupational Stress (Stressor wise and Total Stress) are *Low* or *slight* and marked correlation. The correlation coefficients are presented in the increasing order of magnitude.

Variables	r
Low or slight correlation	
Relationship at Work	-0.299
Homework Interface	-0.300
Intrinsic to Job	-0.315
Career Development	-0.318
Role of Teachers	-0.341
Organisational Structure	-0.369
Marked correlation	
Perceived Stress (Total)	-0.410

The shared variance (Percentage Overlap) of the variables were worked out and arranged in the increasing order of values.

Variables	Percentage Overlap
Relationship at Work	08.94
Home work Interface	09.00
Intrinsic to Job	09.92
Career Development	10.11
Role of Teachers	11.63
Organisational Structure	13.61
Perceived Stress (Total)	16.81

The *highest per cent of shared common variance* is for Perceived Stress (Total). Seventeen per cent of variance of Perceived Stress (Total) is attributable to the QOL (Present year). The *lowest variance* is noticed for the Stressor Relationship at Work (8.94).

4.2.2.2. Relationship of QOL with Occupational Stress of Male Teachers

The extent and degree of relationship of QOL (Present year) with Occupational Stress (Stressor wise and Total stress) of Male Teachers in the sample were studied. Details of the correlational analysis are presented in Table 4.22.

TABLE 4.22

**Correlation of QOL (Present year) with
Occupational Stress (Stressor wise and Total Stress) of Male Teachers (N = 100)**

Variables	'r'	Confidence Interval		Shared Variance	Fisher's 't'	Level of Significance
		Lower Limit	Upper Limit			
Intrinsic to Job	-0.280	-0.099	-0.461	7.84	2.88	0.01
Role of Teachers	-0.300	-0.122	-0.478	9.00	3.11	0.01
Relationship at Work	-0.250	-0.066	-0.434	6.25	2.55	0.05
Career Development	-0.270	-0.088	-0.452	7.29	2.76	0.01
Organisational Structure	-0.310	-0.133	-0.487	9.61	3.23	0.01
Home work Interface	-0.340	-0.167	-0.513	11.56	3.58	0.01
Perceived Stress (Total)	-0.390	-0.225	-0.555	15.21	4.19	0.01

Significant coefficient of correlations were obtained for all Stressors and Perceived Stress (Total) at 0.01 level except for the Stressor Relationship at Work ($P < 0.05$). The negative sign of all the 'r's obtained show that there exists an inverse relation in between the QOL and Occupational Stress of Male Teachers.

The 0.05 level of confidence intervals were worked out for all variables. The population 'r' expected to fall within the lower and upper limits at 0.05 level of probability.

As per the descriptive categories suggested by Garrett (1981), the 'r's were interpreted and given in the increasing order of the value of 'r's.

Variables	r
Low or Slight Correlation	
Relationship at Work	-0.250
Career Development	-0.270
Intrinsic to Job	-0.280
Role of Teachers	-0.300
Organisational Structure	-0.310
Home work Interface	-0.340
Perceived Stress (Total)	-0.390

The shared variance (Percentage Overlap) of Occupational Stress (Stressor wise and Total Stress) with QOL is presented in the increasing order of magnitude.

Stressors	Shared Variance
Relationship at Work	6.25
Career Development	7.29
Intrinsic to Job	7.84
Role of Teachers	9.00
Organisational Structure	9.61
Home work Interface	11.56
Perceived Stress (Total)	15.21

The common variance shared by QOL and Perceived Stress (Total) is 15.21 per cent which is the highest. The lowest percentage of variance is attributable to the Stressor *Relationship at work* and QOL (6.25).

4.2.2.3. Relationship of QOL with Occupational Stress of Female Teachers

The extent and degree of relationship of QOL (Present year) with Occupational Stress (Stressor wise and Total Stress) of Female Teachers in the sample was investigated. The relevant statistics for the correlational analysis were computed and presented in Table 4.23.

TABLE 4.23

Correlation of QOL (Present year) with Occupational Stress (Stressor wise and Total Stress) of Female Teachers (N = 100)

Variables	'r'	Confidence Interval		Shared Variance	Fisher's 't'	Level of Significance
		Lower Limit	Upper Limit			
Intrinsic to Job	-0.230	-0.044	-0.416	5.29	2.33	0.05
Role of Teachers	-0.280	-0.099	-0.461	7.84	2.89	0.01
Relationship at Work	-0.300	-0.122	-0.478	9.00	3.11	0.01
Career Development	-0.211	-0.024	-0.399	4.45	2.14	0.05
Organisational Structure	-0.370	-0.201	-0.539	13.69	3.94	0.01
Home work Interface	-0.230	-0.044	-0.416	5.29	2.33	0.05
Perceived Stress (Total)	-0.385	-0.218	-0.552	14.82	4.13	0.01

As per Table 4.23 the 'r's obtained for the correlation of QOL with all Stressors and Total Stress were *found statistically significant*. The 'r's for the

Stressors; *Role of Teachers, Relationship at Work, Organisational Structure* and *Perceived Stress (Total)* are significant at 0.01 level. For the Stressors *Intrinsic to Job, Career Development* and *Home work Interface* the coefficient of correlations are significant at 0.05 level. All the coefficients were negative which indicated the nature of relationship between the variables. The increase in the quality of one variable induces a decrease in the value of other variable.

Confidence intervals at 0.05 level were calculated for each Stressors and Total Stress. The population r is expected to fall within the lower and upper limits of 0.05 level of probability.

The coefficients of correlation of QOL with Perceived Stress (Stressor wise and Total Stress) are interpreted verbally using the descriptive categories used by Garrett. The obtained ' r 's are arranged in the increasing order of magnitude.

Stressors	r
Low or slight correlation	
Career Development	-0.211
Intrinsic to Job	-0.230
Home Work Interface	-0.230
Role of Teachers	-0.280
Relationship at Work	-0.300
Organisational Structure	-0.370
Perceived Stress (Total)	-0.385

The shared common variance is calculated for the variables correlated. It is arranged in the increasing order and presented as follows:

Stressors	Shared Variance
Career Development	4.45
Intrinsic to Job	5.29
Home work Interface	5.29
Role of Teachers	7.84
Relationship at Work	9.00
Organisational Structure	13.69
Perceived Stress (Total)	14.82

Nearly 15 per cent of variance is attributed commonly by QOL and the Perceived Stress (Total). This is the *highest variance* shared. The *lowest variance* is associated with *r* of Career Development about four per cent.

4.2.2.4. Relationship of QOL and Occupational Stress of School Teachers

Employing Pearson's Product Moment Coefficient of Correlation, the nature and degree of relation between the QOL (Present year) and Occupational Stress (Stressor wise and Total Stress) of School Teachers were examined. In Table 4.24 the details of correlational analysis are displayed.

TABLE 4.24

**Correlation of QOL (Present year) with
Occupational Stress (Stressor wise and Total Stress) of School Teachers
(N = 100)**

Variables	'r'	Confidence Interval		Shared Variance	Fisher's 't'	Level of Significance
		Lower Limit	Upper Limit			
Intrinsic to Job	-0.310	-0.133	-0.487	9.61	3.23	0.01
Role of Teachers	-0.224	-0.038	-0.410	5.02	2.28	0.05
Relationship at Work	-0.210	-0.023	-0.397	4.41	2.13	0.05
Career Development	-0.290	-0.110	-0.469	8.41	2.99	0.01
Organisational Structure	-0.292	-0.113	-0.471	8.53	3.02	0.01
Home work Interface	-0.320	-0.144	-0.496	10.24	3.34	0.01
Perceived Stress (Total)	-0.392	-0.226	-0.558	15.37	4.23	0.01

Statistically significant and negative coefficients were found in the analysis. The obtained 'r's are significant at 0.01 level for the Stressors *Intrinsic to Job, Career Development, Organisational Structure, Home work Interface* and *Perceived Stress (Total)*. Significance at 0.05 level were not found for the r's for the Stressors *Role of Teachers* and *Relationship at Work*.

The *negative sign* of all the r's show that the higher the influence of one variable the lowest will be the value of other variable correlated.

The 0.05 level of confidence interval is calculated for each r's. The population *r* is expected to be in the limits for 0.05 level of probability.

All the obtained r 's are seen in between ± 0.20 and ± 0.40 . So the relationship between the QOL (Present year) and Occupational Stress (Stressor wise and Total Stress) of School Teachers are verbally interpreted as *Low* or *Slight* correlation. Based on the increasing value of the r 's, it is presented as in the following.

Stressor	r
Low or Slight Correlation	
Relationship at Work	-0.210
Role of Teachers	-0.224
Career Development	-0.290
Organisational Structure	-0.292
Intrinsic to Job	-0.310
Home work Interface	-0.320
Perceived Stress (Total)	-0.392

The shared common variance is calculated for all r 's obtained and is presented in the increasing values.

Stressor	Shared Variance
Relationship at Work	4.41
Role of Teachers	5.02
Career Development	8.41
Organisational Structure	8.53
Intrinsic to Job	9.61
Home work Interface	10.24
Perceived Stress (Total)	15.37

The highest percentage overlap (15.37) is shared by Perceived Stress (Total) and QOL (Present year). The lowest is shared between (4.41) the Stressor Relationship at Work and QOL (Present year).

4.2.2.5. Relationship of QOL and Occupational Stress of College Teachers

The details of the correlational analysis to study the relationship of QOL (Present year) and Occupational Stress (Stressor wise and Total Stress) of College Teachers are given in Table 4.25.

TABLE 4.25

**Correlation of QOL (Present year) with
Occupational Stress (Stressor wise and Total Stress) of College Teachers
(N = 100)**

Variables	'r'	Confidence Interval		Shared Variance	Fisher's 't'	Level of Significance
		Lower Limit	Upper Limit			
Intrinsic to Job	-0.314	-0.137	-0.491	9.86	3.27	0.01
Role of Teachers	-0.320	-0.144	-0.495	10.24	3.34	0.01
Relationship at Work	-0.270	-0.088	-0.452	7.29	2.77	0.01
Career Development	-0.299	-0.121	-0.477	8.94	3.10	0.01
Organisational Structure	-0.201	-0.013	-0.389	4.04	2.03	0.05
Home work Interface	-0.276	-0.095	-0.457	7.62	2.84	0.01
Perceived Stress (Total)	-0.381	-0.213	-0.549	14.52	4.08	0.01

As presented in Table 4.25 *significant negative* correlation coefficients are obtained. All *r*'s except for the Stressor *Organisational Structure* ($P < 0.05$) are found significant at 0.01 level. The negative sign of the *r*'s are indicative of the fact that the greater the influence of one variable the lower the effect of the other variable.

All *r*'s are interpreted verbally as having *Low* or *Slight* correlation based on the descriptive categories as suggested by Garrett (1981). The *r*'s are arranged as in the order of increase in magnitude and is presented in the following:

Stressors	r
Low or slight correlation	
Organisational Structure	-0.201
Relationship at Work	-0.270
Home work Interface	-0.276
Career Development	-0.299
Intrinsic to Job	-0.314
Role of Teachers	-0.320
Perceived Stress (Total)	-0.381

Confidence interval at 0.05 level was computed for all r 's. The population r is expected in between the lower and upper limits of 0.05 probability level.

The shared variance for all r 's are presented in the increasing order of values.

Stressors	Shared Variance
Organisational Structure	4.04
Relationship at Work	7.29
Home work Interface	7.62
Career Development	8.94
Intrinsic to Job	9.86
Role of Teachers	10.24
Perceived Stress (Total)	14.52

The highest variance is shared commonly by QOL and Perceived Stress (Total). It was about 15 per cent. The Stressor *Organisational Structure* is shared the lowest percentage of variance with QOL (Present year).

4.2.2.6. Relationship of QOL with Occupational Stress of Rural Teachers

Details of the correlational analysis done for the Teachers in the Rural Institutions are given in Table 4.26.

TABLE 4.26

**Correlation of QOL (Present year) with
Occupational Stress (Stressor wise and Total Stress) of Rural Teachers
(N = 136)**

Variables	'r'	Confidence Interval		Shared Variance	Fisher's 't'	Level of Significance
		Lower Limit	Upper Limit			
Intrinsic to Job	-0.310	-0.142	-0.478	9.61	3.77	0.01
Role of Teachers	-0.350	-0.202	-0.295	12.25	4.33	0.01
Relationship at Work	-0.290	-0.136	-0.444	8.41	3.51	0.01
Career Development	-0.280	-0.125	-0.435	7.84	3.38	0.01
Organisational Structure	-0.250	-0.187	-0.313	6.25	2.98	0.01
Home work Interface	-0.262	-0.105	-0.419	6.86	3.14	0.01
Perceived Stress (Total)	-0.351	-0.204	-0.498	12.32	4.34	0.01

Table 4.26 shows that *significant negative coefficients* of correlation between QOL (Present year) and Occupational Stress (Stressor wise and Total Stress) at 0.01 level were obtained. The results revealed that a true relation exists between QOL (Present year) and Occupational Stress (Stressor wise and Total Stress). But the *negative sign* further indicated that the true relationship of the

variables are in the reverse manner. The increase in the value of one variable influences the decrease of the value of other correlated variable.

Confidence interval at 0.05 level was worked out. The population r is expected in between the limits of 0.05 probability level.

The obtained coefficients of correlation are verbally interpreted as *Low* but *slight*. In the order of increasing magnitude, all r 's are arranged.

Stressors	r
Low or Slight Correlation	
Organisational Structure	-0.250
Home work Interface	-0.262
Career Development	-0.280
Relationship at Work	-0.290
Intrinsic to Job	-0.310
Role of Teachers	-0.350
Perceived Stress (Total)	-0.351

The shared variance (Percentage Overlap) of all the Stress Variables with QOL (Present year) is displayed in the increasing order of the magnitude.

Stressors	Shared Variance
Organisational Structure	6.25
Home work Interface	6.86
Career Development	7.84
Relationship at Work	8.41
Intrinsic to Job	9.61
Role of Teachers	12.25
Perceived Stress (Total)	12.32

The highest variance (12.32 percent) attributable commonly between the QOL and *Perceived Stress* (Total). The Stressor, *Organisational Structure* shared the lowest per cent (6.25%) with the QOL.

4.2.2.7. Relationship of QOL with Occupational Stress of Urban Teachers

To study the nature and degree of relationship between QOL (Present year) and Occupational Stress (Stressor wise and Total Stress) of Urban Teachers correlational analysis was employed. The results of the analysis are presented in Table 4.27.

TABLE 4.27

Correlation of QOL (Present year) with
Occupational Stress (Stressor wise and Total Stress) of Urban Teachers (N = 64)

Variables	r	Confidence Interval		Shared Variance	Fisher's 't'	Level of Significance
		Lower Limit	Upper Limit			
Intrinsic to Job	-0.273	-0.046	-0.499	7.45	2.23	0.05
Role of Teachers	-0.281	-0.055	-0.507	7.89	2.31	0.05
Relationship at Work	-0.310	-0.089	-0.531	9.61	2.57	0.05
Career Development	-0.380	-0.170	-0.589	14.44	3.23	0.01
Organisational Structure	-0.391	-0.183	-0.599	15.29	3.35	0.01
Home work Interface	-0.368	-0.156	-0.579	13.54	3.12	0.01
Perceived Stress (Total)	-0.398	-0.192	-0.604	15.84	3.42	0.01

From Table 4.27 it is noted that *significant but negative* coefficients of correlation were obtained at 0.05 level for the Stressors *Intrinsic to Job, Role of Teachers and Relationship at Work*. For QOL and the Stressors, *Career Development, Organisational Structure, Home work Interface and Total Perceived Stress*, the *r*'s are significant at 0.01 level. Results of the analysis show that the relation is true but it is *negative*. So it can be inferred that the greater the QOL the lower the effect of Stress and vice-versa.

For all obtained *r*'s, 0.05 level of confidence interval is worked out and it is expected that the population *r* is in between the limits of 0.05 probability.

All *r*'s can be verbally interpreted as Low or slight because the *r*'s fall in between ± 0.200 and ± 0.400 . The obtained *r*'s are arranged and presented in the increasing degree of magnitude.

Stressors	<i>r</i>
Low or Slight Correlation	
Intrinsic to Job	-0.273
Role of Teachers	-0.281
Relationship at Work	-0.310
Home work Interface	-0.368
Career Development	-0.380
Organsiational Structure	-0.391
Perceived Stress (Total)	-0.398

The variance shared commonly between the variables correlated were computed for all *r*'s and presented in the increasing value as follows:

Stressors	Shared Variance
Intrinsic to Job	7.45
Role of Teachers	7.89
Relationship at Work	9.61
Home work Interface	13.54
Career Development	14.44
Organisational Structure	15.29
Perceived Stress (Total)	15.84

About 16 per cent of variance which is the *highest* is attributable to be shared by *Perceived Stress* (Total) and *QOL* (Present year). The Stressor, *Intrinsic to Job* and *QOL* - Present year shared the *lowest variance* (7.45).

4.2.2.8. Relationship of QOL with Occupational Stress of Government Teachers

Teachers in the Government Institutions were examined for the nature and degree of relation between QOL (Present year) and Occupational Stress (Stressor wise and Total Stress). Pearson's Product Moment Correlation technique is employed for the purpose. Details and results of the analysis are presented in Table 4.28.

TABLE 4.28

**Correlation of QOL (Present year) with
Occupational Stress (Stressor wise and Total Stress) of Government Teachers
(N = 100)**

Variables	'r'	Confidence Interval		Shared Variance	Fisher's 't'	Level of Significance
		Lower Limit	Upper Limit			
Intrinsic to Job	-0.310	-0.159	-0.461	9.61	3.80	0.01
Role of Teachers	-0.348	-0.201	-0.495	12.11	4.33	0.01
Relationship at Work	-0.299	-0.147	-0.451	8.94	3.65	0.01
Career Development	-0.298	-0.146	-0.450	8.88	3.64	0.01
Organisational Structure	-0.361	-0.216	-0.506	13.03	4.51	0.01
Home work Interface	-0.315	-0.165	-0.465	9.95	3.87	0.01
Perceived Stress (Total)	-0.399	-0.259	-0.539	15.92	5.07	0.01

Significant and negative correlation at 0.01 level is observed between the QOL (Present year) and Occupational Stress (Stressor wise and Total Stress) among Government Teachers. The relation is a true relation but when Stress is greater the lower is the index of QOL.

To know whether the population r is falling in between the lower and upper limits of 0.05 level, confidence interval at that level is worked out.

The correlation is again interpreted verbally as *low* or *slight* depending on the descriptive categories as suggested by Garrett (1981). All *r*'s are arranged in the increasing order of the coefficient and presented for clarity.

Stressors	r
Low or Slight Correlation	
Career Development	-0.298
Relationship at Work	-0.299
Intrinsic to Job	-0.310
Home work Interface	-0.315
Role of Teachers	-0.348
Organisational Structure	-0.361
Perceived Stress (Total)	-0.399

The shared variance (Percentage overlap $r^2 \times 100$) was calculated for all obtained *r*'s and are given in the following based on increasing degree of the variance.

Stressors	Shared Variance
Career Development	8.88
Relationship at Work	8.94
Intrinsic to Job	9.61
Home work Interface	9.95
Role of Teachers	12.11
Organsiational Structure	13.03
Perceived Stress (Total)	15.92

The *highest variance* (15.92) is shared by Perceived Stress (Total) and QOL (Present year). The Stressor, Career Development and QOL (Present year) shared the *lowest variance* (8.88).

4.2.2.9. Relationship of QOL with Occupational Stress of Private Teachers

The relationship of QOL (Present year) and Stressor wise and Total Stress of Teachers in the Private Institutions were studied. Results of the correlational analysis are presented in Table 4.29.

TABLE 4.29

Correlation of QOL (Present year) with Occupational Stress (Stressor wise and Total Stress) of Private Teachers (N = 62)

Variables	'r'	Confidence Interval		Shared Variance	Fisher's 't'	Level of Significance
		Lower Limit	Upper Limit			
Intrinsic to Job	-0.350	-0.131	-0.569	12.25	2.89	0.01
Role of Teachers	-0.361	-0.144	-0.578	13.03	2.99	0.01
Relationship at Work	-0.371	-0.156	-0.586	13.76	3.09	0.01
Career Development	-0.287	-0.058	-0.516	8.23	2.32	0.05
Organisational Structure	-0.291	-0.063	-0.519	8.47	2.36	0.05
Home work Interface	-0.310	-0.084	-0.535	9.61	2.53	0.05
Perceived Stress (Total)	-0.396	-0.186	-0.606	15.68	3.34	0.01

Results given in Table 4.29 revealed that *significant negative* correlations at 0.05 level exist between the QOL (Present year) and the Stressors *Career*

Development, Organisational Structure and Home work Interface. For the Stressors, *Intrinsic to Job, Role of Teachers, Relationship at Work and Perceived Stress (Total)*, the r 's are found significant at 0.01 level but negative.

The significance of the r 's indicate a true relationship between the variables. But the negative sign of the coefficients show the fact that the increase in the effect of one variable causes the decrease in the effect of other variable and vice versa. The correlation coefficients are verbally interpreted as *Low* or *Slight*. The obtained r 's are arranged in the increasing order of the value and presented as follows.

Stressors	r
Low or Slight Correlation	
Career Development	-0.287
Organsiational Structure	-0.291
Home work Interface	-0.310
Intrinsic to Job	-0.350
Role of Teachers	-0.361
Relationship at Work	-0.371
Perceived Stress (Total)	-0.396

Confidence interval at 0.05 level is prepared for all the obtained r 's. It is expected that the population r falls in the lower and upper limits of 0.05 probability level.

The variance shared by the QOL (Present year) and the Stressors and Total Stress were worked out and presented in the increasing order of percentage.

Stressors	Shared Variance
Career Development	8.23
Organisational Structure	8.47
Home work Interface	9.61
Intrinsic to Job	12.25
Role of Teachers	13.03
Relationship at Work	13.76
Perceived Stress (Total)	15.68

The *highest* per cent of variance (15.68) is shared by Perceived Stress (Total) and QOL (Present year). The Stressor, Career Development and QOL shared the *lowest* per cent of variance (8.23).

4.2.2.10. Summary and Discussion of Correlational Analysis

In this part of the sub section, results of the correlational analysis employed to examine the degree of relationship between QOL - Present Year and Occupational Stress (Stressor wise and Total Stress) of Teachers are summarised and discussed. The *r*'s obtained in the analysis are consolidated and presented in Table 4.30.

TABLE 4.30

Summary of Correlational Analysis Between QOL (Present year) and Occupational Stress (Stressor wise and Total Stress)

Variables	Total sample r	Male Teachers r	Female Teacher r	School Teachers r	College Teachers r	Rural Teachers r	Urban Teachers r	Govt. Teachers r	Private Teachers r
Intrinsic to Job	-0.315**	-0.280**	-0.230*	-0.310**	-0.314**	-0.310**	-0.273*	-0.310**	-0.350**
Role of Teachers	-0.341**	-0.300**	-0.280**	-0.224*	-0.320**	-0.350**	-0.281*	-0.348**	-0.361**
Relationship at Work	-0.299**	-0.250*	-0.300**	-0.210*	-0.270**	-0.290**	-0.310*	-0.299**	-0.371**
Career Development	-0.318**	-0.270**	-0.211*	-0.290**	-0.299**	-0.280**	-0.380**	-0.298**	-0.287*
Organisational Structure	-0.369**	-0.310**	-0.370**	-0.292**	-0.201*	-0.250**	-0.391**	-0.361**	-0.291*
Home work Interface	-0.300**	-0.340**	-0.230*	-0.320**	-0.276**	-0.262**	-0.368**	-0.315**	-0.310*
Perceived Stress (Total)	-0.410**	-0.390**	-0.385*	-0.392**	-0.381**	-0.351**	-0.368**	-0.399**	-0.396**

* Significant at 0.05 level.

**Significant at 0.01 level.

As per Table 4.30 altogether 63 coefficients of correlation were found out to examine the nature and degree of relationship between QOL (Present year) and Occupational Stress (Stressor wise and Total Stress) of Teachers (Total and Subsamples - 9 categories of Teachers in 6 Stressors and in Perceived Stress - Total; $9 \times 7 = 63$). The 63 *r*'s were *statistically significant* either in 0.05 or in 0.01 level (wide Table 4.30). All coefficients of correlations were found *negative*. This shows the nature of the relation between the variables correlated. When Professional life satisfaction is low, Stress is greater and vice-versa. The significance of the obtained *r*'s pointed out the relationship between QOL (Present year) and Occupational Stress (Stressor wise and Total Stress) of Teachers - Total sample and all Subsamples is a true relationship. In Total sample and Sub samples the *r*'s obtained between the QOL (Present year) and Occupational Stress (Stressor wise and Total Stress) the relationship is verbally interpreted as *Low or Slight*. Since the *r*'s lie in between ± 0.20 and ± 0.40 . For Perceived Stress (Total) in Total sample the relationship is marked.

From the results of the correlational analysis it can be inferred that the relationship of QOL (Present) and Occupational Stress (Stressor wise and Total Stress) among various categories of Teachers are *Low or Slight* but significant and negative. Perceived Stress (Total) and QOL (Present year) shows the *high coefficient of correlation* in majority of the correlational analysis.

4.2.3. INVESTIGATION OF FUTURE EXPECTATIONS OF TEACHERS

As a part of major analysis Future Expectations (FE) of the Teachers were investigated, and explored. This is done with a view to study the amount of professional life satisfaction *expected by* the Teachers (Total and relevant sub categories) in the future year. Simple graphical representations were resorted by the investigator to throw light upon the levels of future professional life satisfaction of the sample as expected and reported by them.

If two categories of Teachers under consideration experienced the same level of professional life satisfaction in the Past and Present years, what may be the life satisfaction they expected in the *future year*? With this end in view, the following part of the chapter will highlight the results of the investigation of the Future Expectation of Teachers. Graphical comparisons were done between the School - College, Male - Female, Rural - Urban and Govt. - Private categories of the sample.

4.2.3.1. Future Expectations of Teachers - Past year Equated

To get a comparative picture about the Future Expectations (FE) of Teachers, if they feel *equal* professional life satisfaction in the Past year, the QOL Past year is controlled. As a simple technique of control, the mean QOL score of the Past year for the relevant category of Teachers were equated. This is achieved by averaging the mean QOL score of Past year for the group of Teachers compared. They are School - College, Male - Female, Rural - Urban and Govt. - Private Teachers. Visual representations were constructed and presented in Figure 4.27.

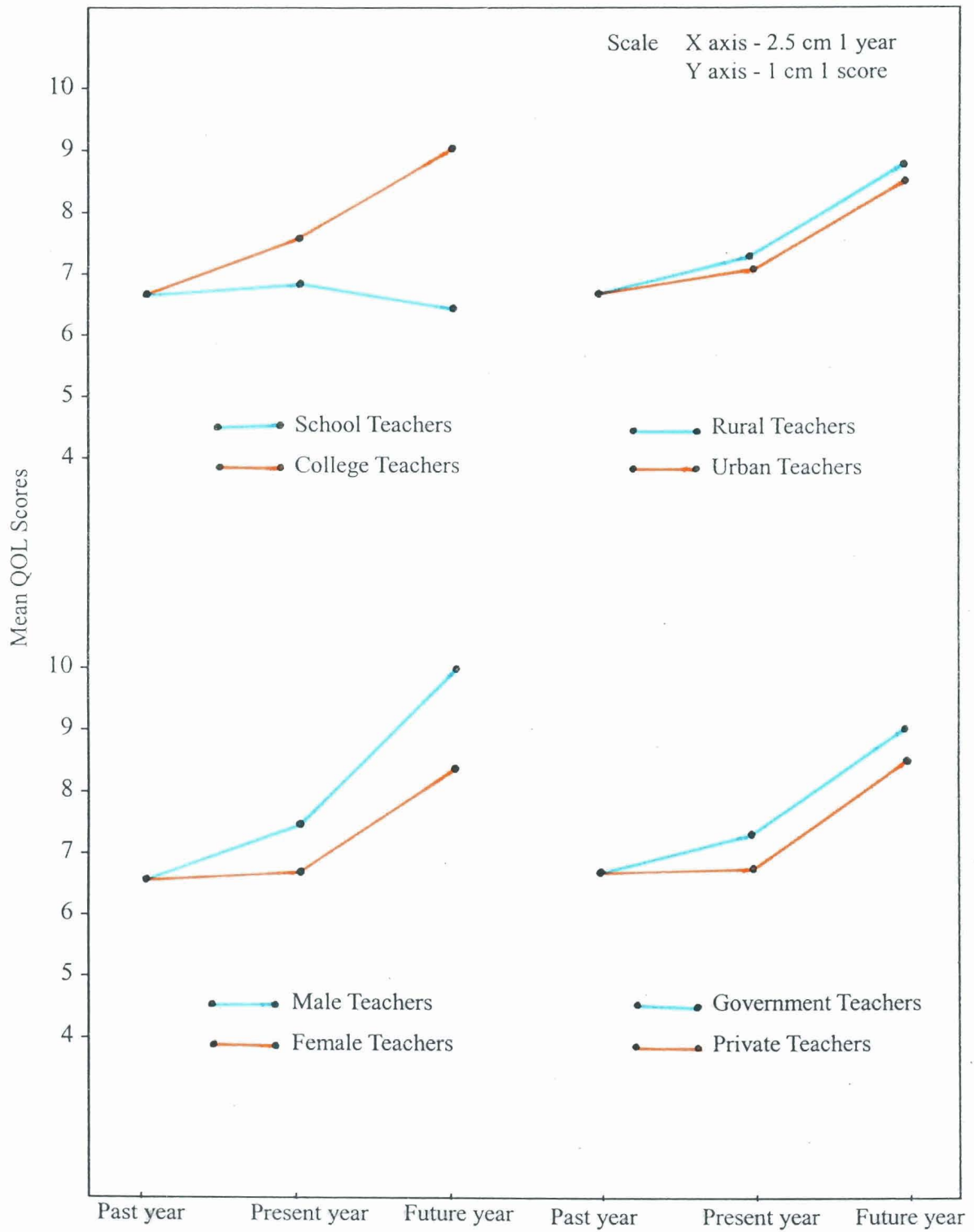


FIGURE 4 - 27 Future Expectations of Teachers - Past Year Equated

Figure 4.27 shows that the Future Expectations of Rural - Urban, Male - Female and Govt. - Private Teachers are gradually increasing from the satisfaction Present year derived by the Teachers. For them, the Rural, Male and Govt. Teachers have highest level of Future Expectation than their counterparts. But a peculiar trend in the pattern of Future Expectations is noticed in the case of School and College Teachers. Instead of the gradual increase in Future Expectation from the Present year as in all other pairs of Teachers, the expectation of School Teachers *decreased* when that of College Teachers *increased*. Thus, marked difference is observed from the Present and Future years' life satisfaction. In Male and Female Teachers, the difference in Future expectation is greater to a certain extent as seen in the visual representation. For Rural - Urban and Govt. - Private Teachers the difference is nominal.

4.2.3.2. Future Expectations of Teachers - Present year Equated

The Future Expectations of School - College, Male - Female, Rural - Urban and Govt. - Private Teachers were graphically examined by *equating* the professional life satisfaction in the *Present year*. The pattern is presented graphically in Figure 4-28.

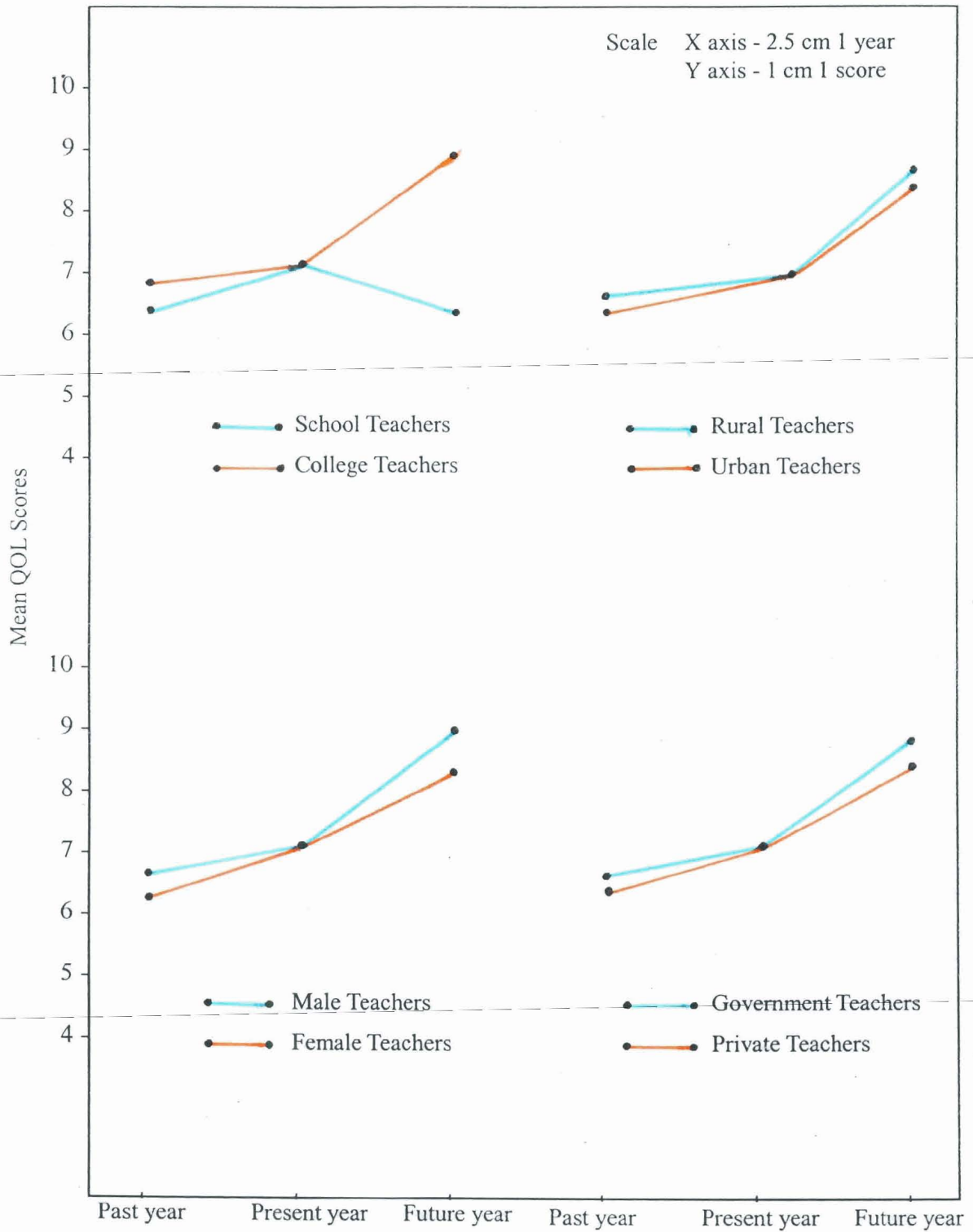


FIGURE 4 - 28 Future Expectations of Teachers - Present Year Equated

As observed from Figure 4.28, the Future Expectations of Male - Female, Rural - Urban and Govt. - Private Teachers are gradually increasing from the Present year, if they experience the same level of satisfaction in the Present year. The difference in Future Expectation of Rural - Urban and Govt. - Private Teachers are found nominal. But, for Male - Female Teachers the difference is marked. In case of the Future Expectations of School and College Teachers, the recurrence of the same trend in pattern when the Past year is equated is evident. Future Expectations of School Teachers are *decreasing* when that of College Teachers are *increasing*. From the visual representation it is noted that College, Male, Rural and Govt. Teachers in the sample expects more satisfaction in the Future than School, Female, Urban and Private Teachers.

4.2.3.3. Future Expectations of Teachers - Who Expects More Professional Life Satisfaction?

To identify which category of Teachers expect more professional life satisfaction in the Future year, graphical technique is adopted. For this purpose the *Projection score* of School, College, Male, Female, Rural, Urban, Govt. and Private Teachers were calculated. The mean QOL scores in the Past and Present year is *averaged* and is subtracted from the mean QOL score in Future year of each category of Teachers $(F - (P+P)/2)$. This is the *projection score* which is given in the following for all category of Teachers.

Category of Teachers	Projection Score
School (N = 100)	0.23
College (N = 100)	1.89
Male (N = 100)	1.83
Female (N = 100)	1.83
Rural (N = 136)	1.79
Urban (N = 64)	2.05
Government (N = 138)	1.86
Private (N = 62)	1.76

For enabling the visual comparison, the pattern of Projections Scores were graphically prepared. For this, the Projection Scores of various categories of Teachers were plotted on the *ordinate* of the graph. Eight categories of Teachers were marked on the *abscissa*. The projection graph is given in Figure 4.29.

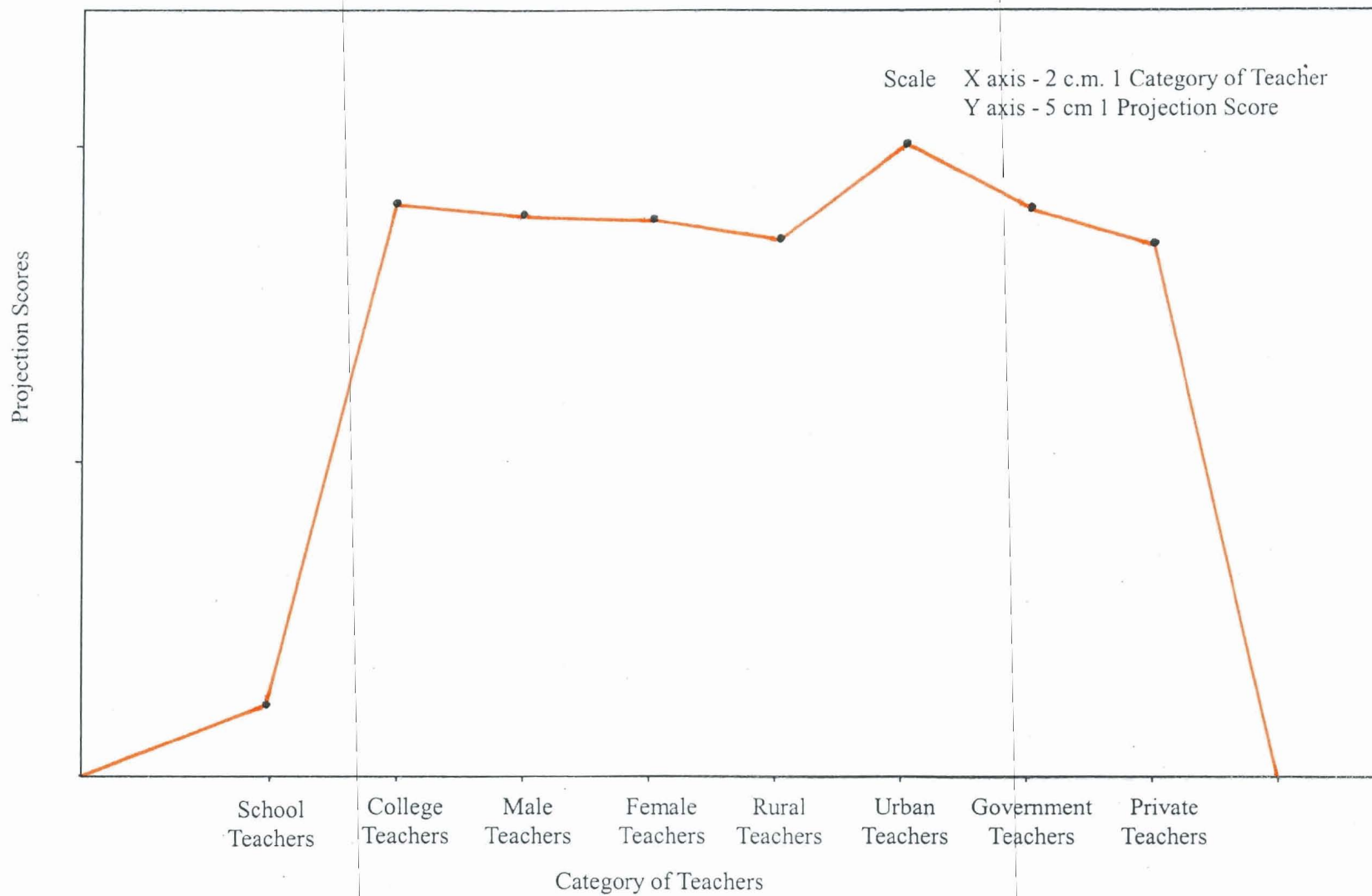


FIGURE 4 - 29 Projection Graph

As visualized in Figure 4.29 Teachers in the *Urban institutions* expect more professional life satisfaction in the future. Their projection score is very higher (2.05) than other category of Teachers. *College Teachers* come next to the Urban Teachers in Future Expectations (Projection Score 1.89) and Govt. Teachers occupied the third position (Projection Score 1.86). The lowest Projection Score is noted for School Teachers (0.23) and hence their Future Expectation is *very low* compared to other categories of Teachers.

4.2.4. PREDICTION OF OCCUPATIONAL STRESS AND QOL OF TEACHERS

This part of the analysis has been utilized to predict the best predictors of Occupational Stress and QOL (Present year) of Teachers from a set of Predictor Variables. The Stressor variables viz. *Intrinsic to Job, Role of Teachers, Relationship at Work, Career Development, Organisational Structure* and *Home work Interface* were considered as the *Independent Variables* (Predictors) and *Perceived Stress (Total)* as the *Dependent Variable* to identify the best predictors of Occupational Stress of Teachers.

In the prediction of Professional life satisfaction (QOL) - Present year, the following *Predictor* (Independent) variables were selected. They are :

1. Type of Institution (School/College)
2. Sex (Male/Female)
3. Locale (Rural/Urban Institutions)
4. Management Category of Institutions (Government/Private)
5. Type of Career of Couples (Same career/Dual career/ Spouse un employed).
6. Qualification (Graduation / Post Graduation / Above Post Graduation /Other)
7. Experience in the Profession (1-10/11-20/21-30 / 31-40 yrs.)

8. Marital Status (Married/Single)
9. Age (20-30 / 31-40/ 41-50 / 51-60 yrs.)

Professional life satisfaction (QOL) - Present year was taken up as the *Dependent Variable*.

Stepwise Multiple Regression analysis was employed to predict the relative effect of each predictor variables to predict the Dependent Variable separately for Occupational Stress and QOL (Present year). The whole analysis was completed using the software SPSS (Statistical Package for Social Sciences - Einspruch, 1998). The results in each step of the multiple regression analysis was utilized to explain the predictive capacity of each of the predictors to the amount of *Variance* in the scores of Dependent Variables ie. *Occupational Stress and QOL*. The input data for the multiple regression analysis were the means, standard deviations and intercorrelations among the Independent and Dependent Variables concerned.

4.2.4.1. Identification of Best Predictors of Occupational Stress of Teachers

The investigator has made an attempt to identify the best predictor variables for Occupational Stress of Teachers from a set of *Six Potential Stressors* in the profession. The relative predictive efficacy of the predictor variables were studied using *Stepwise multiple regression* through ANOVA approach. This was done not only to predict the Occupational Stress but also to eliminate the superfluous predictor variables. The means and standard deviations of the predictor and criterion (Dependent) variables are presented in the following break-up.

Variables	Means	SD's
Criterion (Dependent) Variable Y Perceived Stress	137.86	15.27
Predictor (Independent) Variables X ₁ Intrinsic to Job	28.76	4.54
X ₂ Role of Teachers	27.40	4.00
X ₃ Relationship at Work	19.41	4.47
X ₄ Career Development	10.61	2.64
X ₅ Organisational Structure	31.14	4.93
X ₆ Home work Interface	21.49	6.19

To show the Zero order correlations the inter correlation matrix between the Independent and Dependent Variables are reproduced in the following.

	Perceived stress (Total)	Intrinsic to Job X ₁	Role of Teachers X ₂	Relation-ship at work X ₃	Career Devpt. X ₄	Orgl. structure X ₅	Home work Inter face X ₆
Y Perceived Stress (Total)	1.00	0.309**	0.345**	0.300**	0.244**	0.427**	0.305**
X ₁ Intrinsic to Job		1.00	0.300	0.050	0.107	0.164	0.008
X ₂ Role of Teachers			1.00	0.086	0.166	0.058	0.152
X ₃ Relationship at Work				1.00	0.044	0.200	0.075
X ₄ Career Devpt.					1.00	0.110	0.166
X ₅ Organisational Structure						1.00	0.212
X ₆ Home work Interface							1.00

Based on the correlation matrix, it is noted that the predictor variable *Organisational Structure* has the highest value of r (0.427) with the Y (Perceived Stress). Hence it is entered first. The order of entering the predictor variables in the equation is determined by the decreasing magnitude of the r of the predictor variables. Results of the stepwise multiple regression analysis is presented in Table 4.31.

TABLE 4.31

**Results of Stepwise Multiple
Regression Analysis for Occupational Stress of Teachers**

Step No.	Predictors	R	R ²	SEr	F-value for R	B	t-value	Constant B ₀	t-value	β	r	R ² x 100 shared variance	Increment in Percentage variance
1.	Organisational Structure X ₅	0.427	0.182	13.84	44.20 (1,198 df)	1.324	6.65**	96.62	15.39**	0.427	0.427	18.25	--
2.	Role of Teachers X ₂	0.534	0.285	12.97	39.31 (2,197df)	1.230	5.32**	64.83	7.73**	0.321	0.345	28.53	10.28
3.	Intrinsic to Job X ₂	0.592	0.350	12.41	35.20 (3, 196 df)	0.869	4.42**	42.93	4.56**	0.258	0.309	35.01	6.48
4.	Home work Interface X ₆	0.633	0.400	11.95	32.52 (4,195 df)	0.571	4.03**	38.20	4.17**	0.231	0.305	40.01	5.00
5.	Relationship at Work X ₃	0.666	0.443	11.54	30.88 (5,194 df)	0.726	3.87**	30.26	3.34**	0.212	0.300	44.31	4.30
6.	Career Devpt. X ₄	0.674	0.454	11.45	26.77 (6,193 df)	0.628	1.98**	27.69	3.04**	0.109	0.254	45.42	1.11

R - Multiple correlation

r - Zero order correlation

β - Standardised Partial Regression Coefficient

B - Partial Regression Coefficient

** - Significant at 0.01 level.

STEP I

Table 4.31 revealed that the multiple R is 0.427 and this value is significant beyond 0.01 level since, the F -value is 44.20 for 1,198 df. This significance indicated the existence of a linear relationship between X_5 (Organisational Structure) and the Y (Perceived Stress). The strength of association between Organisational Structure and Perceived Stress is verbally interpreted as *marked* since the coefficient of determination is 18.25 per cent. Table 4.31 further shows that the R^2 is 0.182 which indicated that 18.2 per cent of variance – Perceived Stress of the sample is accounted by the predictor variable X_5 (Organizational Structure). The remaining percentage of variance can be attributable to variables not included in this regression equation. Predictor variable X_5 is found *positively related* to Perceived Stress. The Partial Regression Coefficient (B) is 1.324 which indicated that Perceived Stress will change by 1.324 units for every unit change in the Predictor Variable X_5 .

As per Table 4.31, the standardized partial regression coefficient (β) is 0.427, which is not above *one*, shows that the absence of multicollinearity (absence of excessively strong association between the causal factors of other predictor variables). The t -value obtained for the B_0 and B_5 terms are significant beyond 0.01 level, so it is found appropriate for these terms to include in the equation. The value of B_0 in the first step to predict the Perceived Stress at this stage is 96.62 and hence the equation is

$$\begin{aligned} Y' &= B_0 + B_5 X_5 \\ &= (96.62 + 1.324) X_5 \end{aligned}$$

Y' = Score of *Perceived Stress*

X_5 = Score of *Organisational Structure*.

STEP 2

After entering the *Organizational Structure* as the predictor variable in the 1st step, the next predictor variable entered was X_2 (*Role of Teachers*).

The results of regression analysis in step 2 is given in Table 4.31. In step 2 the value of R is found (0.534) significant since the F -value for the R is 39.31 which is significant at 0.01 level (2,197 df). The strength of association between the predictor variable *Role of Teacher* (X_2) and the Dependent Variable *Perceived Stress* is verbally interpreted as low because the coefficient of determination is only 28.53 per cent. The R^2 is 0.285 which shows that the two predictor variables *Organisational Structure* and *Role of Teachers* together explained 28.53 per cent of variance of Perceived Stress the Dependent Variable.

The relative contribution of the predictor variables X_5 and X_2 in terms of variance predicted is given in Table 4.31. Adding X_2 to X_5 raised the percentage of variations from 18.25 to 28.53 percent and the increment being 10.28 per cent, this is the variance accounted by X_2 (Role of Teachers).

The standardized partial regression coefficient (β) is 0.321 which is lower than that of the X_5 but not reaching the value 1. Hence the problem of multi collinearity is minimized. The partial regression coefficient for X_2 is 1.23 as per Table 4.31. This means that the scores of Perceived Stress will change 1.23 units for very unit change in X_2 (Role of Teachers).

The t -values for B_0 , B_5 and B_2 terms were noted for its significance at 0.01 level. Hence the terms can be included in the regression equation. The regression equation at this stage is

$$\begin{aligned} Y' &= B_0 + B_5 X_5 + B_2 X_2 \\ &= 64.83 + 1.324 X_5 + 1.23 X_2 \end{aligned}$$

Y' = Score of *Perceived Stress*

X_5 = Score of *Organizational Structure*

X_2 = Score of *Role of Teachers*

STEP 3

The predictor variable X_1 (Intrinsic to Job) is entered next to Organizational Structure (X_5) and Role of Teachers (X_2) in the regression equation in step No.3. Results are given in Table 4.31. In step 3, the multiple $R = 0.592$ is found significant because significant F-value at 0.01 level is obtained ($F = 35.20$; $df\ 3, 196$). The strength of association between X_1 and Perceived Stress is *low* since the r obtained is 0.309. The shared variance 35.01 shows that the predictor variables X_5 , X_2 and X_1 jointly explained 35.01 per cent of variance of Perceived Stress.

The relative contribution of the variables X_5 , X_2 and X_1 in terms of the explained variance is given in Table 4.31. By adding X_5 , X_2 and X_1 in the regression equation the variance is increased from 28.53 to 35.01 per cent. The increment in variance is 6.48 which can be attributable to the variance of X_1 .

The standardized partial regression coefficient (β) is 0.258 which is lower than that of X_5 and X_2 but not equal or above 1. Hence the problem of excessive strength of association cannot be accounted (Multicollinearity). The partial regression coefficient B_1 is 0.869. Hence the score of Perceived Stress will change 0.869 units for every unit change in X_1 (Intrinsic to Job).

The t -values for B_0 , B_5 , B_2 and B_1 were found significant beyond 0.01 level of significance justifying the inclusion of these terms in the regression equation. The following is the regression equation at this stage.

$$\begin{aligned} Y' &= B_0 + B_5X_5 + B_2X_2 + B_1X_1 \\ &= 42.93 + 1.324X_5 + 1.23X_2 + 0.869X_1 \end{aligned}$$

Y' = Score of *Perceived Stress*

X_5 = Score of *Organisational Structure*

X_2 = Score of *Role of Teachers*

X_1 = Score of *Intrinsic to Job*

STEP 4

The predictor Variable *Home work Interface* (X_6) is entered. Statistically significant R is obtained (0.633) since the F -value is found significant at 0.01 level ($F = 32.52$ df 4, 195). The strength of association between Home work Interface and Perceived Stress is verbally interpreted as *low* or *slight*.

The shared variance as in Table 4.31 shows that the predictor variables X_5 , X_2 , X_1 and X_6 jointly explained 40.01 per cent of variance of Perceived Stress. By adding X_6 with X_5 , X_2 and X_1 in the regression equation the variance is raised from 31.01 to 40.01 per cent as seen in Table 4.31. The variance in increment (5.00 per cent) can be attributable to the variance X_6 .

The Beta weight for X_6 (0.231) is lower than those of X_5 , X_2 and X_1 . The problems of multi collinearity is not existed since the Beta is below 1. The partial regression coefficient is 0.571 indicated that the Perceived Stress will undergo change in 0.571 unit with every unit change in X_6 .

The t -values for B_0 , B_5 , B_2 , B_1 and B_6 were significant at 0.01 level signifying the inclusion of these terms in the regression equation. In the following, the regression equation at this stage is given.

$$\begin{aligned} Y' &= B_0 + B_5X_5 + B_2X_2 + B_1X_1 + B_6X_6 \\ &= 38.20 + 1.324X_5 + 1.23X_2 + 0.869X_1 + 0.571X_6 \end{aligned}$$

X_6 = score of *Home work Interface*.

STEP 5

In the fifth step the predictor variable entered was X_3 (Relationship at Work). Since the F -value (30.88) is found significant beyond 0.01 level (5, 194 df)

the obtained multiple R is (0.666) also significant. The zero order correlation r between the X_3 and Y can be interpreted verbally as (0.212) *low* or *slight*.

The shared variance as per Table 4.31 was 44.31 per cent which is jointly shared by the predictor variables X_5 , X_2 , X_1 , X_6 and X_3 of perceived stress. When X_3 is added along with X_5 , X_2 , X_1 and X_6 and the variance is changed from 40.01 to 44.31 per cent. The increment in this stage is 4.30 per cent which is the actual variance of X_3 .

The Beta weight as given in Table 4.31 was 0.212 which is lower than those of X_5 , X_2 , X_1 , and X_6 . 0.726 as the partial regression coefficient highlights that Perceived Stress undergoes 0.726 unit change for every unit change in X_3 .

The t -values for B_0 , B_5 , B_2 , B_1 , B_6 and B_3 were significant. Hence these terms are included in the regression equation at this stage.

$$\begin{aligned} Y' &= B_0 + B_5X_5 + B_2X_2 + B_1X_1 + B_6X_6 + B_3X_3 \\ &= 30.26 + 1.324X_5 + 1.23X_2 + 0.869X_1 + 0.571X_6 + 0.726X_3 \end{aligned}$$

X_3 = The Score of *Relationship at Work*.

STEP 6

The last predictor variable entered in the equation was X_4 - *Career Development*. Details of the regression analysis was presented in Table 4.31.

The multiple R (0.674) is significant because the F -value is found significant ($F = 26.77$; 6,193 df) at 0.01 level. *Career Development* (X_4) and Perceived Stress is associated in a very *low* or *slight* way ($r = 0.254$).

The shared variance 45.42 per cent as given in Table 4.31 was jointly explained by X_5 , X_2 , X_1 , X_6 , X_3 and X_4 with the criterion variable Perceived Stress. By adding the predictor variable X_4 in the equation the variance is changed from

44.31 to 45.42 per cent. The increment in variance was 1.11 which can be attributable to the variance of X_4 .

It can be inferred that the six Stressors put together will explain the 100 per cent variance of Perceived Stress. The Beta weight for X_4 was 0.109 and is very low compared with the Beta weights of other predictor variables. The partial regression coefficient was 0.628 indicates that the Dependent Variable Perceived Stress change by 0.628 units for very unit change in X_4 .

The t-values for B_0 , B_5 , B_2 , B_1 , B_6 , B_3 and B_4 were significant at 0.01 level. Hence these terms are included in the regression equation at this stage.

$$\begin{aligned} Y' &= B_0 + B_5X_5 + B_2X_2 + B_1X_1 + B_6X_6 + B_3X_3 + B_4X_4 \\ &= 27.69 + 1.324 X_5 + 1.23X_2 + 0.869X_1 + 0.571X_6 + 0.726X_3 + 0.628X_4 \end{aligned}$$

X_4 = The Score of *Career Development*. With this step, the predictive accuracy is reached at an end.

4.2.4.2. Summary and Discussion of Stepwise Multiple Regression Analysis for Occupational Stress of Teachers

In the stepwise multiple regression analysis employed to identify the best potential predictors of *Perceived Stress* of Teachers, six Stressors were used as predictor variables. The analysis was completed with the sixth step. During this stage the shared variance ($R^2 \times 100$) in reached near to 1. Hence the predictive capacity is attaining at an end.

The first predictor variable entered in the analysis was the Stressor *Organisational Structure* and the Stressor *Career Development* was the last predictor variable entered in the analysis.

The relative contribution of all the six Stressors in terms of proportion of variance predicted by each Stressor were determined and presented in the following along with the Beta weights.

Sl. No.	Predictors	Percentage of Variance	Beta Weights
1.	Organisational Structure	18.25	0.427
2.	Role of Teachers	10.28	0.321
3.	Intrinsic to Job	6.48	0.258
4.	Home work Interface	5.00	0.231
5.	Relationship at Sork	4.30	0.212
6.	Career Development	1.11	0.109
Total		45.42	

Of the six predictor variables, the Stressor *Organisational Structure* accounted for 18.25 per cent of variance with Perceived Stress. The Stressor, *Role of Teachers* accounted for 10.28 per cent of variance. This is the two highest percentages of variance shared by the Stressors and Perceived Stress. The least percentage of variance is accounted for the Stressor, *Career Development*.

The corresponding *Beta weights* of predictor variables were also taken in to consideration to determine the relative importance of the predictors.

Hence, it can be concluded that the *three* best predictors of Occupational Stress of Teachers are in the order of importance as *Organisational Structure*, *Role of Teachers* and *Intrinsic to Job*. These predictor variables have high percentage of variance and Beta weights in the decreasing order. Occupational Stress of Teachers can be predicted using these three potential Stressors.

4.2.4.3. Identification of the Best Predictors of QOL of Teachers

Multiple regression analysis (stepwise) was taken up to identify the best predictors of *professional life satisfaction - QOL (Present year)* of the sample under study. The predictor variables used in this part of the analysis are as follows. They are: *Type of the Institution (X₁)*, *Gender (X₂)*, *Locale (X₃)*, *Management category of Institutions (X₄)*, *Type of Career of Couples (X₅)*, *Qualification (X₆)*, *Experience (X₇)*, *Marital Status (X₈)* and *Age (X₉)*. Detailed description is given in section 4.2.4. QOL - Present year was taken as the criterion or Dependent Variable. Means, standard deviations and inter correlations (zero order *r*'s between the predictors and Dependent Variable) were the input data. The inter correlation matrix is presented in the following break-up.

Variables		QOL (Present year) Y	Type of Insti- tution X ₁	Gender X ₂	Locale X ₃	Management category of Institutions X ₄	Type of Career of Couples X ₅	Qualifica- tion X ₆	Experience X ₇	Marital Status X ₈	Age X ₉
Y	QOL (Present Year)	1.000	0.204	0.155	0.089	0.102	0.017	0.087	0.096	0.074	0.032
X ₁	Type of Institution		1.000	0.021	0.031	-0.065	-0.103	0.542	-0.099	0.190	0.330
X ₂	Gender			1.000	0.011	0.065	-0.139	-0.050	0.181	0.150	0.100
X ₃	Locale				1.000	-0.043	-0.082	-0.035	0.224	-0.083	0.093
X ₄	Management Category of Institution					1.000	0.109	0.147	0.011	0.075	0.028
X ₅	Type of Career of Couples						1.000	-0.028	-0.130	0.100	-0.131
X ₆	Qualification							1.000	-0.096	0.179	-0.026
X ₇	Experience								1.00	-0.095	0.434
X ₈	Marital status									1.000	-0.034
X ₉	Age										1.000

The predictor variable (X_1) *Type of the Institution* has the highest zero order correlation r (0.204). So this predictor variable entered first in the analysis. Details and results of the step wise multiple regression analysis are presented in Table 4.32.

TABLE 4.32

Results of Stepwise Multiple Regression Analysis for QOL - Present year of Teachers

Step No.	Predictors	R	R ²	SEr	F-value for R	B	t-value	Constant B ₀	t-value	β	r	R ² x 100	Increment in Percentage variance
1	Type of Institution X ₁	0.204	0.042	1.702	9.000 (1,198 df)	0.706	2.93**	6.065	15.936**	0.204	0.204	04.200	--
2.	Gender X ₂	0.256	0.066	1.685	7.000 (2,197 df)	0.537	2.26*	6.871	13.232**	0.155	0.155	06.574	2.374

** - Significant at 0.01 level

* - Significant at 0.05 level

R - Multiple correlation

r - Zero order correlation

 β - Standardised Partial Regression Coefficient

B - Partial Regression Coefficient

STEP 1

Table 4.32 shows that the R is significant because the F -value for R (9.000 df 1,198) is found significant at 0.01 level. The strength of association between the X_1 and QOL (*Present*) can be interpreted as *low* or *slight* since the coefficient of determination is only 04.2 per cent. The R^2 is noted as 0.042 indicated that 04.2 per cent of variance in QOL (Present year) is accounted by the predictor variable *Type of Institution* (X_1). The remaining percentage of variance can be attributable to variables not included in the equation. The predictor X_1 is positively related to the Dependent Variable QOL - Present year.

The partial regression coefficient (B) as per Table 4.32 is 0.706. The QOL - Present year will change 0.706 unit for every unit change in X_1 . The Beta weight is 0.204 which is not up to the value 1 minimises the problem of multicollinearity. The t -value obtained for the terms B_0 and B_1 are significant at 0.01 level. So these terms can be included in the regression analysis and in the regression equation which is given in the following.

$$\begin{aligned} Y' &= B_0 + B_1X_1 \\ &= 6.065 + 0.706 X_1 \end{aligned}$$

X_1 = The Score of *Type of Institution*

STEP 2

In step 2 the predictor variable X_2 (*Gender*) is entered. The obtained F -value for the Multiple R (0.256) is significant at 0.01 level at 2,197 df. Since the coefficient of determination is only 06.574 per cent, the strength of association between X_2 and the Dependent Variable is very *low*. The R^2 is 0.066 shows that about 06.574 percentage of variance of QOL - Present year is accountable for X_1 and X_2 together. The increment in this regard is 2.374 per cent.

The Beta weight is found lower than the X_1 (0.155) but not equal to *one*. Partial regression coefficient is noted as 0.537. It can be inferred that the Dependent Variable QOL (Present year) undergoes 0.537 unit change for every unit change in X_2 . The t-values obtained for B_0 , B_1 and B_2 are found significant at 0.01 and 0.05 level justifying the inclusion of these terms in the regression equation. The regression equation at this stage is

$$\begin{aligned} Y' &= B_0 + B_1 X_1 + B_2 X_2 \\ &= 6.871 + 0.706X_1 + 0.537X_2 \end{aligned}$$

X_2 = The Predictor variable Gender.

The predictive accuracy is reaching at an end with the second step.

4.2.4.4. Summary and Discussion of Stepwise Multiple Regression Analysis for QOL – Present year of Teachers

Altogether Nine predictor variables were selected for the stepwise multiple regression analysis, only the *first two* predictor variables entered in the analysis. The predictive capacity is attained at an end after the step 2. Out of the Nine predictors the best predictor of QOL-Present year of Teachers was identified as *Type of Institution* and the next best predictor was *Gender* of the Teachers. Of the two predictors of QOL, *Type of Institution* has higher variance and Beta weight.

4.2.5. EFFECTIVENESS OF STRESS MANAGEMENT INTERVENTION PROGRAMME (SMIP)

Effectiveness of a *Stress Management Intervention Programme (SMIP)* designed by the investigator for the management of Occupational Stress among Teachers was examined. To achieve this objective, the number of Teachers having high Occupational Stress is found out using the mean score and standard deviation on Occupational Stress as cut off points ($M + 1SD - 138 + 15 = 153$).

From this High group, 20 Teachers were selected at random. These 20 Teachers under the High Stress group is divided into two groups having 10 Teachers each. One group of 10 Teachers was considered as the *Experimental* group and the other group of 10 Teachers as *Control* group by tossing the coin.

The Experimental group was given the opportunity to practice the *Stress Management Intervention Programme* for one month duration, while, the Control group was not given the opportunity for practicing the Intervention programme. They left as such. *Before* and *after* the Intervention Programme, the Stress level of both of the groups was measured. The pre Intervention score of the subjects in both of the groups was controlled statistically.

Single factor *Analysis of Covariance* (ANCOVA) was employed on the input data to ascertain the effectiveness of the Stress Management Intervention Programme (SMIP).

Before proceeding to ANCOVA the data used for analysis were checked thoroughly whether the data were satisfied with the conditions suggested by Winer (1971), Wildt and Ahtola (1978) and Ferguson (1976) to carryout the ANCOVA procedure. The data were seen to satisfy the following assumptions.

1. The scores on the Dependent Variables are a linear combination of four independent components, *an overall mean, a treatment effect, a linear covariate effect* and an error term.
2. The error is normally and independently distributed with mean *Zero* and Variance σ^2E .
3. The weighted sum of all groups of the treatment/group effect is *Zero*.
4. The coefficient of the covariate (slope of the regression line) is the *same* for each treatment group.

5. The covariate is a fixed *mathematical variable* measured with out error, not a stochastic variable .

4.2.5.1. Tests for Basic Conditions

The basic conditions of ANCOVA, described earlier were examined by analyzing the input data. The results of these analysis are presented briefly in the following.

a. *Linear Relationship Between the Dependent Variable and the Covariate*

The nature of the relationship between the Dependent Variable (*Post Intervention Score*) and the covariate (*Pre Intervention Score*) was studied using *Scatter plots*. A visual examination of the scatter plot revealed that the relationship was in linear way as the scores did not depart greatly from the line of goodness of fit.

b. *Homogeneity of Variance*

To satisfy the condition of homogeneity of variance, separate Analysis of Variance was used to test whether the *slopes of the regression lines are the same* (Homogeneity of within class regression) for the two levels of the group *Experimental* or *Control*. It was noted that the within class regression coefficients were homogeneous or same, because the F-ratio for the interaction of groups and the covariate (Pre Intervention score) is not significant ($F = 5.19, 1,16 \text{ df}$). Thus it was found that the data were appropriate to fit with the ANCOVA model.

Means and SD's of the Pre and Post-Intervention stress levels are given in the following break-up.

Pre Intervention Stress Levels of the Subjects

No. of subjects	Experimental Group			No. of subjects	Control Group		
	Stress level	Mean	SD		Stress level	Mean	SD
1.	155	160.50	5.23	1	154	160.50	5.84
2.	156			2	155		
3.	157			3	156		
4.	157			4	158		
5.	158			5	159		
6.	160			6	159		
7.	161			7	160		
8.	162			8	163		
9.	169			9	170		
10.	170			10	171		

Post Intervention Stress Level of the Subjects

No. of subjects	Experimental Group			No. of subjects	Control Group		
	Stress level	Mean	SD		Stress level	Mean	SD
1.	120	124.70	3.80	1	151	159.60	6.72
2.	120			2	155		
3.	121			3	155		
4.	122			4	156		
5.	124			5	157		
6.	126			6	159		
7.	127			7	160		
8.	128			8	161		
9.	129			9	169		
10.	130			10	173		

4.2.5.2. Equivalence of the Experimental and Control Groups

Equivalence of the Experimental and control groups was established *statistically*. For this purpose, the Pre Intervention stress levels of both of the groups were subjected to the test of significance of difference between means. Data and results of the t-test are presented in Table 4.33.

TABLE 4.33

Data and Results of the t-test for Pre Intervention
Stress levels Between the Experimental and Control Groups

Groups	Means	SD's	N	t-value	Level of Significance
Experimental	160.5	5.23	10	0.00	NS
Control	160.5	5.84	10		

NS - Not Significant

From the results it is very clear that the Pre Intervention stress levels of both the groups are *equal*. No statistically significant difference is noted. Equivalence of the Experimental and Control groups was established, because no difference between the groups with regard to the stress level before intervention is done.

4.2.5.3. Results of Analysis of Covariance

Analysis of Covariance was employed to examine whether the Experimental and Control groups differ in the Post Intervention Stress levels after statistically controlling the Pre Intervention Stress levels. Details and results of the single factor ANCOVA is presented in Table 4.34.

TABLE 4.34
Results of Analysis of Covariance

	Sum of squares	Degrees of Freedom	Mean Square Variance	F-ratio	Level of Significance
Groups	6090.05	1	6090.05	320.10	0.01
Within cells	323.43	17	19.03		
Total	6413.48				

As per Table 4.34 significant F-ratio at 0.01 level was obtained for the Groups (Tabled value 8.40:1, 17 df). This shows that there exists a *Statistically significant difference* between the criterion means (Post Intervention stress levels) of the Experimental and Control groups even *after the adjustment is made for the linear effect of the covariate* (Pre Intervention stress levels).

Adjusted Means and Post-hoc Comparison

Post-hoc comparison is made to determine which one of the two groups (Experimental/Control) causes variation in the criterion means. Using Scheffe' Test, the comparison was made between the *adjusted means* of Post Intervention stress levels.

To employ Scheffe' Test of Post-hoc comparison, F-ratios between pairs of means was calculated using the within group variance (Ferguson, 1976).

$$F = \frac{(\bar{X}_1 - \bar{X}_2)^2}{\frac{S_w^2}{N_1} + \frac{S_w^2}{N_2}}$$

Table of F is consulted to obtain the value of F required for significance at 0.05 and 0.01 levels for $df_1 = K-1$ and $df_2 = N-K$. The quantity of F' is calculated which is $K-1$ times F required for significance at the 0.05 and 0.01 level ($F'=(K-1)F$). The value of F is compared with the value of F' . If the value of F is equal to or above the value of F' the difference is considered as significant. Results of Scheffe' Test of Post-hoc comparison is given in Table 4.35.

TABLE 4.35

**Results of Scheffe' Test of Post-hoc
Comparison of Adjusted Criterion Means
Between the Experimental and Control Groups**

Groups Compared	Adjusted Means		F-value	Value of F'		Level of Significance
	Experimental	Control		0.05	0.01	
Experimental Control	124.7	159.6	315.5	5.12	10.56	0.01

Table 4.35 shows that the value obtained for F (315.5) is far beyond the value of F' at 0.01 level. Hence it can be inferred that *Statistically significant difference* exists between the Experimental and Control groups in the adjusted means of Post Intervention stress levels.

After the Stress Management Intervention Programme (SMIP) is introduced, the stress level of the subjects in the *Experimental* group was considerably reduced. The stress level of subjects in the Control group is found not reduced since no stress management programme is introduced. The results clearly indicated that the Stress Management Intervention Programme (SMIP) helped the subjects to reduce the stress level. Hence it can be concluded that the SMIP used in the present study is found *effective* to reduce the perceived levels of Occupational Stress of Teachers.

4.2.6. IDENTIFICATION OF THE LATENT FACTORS INVOLVED IN THE TEACHER STRESS INVENTORY

This part of the analysis was utilised to describe and interpret the process of *identifying the latent factors* of Perceived Stress of the sample as measured by the Teacher Stress Inventory. *Factor analysis technique* was employed for this objective to realise. The specific factoring methods adopted were *Principal Component Analysis (PCA)* and *Varimax* orthogonal rotation to evolve a terminal solution.

4.2.6.1. The Input Data

The Teacher Stress Inventory (TSI) used in the present study to measure the Perceived Stress of the sample comprises 50 items. These 50 items come under six stressors. They are *Intrinsic to Job, Role of Teachers, Relationship at Work, Career Development, Organisational Structure* and *Home work Interface*. In practice of research a great number of observed indicators (items) can be reduced to a smaller number of dimensions and can be factor analysed (Tacq, 1997). As per the recommendation of Tacq (1997), the 50 item Teacher Stress Inventory is reduced to six dimensions as Stressors. The scores on these dimensions are actually the composite score on those items come under each dimensions or Stressors. this raw scores are the *input data* used for factor analysis. The following steps were taken to complete the data reduction.

1. *Computation of a correlation matrix* – Appropriateness of the factor model is evaluated in this step.
2. *Factor extraction* – the number of factors necessary to represent the data and the method for evaluating them was determined.

3. *Rotation* – focussed on transforming the factors to make them more interpretable.

The entire process of factor analysis was done using the computer programme Statistical Package for Social Sciences (SPSS).

4.2.6.2. Examining the Correlation Matrix

The correlation matrix derived from all the six Stressor variables were examined as an initial step in the factor analysis. It is given as follows:

	Intrinsic to Job X_1	Role of Teachers X_2	Relationship at Work X_3	Career Development X_4	Organisational Structure X_5	Home work Interface X_6
Intrinsic to Job X_1	1.000					
Role of Teachers X_2	0.029	1.000				
Relationship at Work X_3	0.050	0.086	1.000			
Career Development X_4	0.107	0.166	0.044	1.000		
Organisational Structure X_5	0.164	0.058	0.199	0.200	1.000	
Home work Interface X_6	0.008	0.152	0.166	0.166	0.213	1.000

The obtained determinant of the correlation matrix is larger than 0.00001 (0.808). This indicated that the matrix can be assumed not to suffer from *multicollinearity* (excessive association).

4.2.6.3. Measure of Sampling adequacy and Bartlett's test of Sphericity

The *Kaiser-Meyer-Olkin (KMO)* measure of sampling adequacy was found as 0.60. Since it is above 0.5 the data were sufficient for a *satisfactory factor analysis to proceed*.

Bartlett's test of sphericity used to test whether the correlation matrix is an *identity matrix*, that is all diagonal terms are *one* and off diagonal terms are *zero*. The obtained value of the test statistic for sphericity is large (41.69) and significant (0.00025). So it appears *unlikely* that the correlation matrix is an identity matrix.

4.2.6.4. Initial Statistics for Principal Component Analysis

The initial statistics for Principal Component Analysis like the *communality*, *eigen values*, *initial factors extracted*, *percentage of variance* and *cumulative percentage* etc. are given in Table 4.36.

TABLE 4.36

Initial Statistics for Principal Component Analysis

Variables	Communi- nality	*	Factor	Eigen Value	Percen- tage of Variance	Cumulative Percentage
Intrinsic to Job	1.00000	*	1	1.55346	25.9	25.9
Role of Teachers	1.00000	*	2	1.09800	18.3	44.2
Relationship at Work	1.00000	*	3	0.98978	16.5	60.7
Career Development	1.00000	*	4	0.88643	14.8	75.5
Organisational Structure	1.00000	*	5	0.77689	12.9	88.4
Home work Interface	1.00000	*	6	0.69543	11.6	100.0

As per Table 4.36 the proportion of variance accounted for by the common factors, or the *communality* of the variables are 1. Right side of the asterisks in the table are the factors and related statistics. The total variance explained by each factor is listed as Eigen values and is given in the descending order. An eigen value less than *one* is less important than an observed variable and can be ignored. From the Table 4.36 it is clear that the *first factor* accounts for 25.9 per cent of variance and the *second factor* 18.3 per cent of variance.

Nearly 44 per cent of variance is attributable to the first two factors. The remaining four factors together account for 56 per cent of variance. Hence a model with the first two factors is adequate to represent the data. The remaining factors are insignificant and omitted from further analysis. The retaining of the first two factors are further supported by the scree plot.

In Figure 4-30 the *Scree Plot* is presented. It is the plot of the total variance associated (Eigen values) with each factor.

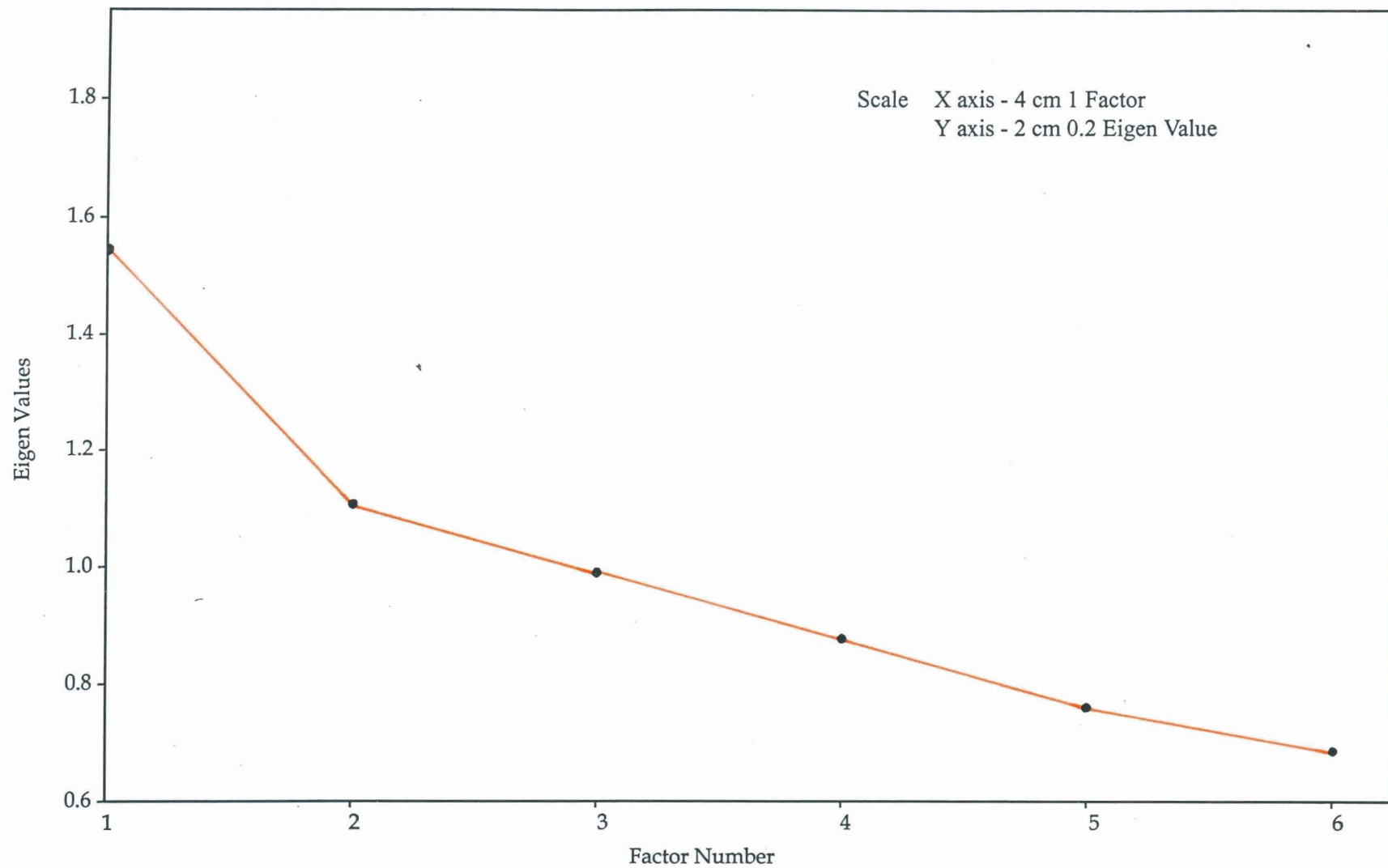


FIGURE 4 - 30 Factor Scree Plot

The Scree plot indicated that a steep slope of the factors having large eigen values and the gradual *trailing off* (*Scree*) of the rest of the factors. From the plot it can be seen that the scree begins at the second factor. Hence a two-factor model is sufficient for the data.

4.2.6.5. The Un Rotated Factor Matrix

The unrotated factor matrix is presented in the following. It shows the *loadings* of the six Stressors on the two factors extracted. These factor loadings are the correlation coefficients between the variables and the factors when the factors are *orthogonal* (Uncorrelated with each other). It is accepted that higher the absolute value of the loadings (which can never exceed a maximum of *One*) the more the factor contributes to the variable.

The unrotated factor matrix is given in the following:

Variables	Factor 1	Factor 2
Intrinsic to Job	--	0.64497
Role of Teachers	--	-0.59162
Relationship at Work	--	--
Career Development	0.53584	--
Organisational Structure	0.63914	--
Home work Interface	0.59451	--

Gaps in the matrix represents factor loadings with values less than 0.5 because the coefficients below the value 0.5 is suppressed, not taken into consideration. Negative loading associated with the variable *Role of Teachers* shows the absence of that variable in the factor.

Factor 2 is the factor with *large factor loading* with the variable *Intrinsic to Job*. The variable *Career Development* has the *smallest factor loading* with the Factor 1.

4.2.6.6. The Final Statistics

In Table 4.37 following, the final statistics of the Principal Component Analysis are given. It includes the *communalities* of the variables (Proportion of variance explained by the common factors) together with the percentage of variance accounted for by the *factors retained*, the eigen values and the cumulative percentage of variance (right of the asterisks).

TABLE 4.37

Final Statistics for Principal Component Analysis

Variables	Communnality	*	Factor	Eigen Value	Percentage of Variance	Cumulative Percentage of variance
Intrinsic to Job	0.51810	*	1	1.55346	25.9	25.9
Role of Teachers	0.54769	*	2	1.09800	18.3	44.2
Relationship at Work	0.26593	*				
Career Development	0.34400	*				
Organisational Structure	0.54598	*				
Home work interface	0.42978	*				

As per the final statistics show the communalities indicated how much of the variance in the variables accounted for by the *two Factors* that have been extracted. The highest percentage of variance accounted for by the variable *Role of Teachers* (nearly 55%) and 27% of variance in *Relationship at Work* is accounted for.

4.2.6.7. The Rotated Factor Matrix

Although the factor matrix obtained in the extraction phase indicates the relationships between the Factors and the individual variables. It is usually difficult to identify meaningful Factors based on the matrix. Hence in order to identify Factors that are substantially meaningful (in the sense that they summarise sets of closely related variables). The *rotation* phase attempts to transform the initial matrix into one that is *easier to interpret*.

Variables	Factor 1	Factor 2
Intrinsic to Job	--	0.69468
Role of Teachers	0.72509	--
Relationship at Work	--	--
Career Development	0.55924	--
Organisational Structure	--	0.70134
Home work Interface	0.62823	--

In the rotated factor matrix, loading above 0.5 is taken into consideration as high loading and is used for labelling the Factors.

The variance accounted for by the two factors commonly was 44.2 percentage. The first Factor accounts for 25.9 per cent of variance and it has the *highest loading* with the variable *Role of Teachers* (0.72509). *The lowest loading* in this Factor is with the variable *Career Development* (0.55924).

Factor 2 accounts for 18.3 percentage of variance. This factor has *highest loading* with the variable *Organisational Structure* (0.70134) and lowest loading with the variable *Intrinsic to Job* (0.69468). All loadings are considered as high because the absolute value is above 0.5.

Variables having high loading with the factors are sorted out.

Variables having Loading (> 0.5) with Factor 1

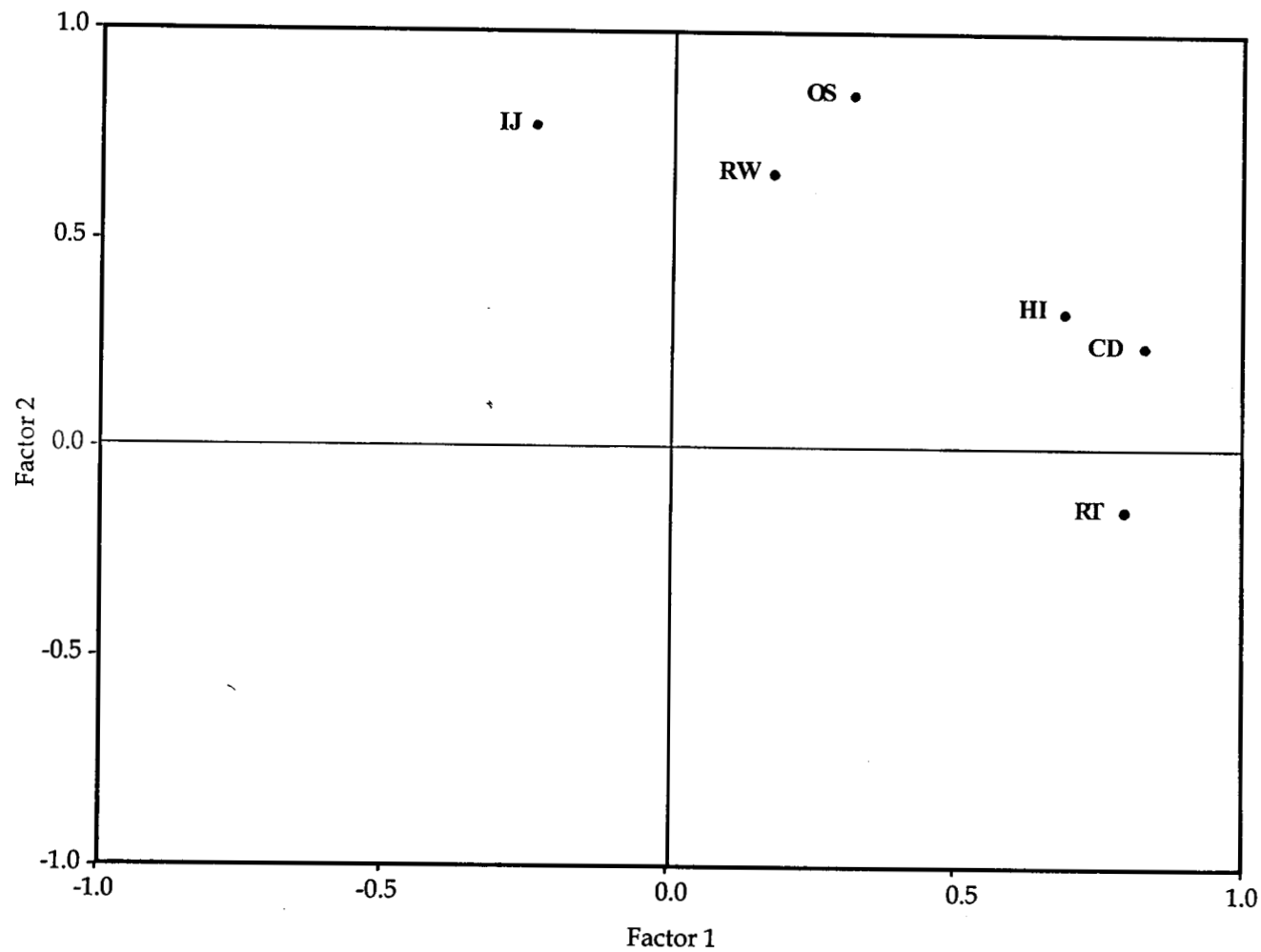
Name of Variables	Loadings
Role of Teachers	0.72509
Home work Interface	0.62823
Career Development	0.55924

Variables having loading (> 0.5) with Factor 2

Name of Variables	Loadings
Organisational Structure	0.70134
Intrinsic to Job	0.69468

The rotated factor matrix shows that the variable *Relationship at Work* has no considerable Loading (> 0.5) with any of the two Factors.

Factor loading plot (Varimax rotated solution) was constructed and displayed in Figure 4-31.



IJ - Intrinsic to Job
OS - Organisational Structure
RW - Relationship at Work
HI - Home work Interface
CD - Career Development
RT - Role of Teachers

FIGURE 4 - 31 Varimax Rotated Solution for Factors 1 and 2

After rotation it is evident that a simple factor structure is achieved as seen in the factor loading plot. Clusters of the variables occur near the ends of the axes and their intersection. Variables *Intrinsic to Job* and *Organisational Structure* are seen at the end of the axis of Factor 2. It has high loadings with this factor. At the end of the axis of Factor 1, Stressor variables *Role of Teachers*, *Career Development* and *Home work Interface* is clustered. Variable *Relationship at Work* is not near the axis or at the end of the axis, because it has no substantial loadings with any of the factors.

4.2.6.8. Labelling the Factors

The last step in the factor analysis is giving labels to factors those having high loading with the variables. As per the rotated factor matrix, the variables *Role of Teachers*, *Career Development* and *Home work Interface* have high loading with *Factor 1*. The corresponding items come under these three Stressors reflect certain peculiarities (Items 11-19 - Role of Teachers; 27-30 - Career Development and 42-50 - Home work Interface). All these items reflect the Stressful situations which are induced by aspects in the person himself/herself in some way or other. Ambiguity and conflicts experienced by the Teachers about their roles, responsibility and role preparedness etc. make them stressed. Items 11-19 points out these aspects. Items come under Career Development reflect worries and confusions about the incongruency, chances for career advancement and job security. Items come under the Stressor Home work Interface indicate stressful life events, conflict between organisational and personal beliefs, financial problems, nature of the job of the partner, dilemma of equality, etc. All these aspects are purely related to the individual Teacher. Hence *Factor 1* is labelled as *Personal Stressor*.

Factor 2 has high loading with the variables *Intrinsic to Job* and *Organisational Structure*. The following items in the Teacher Stress Inventory

come under these Stressors. Items 1-10 (Intrinsic to Job) and 31-41 (Organisational Structure). These items indicate the stressful contexts of the person within the *Job* and the *Organisation*. Items are characterised with the stressful transactions between the *Person* and the *Job* and *Job related environment*. Size of the class, unsuitable building, noise level, inadequate resources, level of participation in decision making, work load, etc. are aspects within the job. Performance appraisal, change in the curriculum, unfair control system, poor communication, problem of freedom etc. are related with the organisational climate and structure. Hence the investigator thinks it is appropriate to label *Factor 2* as *Professional Stressor*.

Chapter Five

SUMMARY FINDINGS CONCLUSIONS AND SUGGESTIONS

Study in Retrospect	5.1.
Methodology	5.2.
Major Findings	5.3.
Conclusions and Suggestions	5.4.
Future Research Directions	5.5.

5

SUMMARY FINDINGS CONCLUSIONS AND SUGGESTIONS

The present study *Quality Of Life* and Perceived Causes of *Occupational Stress* Among Teachers *mainly examines* the nature and levels of Quality Of Life and Occupational Stress of Teachers. The study also focuses the comparison of Quality Of Life and Occupational Stress among Teachers of various categories. *Identification of the best predictors* of Occupational Stress and QOL of Teachers, examining the effectiveness of a *Stress Management Intervention Programme* (SMIP) and identification of latent factors underlying the Teacher Stress Inventory were another major phases of the study.

This chapter deals with the summary of the procedure adopted for the study, major findings, conclusions and suggestions. The chapter is organised under the following head lines.

- 5.1. STUDY IN RETROSPECT
- 5.2. METHODOLOGY
- 5.3. MAJOR FINDINGS
- 5.4. CONCLUSIONS AND SUGGESTIONS
- 5.5. FUTURE RESEARCH DIRECTIONS

5.1. STUDY IN RETROSPECT

The various aspects in the different stages of the present investigation such as the Problem, Variables, Objectives, Hypotheses etc. are viewed retrospectively.

5.1.1. RESTATEMENT OF THE PROBLEM

As stated earlier, the present study was entitled as *Quality of Life and Perceived Causes of Occupational Stress Among Teachers*.

5.1.2. VARIABLES

The study was carried out with the following variables.

Occupational Stress and *Quality of Life* of Teachers were treated as the *Independent* and *Dependent* variables of the study respectively. QOL for the *Past*, *Present* and *Future* years were considered.

5.1.3. OBJECTIVES

The objectives upon which the present study is carried out are given as follows.

- 5.1.3.1. To study the *Personal* and *Institutional demographics* of the sample.
- 5.1.3.2. To study the *extent* and *levels* of Quality Of Life and Occupational Stress of Teachers (Total sample and relevant Subsamples).
- 5.1.3.3. To study whether *significant gender difference* exists or not in Quality Of Life and Occupational Stress of Teachers (Total sample and relevant Sub samples).
- 5.1.3.4. To *compare* the Quality of Life and Occupational Stress of Teachers with regard to the Type, Locale and Management of Institutions.
- 5.1.3.5. To *compare* the Quality Of Life and Occupational Stress of Teachers with regard to Age, Qualification, Experience, Marital Status and Type of Career of the Couples.

- 5.1.3.6. To study the *nature and extent of association* between Quality Of Life and Occupational Stress of Teachers (Total sample and relevant Sub samples).
- 5.1.3.7. To study the *Future Expectations* of Teachers (Male - Female, School - College, Rural - Urban and Govt. - Private).
- 5.1.3.8. To *identify the best predictors* of Occupational Stress and Quality Of Life of Teachers.
- 5.1.3.9. To study the *effectiveness* of a Stress Management Intervention Programme (SMIP) for Teachers.
- 5.1.3.10. To *identify the latent factors* involved in the Teacher Stress Inventory.

5.1.4. HYPOTHESES FORMULATED

The major hypotheses formulated and tested for the study are as follows.

- 5.1.4.1. There will be *Significant gender difference* in Quality Of Life and Occupational Stress of Teachers (Total sample and relevant Subsamples).
- 5.1.4.2. There will be *Significant difference* in Quality Of Life and Occupational Stress of Teachers with regard to the Type, Locale and Management of Institutions.
- 5.1.4.3. There will be *Significant difference* in Quality Of Life and Occupational Stress of Teachers with regard to Age, Qualification, Experience, Marital Status and Type of Career of the Couples.
- 5.1.4.4. There will be *Significant correlation* between Quality Of Life and Occupational Stress of Teachers (Total sample and relevant Subsamples).

- 5.1.4.5. Occupational Stress and Quality Of Life of Teachers *can be predicted* from a set of predictor variables.
- 5.1.4.6. The Stress Management Intervention Programme (SMIP) *will be effective* for reducing high level of Occupational Stress of Teachers.
- 5.1.4.7. The *latent factors* involved in the Teacher Stress Inventory *can be identified*.

5.2. METHODOLOGY

The study was carried out in the form of a descriptive survey with built-in-Experimental Design. *Pre Intervention - Post Intervention Equivalent groups* experimental design is used in the study to ascertain the effectiveness of the Stress Management Intervention Programme (SMIP) experimented in the study. The methodology adopted for the investigation is the following.

5.2.1. THE SAMPLE AND DESIGN

The sample selected for the study was 200 Teachers including 100 College and 100 Secondary School Teachers. Under the College Teachers, University Teachers were also taken up. *Proportionate stratified sampling technique* was used to draw the sample from the Schools, Colleges and Universities of Northern, Southern and Middle regions of Kerala State. Due representation was given to the category of Teachers, Gender, Locale, and Type of Management of Institutions.

For experimenting the Stress Management Intervention Programme (SMIP) Experimental design is adopted. For this purpose, 20 Teachers having higher level of stress were identified at random. From the 20 Teachers, two groups comprising of 10 Teachers each were selected as *Experimental* and *Control* group by tossing the coin. The Pre Intervention Stress levels of the subjects both in the Experimental and Control groups were controlled statistically. Thus the study

was structured in the form of a *descriptive survey with built-in-Experimental Design*.

5.2.2. TOOLS USED FOR THE STUDY

The following two tools were specifically constructed and standardized by the investigator for the purpose of the study.

5.2.2.1. Professional Life Satisfaction Scale (PLSS)

The PLSS was designed in the *ladder scale* format to get the index of QOL of the sample. The scale is a self reporting inventory, gives the measure of QOL in the Past, Present and Future years of the sample.

5.2.2.2.. Teacher Stress Inventory (TSI)

The TSI was constructed and standardized by the investigator to assess the Occupational Stress of Teachers. The test was constructed in Five point scale format and gives the scores on six Stressors and a composite score.

5.2.3. STATISTICAL TECHNIQUES

The following statistical techniques were utilized to analyse the data collected.

5.2.3.1. Percentage Analysis

5.2.3.2. Test of Significance of Difference Between Means

5.2.3.3. Pearson's Product Moment Coefficient of Correlation

5.2.3.4. Multiple Regression Analysis (Stepwise)

5.2.3.5. Single Factor Analysis of Covariance (ANCOVA) and

5.2.3.6. Principal Component Factor Analysis

5.3. MAJOR FINDINGS

The major findings of the study are explained in the following sub-sections.

5.3.1. PERSONAL AND INSTITUTIONAL DEMOGRAPHICS OF THE SAMPLE

The Personal and Institutional Demographics of the sample with regard to QOL (Present year) and Occupational Stress (Total) of Teachers are given in the following.

5.3.1.1. Personal Demographics - With regard to QOL (Present year)

The personal demographics with regard to QOL (Present year) of the sample is presented. This includes Gender, Age, Qualification, Experience, Marital Status and Type of Career of the Couples etc. The means and SD's of QOL (Present year) with respect to these factors were arranged and presented in the decreasing order of magnitude.

a. Gender

Sample	N	Percentage	QOL - Present Year	
			M	SD
Male	100	50.0	7.39	1.61
Female	100	50.0	6.85	1.82
Total	200	100		

Male Teachers are found more *satisfied* in the Present year.

b. Age

The means and SD's of QOL (Present year) of the sample with respect to age are given and the means arranged in the decreasing order with respect to the four age ranges.

Age Range	N	Percentage	QOL - Present Year	
			M	SD
41 - 50	99	49.5	7.20	1.87
51 - 60	25	12.5	7.13	1.74
20 - 30	10	05.0	7.07	1.55
31 - 40	66	33.0	7.02	1.57
Total	200	100		

The *most satisfied* Teachers at present come under the age range 41- 50 yrs and this group holds the *largest percentage* (49.5).

The *least satisfied* Teachers are in the age range 31-40 yrs and this is the 33 per cent.

c. Qualification

The means and SD's of the QOL - Present year of Teachers with regard to the four types of qualification are given. The means are arranged in the decreasing order of magnitude and is presented.

Qualification	N	Percentage	QOL - Present Year	
			M	SD
Above Post Graduation (M.phil/Ph.D.	33	16.5	7.43	2.26
Post Graduates	93	46.5	7.39	1.64
Graduates	67	33.5	6.69	1.52
Others	07	03.5	6.09	0.79
Total	200	100		

Teachers having *above Post Graduations* (M.phil/Ph.D) are found *more satisfied* (16.5 per cent). But Teachers having qualifications other than Graduation, Post Graduation, and above Post Graduation are *least satisfied* (03.5 per cent).

d. Experience

With regard to the four categories of Teachers having four different range of experience, the means and SD's of QOL (Present year) is given as follows. The means are arranged in the decreasing order.

Experience in years	N	Percentage	QOL - Present Year	
			M	SD
1 - 10	56	28.0	7.58	1.64
31 - 40	09	04.5	7.48	1.65
21 - 30	57	28.5	6.96	1.88
11 - 20	78	39.0	6.87	1.66
Total	200	100		

The *most satisfied* Teachers are those having 1-10 years of experience in the profession (28 per cent) and Teachers having 11-20 years of professional experience are *least satisfied* (39 per cent).

e. Marital Status

Single Teachers (13.5 per cent) are found *more satisfied* than the Married Teachers (86.5 per cent). The means, SD's and percentages are given in the following.

Marital Status	N	Percentage	QOL - Present Year	
			M	SD
Single	27	13.5	7.45	2.20
Married	173	86.5	7.07	1.65
Total	200	100		

f. Type of Career of Couples

To find who are the most and least satisfied Teachers based on the type of career of couples the relevant statistics are presented in the following break-up. The means are arranged in the decreasing order of magnitude.

Type of Career of Couples	N	Percentage	QOL - Present Year	
			M	SD
Unemployed Partner	30	17.35	7.23	1.67
Same Career	84	48.55	7.13	1.75
Dual Career	59	34.10	7.01	1.39
Total	173	100		

Teachers with *Unemployed Partners* are more satisfied (17.35 per cent). Dual Career Couples are least satisfied (34.10 per cent).

5.3.1.2. Personal Demographics with regard to Occupational Stress

The personal demographics with regard to Occupational Stress (Total) is presented with a view to highlight the issue that *who are the most and least stressed Teachers?*

a. Gender

It is noted that female Teachers (50 per cent) are *more* stressed than the *male* Teachers (50 per cent). The means, SD's of the Occupational Stress scores and the percentages of Teachers are given.

Gender	N	Percentage	Occupational Stress	
			M	SD
Female	100	50	139.19	16.38
Male	100	50	136.52	14.03
Total	200	100		

b. Age

Teachers in the age range 20-30 yrs are *more stressed* (5 per cent) and *least stressed* Teachers are in the age range 31-40 yrs (66 per cent). Means are arranged in the decreasing order.

Age Range	N	Percentage	Occupational Stress	
			M	SD
20 - 30	10	05.0	141.00	19.29
41 - 50	99	49.5	138.10	14.45
51 - 60	25	12.5	137.72	14.05
31 - 40	66	33.0	137.06	16.51
Total	200	100		

c. Qualification

Based on qualification it is found that the *most stressed* Teachers are having *above Post Graduation (M.Phil/Ph.D.)* and this is 16.5 per cent of the sample. Graduate Teachers (33.5 percent) are noted to have *least stress* in the profession.

Qualification	N	Percentage	Occupational Stress	
			M	SD
Above Post Graduation (M.Phil/Ph.D)	33	16.5	141.21	19.22
Post Graduates	93	46.5	140.29	15.18
Others	07	03.5	137.00	8.78
Graduates	67	33.5	132.91	12.52
Total	200	100		

d. Experience

With regard to experience it is found that the *most* and *least* stressed Teachers are having *1-10 years* (39 per cent) and *21-30 years* (28.5 per cent) of experience. In the following break-up the means are arranged in the decreasing order of magnitude.

Experience in Years	N	Percentage	Occupational Stress	
			M	SD
1 - 10	56	28	140.30	14.58
31 - 40	09	04.5	140.22	10.41
11 - 20	78	39	137.08	14.12
21 - 30	57	28.5	136.14	17.85
Total	200	100		

e. Marital Status

Married Teachers (86.5 per cent) are found *more stressed* in the profession than the single Teachers (13.5 per cent). Means are arranged in the decreasing order and presented.

Marital Status	N	Percentage	Occupational Stress	
			M	SD
Married	173	86.5	138.17	14.10
Single	27	13.5	135.82	21.55
Total	200	100		

f. Type of Career of Couples

Based on the type of career of the couples, *48.55 per cent* of the Teachers with *Same Career* are more *stressed* in the teaching profession and the *least stressed* Teachers are with *unemployed partner* (17.35 per cent).

Type of Career of Couples	N	Percentage	Occupational Stress	
			M	SD
Same Career	84	48.55	138.77	17.41
Dual Career	59	34.10	137.56	13.03
Unemployed partner	30	17.35	136.81	14.17
Total	173	100		

5.3.1.3. Institutional Demographics with regard to QOL (Present year)

To highlight the issue of who are the *most* and *least satisfied* Teachers with regard to the Institutional demographics are presented in this part. The relevant statistics in respect of QOL (Present year) is given in the following.

a. Type of Institution

With regard to the type of institution, *College Teachers* (50 per cent) experience *more satisfaction* than the School Teachers. The mean QOL scores are presented in the decreasing order.

Type of Institution	N	Percentage	QOL - Present Year	
			M	SD
College	100	50	7.48	1.85
School	100	50	6.77	1.54
Total	200	100		

b. Locality of Institution

Teachers in the Rural Institutions (68 per cent) are found *more* satisfied than the Teachers in the Urban Institutions (32 per cent).

Locality	N	Percentage	Occupational Stress	
			M	SD
Rural	136	68	7.23	1.78
Urban	64	32	6.70	1.62
Total	200	100		

c. Type of Management

About 69 per cent of the *Govt. Teachers* are found *more* satisfied than the Teachers working in the Urban Institutions (31 per cent).

Type of Management	N	Percentage	Occupational Stress	
			M	SD
Government	138	69	7.24	1.60
Private	62	31	6.86	1.99
Total	200	100		

5.3.1.4. Institutional Demographics with regard to Occupational Stress

To spot out the *most* and *least* stressed Teachers with regard to institutional demographics the relevant statistics are presented. The means are arranged in the decreasing order of magnitude.

a. Type of Institution

Fifty per cent of the College Teachers reported that their profession is *more stressfull* than the School Teachers.

Type of Institution	N	Percentage	Occupational Stress	
			M	SD
College	100	50	141.83	16.35
School	100	50	133.88	13.01
Total	200	100		

b. Locality of Institution

Teachers working in the *Urban* Institutions (32 *per cent*) are found *more stressed* than the Rural Teachers (68 *per cent*).

Locality	N	Percentage	Occupational Stress	
			M	SD
Urban	64	32	138.23	16.22
Rural	136	68	137.68	14.86
Total	200	100		

c. Type of Management

Government Teachers (69 *per cent*) are *more* stressed than the 31 *per cent* of Teachers working in the Private Institutions.

Type of Management	N	Percentage	Occupational Stress	
			M	SD
Government	138	69	138.54	16.22
Private	62	31	136.54	14.83
Total	200	100		

5.3.2. EXTENT AND LEVELS OF QOL AND OCCUPATIONAL STRESS

Results of the investigation to find the extent and levels of QOL and Occupational Stress of Teachers are presented in this part of the chapter. The findings will highlight which category of Teachers experience the most Highest, Moderate and Lowest levels of QOL at present and Occupational Stress and in what percentage.

5.3.2.1. Extent and Levels of QOL of Teachers

Teachers of various categories were studied with respect to the High, Moderate and Low levels of Professional life satisfaction they derived in the Present year. The percentages of various categories of Teachers having the three levels of QOL were found out and arranged in the decreasing order of percentages.

a. Highly Satisfied Teachers

Type of Sample	N	Percentage
School (N = 10)	23	23.0
Urban (N = 64)	7.0	19.9
Private (N = 62)	11	17.7
College (N = 100)	17	17.0
Male (N = 100)	14	14.0
Total (N = 200)	27	13.5
Rural (N = 136)	18	13.2
Female (N = 100)	13	13.0
Government (N = 138)	16	11.6

Twenty three per cent of School Teachers come under the *Highly satisfied* group. Next to the School Teachers, *19.9 per cent* of the Teachers working in the *Urban Institutions* are found to experience High Professional life satisfaction. The least percentage of Teachers who are *Highly satisfied* are 11.6 (Government).

b. Moderately Satisfied Teachers

Type of Sample	N	Percentage
Urban (N = 64)	48	75.0
Government (N = 38)	103	74.6
Male (N = 100)	72	72.0
Rural (N = 136)	97	71.3
Private (N = 62)	44	71.0
Private (N = 62)	44	71.0
Total (N = 200)	140	70.0
College (N = 100)	70	70.0
Female (N = 100)	68	68.0
School (N = 100)	62	62.0

The *highest percentage* of Moderately satisfied Teachers are 75 (Government Teachers) and the *School Teachers (62 per cent)* is the *least* to have Moderate level of QOL.

c. Lowly Satisfied Teachers

Type of Sample	N	Percentage
Female (N = 100)	19	19.0
Total (N = 200)	33	16.5
Rural (N = 136)	21	15.4
School (N = 100)	15	15.0
Urban (N = 64)	09	14.1
Male (N = 100)	14	14.0
Govt. (N = 138)	19	13.8
College (N = 100)	13	13.0
Private (N = 62)	07	11.3

The *highest* percentage of Teachers who have Low level of Professional life satisfaction was *19 per cent*. These are the *Female* Teachers. *11.3 per cent* of the Private Teachers are the *least* percentage who have *low* level of QOL.

5.3.2.2. Extent and Levels of Occupational Stress of Teachers

The three levels of Occupational Stress of different categories of Teachers were identified. Percentages of Teachers came under each of the three levels of Stress (High, Moderate and Low) were found out and arranged in the decreasing order.

a. High Stress Group of Teachers

The *highest* percentage of High Stress group of Teachers are 21.9 and they are working in the *Urban* Institutions. The *least* percentage of High Stress group was Male Teachers (13 per cent).

Type of Sample	N	Percentage
Urban (N = 64)	14	21.9
Female (N = 100)	18	18.0
Total (N = 200)	34	17.0
Private (N = 62)	10	16.1
School (N = 100)	16	16.0
Government (N = 138)	22	15.9
College (N = 100)	15	15.0
Rural (N = 64)	19	14.0
Male (N = 100)	13	13.0

b. Moderate Stress Group of Teachers

Type of Sample	N	Percentage
Rural (N = 136)	102	75.0
College (N = 100)	72	72.0
Government (N = 138)	98	71.0
School (N = 100)	70	70.00
Male (N = 100)	70	70.00
Female (N = 100)	69	69.0
Total (N = 200)	136	68.0
Private (N = 62)	42	67.7
Urban (N = 64)	37	57.8

Seventy five per cent of the Rural Teachers are come under the *Moderate Stress* group. The *least per cent* of this group is 57.8 (Urban Teachers).

c. Low Stress Group of Teachers

Type of Sample	N	Percentage
Urban (N = 64)	13	20.3
Male (N = 100)	17	17.0
Private (N = 62)	10	16.1
Total (N = 200)	30	15.0
School (N = 100)	14	14.0
College (N = 100)	13	13.0
Female (N = 100)	13	13.0
Government (N = 138)	18	13.0
Rural (N = 136)	15	11.0

About 20 per cent of the Teachers working in the *Urban* Institution are in *Low Stress* group which is the largest percentage. The lowest percentage of Teachers came under the Low stress group is 11 per cent, the Rural Teachers.

5.3.3. GENDER DIFFERENCE IN QOL AND OCCUPATIONAL STRESS OF TEACHERS

The results of the investigation of gender difference in QOL and Occupational Stress of Teachers are presented in this sub section.

The significant *t*-values obtained in the comparison of QOL (Past, Present and Future years) and Occupational Stress (Stressor wise and Total Stress) between the Male and Female Teachers (Total sample and relevant Subsamples) are given in the following.

Variables		Sample						
		Total	School	College	Rural	Urban	Govt.	Pvt.
QOL	Past yr.	2.27*	2.11*	NS	2.40*	NS	NS	1.96*
	Present yr.	2.21*	3.06**	NS	2.32*	NS	NS	NS
	Future yr	2.22*	2.37**	NS	2.28*	NS	NS	2.05*
Stressors	Intrinsic to Job	NS	NS	NS	NS	NS	NS	NS
	Role of Teachers	NS	NS	NS	NS	2.80**	NS	NS
	Relationship at Work	NS	NS	NS	NS	NS	NS	NS
	Career Devpt.	NS	NS	NS	NS	NS	NS	NS
	Organisational Structure	NS	NS	3.09**	NS	NS	2.32*	NS
	Home work Interface	NS	NS	NS	NS	NS	NS	NS
Perceived Stress (Total)		NS	NS	NS	NS	NS	NS	NS

** - Significant at 0.01 level

* - Significant at 0.05 level

NS - Not Significant

5.3.3.1. Gender Difference in QOL (Past, Present and Future years)

Significant Gender difference in QOL (Past, Present and Future years) were noticed in *Total sample, School and Rural Teachers*. For Teachers working in the Private Institutions, significant *Gender difference* is observed in QOL – *Past and Future yrs* only.

No gender difference is found in *College, Urban and Government Teachers*. In Private Teachers *no gender difference* is noted in QOL (*Present Year*).

5.3.3.2. Gender Difference in Occupational Stress (Stressor wise and Total Stress)

Among the *College and Government Teachers*, *gender difference* is noted only in the Stressor *Organisational Structure*. Gender difference in the Stressor *Role of Teachers* was observed in the Urban sample only.

In all *other Stressors and Perceived Stress (Total)* no gender difference is noted in any category of Teachers.

5.3.4 COMPARISON OF QOL AND OCCUPATIONAL STRESS OF TEACHERS

Comparison of QOL (Past, Present and Future years) and Occupational Stress (Stressor wise and Total Stress) between various categories of Teachers were done and the results are presented as follows. Significant *t*-values obtained in the comparison are only displayed.

5.3.4.1. Comparison of QOL and Occupational Stress Between School-College, Rural-Urban and Government - Private Teachers

a. Comparison of QOL (Past, Present and Future years)

Significant difference in QOL (Present and Future years) was noted in the comparison of *School and College Teachers*. No significant difference in QOL is

noted in the comparison between Rural - Urban and Government - Private Teachers.

b. Comparison of Occupational Stress

Significant difference in the Occupational Stress (Stressor wise and Total Stress) except in the Stressor Home work Interface was observed between the School-College Teachers. In *Rural - Urban* Teachers, *Significant difference* is noted only in the Stressor, *Organisational Structure*. In the comparison of *Government - Private* Teachers, *Significant difference* is found only in the Stressor - *Relationship at Work*. In all other Stressors and Perceived Stress (Total) no significant differences is observed for the comparison of Rural - Urban and Govt. - Private Teachers.

Variables		Sample Compared		
		School - College	Rural - Urban	Government - Private
QOL	Past year	NS	NS	NS
	Present year	2.93**	NS	NS
	Future year	2.61**	NS	NS
Stressors	Intrinsic to Job	2.72**	NS	NS
	Role of Teachers	2.60**	NS	NS
	Relationship at Work	2.87**	NS	3.15**
	Career Devpt.	2.16*	NS	NS
	Organisational Structure	2.03*	3.14**	NS
	Home work Interface	NS	NS	NS
Perceived Stress (Total)		3.80**	NS	NS

** - $P < 0.01$

* - $P < 0.05$

NS - Not significant

5.3.4.2. Comparison of QOL and Occupational Stress Between Different Groups of Teachers Based on Age, Qualification, Experience, Marital Status and Type of Career of Couples

Results of the comparison of QOL (Past, Present and Future years) and Occupational Stress (Stressor wise and Total Stress) between the different groups of Teachers based on Age, Qualification, Experience, Marital Status and Type of Career of Couples are presented. Significant t-values only are given in the break-ups as follow.

a. Comparison based on Age groups

No significant difference in QOL and Occupational Stress between the six paired comparison based on four different age groups of Teachers is noted.

b. Comparison Based on Qualification

Significant difference in QOL (Present year) only is noted for the comparison of *Graduate - Post Graduate* Teachers, *Post Graduates* and Teachers having *Other qualification*, and Teachers with *above Post Graduation* and *Other Qualifications*. *No Significant difference in QOL - Past and Future years* are noted.

In the comparison of Occupational Stress between *Graduates - Post Graduate* Teachers, significant difference is found in the Stressors - *Intrinsic to Job* and *Organisational Structure* and in *Perceived Stress (Total)*. Between *Graduates* and *above Post Graduation*, significant difference is noted in the Stressors - *Role of Teachers, Relationship at Work, Organizational Structure* and *Perceived Stress (Total)*.

Significant difference in *Perceived Stress (Total)* is observed in the comparison of *Graduates* and *Post Graduate* Teachers, *Graduates* and Teachers

having *above Post Graduation, Graduates and Teachers with Other qualification, Post Graduates and Other qualification* and Teachers having *above Post Graduation and Other qualification*. In all other cases *no significant difference* in Occupational Stress is noted. Significant t-values are given in the following break-up.

Variables		Qualification					
		Graduate & PG Teachers	Graduates & Above PG's	Graduates & Others	PG's & Above PG's	PG's & Others	Above PG's & others
QOL	Past Year	NS	NS	NS	NS	NS	NS
	Present year	2.78**	NS	NS	NS	3.81**	2.70**
	Future year	NS	NS	NS	NS	NS	NS
Stressors	Intrinsic to Job	2.07*	NS	NS	NS	NS	NS
	Role of Teachers	NS	2.71**	NS	NS	NS	NS
	Relationship at Work	NS	2.59**	NS	NS	NS	NS
	Career Devpt.	NS	NS	NS	NS	NS	NS
	Organisational Structure	1.97*	1.98*	NS	NS	NS	NS
	Home work Interface	NS	NS	NS	NS	NS	NS
Perceived Stress (Total)		3.36**	2.26*	2.32*	NS	2.51*	2.91**

** - $P < 0.01$

* - $P < 0.05$

NS - Not Significant

c. Comparison based on Experience

Significant difference in QOL (Past and Present years) is noticed in the comparison of Teachers with 1-10 and 11-20 years of Experience in the profession. In the comparison of Teachers having different range of Experience, QOL has no *significant* difference.

When Occupational Stress is compared among the six pairs of Teachers based on year of experience, *significant difference* in the Stressor – *Organisational Structure* was noted between the pair of Teachers having 1-10 and 21-30 years of experience. In all other comparisons no significant difference in Occupational Stress is observed. The significant t-values are presented in the break-up.

Variables		Experience in Years					
		1-10 yrs & 11-20 yrs	1-10 yrs & 21-30 yrs	1-10 yrs & 31-40 yrs	11-20 yrs & 21-30 yrs	11-20 yrs & 31-40 yrs	21-30 yrs & 31-40 yrs
QOL	Past year	2.30*	NS	NS	NS	NS	NS
	Present year	2.47*	NS	NS	NS	NS	NS
	Future year	NS	NS	NS	NS	NS	NS
Stressors	Intrinsic to Job	NS	NS	NS	NS	NS	NS
	Role of Teachers	NS	NS	NS	NS	NS	NS
	Relationship at Work	NS	NS	NS	NS	NS	NS
	Career Devpt.	NS	NS	NS	NS	NS	NS
	Organisational Structure	NS	2.19*	NS	NS	NS	NS
	Home work Interface	NS	NS	NS	NS	NS	NS
Perceived Stress (Total)		NS	NS	NS	NS	NS	NS

* - $P < 0.05$

NS – Not Significant

d. Comparison based on Marital Status

In the comparison of QOL (Past, Present and Future years) and Occupational Stress (Stressor wise and Total Stress) of married and single Teachers, *no significant difference* is obtained.

e. Comparison Based on Type of Career of Couples

When Teachers were classified on the basis of Type of career of couples and QOL and Occupational Stress were compared, *significant difference in QOL*

(*Past year*) only was noted between *Same Career* and *Dual Career Couples*, *Same Career Couples* and *spouse unemployed*. The significant *t*-values are given in the following.

Variable	Type of Career of Couples	
	Same Career & Dual Career Couples	Same Career Couple & Spouse unemployed
QOL (Past year)	2.39*	2.56*

* $P < 0.05$

No significant difference in Occupational Stress (Stressor wise and Total Stress) was observed in the comparison of three different categories of Teachers based on the type of career of the couples.

5.3.5 EXTENT AND DEGREE OF ASSOCIATION BETWEEN QOL AND OCCUPATIONAL STRESS OF TEACHERS

The extent and degree of association between the QOL – Present year and Occupational Stress (Stressor wise and Total Stress) were studied using the correlational analysis. The analysis was done separately for the Total sample, Male, Female, School, College, Rural, Urban, Govt., and Private Teachers. Altogether 63 coefficient of correlations were computed. In all the correlational analysis it is found that *QOL (Present year) is significantly correlated with Occupational Stress (Stressor wise and Total stress)*. But the relationship is *negative* in all the cases. The *r*'s were verbally interpreted as having *Low* or *Slight* correlation. The obtained *r*'s are consolidated and presented.

Variables	Total sample r	Male Teachers r	Female Teacher r	School Teachers r	College Teachers r	Rural Teachers r	Urban Teachers r	Govt. Teachers r	Private Teachers r
Intrinsic to Job	-0.315**	-0.280**	-0.230*	-0.310**	-0.314**	-0.310**	-0.273*	-0.310**	-0.350**
Role of Teachers	-0.341**	-0.300**	-0.280**	-0.224*	-0.320**	-0.350**	-0.281*	-0.348**	-0.361**
Relationship at Work	-0.299**	-0.250*	-0.300**	-0.210*	-0.270**	-0.290**	-0.310*	-0.299**	-0.371**
Career Development	-0.318**	-0.270**	-0.211*	-0.290**	-0.299**	-0.280**	-0.380**	-0.298**	-0.287*
Organisational Structure	-0.369**	-0.310**	-0.370**	-0.292**	-0.201*	-0.250**	-0.391**	-0.361**	-0.291*
Home work Interface	-0.300**	-0.340**	-0.230*	-0.320**	-0.276**	-0.262**	-0.368**	-0.315**	-0.310*
Perceived Stress (Total)	-0.410**	-0.390**	-0.385*	-0.392**	-0.381**	-0.351**	-0.368**	-0.399**	-0.396**

* Significant at 0.05 level.

**Significant at 0.01 level.

5.3.6. FUTURE EXPECTATIONS OF TEACHERS

Results of the investigation of Future Expectation (FE) of Teachers are presented in this part of the chapter. Future Expectations were studied mainly resorting the graphical technique. Interpretations of such graphical representations are given as follows.

5.3.6.1. Future Expectation of Teachers – Past year Equated

When the Past year professional life satisfaction is equated the following results were obtained.

1. Future Expectation of *Male - Female, Rural - Urban* and *Government - Private* Teachers gradually increased.
2. From these pairs the *Rural, Male* and *Government* Teachers have highest level of Future Expectation.
3. In case of *School - College* Teachers, the Future Expectation of School Teachers decreased when those of College Teachers increased.
4. The difference in Future Expectation of *Male - Female* Teachers are greater. But the difference in FE of *Rural - Urban* and *Government - Private* is nominal.

5.3.6.2. Future Expectation of Teachers – Present year Equated

When Present year professional life satisfaction of the Teachers is equated the following are the inferences made.

1. Future Expectation of *Male - Female, Rural - Urban* and *Government - Private* Teachers are gradually increased.

2. The difference in FE of *Rural - Urban* and *Government - Private* Teachers are nominal, but the FE of *Male - Female* Teachers are markedly different.
3. When the FE of *School* Teachers decreased, the FE of *College* Teachers increased.

5.3.6.3. Future Expectation of Teachers - Who Expects more ?

Projection scores of different category of Teachers were found out (School - College, Male-Female, Rural - Urban and Government - Private) and used for the graphical representation. From the graph it can be noted that *Teachers in the Urban Institutions expect more* and the *least* Future Expectation is for the *School Teachers*. Projection scores of each category of Teachers are presented in the decreasing order of value.

Category of Teachers	Projection score
Urban	2.05
College	1.89
Government	1.86
Male	1.83
Female	1.83
Rural	1.79
Private	1.76
School	0.23

5.3.7. IDENTIFICATION OF THE BEST PREDICTORS OF OCCUPATIONAL STRESS AND QOL OF TEACHERS

Results of the stepwise multiple regression analysis employed to identify the best predictors of Occupational Stress and QOL of Teachers are presented in this part.

5.3.7.1. Best Predictors of Occupational Stress

To predict the Occupational Stress of Teachers, a set of six Stressors were used as predictor variables. They are Intrinsic to Job, Role of Teachers, Relationship at Work, Career Development, Organisational Structure, and Home work Interface. Results of the stepwise multiple regression analysis shows that the Stressor - *Organisational Structure* is the *best predictor of Occupational Stress*. The next two best predictors are *Role of Teachers* and *Intrinsic to Job*.

The relative contribution of all six predictor variables in terms of proportion of variance predicted by each Stressor along with the Beta weights and zero order *r*'s in the decreasing order are given as follows.

Sl. No.	Predictors	Percentage of Variance	β	<i>r</i>
1.	Organisational Structure	18.25	0.427	0.427
2.	Role of Teachers	10.28	0.321	0.345
3.	Intrinsic to Job	06.48	0.258	0.309
4.	Home work Interface	05.00	0.231	0.305
5.	Relationship at Work	04.30	0.212	0.300
6.	Career Development	01.11	0.109	0.254

5.3.7.2. Best Predictors of QOL

Nine predictor variables were used in the multiple regression analysis (stepwise) such as Type of Institution, Gender, Locale of Institution, Management category, Type of career of Couples, Qualification, Experience in the profession, Marital status and Age.

After step No.2 the predictive capacity reached at an end. The results show that *Type of Institution* is the best predictor of QOL of Teachers. *Gender* of the Teachers was the next best predictor out of the nine predictor variables. The two best predictors in terms of the variance explained with the Beta weight and the *r*'s are given.

Sl. No.	Predictors	Percentage of variance	β	<i>r</i>
1.	Type of Institution	04.200	0.204	0.204
2.	Gender	02.374	0.155	0.155

5.3.8. EFFECTIVENESS OF STRESS MANAGEMENT INTERVENTION PROGRAMME (SMIP)

Effectiveness of the Stress Management Intervention Programme is examined using single factor ANCOVA with Pre Intervention score as covariate.

Result of ANCOVA indicated significant *F*-value (320.10) beyond 0.01 level. This shows that the two groups Experimental/Control differ significantly. When group difference is tested using Scheffe' Test of Post-hoc Comparison between the adjusted means of Post Intervention score also yielded significant *F* (315.5) since the value of *F* is greater than the value of *F'* at 0.01 level. The lower adjusted means associated with the Experimental group indicated the *reduction of stress levels* after treatment. Consequently, the higher stress levels indicated by the higher adjusted mean of the Control group shows the level of stress remains somewhat the same before treatment. This is due to the fact that the Control group is not introduced to the Stress Management Intervention Programme (SMIP). The reduction of stress level in the Experimental group attributable to the

Stress Management Intervention Programme (SMIP). So it can be concluded that SMIP is effective in reducing the stress levels of Teachers.

5.3.9. IDENTIFICATION OF LATENT FACTORS INVOLVED IN THE TEACHER STRESS INVENTORY

When the Teacher Stress Inventory comprising of 50 items under six potential Stressors as dimensions was subjected to *Principal Component Factor Analysis* using *Varimax* orthogonal rotation. Factor analysis extracted a *two* factor solution. The extracted Factors with the related variables along with the coefficients of factor loading, percentage of variance shared are given as follows:

Name of Variables	Factor Loading	Factors	Percentage of Variance
Role of Teachers	0.72509	Factor 1	25.9
Home Work Interface	0.62823		
Career Development	0.55924		
Organisational Structure	0.70134	Factor 2	18.3
Intrinsic to Job	0.69468		

The two factors evolved were then labelled based on the nature, characteristic and focus of the items come under each Stressors. The labels given were *Personal Stressor* for *Factor 1* and *Professional Stressor* for *Factor 2*.

5.3.10. TENABILITY OF HYPOTHESES

On the light of the major findings drawn out of the present study, the tenability of the hypotheses framed for the study are tested.

5.3.10.1. The first hypothesis stated that *there will be significant gender difference in Quality Of Life and Occupational Stress of Teachers (Total Sample and relevant Sub samples)*

Significant gender difference in QOL is found in 11 comparisons out of 21 comparisons employed. In Occupational Stress significant gender difference is noticed only in *three* comparisons out of 49 comparisons done. Hence the first hypothesis is substantiated partially.

5.3.10.2. The second hypothesis was that *there will be significant difference in Quality Of Life and Occupational Stress of Teachers with regard to the Type, Locale and Management of Institutions*

Out of *nine* comparisons (QOL-Past, Present and Future x 3 categories of Teachers) QOL yielded *significant difference* in *two* comparisons. *Significant difference* in Occupational Stress was observed in *eight* comparisons out of 21. Totally 30 comparisons (7 stress + 3 QOL x 3 categories of Teachers) done out of which QOL and Occupational Stress were found significantly different in 10 comparison. Hence the second hypothesis is accepted to a *certain extent*.

5.3.10.3. The third hypothesis states that *there will be significant difference in Quality Of Life and Occupational Stress of Teachers with regard to Age, Qualification, Experience, Marital status and Type of career of couples*

Out of the six paired comparison based on Age, QOL and Occupational Stress yielded *no significant difference*. Based on Qualification, QOL *significantly differentiates* the groups in *three* out of 18 comparisons. In 10 comparisons *significant difference* in Occupational Stress was noticed out of 42 based on qualification.

When the six pairs based on Experience, *Significant difference* in QOL is found only in *two* out of 18 comparisons. Out of 42 comparisons done based on

experience, only in one comparison. *Significant difference in Occupational Stress* was noted.

No significant difference in QOL and Occupational Stress was found in the comparison of Married and Single Teachers. When Teachers are categorized based on the three groups of Type of Career of Couples, *Significant difference in QOL* is noticed only in *two* comparisons out of *nine*. *No significant difference in Occupational Stress* was noticed in the 21 comparisons made on the basis of the Type of career of couples.

Totally in *seven* comparisons QOL yielded *Significant difference* and *Occupational Stress* in *11* comparisons (Total 18) out of 210 comparisons done. Hence the third hypothesis is *rejected*.

5.3.10.4. Hypothesis 4 is *there will be significant correlation between Quality Of Life and Occupational Stress of Teachers (Total sample and relevant Sub samples)*

Correlational analysis shows that *significant negative correlation* is obtained between QOL and *Occupational Stress* (Total sample and relevant Sub samples). So this hypothesis is accepted fully.

5.3.10.5. The fifth hypothesis is *Occupational Stress and Quality Of Life can be Predicted from a set of Predictor Variables*

Results of the stepwise multiple regression analysis pointed out that Occupational Stress can be *predicted best* using the predictor variable *Organisational Structure* from a set of *six predictor* variables. Similarly QOL of Teachers can be *predicted best* using Type of Institution as the predictor from a set of *nine predictor* variables. Thus the fifth hypothesis is *accepted*.

5.3.10.6. Hypothesis No.6 stated that *the Stress Management Intervention Programme (SMIP) will be effective for reducing high level of Occupational Stress of Teachers*

From the result of the ANCOVA, it is noted that significant *F*-value is obtained for the groups. The post-hoc comparison done after ANCOVA revealed that the adjusted means of the Post-Intervention scores (criterion means) are *considerably reduced* in the Experimental group to which the SMIP is introduced. This highlights the *effectiveness* of the Stress Management Intervention Programme (SMIP). So the 6th hypothesis is accepted.

5.3.10.7. The last hypothesis states that *the latent factors involved in the Teacher Stress Inventory can be identified.*

Principal component Factor analysis was employed to verify this hypothesis. The result shows that the extraction of *two* Factors having high loading (> 0.5) with the five Stressor variables (*Stressors Role of Teachers, Home work Interface and Career Development* with *Factor 1* and *Organsiational Structure and Intrinsic to Job* with *Factor 2*). The Stressor variable Relationship at Work has no substantial factor loading (> 0.5) with any of the two Factors. Hence this hypothesis is *accepted fully*.

5.4. CONCLUTIONS AND SUGGESTIONS

The main purpose of the present study was an *indepth investigation* in to the relationship of Quality Of Life and Perceived causes of Occupational Stress of Teachers. Teachers of various categories viz. School, College, Male, Female, and Teachers working in the Rural, Urban, Government and Private Institutions were given representative participation in the study. The biographical variables of the sample such as Age, Gender, Qualification, Experience in the profession, Marital status and Type of career of couple etc. were taken into consideration to throw

light upon the nature, extent and relationship of QOL and Teacher Stress. The predictive power of the Stressors and some predictor variables to predict the Occupational Stress and QOL of Teachers were identified. Also, a Stress Management Intervention Programme (SMIP) was experimented on the high stressed subjects and ascertained the effectiveness of the programme.

Based on the major findings evolved from the investigation, the investigator made an attempt to put forth the following conclusions and suggestions regarding the QOL and Occupational Stress of Teachers.

5.4.1. TACKLING THE GENDER ISSUES

Gender is proved as one of the strong variables that has an effect on the QOL and Teacher Stress. Many of the previous studies confirmed the Gender issues in QOL and Stress. In the present study it was found that Male Teachers have more professional life satisfaction than Female Teachers. Studies conducted by Choudhary, *et al.* (2001), Karthikeyan and Latha (1998), Travers and Cooper (1996) and Eby and Buch (1992) and a host of other studies supported the finding of the present study. The more QOL derived by the Male Teachers may be due to their *personality types* and their *involvement* in the Teaching profession. It is observed that Female Teachers with exceptions have their own family responsibilities and responsibilities of the future of their children are *less involved* in the profession. And also Female Teachers are more prone to Occupational Stress than the Male Teachers. When the stress level is higher, the Female Teachers cannot adequately cope with the stressful demands of the job, their QOL is decreasing.

5.4.2. QOL AND OCCUPATIONAL STRESS – A NEGATIVE RELATION

When the gender difference is studied in Occupational Stress, no difference is observed in the present study. Male and Female Teachers experience

statistically the same level of Stress. QOL of Male Teachers are found higher than the Females and consequently the stress levels of Male Teachers are found *low*. This is one of the major outcome of the study.

QOL and Occupational Stress of Teachers are found *significantly* and *negatively* correlated when QOL is high, Stress is low and vice versa. This is what happened in the case of Female Teachers. So reducing the levels of Stress in case of Female Teachers is one of the best way to enhance the QOL. So it is suggested on the basis of the out come of the present study that, *effective* and *economical stress management programmes may be open* to the Female Teachers.

5.4.3. WHO ARE MORE SATISFIED ?

Difference in QOL and Occupational Stress of Teachers based on Type of institution, Locale and Management category of institutions are observed in the present study. *College* Teachers were more satisfied than the School Teachers. The nature of the profession in the Schools and Colleges may be one of the reason. The job satisfaction derived by the College Teachers after getting a job appropriate to their Qualification may be caused the higher QOL. Teachers working in the *Rural* and *Government* Institutions are found more satisfied than the Urban and Private Teachers. The institutional *structure* and *environment* in the Rural and Government institutions may be one of the causal factors.

5.4.4. PLACE A GLOSSIER FUTURE EXPECTATION

Investigation of Future Expectations of Teachers in the present study points out some interesting hints which show how the QOL is mobilized in the future years. Aiming to achieve better future outcomes will motivate the individual to strive for that goal. Expecting a glossy future is one of the technique to elevate the QOL of the Present year. Such future expectations will mobilize,

activate and directs the person to achieve something in their profession in the present years.

Marked difference in the Future Expectation of Male and Female Teachers were found in the present study. Future Expectation of *Male Teachers* are high compared to the Females. This highlights the socio-psychological bearings on the male dominated professional life of Teachers. Setting a brighter, career advanced and beneficial future, professional expectations may be instilled among the Female Teachers. For this, professional programme may be designed, implemented for the professional development of Female Teachers.

In the present study, Future Expectation is found more in Teachers working in the Urban Institutions. This will include Schools and Colleges. The various reasons for the higher Future Expectation of Urban Teachers may be *explored*. By maximizing such causal factors among other categories of Teachers, can elevate their Future Expectation also. Such priorities will enhance the QOL of all kinds of Teachers.

5.4.5. MODIFICATIONS NEEDED

From the present study, it is found that College Teachers have better QOL than the School Teachers. In an over view of the professional settings, work load, pay and other benefits, opportunities for career advancement etc. of both categories of Teachers will point out the reason. School Teachers may be provided with better career opportunities and organizational environment. The social and professional set ups prevailed in the state is not conducive for School Teachers to have a better QOL.

Teachers in the age group 41-50 years are more satisfied and more stressed are in the age range 20-31 years. During the age 41-50 years Teachers are somewhat settled in the family life and may acquire one or more placements in the

profession. The young Teachers in the age range 20-31 years are found more prone to Stress because this is their entry period. They have to face many professional problems and acquiring experience. About 23 per cent of School Teachers came under the High stressed group. Among Urban Teachers 21.9 per cent is in the Higher stress group. Sorting out the causal factors for their higher level of Stress is not an easy job. Because professional Stress and its levels are linked with the socio-familial and personal variables. *Indepth studies* in this regard is essential.

5.4.6. PURITY IN THE ORGANISATIONAL STRUCTURE

Of the six Stressors selected in the present study (Intrinsic to Job, Role of Teachers, Relationship at Work, Career Development, Organisational Structure and Home work Interface) each of which has its own role to make the Teachers stressed. Provisions for modifications in the positive direction of these factors may reduce the level of Stress at work. The study found *Organisational Structure* as the best predictor of Teacher stress. Each and every factor in the Organisation need conducive rearrangements and refinements at the grassroot level for minimizing Occupational Stress. The leadership style and strategies, communication, the hierarchies, climate and the reward and punishment system etc. may be taken for *top priority*. If the Organisational Structure and functioning is in tune with the minimum Stress producing way, the study points out that, this will enhance the Quality of Life of Teachers. From the study, it is observed that Type of the Institution is the best predictor of QOL. The *Type of Institution* and its Organizational Structure is interwoven and the outcome is $\pm$ Stress and $\pm$ QOL.

Experience, Qualification, Type of career of couples etc. have its own bearing with the Occupational Stress of Teachers. Alleviating the negative elements in these factors is a herculian task of the state and the administrators.

Hence *managing* and *coping* the Stress more preferably at the *individual level* is directed as per the outcome of the study.

5.4.7. MANAGING STRESS AT WORK

The Stress Management Intervention Programme (SMIP) is found effective in reducing or managing the higher level of Occupational Stress of Teachers. The SMIP designed by the investigator is an amalgam of Jacobson's Progressive Muscle Relaxation (PMR) and cognitive restructuring which modifies the individual perception of Stressors in the profession. This restructuring can be achieved through a very careful, structured counselling process. In that sense it becomes a Cognitive Intervention Strategy (CI). A number of researches have shown that managing the Stress at work is more effective when Physical and Cognitive Intervention is coupled with. The SMIP is such a programme found effective in the stress reduction and more economical. Hence it is suggested for the Teachers who are stressed highly to practice the SMIP regularly. Provision for training in SMIP for Teachers may be accelerated.

5.4.8. MANAGING STRESS AT INDIVIDUAL LEVEL

Alleviating Stress in the work place is not possible. Stressful transactions between the person and the environment is emerging at every fraction of a second. But the Stress at work can be managed. Management of Occupational Stress at the organizational level has many bottlenecks to be effective. So it is suggested to manage the Occupational Stress at the level of *Individual Teacher*. Time and effort from the part of the individual Teacher is the minimum expenditure. Counselling and training from an expert in the SMIP is another ingredient.

The study has revealed that the stress of day-to-day teaching is unavoidable. The intrinsic features of the job are not the major predictors of the

negative Stress out comes. There are more *contemporary features* of the job are causing the negative out comes, and these are the features of the profession that can be tackled in an attempt to reduce Stress. Many of the *Person facets* pay a more important role in the resulting Stress manifestations than features of the working environment it self. So it is vital to approach Stress management from the individual level. Results of the present study may be taken as an indication that *all is not well* in the teaching profession, but as Hoyland (1990) suggests, the first important step for managing Stress is recognizing the fact that Stress is *not an indication of weakness or incompetence*; but it is an unavoidable feature of the profession.

5.5. FUTURE RESEARCH DIRECTIONS

Based on the findings of the present study the following research directions are suggested for future researchers in the area of QOL and Stress at work place.

1. The study can be extended incorporating Personality Variables viz. Type A Behaviour, Self Concept and Achievement Motivation etc.
2. Dimensions of QOL can be explored Factor Analytically.
3. The causal factors of QOL of Teachers can be attempted.
4. The comparative efficacy of more stress management techniques can be experimented.
5. An experimental study can be conducted to evaluate the effectiveness of SMIP (Stress Management Intervention Programmes) by controlling Organisational, Personality and Familial factors.
6. The study can be extended to a statewide sample.
7. The causal factors of Teacher burn out can be studied.

8. Relationship of Job satisfaction, Personality Characteristics and Job stress can be attempted.
9. Effect of Job involvement and QOL on Stress and coping strategies of Teachers.
10. Quality of Work Life and Stress in other profession can be explored.
11. Determinants of Future Expectations of Teachers can be studied.
12. A path analytic study may be designed to evolve the causal relationships of potential stressors with stress in the profession.

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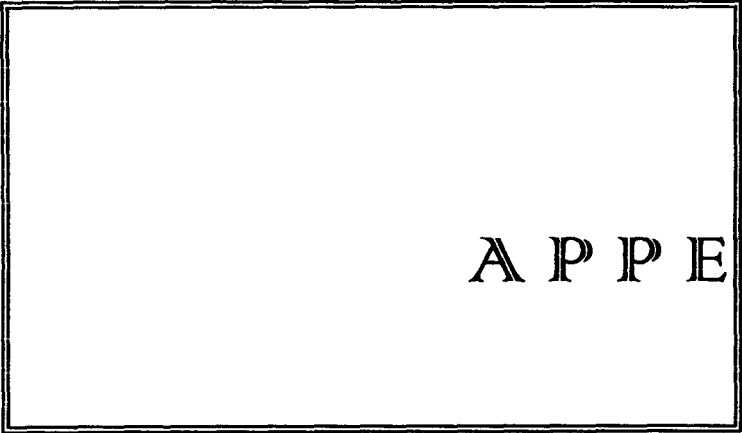
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APPENDICES

APPENDIX I
UNIVERSITY OF CALICUT
DEPARTMENT OF PSYCHOLOGY
PROFESSIONAL LIFE GOALS
(DRAFT)

Dr. T. Sasidharan

P.K. Sudheesh Kumar

Instructions: Kindly read the statements carefully and mark your agreement or disagreement on the three point scale.

Sl. No.	Statements	Strongly Agree	Agree	Dis-Agree
1.	Contribute to NATIONAL DEVELOPMENT			
2.	Make REFORMS in the field of Education			
3.	Prepare the FUTURE GENERATION			
4.	To be a GREAT TEACHER			
5.	To DEVELOP PERSONALITY			
6.	To know MYSELF			
7.	Attain SELF SATISFACTION			
8.	Acquire STATUS IN SOCIETY			
9.	EARN MONEY with minimum effort			
10.	Generate and DEVELOP KNOWLEDGE			
11.	RECEIVE RESPECT from society			
12.	Acquire highest PROFESSIONAL GROWTH			
13.	Attain the HIGHEST POSITION			
14.	To GET ACCEPTANCE in the society			
15.	Improve STANDARD OF LIFE			
16.	Keep myself ENGAGED always			
17.	CONTACT different types of students			

Sl. No.	Statements	Strongly Agree	Agree	Dis-Agree
18.	Find NEW IDEAS			
19.	For derive PLEASURE			
20.	INFLUENCE & MANAGE others			
21.	To EXCEL other Teachers			
22.	To SHOW my ability			
23.	To keep TOUCH with the Subject			
24.	To be a good FRIEND of students			
25.	REMEMBERED always by students			

APPENDIX II
UNIVERSITY OF CALICUT
DEPARTMENT OF PSYCHOLOGY

PROFESSIONAL LIFE SATISFACTION SCALE
(FINAL)

Dr. T. Sasidharan

P.K. Sudheesh Kumar

Instructions: A list of aims / goals / aspirations of Teachers they wish and work to achieve in professional life is given below. Kindly read each statement of aims / goals / aspirations and decide which of the statements represent the most important to you. Give your own feelings only by putting a (✓) mark in the boxes provide left side of the statements.

**Important aims/
Goal / Aspirations**

Rank

1.	To be a GREAT TEACHER	
2.	To DEVELOP PERSONALITY	
3.	To know MYSELF	
4.	Attain SELF SATISFACTION	
5.	Acquire STATUS IN SOCIETY	
6.	Generate and DEVELOP KNOWLEDGE	
7.	RECEIVE RESPECT from society	
8.	Acquire highest PROFESSIONAL GROWTH	
9.	Attain the HIGHEST POSITION	
10.	To GET ACCEPTANCE in the society	
11.	Improve STANDARD OF LIFE	
12.	Keep myself ENGAGED always	
13.	Find NEW IDEAS	
14.	For derive PLEASURE	

Now, kindly rank by putting 1 against your most important Goals in professional life; 2 against next most important one and 3 against the next important goal as your priority is. Put 1, 2 and 3 in the box provided for each goals at the right hand side.

The Ladder Scale

Then find out the level of your satisfaction with regard to the goals ranked already in respect of past, present and future years in the Ladder Scale given.

Please follow the direction:

The Ladder scale comprises 11 steps from the *lowest possible* level of satisfaction to the *highest possible level* indicated from 1 to 11. If your level of satisfaction is the highest a person possibly have in a particular goal the scale value is 11. Similarly if your level of satisfaction is the lowest, the scale value is 1. Find out the scale value of your level of satisfaction from 1-11 using the Ladder Scale.

11
10
9
8
7
6
5
4
3
2
1

Write the goal you ranked 1 as most important to the box provided and put the appropriate rank in the box at the *Left side* and scale value in the box at the *right side*.

Example:

Rank	Professional Life Goals	Scale Value
1	GREAT TEACHER	8

Now please proceed.

Satisfaction : Last year

Write the Goals in capital letters and their rank in the box provided left side which now ranked 1, 2 and 3. Indicate how much you were satisfied *in achieving those ranked Goals last year* by putting the scale value in the box provided at the right hand side.

Rank	Professional Life Goals	Scale Value

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Satisfaction : Present year

Repeat the previous procedure and decide the amount of satisfaction that you feel now *in achieving* those ranked Goals at present.

Rank	Professional Life Goals	Scale Value

Satisfaction : Future Years

Please repeat the same procedure and mark the level of satisfaction you expect in the future with regard to *the achievement* of those ranked goals.

Rank	Professional Life Goals	Scale Value

Thank you for cooperating with this research project.

UNIVERSITY OF CALICUT
DEPARTMENT OF PSYCHOLOGY
CHER STRESS INVENTORY (DRA

Dr. T. Sasidharan

Dr. P.K. Sudheesh Kumar

PART 1

Biographical Information

Please furnish the following informations concerning with *Personal and Background features concerning yourself and your profession* as a Teacher. The informations are very crucial to the purpose of this research. *They will remain anonymous and strictly confidential.* Kindly put a ☒ mark in the boxes given appropriate items/write inthe space provided.

- | | | | | | |
|-----|---|--------------------------------|--------------------------|---|--------------------------|
| 1. | Sex | Male | ☐ | Female | ☐ |
| 2. | Age | ☐ years | | | |
| 3. | Marital Status | Married | ☐ | Single | ☐ |
| | | Divorced | ☐ | Separated | ☐ |
| | | Widowed | ☐ | | |
| 4. | Whether your partner work or not? | Yes | ☐ | No | ☐ |
| 5. | Whether your partner a teacher or not? | Yes | ☐ | No | ☐ |
| 6. | Qualification | | | | |
| | TTC | ☐ | B.Ed. | ☐ | Post Graduation |
| | Other | ☐ | Please specify | ☐ Ph.D. ☐ | |
| 7. | Experience | ☐ Years | | | |
| 8. | Designation : | Please specify _____ | | | |
| 9. | Level of Institution | Primary | ☐ | | |
| | | Secondary | ☐ | | |
| | | College | ☐ | | |
| | | University | ☐ | | |
| 10. | Whether your Institution situated in Rural/Urban Locality | Rural | ☐ | | |
| | | Urban | ☐ | | |
| 11. | Type of management of institution | Private | ☐ | | |
| | | Government | ☐ | | |
| 12. | How many hours you work daily | ☐ hours | | | |
| 13. | Approximate number of students IN your class | ☐ | | | |

P A R T 2

Sources of Stress in Teaching Profession

Directions: Below are given a number of statements which are related to you and your profession. The statements indicate the amount of *stress* you experience as a teacher. Please read each statement and decide how far you agree with each statement. Separate response sheet is supplied to you for marking your agreement/disagreement. Mark your agreement/disagreement by putting a 'X' mark in the circle provided below your decision against the number of each statement. Kindly attempt all statements. Your responses will be *kept confidential* and used for research purpose. *See the example.*

Example:

I feel tension due to the increased number of students in the class

Strongly Agree	Agree	Un- Decided	Dis- Agree	Strongly DisAgree
○	⊗	○	○	○

Please cooperate

1. I feel tension due to the increased number of students in the class.
- ✓ 2. The increase or decrease in the number of students in the class adversely affect teaching.
3. Due to the increased number of students in the class, I am worried about the effectiveness of teaching.
4. I feel that the difference in the number of students in the class influences the quality of teaching.
5. Congested and dark classrooms decrease the standard of teaching.
6. In this class students cannot sit and learn conveniently.
7. Although the poor condition of the institutional building is brought to the attention of authorities, no favourable action is taken.

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8. Since I am spending a lot of time in the dustfull classroom condition, a number of health problems arise.
9. Classrooms are so insecure to keep teaching aids those make teaching more effective.
10. Institution has no satisfactory toilet facilities for the teachers and students.
11. Noise from the neighbouring class makes the teaching more tough.
12. ✓ Even though I practiced extreme disciplinary measures, the misbehaviour of students do not come to an end.
13. Students of my class have the habit of making noise by talking during teaching.
14. I have dissatisfaction in giving learning activities which influence the discipline of the class.
15. Teaching in the midst of noisy classroom create mental as well as health problems.
16. Institution has no adequate teaching aids.
17. A good reference library to clear doubts increase the standard of teaching.
18. It is not possible to use the material supplied by Government and other agencies to increase the quality of learning.
19. ✓ Ineffective competence development programmes for teachers to increase the expertise negatively influence teaching.
20. Even though teachers have the circumstances to discuss teaching materials among themselves for better teaching, such discussions are not organised properly.
21. Work load is high due to the lack of sufficient number of teachers.
22. More preparation for teaching is needed since high intellectual students in the class.
23. ✓ A number of instances to get bored doing nothing even though I have classes to engage.
24. I feel greater boredom during the working days.
25. The boredom from doing nothing in the institution will not motivate teaching.

26. I plan teaching activities beyond the working hours.
27. I spend a lot of time to implement different types of teaching activities.
28. I spend a lot of time for extra reading when new syllabus and teaching methods introduced.
29. Due to the limitations of the inadequate inservice/training/orientation/refresher programmes for teachers to teach through the new curriculum/syllabus, teaching is not effective.
30. I feel worried in the class in changing traditional method of teaching to new teaching methods.
31. I do not think that all parts of the syllabus cannot be transformed into learning activities for students.
32. New curriculum and syllabus totally changes the teaching-learning process in the class.
33. I cannot practice new teaching methods even though that make learning more joyful and meaningful.
34. Lack of mastery and expertise to teach many subjects makes teaching more tough.
35. The delay in appointing the Head/Principal of the institution changes the working structure and style of the institution.
36. As a Government institution, most of the teachers have no commitment in teaching.
37. To concentrate on administrative matters of the institution, the Heads/Principals cannot attend academic matters properly.
38. I am dissatisfied in decentralising institutional responsibilities to teachers other than the traditional style.
39. My position as a teacher is lowered when I am working with and among students.
40. Often I have to teach subjects and perform differently for which I am not trained/experienced.
41. I am forced to teach differently in the traditional teaching methods.

42. Parents of the students demand to teach well the possible part of the subject even though the syllabus is not finished totally.
 43. I have to perform official duties other than teaching.
 44. Often I have to take up the greater responsibilities of the Head/Principal along with teaching.
 45. The charge of co-curricular activities of the institution are often placed upon me.
 46. I cannot get free time to rest, since I am continuously mingle with students.
 47. I am always busy due to my healthy participation in curricular and co-curricular activities of the institution.
 48. I have to handle the disciplinary problems of students in the institution.
 49. ✓ I have no time to help my colleagues because of my work load.
 50. I feel aversion to the training/in service/orientation/refresher programmes which are not considering the need, interest and limitations of teachers.
 51. Often I confused what to do in the class due to the limitations of in-service training/orientation/refresher courses to practice new teaching methods.
 52. Failure in effective teaching is caused by the substandard in-service training/orientation/refresher courses.
 53. ✓ I feel difficulty to take up administrative duties due to the lack of experience.
 54. Problems arise when making the position of teachers are among the students.
 55. My colleagues help always by understanding my problems.
 56. Parents will not react when they are informed about the misbehaviour of students.
 57. I maintain good relationship with my co-teachers.
 58. I believe the causes of quarrel with some teachers are themselves.
 59. Since I cannot accept and recognise some colleagues, I will not be in the staff room always.
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60. I feel irritated in some of the actions taken by the Head/Principal.
61. I maintain a healthy relationship with the Head/Principal.
62. Office staff of the institution view teachers including myself as enemies.
63. I do not like the unlimited influence of parents in institutional activities.
64. Parents often blame teachers in Parent-Teacher meetings.
65. I have good relationship with parents of some of my students.
66. Due to the behaviour of teachers, students are disinterested in learning.
67. Often I resort to compel and punish students to study.
68. ✓ I cannot handle problem students by love and affection.
69. I am a good friend of those students who studied well.
70. Since I am a friend of the students, I can correct them when their activities are beyond the control and limits.
71. There is no possibilities for a promotion in the nearest future if I continue this job.
72. I do not feel desperated not in reaching the highest position in teaching.
73. ✓ I believe that teachers have no status in the society.
74. Teachers are responsible for themselves in the lowering status in the society.
75. I feel boredom in continuing in the profession of teaching for a long time.
76. I frustrated about my inability to attend in-service course/training/orientation/refresher programmes needed for promotion.
77. Even though I have higher qualifications, I will not get responsibilities/duties correspond to my qualifications.
78. I am not sincere in teaching due to the lack of transfer to my convenience.
79. I am afraid of continuing the job due to decreasing number of students in the class.
80. There is no job security because of students seek admission to courses offered by other institutions.

81. I have no aversion towards this job due to unexpected transfer.
82. I participate in the policy decisions of the institution.
83. Head/Principal decides all administrative issues.
84. I will welcome the arrangements to examine the quality in teaching.
85. I cannot understand the ways to lift the standard and values of the institutions as compelled by authorities.
86. My expectation about the standard and values of the institution differ greatly from the real standard and values.
87. The new curriculum/syllabus totally changed the atmosphere of the institution.
88. I feel difficulty of the new curriculum/syllabus which exploits the teachers ability totally.
89. I have disagreement in certain aspects of the new curriculum/syllabus.
90. I cannot adopt my style of teaching due to the compulsion of authorities to teach traditionally.
91. I have freedom in choosing teaching activities to teach the new curriculum/syllabus.
92. Often I don't talk with some of my co-teachers.
93. Head/Principal thinks that it is unfair to talk friendly with other teachers.
94. My colleagues will not make opinions about quality of my teaching.
95. The opinion of Head/Principal about the standard of my teaching always insufficient.
96. I cannot justify the extreme control of teachers by the Head/Principal.
97. My institution has expert teachers in certain areas of new curriculum/syllabus/new teaching methods.
98. I cannot attend well in teaching due to illness of a close relative.
99. Teaching become a formality after I take responsibilities of my family due to the unexpected death of father/mother/wife/husband.

100. I don't believe that I cannot keep-up the standard of teaching as expected by the Head/Principal.
101. Even the Head/Principal expects quality and punctuality in teaching from me, often it is not possible due to personal problems.
102. I resort other ways along with teaching to meet the serious financial problems.
103. My family expenditure is beyond the limit of the salary I get.
104. Due to my husband/wife has a different job other than teaching often I cannot attend family properly.
105. Since my husband/wife work far away from home, I have more responsibilities of the family.
106. I am worried about my children since my husband/wife working in two different places/institutions.
107. I am not interested to discuss institutional problems with my husband/wife who is not a teacher.
108. My husband/wife has no interest in matters related to teaching.
109. My family problems negatively influence the effectiveness of teaching.
110. Often I am criticised by others when I leave the institution due to family problems.
111. My husband/wife always complaints about my inability to attend family matters due to the over involvement in teaching.
112. I confused often, in teaching due to the problems of older parents and the education of my children.
113. Since I am an effective teacher, my priority goes first to teaching.
114. I am so confused when I think about how to handle family and institutional problems at a time.

- Thank you for cooperating with this Research Project -

APPENDIX IV

UNIVERSITY OF CALICUT
DEPARTMENT OF PSYCHOLOGY

TEACHER STRESS INVENTORY - RESPONSE SHEET (DRAFT)

Item No.	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	Item No.	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	Item No.	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1	0	0	0	0	0	39	0	0	0	0	0	77	0	0	0	0	0
2	0	0	0	0	0	40	0	0	0	0	0	78	0	0	0	0	0
3	0	0	0	0	0	41	0	0	0	0	0	79	0	0	0	0	0
4	0	0	0	0	0	42	0	0	0	0	0	80	0	0	0	0	0
5	0	0	0	0	0	43	0	0	0	0	0	81	0	0	0	0	0
6	0	0	0	0	0	44	0	0	0	0	0	82	0	0	0	0	0
7	0	0	0	0	0	45	0	0	0	0	0	83	0	0	0	0	0
8	0	0	0	0	0	46	0	0	0	0	0	84	0	0	0	0	0
9	0	0	0	0	0	47	0	0	0	0	0	85	0	0	0	0	0
10	0	0	0	0	0	48	0	0	0	0	0	86	0	0	0	0	0
11	0	0	0	0	0	49	0	0	0	0	0	87	0	0	0	0	0
12	0	0	0	0	0	50	0	0	0	0	0	88	0	0	0	0	0
13	0	0	0	0	0	51	0	0	0	0	0	89	0	0	0	0	0
14	0	0	0	0	0	52	0	0	0	0	0	90	0	0	0	0	0
15	0	0	0	0	0	53	0	0	0	0	0	91	0	0	0	0	0
16	0	0	0	0	0	54	0	0	0	0	0	92	0	0	0	0	0
17	0	0	0	0	0	55	0	0	0	0	0	93	0	0	0	0	0
18	0	0	0	0	0	56	0	0	0	0	0	94	0	0	0	0	0
19	0	0	0	0	0	57	0	0	0	0	0	95	0	0	0	0	0
20	0	0	0	0	0	58	0	0	0	0	0	96	0	0	0	0	0
21	0	0	0	0	0	59	0	0	0	0	0	97	0	0	0	0	0
22	0	0	0	0	0	60	0	0	0	0	0	98	0	0	0	0	0
23	0	0	0	0	0	61	0	0	0	0	0	99	0	0	0	0	0
24	0	0	0	0	0	62	0	0	0	0	0	100	0	0	0	0	0
25	0	0	0	0	0	63	0	0	0	0	0	101	0	0	0	0	0
26	0	0	0	0	0	64	0	0	0	0	0	102	0	0	0	0	0
27	0	0	0	0	0	65	0	0	0	0	0	103	0	0	0	0	0
28	0	0	0	0	0	66	0	0	0	0	0	104	0	0	0	0	0
29	0	0	0	0	0	67	0	0	0	0	0	105	0	0	0	0	0
30	0	0	0	0	0	68	0	0	0	0	0	106	0	0	0	0	0
31	0	0	0	0	0	69	0	0	0	0	0	107	0	0	0	0	0
32	0	0	0	0	0	70	0	0	0	0	0	108	0	0	0	0	0
33	0	0	0	0	0	71	0	0	0	0	0	109	0	0	0	0	0
34	0	0	0	0	0	72	0	0	0	0	0	110	0	0	0	0	0
35	0	0	0	0	0	73	0	0	0	0	0	111	0	0	0	0	0
36	0	0	0	0	0	74	0	0	0	0	0	112	0	0	0	0	0
37	0	0	0	0	0	75	0	0	0	0	0	113	0	0	0	0	0
38	0	0	0	0	0	76	0	0	0	0	0	114	0	0	0	0	0

APPENDIX V

Item Analysis Data for the TSI

Item No.	Stressors	Positive/ Negative	t-value	Selected items	Item No. in the Final Inventory
1.	Intrinsic to the Job	Positive	2.84	✓	1
2.	"	Negative	2.75	✓	2
3.	"	Positive	4.46		
4.	"	"	2.56		
5.	"	"	0.914		
6.	"	"	0.69		
7.	"	"	5.29	✓	3
8.	"	"	5.64		
9.	"	"	4.73		
10.	"	"	5.82	✓	4
11.	"	"	3.77		
12.	"	Negative	5.16	✓	5
13.	"	Positive	6.46	✓	6
14.	"	"	2.57		
15.	"	"	1.55		
16.	"	"	6.26		
17.	"	"	2.58		
18.	"	"	5.39	✓	7
19.	"	Negative	3.09	✓	8
20.	"	Positive	1.91		
21.	"	"	6.30	✓	9
22.	"	"	1.71		
23.	"	Negative	8.39	✓	10
24.	"	Positive	4.07		
25.	"	"	1.47		
26.	"	"	0.75		

Item No.	Stressors	Positive/ Negative	t-value	Selected items	Item No. in the Final Inventory
27.	"	"	0.13		
28.	"	"	0.26		
29.	Role of Teachers	"	1.89		
30.	"	"	5.20		
31.	"	"	2.73		
32.	"	"	4.07	✓	11
33.	"	"	7.03		
34.	"	"	5.76	✓	12
35.	"	"	0.01		
36.	"	"	4.68		
37.	"	"	5.52		
38.	"	"	6.33	✓	13
39.	"	"	0.14		
40.	"	"	7.77	✓	14
41.	"	"	5.00		
42.	"	"	7.17	✓	15
43.	"	"	1.03		
44.	"	"	3.21		
45.	"	"	1.61		
46.	"	"	0.58		
47.	"	"	5.00	✓	16
48.	"	"	2.27		
49.	"	Negative	3.83	✓	17
50.	"	Positive	2.56		
51.	"	"	5.38		
52.	"	"	2.62	✓	18
53.	"	Negative	6.81	✓	19
54.	"	Positive	4.02		

Item No.	Stressors	Positive/ Negative	t-value	Selected items	Item No. in the Final Inventory
55.	Relationship at Work	"	1.56		
56.	"	"	3.78	✓	20
57.	"	"	2.85		
58.	"	"	2.68	✓	21
59.	"	"	0.64		
60.	"	"	4.51	✓	22
61.	"	"	0.77		
62.	"	"	3.80	✓	23
63.	"	"	1.71		
64.	"	"	4.25	✓	24
65.	"	"	0.63		
66.	"	"	3.08	✓	25
67.	"	"	1.77		
68.	"	Negative	2.65	✓	26
69.	"	Positive	0.47		
70.	"	"	3.67		
71.	Career Development	"	1.18		
72.	"	Negative	5.34	✓	27
73.	"	Positive	4.09		
74.	"	"	1.49		
75.	"	"	4.52	✓	28
76.	"	"	4.59		
77.	"	"	5.57	✓	29
78.	"	"	6.93		
79.	"	"	6.27		
80.	"	"	3.29	✓	30
81.	"	"	5.10		

Item No.	Stressors	Positive/ Negative	t-value	Selected items	Item No. in the Final Inventory
82.	Organisational Structure	"	1.17		
83.	"	"	4.05	✓	31
84.	"	"	5.81		
85.	"	"	6.10	✓	32
86.	"	"	4.26	✓	33
87.	"	"	6.25	✓	34
88.	"	"	8.24	✓	35
89.	"	"	2.83	✓	36
90.	"	"	4.39	✓	37
91.	"	"	1.66		
92.	"	"	6.48		
93.	"	"	4.34	✓	38
94.	"	"	2.34		
95.	"	"	5.49	✓	39
96.	"	"	3.51	✓	40
97.	"	Negative	4.73	✓	41
98.	Home work Interface	Positive	4.76		
99.	"	"	3.57	✓	42
100.	"	"	0.59		
101.	"	"	2.82	✓	43
102.	"	"	4.01		
103.	"	"	6.41	✓	44
104.	"	"	7.02		
105.	"	"	4.91	✓	45
106.	"	"	5.24	✓	46
107.	"	"	4.05	✓	47
108.	"	"	5.49	✓	48

Item No.	Stressors	Positive/ Negative	<i>t</i> -value	Selected items	Item No. in the Final Inventory
109.	"	"	5.94	✓	49
110.	"	"	4.59		
111.	"	"	4.98		
112.	"	"	6.34		
113.	"	"	0.93	✓	50
114.	"	"	2.88		

P A R T 2

Sources of Stress in Teaching Profession

Directions: Below are given a number of statements which are related to you and your profession. The statement indicate the amount of *stress* you experience as a teacher. Please read each statement and decide how far you agree with each statement. Separate response sheet is supplied to you for marking your agreement/disagreement. Mark your agreement/disagreement by putting a 'X' mark in the circle provided below your decision against the number of each statement. Kindly attempt all statements. Your responses will be *kept confidential* and used for research purpose. *See the example.*

Example:

I feel tension due to the increased number of students in the class

Strongly Agree	Agree	Un- Decided	Dis- Agree	Strongly DisAgree
○	⊗	○	○	○

Please cooperate

1. I feel tension due to the increased number of students in the class.
2. The increase or decrease in the number of students in the class adversely affect teaching.
3. Although the poor condition of the institutional building is brought to the attention of authorities, no favourable action is taken. ↗
4. Institution has no satisfactory toilet facilities for the teachers and students.
5. Even though I practiced extreme disciplinary measures, the misbehaviour of students do not come to an end.
6. Students of my class have the habit of making noise by talking during teaching.
7. It is not possible to use the material supplied by Government and other agencies to increase the quality of learning.

8. Ineffective competence development programmes for teachers to increase the expertise negatively influence teaching.
9. Work load is high due to the lack of sufficient number of teachers.
10. A number of instances to get bored doing nothing even though I have classes to engage.
11. New curriculum and syllabus totally changes the teaching-learning process in the class.
12. Lack of mastery and expertise to teach many subjects makes teaching more tough.
13. I am dissatisfied in decentralising institutional responsibilities to teachers other than the traditional style.
14. Often I have to teach subjects and perform differently for which I am not trained/experienced.
15. Parents of the students demand to teach well the possible part of the subject even though the syllabus is not finished totally.
16. I am always busy due to my healthy participation in curricular and co-curricular activities of the institution.
17. I have no time to help my colleagues because of my work load.
18. Failure in effective teaching is caused by the substandard in-service training/orientation/refresher courses.
19. I feel difficulty to take up administrative duties due to the lack of experience.
20. Parents will not react when they are informed about the misbehaviour of students.
21. I believe the causes of quarrel with some teachers are themselves.
22. I feel irritated in some of the actions taken by the Head/Principal.
23. Office staff of the institution view teachers including myself as enemies.
24. Parents often blame teachers in Parent-Teacher meetings.
25. Due to the behaviour of teachers, students are disinterested in learning.
26. I cannot handle problem students by love and affection.

27. I do not feel desperated not in reaching the highest position in teaching.
28. I feel boredom in continuing in the profession of teaching for a long time.
29. Even though I have higher qualifications, I will not get responsibilities/ duties correspond to my qualifications.
30. There is no job security because of students seek admission to courses offered by other institutions.
31. Head/Principal decides all administrative issues.
32. I cannot understand the ways to lift the standard and values of the institutions as compelled by authorities.
33. My expectation about the standard and values of the institution differ greatly from the real standard and values.
34. The new curriculum/syllabus totally changed the atmosphere of the institution.
35. I feel difficulty of the new curriculum/syllabus which exploits the teachers ability totally.
36. I have disagreement in certain aspects of the new curriculum/syllabus.
37. I cannot adopt my style of teaching due to the compulsion of authorities to teach traditionally.
38. Head/Principal thinks that it is unfair to talk friendly with other teachers.
39. The opinion of Head/Principal about the standard of my teaching always insufficient.
40. I cannot justify the extreme control of teachers by the Head/Principal.
41. My institution has expert teachers in certain areas of new curriculum/syllabus/new teaching methods.
42. Teaching become a formality after I take responsibilities of my family due to the unexpected death of father/mother/wife/husband.
43. Even the Head/Principal expects quality and punctuality in teaching from me, often it is not possible due to personal problems.
44. My family expenditure is beyond the limit of the salary I get.

45. Since my husband/wife work far away from home, I have more responsibilities of the family.
46. I am worried about my children since my husband/wife working in two different places/institutions.
47. I am not interested to discuss institutional problems with my husband/wife who is not a teacher.
48. My husband/wife has no interest in matters related to teaching.
49. My husband/wife always complaints about my inability to attend family matters due to the over involvement in teaching.
50. I am so confused when I think about how to handle family and institutional problems at a home.

- Thank you for cooperating with this Research Project -

APPENDIX VII

UNIVERSITY OF CALICUT
DEPARTMENT OF PSYCHOLOGY

TEACHER STRESS INVENTORY

RESPONSE SHEET (FINAL)

Item No.	Strongly Agree	Agree	Un-decided	Disagree	Strongly Disagree	Item No.	Strongly Agree	Agree	Un-decided	Disagree	Strongly Disagree
1	0	0	0	0	0	26	0	0	0	0	0
2	0	0	0	0	0	27	0	0	0	0	0
3	0	0	0	0	0	28	0	0	0	0	0
4	0	0	0	0	0	29	0	0	0	0	0
5	0	0	0	0	0	30	0	0	0	0	0
6	0	0	0	0	0	31	0	0	0	0	0
7	0	0	0	0	0	32	0	0	0	0	0
8	0	0	0	0	0	33	0	0	0	0	0
9	0	0	0	0	0	34	0	0	0	0	0
10	0	0	0	0	0	35	0	0	0	0	0
11	0	0	0	0	0	36	0	0	0	0	0
12	0	0	0	0	0	37	0	0	0	0	0
13	0	0	0	0	0	38	0	0	0	0	0
14	0	0	0	0	0	39	0	0	0	0	0
15	0	0	0	0	0	40	0	0	0	0	0
16	0	0	0	0	0	41	0	0	0	0	0
17	0	0	0	0	0	42	0	0	0	0	0
18	0	0	0	0	0	43	0	0	0	0	0
19	0	0	0	0	0	44	0	0	0	0	0
20	0	0	0	0	0	45	0	0	0	0	0
21	0	0	0	0	0	46	0	0	0	0	0
22	0	0	0	0	0	47	0	0	0	0	0
23	0	0	0	0	0	48	0	0	0	0	0
24	0	0	0	0	0	49	0	0	0	0	0
25	0	0	0	0	0	50	0	0	0	0	0

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