AN INVESTIGATION INTO STRESS FACTORS AND LEVELS OF STRESS AS PERCEIVED BY REGULAR CLASSROOM TEACHERS OF NEWFOUNDLAND AND LABRADOR

CENTRE FOR NEWFOUNDLAND STUDIES

TOTAL OF 10 PAGES ONLY
MAY BE XEROXED

(Without Author's Permission)

SHARON E. KENDELL

097284



CANADIAN THESES ON MICROFICHE

I.S.B.N.

THESES CANADIENNES SUR MICROFICHE

National Library of Canada
Collections Development Branch

Canadian Theses on
Microfiche Service

Ottawa, Canada
K1A 0N4

Bibliothèque nationale du Canada
Direction du développement des collections

Service des thèses canadiennes
sur microfiche

NOTICE

The quality of this microfiche is heavily dependent upon the quality of the original thesis submitted for microfilming. Every effort has been made to ensure the highest quality of reproduction possible.

If pages are missing, contact the university which granted the degree.

Some pages may have indistinct print especially if the original pages were typed with a poor typewriter ribbon or if the university sent us a poor photocopy.

Previously copyrighted materials (journal articles, published tests, etc.) are not filmed.

Reproduction in full or in part of this film is governed by the Canadian Copyright Act, R.S.C. 1970, c. C-30. Please read the authorization forms which accompany this thesis.

THIS DISSERTATION
HAS BEEN MICROFILMED
EXACTLY AS RECEIVED

AVIS

La qualité de cette microfiche dépend grandement de la qualité de la thèse soumise au microfilmage. Nous avons tout fait pour assurer une qualité supérieure de reproduction.

S'il manque des pages, veuillez communiquer avec l'université qui a conféré le grade.

La qualité d'impression de certaines pages peut laisser à désirer, surtout si les pages originales ont été dactylographiées à l'aide d'un ruban usé ou si l'université nous a fait parvenir une photocopie de mauvaise qualité.

Les documents qui font déjà l'objet d'un droit d'auteur (articles de revue, examens publiés, etc.) ne sont pas microfilmés.

La reproduction, même partielle, de ce microfilm est soumise à la Loi canadienne sur le droit d'auteur, SRC 1970, c. C-30. Veuillez prendre connaissance des formules d'autorisation qui accompagnent cette thèse.

LA THÈSE A ÉTÉ
MICROFILMÉE TELLE QUE
NOUS L'AVONS REÇUE

NL-339 (r. 82/08)

Canada

AN INVESTIGATION INTO STRESS FACTORS AND LEVELS OF STRESS AS PERCEIVED BY REGULAR CLASSROOM TEACHERS OF NEWFOUNDLAND AND LABRADOR

by

© Sharon E. Kendell, B.A., B.Ed.

A Thesis submitted in partial fulfillment
of the requirements for the degree of
Master of Education

Department of Educational Psychology
Memorial University of Newfoundland
November 1982

St. John's Newfoundland

ABSTRACT

This study was designed to: (1) identify elements in the teaching environment which regular classroom teachers in Newfoundland and Labrador perceive as being stressful; (2) determine to what degree stress is being experienced by teachers; (3) compare the findings in (1) and (2) for teachers of the three teaching levels, primary, elementary, and high school; (4) examine the differences in stress levels perceived according to different biographical subgroups.

A review of the literature revealed the current theories of stress and the approaches used to measure stress as experienced by individuals of the teaching profession.

The instrument used in this study was the Wilson Stress Profile for Teachers, published in 1979, by Dr. Christopher Wilson. To supplement this scale, an additional section, consisting of items relating to unique provincial concerns, titled the Local Scale, was included, as was a biographical information sheet.

The sample consisted of 582 teachers from all school boards in the Province; comprised of representative numbers of primary, elementary and secondary teachers.

Issues of Time Management, Parent/Teacher Relations and Intrapersonal Conflicts, in that order, were perceived as being most stressful by teachers of all categories. The teachers reported difficulties in the preparation, delivery,

and evaluation of classroom work; also, parental attitudes and pressures were cited as major sources of concern.

The stress levels reported represented a high moderate degree of stress. The degree to which regular classroom teachers experienced stress, as measured by the WSPT and the Local Scale, revealed no significant differences between the teacher categories of primary, elementary, and secondary. It has been concluded, based upon the results of this study, that, regardless of teaching level, teachers are perceiving and experiencing the same amount of stress.

The biographical variables studied did not vary in their contribution to the total level of stress; however, variations were revealed upon analysis of the components of each variable with regards to the sample population and teacher category. The results also revealed that perceived stress was related to physiological and psychological well-being.

As a result of these findings, recommendations were made for further study and for action to be taken, in order to better understand, cope with and utilize the phenomenon of stress.

ACKNOWLEDGEMENTS

I would like to thank Dr. Lee Klas whose support and direction was invaluable throughout this study.

My appreciation also extends to Fred Bonnell, the Newfoundland Teachers' Association, and Mary Johnston for her many hours at the typewriter.

Special thanks to my parents whose encouragement and love made this possible.

TABLE OF CONTENTS

Page

ABSTRACT ii

ACKNOWLEDGEMENTS iv

LIST OF TABLES vii

LIST OF FIGURES ix

Chapter

I INTRODUCTION 1

Purpose 1
Rationale and Significance 1
A Stress Model 12
Research Questions 19
Definitions 23
Limitations 25

II REVIEW OF THE LITERATURE 27

Evolution of the Stress Concept 27
Models of Stress 29
Causes of Stress--Stressors 34
General Adaptation Syndrome 38
Personality Types and Stress 42
Psychological Measure of Personality 43
Behavior Patterns and Personality 44
Self-Perception and Stress 45
Reactive Behavior and Stress 46
Life Change Events and Their Relationship to Stress 47
Teacher Stress 50
Introduction 50
Role Conflict 51
Teacher Involvement in Decision-Making 55
Student-Teacher Relationships 59
Teacher Accountability 64
Teacher Overload 66
Biographical Factors and Stress 70
Physical/Psychological Manifestations of Stress 72
Stress Management Techniques 75
A Model for Management of Stress 77
Critical Review of Substantive Studies 85
Summary 89

Chapter		Page
III	METHODOLOGY	90
	Instrumentation	90
	Wilson Stress Profile for Teachers	90
	General Information Questionnaire	96
	Local Scale	98
	Procedure of the Study	99
	Sampling Procedure	100
	Analysis Procedures	102
	Summary	103
IV	PRESENTATION, ANALYSIS AND INTERPRETATION OF THE DATA	104
	Introduction	104
	Mean Stress Levels for Regular Classroom Teachers	104
	The WSPT Category Means and Ranked Order	106
	Means and Ranked Order of Stressors for Regular Classroom Teachers	123
	Biographical Variables Related to Perceived Stress	133
	Correlates of Stress	143
	Biographical Variables as They Relate to Stress by Teacher Category	145
V	SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	167
	Summary of the Study	167
	Statement of the Problem	167
	Conclusions	168
	Recommendations for Further Research	173
	Recommendations for Action	175
BIBLIOGRAPHY		177
APPENDICES		185

LIST OF TABLES

Table		Page
1.	The Sample Population of Regular Classroom Teachers by Teacher Category	102
2.	Mean Total Stress Scores by Teacher Category as Measured by the WSPT and the Local Scale	105
3.	Analysis of the Mean Stress Score as Measured by the WSPT and the Local Scale for Regular Classroom Teachers	105
4.	Mean Scores and Ranks for the Nine Categories of the WSPT for Each Teacher Category	108
5.	Ranked Order of the Mean Scores of the Nine Categories of the WSPT for Each Teacher Category.	109
6.	Analysis of the Mean Stress Scores for the Nine Categories of the WSPT by Teacher Category	112
7.	Mean Scores and Ranked Order of the Ten Most Stressful Items as Measured by the WSPT for Primary Teachers	124
8.	Mean Scores and Ranked Order of the Ten Most Stressful Items as Measured by the WSPT for Elementary Teachers	125
9.	Mean Scores and Ranked Order of the Ten Most Stressful Items as Measured by the WSPT for High School Teachers	126
10.	Mean Scores and Ranked Order of the Ten Most Stressful Items as Measured by the WSPT for All Regular Classroom Teachers	127
11.	Mean Scores and Ranked Order of the Three Most Stressful Items as Measured by the Local Scale for Primary Teachers	129
12.	Mean Scores and Ranked Order of the Three Most Stressful Items as Measured by the Local Scale for Elementary Teachers	129
13.	Mean Scores and Ranked Order of the Three Most Stressful Items as Measured by the Local Scale for High School Teachers	130

Table — Page

14. Mean Scores and Ranked Order of the Three Most Stressful Items as Measured by the Local Scale for All Regular Classroom Teachers 130

15. Mean Stress Scores as Measured by the WSPT and the Local Scale, for Regular Classroom Teachers by Biographical Variables 134

16. Analysis of the Mean Stress Scores, as Measured by the WSPT and the Local Scale, for Regular Classroom Teachers by each of the Biographical Subgroups 136

17. Correlation Between the Total Level of Stress, as Measured by the WSPT, with Physical Symptoms of Stress and Psychological/Emotional Symptoms of Stress, for Each Teacher Category 144

18. Mean Stress Scores, as Measured by the WSPT, for Each Teacher Category by Biographical Subgroups. 146

19. Mean Stress Scores, as Measured by the Local Scale for Each Teacher Category, by Biographical Subgroups 148

20. Analysis of the Mean Stress Scores, as Measured by the Local Scale, for Each Teacher Category by Biographical Subgroups 150

21. Analysis of the Mean Stress Scores, as Measured by the WSPT, for Each Teacher Category by Biographical Subgroups 151

LIST OF FIGURES

Figure		Page
1.	A model of teacher stress	13
2.	Relationship between stress and life experiences	31
3.	Relationship between stress and degrees of stimulation	32
4.	Relationship of level of stress arousal to level of performance	33
5.	Kinds of stress	35
6.	A model of psychosocially mediated disease	37
7.	Triphasic nature of the G.A.S.	39
8.	Mean stress scores for each teacher category, as measured by WSPT	107
9.	Mean stress scores for each teacher category as measured by Local Scale	107
10.	Stress profile for regular classroom teachers	110
11.	Mean stress scores, as measured by WSPT, for regular classroom teachers by length of teaching experience	138
12.	Mean stress scores, as measured by the Local Scale, for regular classroom teachers by length of teaching experience	141
13.	Mean Scores, as measured by WSPT, for regular classroom teachers by school's student enrollment	142
14.	Mean stress scores, as measured by the WSPT, for high school teachers, by sex	153
15.	Mean stress scores, as measured by the Local Scale for elementary teachers by age	155
16.	Mean stress scores for length of teaching experience for high school teachers, as measured by the WSPT	158

Figure Page

17. Mean stress scores for school's student enrollment for high school teachers, as measured by the WSPT 160

18. Mean stress scores for class size, as measured by the WSPT, for elementary teachers . 162

19. Mean stress scores, as measured by the Local Scale, for elementary teachers by class size .. 163

20. Mean stress scores, as measured by the WSPT, for primary teachers by number of sick days taken 165

CHAPTER I

INTRODUCTION

Purpose

The purposes of this study were: (1) to identify elements in the teaching environment which regular classroom teachers in Newfoundland and Labrador perceive as being stressful; (2) to determine to what degree stress is being experienced by the teachers; (3) to compare the reported sources and degrees of stress in teachers of three teaching levels, namely primary, elementary and high school; (4) to examine the differences in stress levels perceived according to different biographical subgroups.

Rationale and Significance

"Stress" is a term which has become very common in our language. It is accepted by both lay and professional people that stress is ever present and sometimes threatening. Despite its vernacular usage, people generally know very little about the concept of stress. However, Robert Sylwester, a Professor of Education at the University of Oregon, has called stress "the worst health problem teachers have to contend with" (as cited in R. C. Newell, 1979, p. 16). There is a lack of systematic research in the area of teacher stress, nationally and provincially. Despite the lack of research,

however, "stress" is liberally used as a reason for difficulties in such facets of behavior as academic performance, job performance and interpersonal relations.

> In view of the importance attached to stress as a possible contributing factor to every unfortunate physical and behavioral "outcome," from disease to drug use, one is struck by the slightness of the evidence that links stress to disorder and, more important, that describe the nature of the relationship, its processes, and mechanisms. The simple obvious explanation is that very little research has been conducted in this area. (Levine & Scotch, 1976, p. 7)

Cooper stated:

> The time has long passed to simply hold another stress symposium, conference, or workshop; what we now need are well thought out preventive programs of stress management whose primary objective is to provide more liveable environments in the home and at work. (1981, p. 4)

What is this universal phenomenon? Why is it important to be aware of the nature and implications of stress?

Hans Selye, a forerunner and pioneer in the study and research of stress, defined it as "... a non-specific response of the body to any demand made upon it" (Selye, 1976, p. 1). This response may be of a physical or psychological nature. People often infer that stress is something which is detrimental; however, this is not necessarily the case. Selye pointed out that stress is "the salt of life, stress wakes us up and makes us alive."

> Stress is what makes some people tick and others stop ticking. Don't try to beat the system--understand if possible. The more we understand it, the more we can

> use it intelligently to accomplish and achieve what we want. (Giammatteo & Giammatteo, 1980, p. 2)

> Stress is the rate at which we live at any moment... anything pleasant or unpleasant that speeds up the intensity of life, causes a temporary increase in stress. (Selye, 1974, p. 2)

Selye distinguished between positive and negative stress. Positive stress, that which enables one to perform and function successfully, is called "eustress," while negative stress, which leads to malfunctioning and decreased performance, is called "distress" (Morse & Furst, 1979). It is this latter definition which has caused concern among educators. Are there elements of the teaching environment which are negatively affecting the well-being and performance of its members? If so, what are they? Such environmental elements are called "stressors." "A stressor is an event or condition including anticipation and imagination--and that triggers a stress reaction" (Girdano & Everly, 1979, p. 14).

The reaction to stress takes the form of some kind of physical or psychological adaptation. The body strives to maintain its equilibrium. The adaptation of the body may be to cope with psychic demands (fear, frustration, pain, grief, job pressures, marital discord) or somatic demands (surgical operations, burns, loss of blood). Some psychic demands stem from the work environment. The body adapts to stressors in many different ways. Medical research supports the stance that prolonged stress may lead to "hypertension, coronary disease, migraine and tension headaches, peptic ulcers, renal

disease and asthma" (Kathy Slobogin, as cited in R. C. Newell, 1979, p. 16). The major behavioral responses that may be manifested in this area are, "reduced intellectual processes, increased self-sensitivity, decreased ability to cope with or master tasks, and a decreased sense of personal effectiveness" (Kozier & Erb, 1979, p. 120). A stressor originating in the physical area may well produce signs and symptoms of a psychological nature, and vice versa.

Over the past decade the term "burnout" has gained common usage on the occupational front. "Burnout," as described by the University of California social psychologist, Ayata Pines (as cited in Hendrickson, 1979), is "physical, emotional and attitudinal exhaustion." People are "burned-out," or develop a "what's the use syndrome" due to prolonged stress overload. The fear, reality and implications of stress overload have been a catalyst in influencing the study of occupational environments to determine their potential stressors. In addition, stress seems more prevalent today than at any other time in history. As Cary Cooper stated so aptly:

> One doesn't have to be convinced of this reality by the media coverage of the death of an internationally known celebrity like Peter Sellers; the figures for coronary heart disease, alcoholism, and mental illness speak for themselves. (Cary Cooper, 1981, p. ix)

It is not surprising, therefore, that now, more so than ever before, people are giving serious consideration to environmental stressors in assessing the feasibility of career options. While negative environmental stressors are found in all occupations,

teaching involves many that are unique to that profession.

> In a recent poll, one third of the teachers contacted said they would not go back to teaching if they had the chance to do it again. Only 60 percent of those polled said they plan to teach until retirement. As yet another indicator of teacher dropout, the number of teachers with twenty years or more experience has dropped by half in the last fifteen years. More medical claims are being made by teachers than any other profession. (Truch, 1980, p. 1)

The implications of these statements cannot be denied.

> Occupational stress arises from a discrepancy between the teacher's work needs, values, expectations and the failure of the work environment to provide occupational rewards, job demands and the capacity of the worker to meet these requirements. (Cooper, 1981, p. 175)

Although research studies of teacher stress are limited, the following are representative of what has been revealed in different geographical regions thus far.

Kyriacou and Sutcliffe (1978) investigated the prevalence, sources and symptoms of teacher stress in medium-sized mixed comprehensive schools in England. As with this study, the researchers operated on the assumption that teachers are able to provide valid reports of the sources of perceived stress. All of the 51 sources of stress were positively correlated with self-reported teacher stress. Biographical subgrouping was a principal component of analysis. The principal components analysis revealed the following clusters: "Factor I was labelled 'pupil misbehavior,' factor II 'poor working conditions,' factor III 'time pressures' and factor IV 'poor school ethos'" (Kyriacou and Sutcliffe, 1978, p. 161).

> The results of the present study are that about 20 percent of the 257 teachers in the sample of 16 medium-sized, mixed comprehensive schools in England reported that being a teacher was either very stressful or extremely stressful. (Kyriacou & Sutcliffe, 1978, p. 166)

"This finding supports work elsewhere (e.g. Coburn & Dovaisas, 1975; Rogers, 1977), indicating that the sources of stress are multi-dimensional rather than unidimensional" (Kyriacou & Sutcliffe, 1978, p. 167).

Donald J. Cichon and Robert H. Koff (1978) developed an instrument called "The Teaching Stress Inventory." Drawing on the work of Holmes and Rahe (1967), events of the teaching profession thought to induce such stress among educators were selected for an inventory, which was sent to the 22,338 teachers employed by the Chicago Board of Education. The findings led to the conclusion that, regardless of sex, race, age, or type of school, teachers share common perceptions concerning stress associated with teaching. The analysis of the 36 rank-ordered teaching events identified four general themes or clusters of events. The first, which appeared to be of priority concern, involved violence and student discipline. The second cluster centered around the theme of "management tension." Events in this category involved those over which the teacher has little control, such as reorganization of classes, overcrowded classrooms and involuntary transfers. The third category was labeled "doing a good job." "The items that best characterized this cluster were: maintaining self-control when angry and teaching students who are below

average in achievement level." The lowest ranked events were centered around the theme of pedagogical functions. "This involves such events as planning lessons, meeting with parents, and taking part in inservice-training and upgrading" (Cichon and Koff, 1978, p. 8).

Christopher Wilson (1980) used the Wilson Stress Profile for Teachers (WSPT) to study stress levels of 151 teachers in San Diego, California. (This was the same scale utilized in the current study.) Included in Wilson's study were elementary school teachers, special education teachers, and middle school teachers. Time Management and Intrapersonal Conflicts were rated 1 and 2 respectively. The scale provided a measure of psychological and somatic symptoms as well. "Twenty-nine per cent of teachers scored in the High/Moderate to High range of Psychological/Emotional Symptoms of Stress" (Wilson, 1979, p. 14).

Needle, Griffin and Svendsen (1981), through the use of a questionnaire, carried out an extensive study on occupational stress and coping with 2,096 Minnesota public school teachers. They also obtained information on health status, by obtaining information on chronic conditions and physical symptoms, and were able to form an overall index. They found the following correlates of job stress:

> 1) Teachers experiencing lower discrepancies between what they value and rewards obtained reported higher general well being and lower stress and anxiety ($r = .37$). 2) ... those with more satisfaction (low stress) reported more relaxation ($r = .35$) and not feeling exhausted ($r = .17$). 3) ... those with higher stress (greater

> discrepancy between values and rewards) have more somatic symptoms (r = .29). Somatic Symptoms and general well being are highly correlated (r = .67).

"It is clear that perceived job stressors are substantially related to psychological, somatic and health related problems. The health of teachers is greatly affected by stress" (Needle, Griffin and Svendsen, 1981, pp. 179-180). These researchers distinguished between those occupational stressors shared among the professions and those unique to teaching. Those shared centered around the following: (1) job content or the challenge of the task itself (lack of stimulating or interesting work, little chance of utilizing skills or developing new skills, autonomy, variety, complexity and qualitative and quantitative overload); (2) resource adequacy (lack of help, equipment, time, authority and necessary information); and (3) finanoial rewards (low pay, lack of job security and fringe benefits) (Griffin, Needle, Svendsen, 1981, p. 176). Their research revealed the following stressors to be unique to the teaching profession:

> One group of stressful events centers around work conditions that affect teachers' work and over which they have little control, particularly their success with students, over-crowded classrooms, reorganization of classes and implementing board of education curriculum goals. (Needle, Griffin, Svendsen, 1981, p. 177)

These researchers found other events to be problematic for teachers, such as those which impeded the successful completion of objectives. Time demands which shortened actual instruction time was a big concern, as well as student behavior, attitude

and interest.

To summarize, the rationale for this exploratory study is as follows:

1. In spite of common usage in education the term "stress" is not well understood; in particular, the elements in the teaching environment which cause stress and the degree to which stress is actually perceived in the teaching environment need more clarification. Few substantial studies have been carried out in this area; no such studies have been conducted in the province of Newfoundland and Labrador (see purposes 1 and 2).

2. Different teaching levels may present unique problems in terms of sources and degrees of stress perceived. Teachers and administrators need to be aware of the various potential and actual stressors in their environment so that such stressors can be put to the best advantage, prevented, or allowed for in the organization of the school's program (see purpose 3).

3. It is yet unclear as to how biographical factors are related to perception of stress and degree of stress perceived. This study will analyze certain biographical factors and their relationship to perceived stress (see purpose 4).

4. Research has suggested that being able to pinpoint stressors in one's life, whether they are potential or actual, or whether they are due to lifestyle, attitudes, interpersonal

relationships, intrapersonal conflicts or environmental conditions, is the first step in ensuring a healthy life. Such identification would provide the key to preventive measures that may be taken or serve to signal the person's attention to where intervention and coping skills may be required. As the 1980 Mental Health Week Slogan read, "Stress: The More You Know About It, the Better You Cope."

> ... it is only possible through knowledge and training to alter, intervene, or prevent the detrimental effects of our environment, our perception, and our imagination have on the arousal of the control systems of the body. (Girdano & Everly, 1980, p. 19)

5. The desire for research in the area of teacher stress also stems from the teachers themselves. In a discussion of this topic with executive members of the Newfoundland Teachers' Association, it was reported that requests for in-service programs and workshops have been prompted by the current concern among teachers over the amount of "stress" believed to exist in the profession. In response to the expressed concern of the teachers of the province, the Professional Development Director, Mr. Myrle Vokey, has established a committee, its mandate being to assist in the study of the teaching environment to ascertain, (1) what factors are perceived as causing stress and (2) to what degree teachers are actually experiencing stress.

6. This exploratory study will provide a perspective and reference base to view the stress inducing elements of the

teaching environment in Newfoundland and Labrador. The identification of such factors may lead to the development of stress awareness and stress management programs which can be specifically focused to our provincial, regional, and local needs. Such programs may take the form of in-service education designed to emphasize and alleviate problems associated with the personal development of teachers. If one assumes that stress has a negative impact on the teaching-delivery system, then the solution of stress-related problems should rank as an important priority for in-service programs.

7. The study of stress may also aid in turning tension into efficient energy, thus enabling teachers to perform at more optimal levels. It may also help teachers avoid stress related diseases which lead to low productivity, absenteeism and the desire for many to leave the profession. A critical service is that of helping insure that thousands of students will receive the benefits of stress which is managed rather than suffer the detrimental effects of stress that is unmanaged.

> If the profession is to grow and thrive, stress must be managed rather than avoided or blindly stumbled upon. However, for the management of stress to be effective its nature and origins must be identified and strategies for control must be devised. (Chinnery, 1979, p. 167)

Through anticipation of problems, and by studying them in the primary stages, one can plan and work toward finding and implementing solutions to problems before they have reached the final and critical stage.

8. The study may also make a contribution to the general field of knowledge on the causes and manifestations of occupational stress. What is found to exist for teachers may be of interest, or use, to those in other occupations.

9. Based upon a critical review of the literature (see Chapter 2) there appears to be a lack of substantive research incorporating biographical factors, adequate sample size, randomized, stratified samples, and varying school levels. This study serves as an exploratory effort to incorporate such concerns.

Further elaboration of studies already completed in the area of stress, which are related to the previous rationale and significance of this study, is found in Chapter 2.

A Stress Model

There are many theoretical approaches to consider in a study of stress; there also are many definitions and differing views on factors which influence or induce a stress reaction, whether they occur in the environment or whether they are a function of the individual and his perception of the environment. These considerations will be dealt with in detail in Chapter II. The following definition and model were chosen for this study, as they incorporate those influences and indicators of stress which the research has shown to be necessary in understanding the phenomenon of stress.

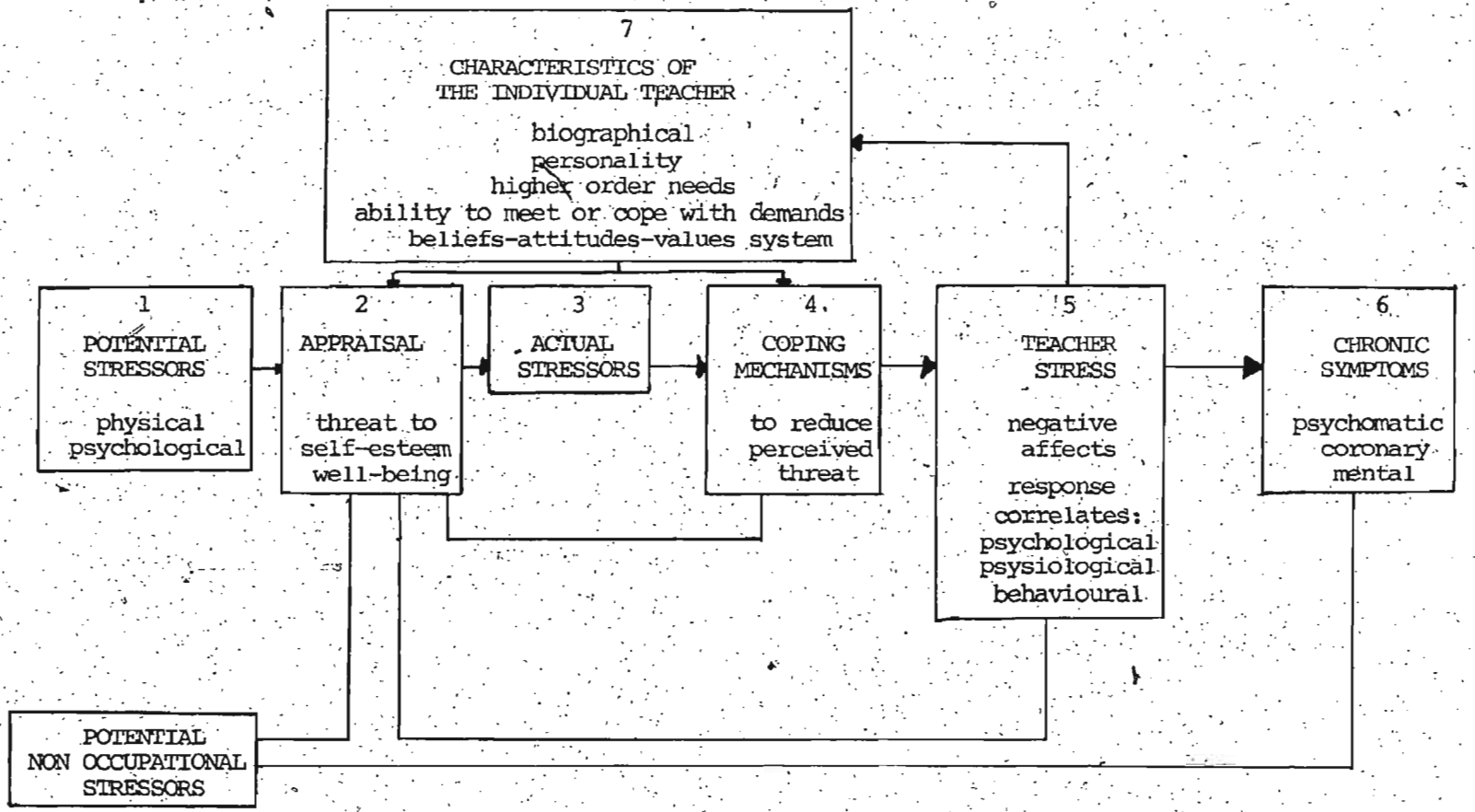


Figure 1. A model of teacher stress

> Teacher stress may be defined as a response of negative affect (such as anger or depression) by a teacher usually accompanied by potentially pathogenic physiological and biochemical changes (such as increased heart rate or release of adrenocorticotrophic hormones into the blood-stream) resulting from aspects of the teacher's job and mediated by the perception that the demands made upon the teacher constitute a threat to his self-esteem or well-being and by coping mechanisms activated to reduce the perceived threat. (Kyriacou and Sutcliffe, 1978, p. 2)

This definition is conceptualized with respect to the following model (Kyriacou & Sutcliffe, 1978, p. 3).

Stress exists in varying degrees, depending upon the nature of the stressor and the nature of the individual. The factors affecting the nature of the stressor include the intensity, duration, and multiplicity of the stressors experienced. The model of teacher stress utilized by this study distinguishes between potential occupational stressors (Box 1) and actual occupational stressors (Box 3). "Potential occupational stressors are objective aspects of a teacher's job (such as too much work or high noise levels) which may result in teacher stress occurring" (Kyriacou & Sutcliffe, 1978, p. 3). Even if the teacher perceives the event as a threat to self-esteem or well-being, he may feel unable to cope with the demands. "In general threats to our well-being, economic validity, self-esteem and health, have the potential to either make us perform extraordinary feats or become ill" (Teacher Stress, in the author's possession). Thus, the teacher's appraisal of the event (Box 2) is important; an event which may be distressful to one person may not evoke the same response in another. Due to the structure of the educational system and

the nature of the tasks to be performed by the teacher, "teaching presents a 5-6 hour daily fare of potential stress" (Madelaine Hunter, 1977, p. 122).

> Researchers have shown that responsibility for people always causes more stress than responsibility for things, so people involved in teaching, counselling, psychology, and all the major health professions are particularly susceptible to occupational stress. (Truch, 1980, p. 20)

The factors which influence the appraisal of a potential stressor are: the individual characteristics of the teacher (Box 7) (i.e., genetic endowment, acquired immunity, sex, age, training, beliefs, values, attitudes, personality) and the perception of the demands (i.e., the individual feels he is unable to cope) (Box 4). He may have the ability to cope but his own perception is that he cannot. "Indeed, it has been argued (Averill, 1973) that perceived lack of control is a necessary condition for stress to occur" (Kyriacou and Sutcliffe, 1978, p. 4). How a stressor is appraised may be affected by demands apart from occupational stress. That is, life stressors (Box 3) such as engagements, marriage and mortgages may influence one's ability to cope with stressors on the job.

"Potential occupational stressors that have been appraised as constituting a threat have been termed actual occupational stressors" (Kyriacou & Sutcliffe, 1978, p. 4). Once these actual occupational stressors (Box 3) occur for the individual, he has to cope with them in some way to reduce the perceived threat. It is the adequacy of the individual's coping skills

which will determine the amount of stress experienced. It is being shown that stress on the job can lead to low productivity, absenteeism and premature death. "Is Teaching Hazardous to Your Health?" was a question posed by Instructor magazine to its reading audience. The majority of the 7,000 teachers who responded answered "Yes" (Miller, 1979). "Disease or the fear of diminished capacity has become the motivator for studying stress, now a well-documented precursor of illness" (Girdano & Everly, 1979, p. 8). When stress is discussed in these terms, that is, leading to diminished capacity for functioning, it is of vital concern for those members of the helping professions, especially teachers, because of their daily contact and influence over the growth and development of society's youth. "Koon (1979) found that high anxiety teachers use significantly less task-oriented behavior with students and that they tend to administer fewer positive reinforcements" (as cited in Bettie Burres Young, 1978, p. 81). Others have found that students of high anxiety teachers tend to be more disruptive than students of teachers with low anxiety levels. Thus, unresolved stress can be detrimental to the teacher and to his students (Bettie Burres Young, 1978).

Throughout this discussion on the various factors which determine a stress reaction, the key issues which have arisen are: identification of potential and actual stressors, perception, and the availability of coping mechanisms (see page 13). These are the issues incorporated into this model and dealt with in this study. The instruments used in this study

measure perceived stress rather than clinically observed stress.

This study utilized the Wilson Stress Profile for Teachers (WSPT), developed by Christopher Wilson. "The WSPT measures by self-report, perceived stress in major stressful categories related to teaching and also provides an overall general teaching stress score" (Wilson, 1979, p. 9). The major stressful categories are: Student Behavior (SB), Employee/Administrator Relations (EAR), Teacher/Teacher Relations (TTR), Parent/Teacher Relations (PTR), Physical Symptoms of Stress (PSS), Psychological/Emotional Symptoms of Stress (PSYCH), and Stress Management Techniques (SMT).

To supplement the WSPT, teachers were requested to provide biographical data such as age, sex, marital status, qualifications, and years of experience. As well, an additional category of items was included to allow for the unique nature and structure of the local school system in Newfoundland and Labrador. In recent years, a decline in student enrollment has occurred, causing grave concern among teachers over job security. The past several years, as well, have brought an added pressure in the form of the reorganized school system to include grade twelve. These are the kinds of issues looked at in the Local Scale.

As it relates to the model of teacher stress presented in the preceding discussion, the scale provides items representative of potential stressors (stage 1), allows for teachers to report their perceptions of these items to determine those

which are actual stressors (stages 2 and 3), identifies symptoms of stress (stage 6) which teachers are experiencing and looks at management techniques (stage 4) which teachers currently employ (see also, chapters 2 and 3).

Thus, the Wilson Scale integrates adequately with the model of stress selected for this study. Other models are presented in Chapter 2. These models were determined to be less appropriate to the purposes and design of the study, as they focused on a single aspect of stress rather than viewing stress as a global and multidimensional concept, as does the chosen model. For example, Cox (1975) postulated the engineering model, which viewed stress in terms of a stimulus arising from the environment; Cox's model did not consider the potential of the stressor to induce a reaction based upon the individual's appraisal of the stressor or his ability to cope. Other models viewed stress as simply the inability of the individual to cope with demands, whereas the model utilized in this study views stress as present in many forms, both potential and actual. Thus, the inability to cope may be a culmination of prolonged, intense, or frequent exposure to stressors, given the many other conditions necessary to incur a reaction, and not necessarily the inability to cope as the single instigator.

Research Questions

Based upon the purposes of the study, its rationale and significance, and the model of stress presented, the following research questions were studied:

1. (A) What is the mean stress score for each of the three teacher categories, primary, elementary, and high school, as measured by the WSPT?

   (B) Is there a significant difference at the .05 level of confidence between the mean scores of the three teacher categories as measured by the WSPT? (The .05 level of confidence has been chosen as the acceptance level of significance in all analyses.)

2. (A) What is the mean stress score for each of the three teacher categories (primary, elementary, and high school), as measured by the Local Scale?

   (B) Is there a significant difference between the mean stress scores for each teacher category as measured by the Local Scale?

3. (A) What is the mean stress score for each of the nine categories of the WSPT (i.e. Student Behavior (STUBE), Employee/Administrator Relations (EMAD), Teacher/Teacher Relations (TTREL), Parent/Teacher Relations (PTREL), Time Management (TIME), Intrapersonal Conflicts (IPC), Physical Symptoms of Stress (PSS), Psychological/Emotional Symptoms of Stress (PSYCH), and Stress Management Techniques (SMT) for each of the three teacher

categories.

(B) Is there a significant difference between the mean scores of each of the nine categories by teacher category?

4. What are the mean scores and ranks of the ten most stressful items on the WSPT for each of the three teacher categories of primary, elementary, and high school?

5. What are the mean scores and ranks of the ten most stressful items on the WSPT for the total group of regular classroom teachers?

6. What are the mean scores and ranks of the three most stressful items on the Local Scale for each of the three teacher categories?

7. What are the mean scores and ranks of the three most stressful items as measured by the Local Scale for the total group of regular classroom teachers?

8. (A) What are the mean stress scores, as measured by the WSPT, for the total group of Regular Classroom Teachers when the following biographical data were considered: sex (SX), age (AG), teacher certificate level (TCL), length of teaching experience (LTE), school's student enrolment (SNR), class size (CS), and number of sick days taken (SIC)?

(B) Is there a significant difference between the mean stress scores of each biographical subgroup for the

total group of regular classroom teachers, as measured by the WSPT?

(C) Is there a significant difference between the mean stress scores, as measured by the WSPT, for the levels within each biographical subgroup, for regular classroom teachers?

9. (A) What are the mean stress scores, as measured by the Local Scale, for the total group of regular classroom teachers when the following biographical data were considered: sex (SX), age (AG), teacher certificate level (TCL), length of teaching experience (LTE), school's student enrolment (SNR), class size (CS), and number of sick days taken (SIC)?

(B) Is there a significant difference between the mean stress scores of each biographical subgroup for the total group of regular classroom teachers, as measured by the Local Scale?

(C) Is there a significant difference between the mean stress scores, as measured by the Local Scale, for the levels within each biographical subgroup, for regular classroom teachers?

10. (A) What are the mean stress scores, as measured by the WSPT, for each teacher category (primary, elementary, high) when the following biographical data were

examined: sex, age, teacher certificate level, length of teaching experience, school's student enrolment, class size, and number of sick days taken?

(B) Is there a significant difference between the mean stress scores of each biographical subgroup, by teacher category, as measured by the WSPT?

(C) Is there a significant difference between the mean stress scores, as measured by the WSPT, for the levels within each biographical subgroup, by teacher category?

11. (A) What are the mean stress scores, as measured by the Local Scale, for each teacher category (primary, elementary, high) when the following biographical data were examined: sex, age, teacher certificate level, length of teaching experience, school's student enrolment, class size, and number of sick days taken?

(B) Is there a significant difference between the mean stress scores of each biographical subgroup, by teacher category, as measured by the Local Scale?

(C) Is there a significant difference between the mean stress scores, as measured by the Local Scale, for the levels within each biographical subgroup, by teacher category?

12. Is the correlation between the mean stress score of Physical Symptoms of Stress and the mean stress scores

for each of the teacher categories, and the total population, significant?

13. Is the correlation between the mean stress score of Psychological/Emotional Symptoms of Stress and the mean stress scores for each of the teacher categories, and the total population, significant?

Definitions

1. Stress - Nonspecific response of the body to any demands made upon it. Positive stress, which leads to an increase in performance, is called eustress. Negative stress, which leads to a decrease in performance, is called distress (Selye, 1976).

2. Teacher Stress - A response of negative affect (such as anger or depression) by a teacher, usually accompanied by potentially pathogenic physiological and biochemical changes; results from aspects of the teacher's job and mediated by (1) the perception that the demands made upon the teacher constitute a threat to his self-esteem or well being, and (2) coping mechanisms activated to reduce the perceived threat (Kyriacou & Sutcliffe, 1978, p. 2).

3. Stressors - An event or condition that may be purely physical, social, or psychological - including anticipation and imagination - and that triggers a stress reaction (Girdano & Everly, 1979, p. 14).

4. Stress Reaction - The physiological response of the body to adapt and cope with the perceived stressor. This response is triphasic and is called the "General Adaptation Syndrome". The three stages involved are alarm, resistance and exhaustion, and are primarily characterized by the release of certain adaptive hormones within the person's body.

5. Stress Level - Low 36-72; Moderate 73-108; High 109-180 (as measured by the WSPT).

6. Wilson Stress Profile for Teachers - The WSPT measures, by self-report, perceived stress in major stressful categories related to teaching and also provides an overall teacher stress score. The major categories are Student Behavior, Employee/Administrator Relations, Teacher/Teacher Relations, Parent/Teacher Relations, Time Management, Intrapersonal Conflict, Physical Symptoms of Stress, Psychological/Emotional Symptoms of Stress, and Stress Management Techniques. WSPT-K--The original WSPT, with additional questions to acquire biographical data and the Local Scale, consisting of items thought to be unique "potential" stressors for teachers of this province.

7. Regular Classroom Teacher - Those persons whose teaching assignments involve teaching subjects not classified as "specialty" areas by the board.

8. Primary Level - The teaching of grades K-3.

9. Elementary Level - The Teaching of grades 4-6, and 4-7 where seven is included in the elementary school.

10. Secondary Level - Teaching assignment involving grade eleven and any combination of 7-11, 8-11, 9-11, 10 and 11.

11. Biographical Questionnaire - An instrument designed by the examiner and included with the profile to obtain biographical data for the purpose of analysis (Appendix A).

12. Local Scale - An additional section comprised to look at items thought to be unique "potential" stressors for teachers of this province (Appendix C).

Limitations

(1) In discussion of the model of teacher stress, the concept of individual characteristics was put forth as an interacting variable affecting teacher perception. Research into the area of "personality," and its relationship to stress, has not been very successful due to the many conceptual problems, and, of course, the many differing opinions on how to measure personality (Totman, 1979, p. 134). The random sampling of teachers should provide a valid representation of all personality types. Thus, given randomization and given the difficulty and lack of

previous success in relating personality types and stress, this study did not propose to analyze the effects of personality on stress. Studies completed on "personality variables" have found there to be no personality type associated with any particular occupation or socio-economic status.

(2) The items provided by the WSPT may not be exhaustive with regards to stressors as they exist in this province. To insure a comprehensive presentation of items for teachers to consider, an additional ten items, felt to be pertinent to this province's teaching populace, were included.

(3) In choosing the sample, the researcher did not control for the numbers of teachers according to the biographical sub-groups. It was felt that due to the size and stratification of the sample, a good cross section would be obtained; as well, this was not the major task of the study.

(4) That this study was conducted in a limited time frame, and stress levels may vary throughout the school year, is, as well, an issue due consideration.

This chapter has identified the purposes of the study, provided a rationale and significance for the study, proposed a model for viewing stress, posed the primary research questions and definitions for the study and identified perceived limitations of the study. Chapter II will present a review of the literature pertinent to the study.

CHAPTER II

REVIEW OF THE LITERATURE

Evolution of the Stress Concept

The term "stress" was first used in its medical context just over forty years ago. The concept, however, is very old.

> It must have occurred even to prehistoric man that the loss of vigor and the feeling of exhaustion that overcame him after hard labor, prolonged exposure to cold or heat, loss of blood, or any kind of disease had something in common. (Selye, 1974, p. 33)

The physiological signs of stress remain the same: "... your heart pounds and you breathe hard, your blood pressure rises and the pupils of your eyes dilate, your palms get sweaty and your stomach ties in knots" (Freese, 1976, p. 1). Prehistoric man's body prepared itself to cope with stressors, and our body prepares itself today, even though the nature of the stressors has changed. The body is prepared for fight or flight. Stress mobilizes bodily defenses in response to a physical, psychological or social threat--what Walter B. Cannon, an American physiologist, called the emergency "alarm" reaction. Cannon was one of the first to probe how this alarm mechanism worked.

> Nearly 50 years ago he discussed the bodily changes that accompany pain, hunger, and the major emotions; how potentially life-threatening situations produce vast bodily changes (adaptive responses) to provide the best possible chance for survival. (Freese, 1976, p. 4).

Cannon suggested that the physiological processes which strive to maintain a steady state in the organism be called "homeostasis," meaning the ability to stay the same or static. To insure a healthy life one should strive to maintain homeostasis.

Since the 1930's, Hans Selye has been a major figure in the study of stress. As a young medical student in the late 1920's, he began to wonder why his patients, suffering from so many different diseases, all upsetting the body's homeostasis, had so many symptoms in common. "Whether a man suffers from a severe loss of blood, an infectious disease, or advanced cancer, he loses his appetite, his muscular strength, and his amibition to accomplish anything" (Selye, 1974, p. 35). He called this the "syndrome of being sick." This marked the beginning of an exciting discovery for Selye. Research on stress had been hampered for so long because there were no objective, measureable indices to assess it. Selye thought:

> if we could prove that the organism has a general nonspecific reaction pattern with which it could meet damage caused by a variety of potential disease-producers, this defensive response would lend itself to a strictly objective, truly scientific analysis.
> (Selye, 1976, p. 31)

Without wavering from experimentation, Selye discovered that the body met with "noxious" agents through a triphasic reaction. The initial stage he called the "alarm stage" -- a general call to arms of the defensive forces in the organism. The second stage he called the "stage of resistance," and the third, the "stage of exhaustion." For a long time he did not

know what to call these non-specific reactions. The term "stress" kept recurring in his discussion and finally, though not without criticism, he settled upon the term. This met with controversy, and one sarcastic remark Selye recalls was: -"according to Selye, stress is its own cause" (1976, p. 50). This was prompted by the fact that in the beginning Selye had referred to the noxious agents as stress. To clear up this confusion Selye coined the term "stressor", to refer to the causal factors, which left the term, stress, to refer to the reaction of the body through the General Adaptation Syndrome, the triphasic response pattern.

As the study of stress evolved, medical science took another look at the various causes of disease described two centuries ago as despair, grief, and other emotional conditions. Members of the medical profession began to recognize and become more aware of the role that stress played in such different diseases as ulcers, asthma, and cancer.

Models of Stress

Much research has been conducted on the interaction of stress and stressors; there have evolved different camps and schools of thought regarding this concept. Cox (1975) and McGrath (1970) postulated two usages: the engineering model and the physiological model. The engineering model views stress in terms of stimulus arising from the environment. Essentially, this means that elements in the environment exert pressure on the individual. The engineering model

(Cox, 1975) has been widely employed (French & Caplan, 1972; Kahn et al., 1964; Kollar, 1961) and utilized by Cooper and Marshall (1966). The physiological model developed out of the response pattern prepared by Selye (1956). This model has been employed by Appley and Trumbull (1967), Arnold (1967), Cofer and Appley (1964), Dohrenwend (1961), Levi (1967), Repitone (1967), Scott and Howard (1970), Sells (1970), Selye (1975).

Some authors view stress as simply the non-specific response of the body to demands (Levi, 1967; Selye, 1974). Others look at how individuals perceive or appraise the situation (Appley & Trumbull, 1967; Scott and Howard, 1970). Still others view stress as the inability of the individual to cope with the demands. The discrepancy between the ability to cope and the demand for adaptation has been developed into a transactional model for stress (Cox, 1975).

The model of teacher stress, presented in Chapter I, encompasses many of the viewpoints cited above; this incorporation provides a more comprehensive view of stress than might otherwise result. Monat and Lazarus, in an attempt to introduce some clarity into the study of this pehenomenon, dealt with it in this way.

> It seems wise to use 'stress' as a generic term for the whole area of problems that includes the stimuli producing stress reactions, the reactions themselves, and the various intervening processes ... stress, is a collective term for any area of study.
> (Monat & Lazarus, 1977, p. 2)

Having considered the many usages of stress, it is important to deal with some misconceptions that have been associated with it. Stress is not merely nervous tension; it does not necessarily occur in reaction to something unpleasant and it cannot be avoided. Stress which is damaging, unpleasant and leads to dysfunction is called "distress," while stress which is pleasant and leads to an increase in performance is called "eustress." "Pleasant as well as unpleasant emotional arousal is accompanied by an increase in physiological stress (but not necessarily in distress)" (Selye, 1974, p. 32). The following diagram represents this continuum.

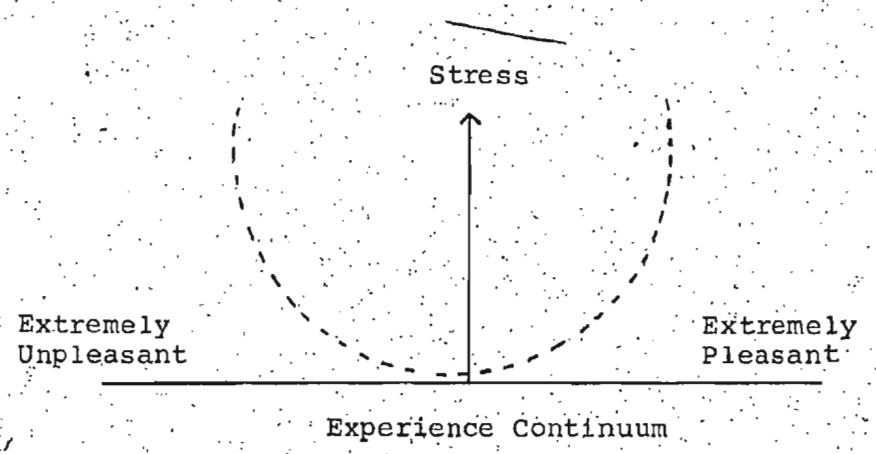


Figure 2. Relationship between stress and life experiences

The stress level, although low on occasion, never reaches zero. Selye said that complete freedom from stress is death. No matter what we are doing, or what is happening, the body always requires energy to maintain life; "... deprivation of

stimuli and excessive stimulation are both accompanied by an increase in stress, sometimes to the point of distress" (Selye, 1974, p. 32). The following diagram represents this hypothesis.

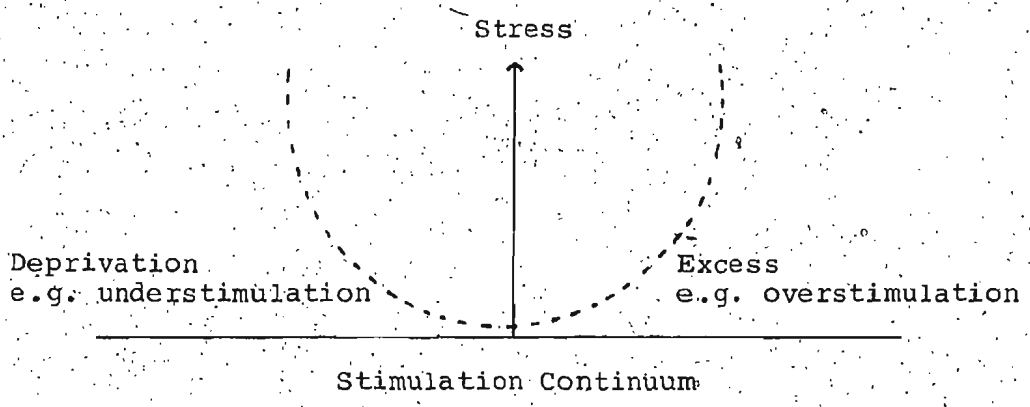


Figure 3. Relationship between stress and degrees of stimulation

The balance of both of these continua represents the optimum level of stress needed to maintain a healthy level of stress and a healthy and homeostatic state of the body.

Operating on the hypothesis of a "stimulation continuum", Drs. R. M. Yerkes and John D. Dodson of the Harvard Physiologic Labratory studied the relationship among responses. These researchers revealed that efficiency and performance increase as the stress level rises. This, however, occurs only to a certain point. If stress increases beyond the optimum level, then efficiency and performance will actually decrease (cited in Benson & Allen, 1980, p. 88).

Yerkes and Dodson found, as well, that the optimum level is lower for difficult than for easy tasks. This effect is known as the Yerkes-Dodson Law (A. T. Welford, 1974, p. 4). The relationship of stress to arousal has been described in terms of a model called the Inverted-U hypothesis, which simply states; "... as stress increases and the resulting arousal rises, so performance improves until some optimum point is reached but thereafter declines" (Welford, 1974, p. 4). The following diagram visually depicts this relationship.

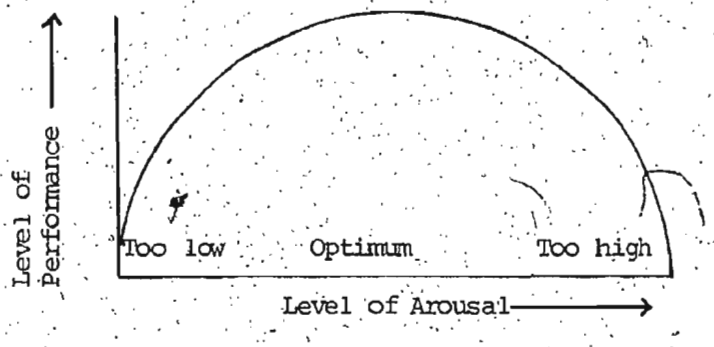


Figure 4. Relationship of level of stress arousal to level of performance

The point where the optimum level occurs differs for individuals; threshold levels change, depending on the unique characteristics of the individual.

The foregoing discussion has defined stress, presented its many usages and applications, outlined the importance of stress in the maintenance of life, and discussed the relationship of stress arousal to performance level.

Causes of Stress--Stressors

In terms of this study, a stressor is defined as "an event or condition that may be purely physical, social or psychological--including anticipation and imagination--that triggers a stress reaction" (Girdano & Everly, 1979, p. 14). Thus, stressors may encompass all facets of behavior and ensuing interactions. For this reason, researchers generally classify stressors according to the nature of their origin.

Morse and Furst classified stressors according to their physical, social, and psychological origins. Physical stressors are external factors, including chemicals, pollutants, drugs, foods, infectious microbes, shock therapy, radiation, noise, temperature, humidity, exercise and trauma. How these stressors affect an individual depends, of course, on the individual's make-up, stamina and level of resistance. However, if the intensity and duration of these agents is prolonged, stress will eventually result in distress. Many of these physical stressors may be related to a person's occupation. "Social stressors are externally induced and result from the interaction of the individual with his environment" (1979, p. 11). These include events which are largely unavoidable: death of a loved one, losing a job, divorce, or for that matter, marriage. Psychological stressors may be caused by physical or social stressors or they may be self-induced. The psychological stressors are intense emotions and include frustration, guilt, worry, anger, resentment, hate, love, disgust, jealousy, happiness ...

(Morse & Furst, 1979, p. 11). Such feelings result from an individual's appraisal of the situation or event. The more one harbors these feelings, the greater the resultant stress. The following is a depiction of the kinds of stress presented by Morse and Furst. As may be noted, these authors add the term "neustress" to those already encountered, representing a homeostatic state.

		Eustress	Health
Stressors + Individual "Make-up" = Stress		Neustress	Homeostasis
Physical	Hereditary Factors	Distress	Disease
Social	Environmental Factors		
Psychological			

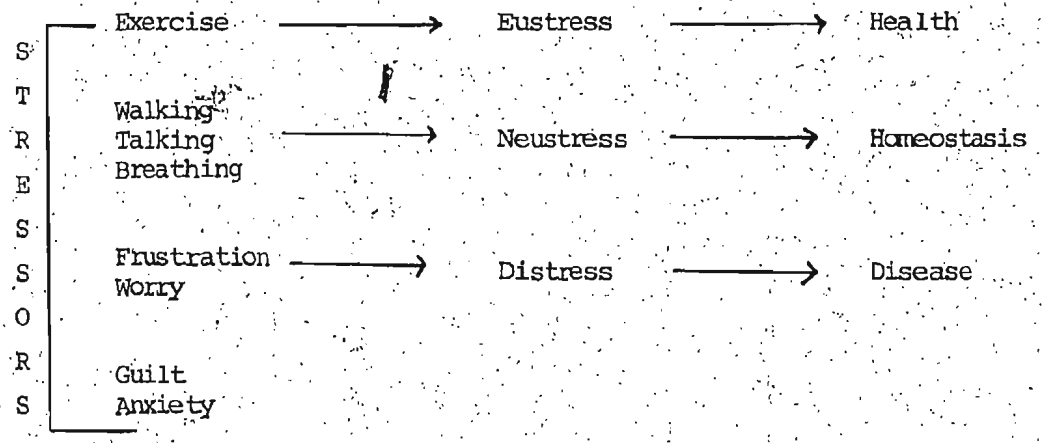


Figure 5. Kinds of stress

Girdano and Everly (1979) classify stress producing agents somewhat differently.

1. Bioecological Causes - These stressors basically are biologically related and may arise out of our relationship with the environment. They are comparable to Morse and Fursts' physical stressors.

2. Personality Causes - These reflect the dynamics of an individual's self-perception and characteristic attitudes and behaviors which may somehow contribute to excessive stress.

3. Psychosocial Causes - These stressors are a function of the complex interaction between social behavior and the way our senses and our minds interpret those behaviors. In other words, much of our societal stress is determined by the meanings that we assign to the events in our lives. There are four psychological processes that appear to be most connected to stress: (1) adaptation; (2) frustration; (3) overload; and (4) deprivation.

The first psychosocial stressor, adaptation, requires adaptive energy on the part of the individual to regain homeostasis. Selye considered a person's store of adaptive energy to be finite. Frustration was caused by the pace and demand of modern living: overcrowding, bureaucracy, and economic factors. Overload occurred when the demands exceeded the person's

ability to cope. As pointed out previously, a person's perception and cognitive appraisal was the deciding factor in many cases. Deprivation occurred when the incoming stimulation was not high enough to be meaningful. "Thus, considering all of these stress origins, stimulation becomes a continuum and either extreme is capable of producing stress" (Morse & Furst, 1979, p. 75).

Lennart Levi researched the role of psychosocial stimuli and their association with physical diseases. Although the role is not clear, a perspective was established. Below is outlined a theoretical model of psychosocially mediated disease.

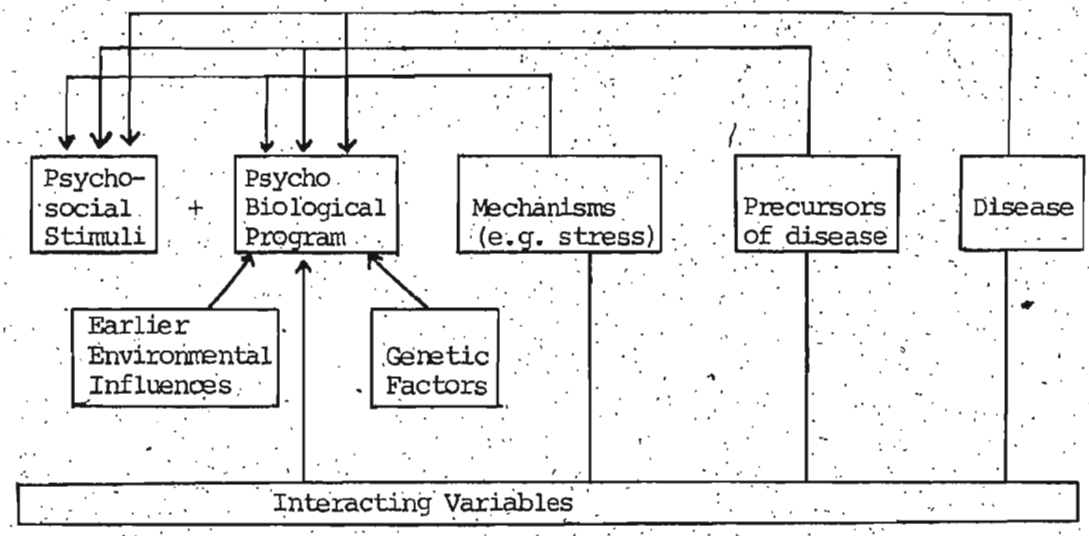


Figure 6. A model of psychosocially mediated disease

This theoretical model was proposed by Kagan and Levi in 1971. Their view was that the combined effect of psychosocial stimuli and the individual's biological make-up determine the psychological and physiological reactions (stress) of

each individual. Given certain conditions, these stimuli may lead to precursors of disease and eventually disease. Interacting variables may promote or counteract the process (cited in McLean, 1974, p. 33).

As is evident from the preceding discussion, the causes of stress are numerous, and the study of them is complex.

> All these brutal dangers and external forces, as well as the slighter strains of influences to which we are exposed daily, tend to upset our body's balance. They can be referred to collectively as 'stressors'.
> (Levi, 1967, p. 34)

General Adaptation Syndrome

The nature of stress and the diverse and interactive nature of stimuli producing a stress reaction have been presented. What happens to the body as these stressors occur in the day to day functioning of an individual?

Hans Selye discovered that, "... the same set of organ changes caused by the glandular extracts were also produced by cold, heat, infection, trauma, hemorrhage, nervous irritation, and many other stimuli" (Selye, 1974, p. 38). Whatever the nature and origin of the stressor, it evokes the same physiological pattern of response within the body. This reaction was first described, in 1936, as a "syndrome produced by various noxious agents", and subsequently became known as the General Adaptation Syndrome (G.A.S.), or the biological stress syndrome (Selye, 1974, p. 38). The three

stages of this syndrome were: (1) the alarm reaction; (2) the stage of resistance; and (3) the stage of exhaustion. The G.A.S. is primarily characterized by the release of certain adaptive hormones within the person's body. The following diagram by Selye represents the triphasic nature of the syndrome.

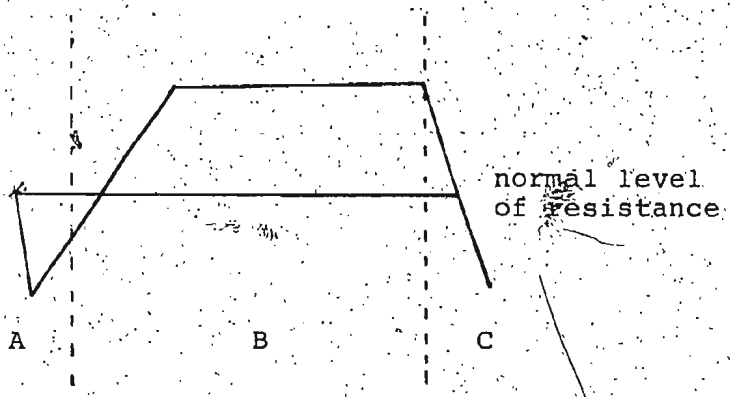


Figure 7. Triphasic nature of the G.A.S.

A. Alarm Reaction. This entails the initial reaction of the body to the stressor, regardless of its kind. The defenses of the whole body are mobilized and prepared to act to protect the body. The autonomic nervous system is triggered and large amounts of adrenalin and cortisone are released into the body's system. This produces a "fight, flight" response, and it is at this time that the body is best mobilized to react against the stressor. This stage is short-lived, lasting from one minute to twenty-four hours.

B. Stage of Resistance--During this second stage, the body's adaptation takes place. It is during this stage that the body attempts to cope with the stressor, and attempts are made to limit the stressor to the smallest area of the body that can deal with it. The body has limited adaptive powers; thus, this second stage cannot be prolonged indefinitely, as the coping mechanisms become exhausted. This results in the initiation of stage three.

C. Stage of Exhaustion

> Following long-continued exposure to the same stressor, to which the body has become adjusted, eventually adaptation energy is exhausted. The signs of the alarm reaction reappear, but now they are irreversible, and the individual dies.
> (Selye, 1974, p. 39)

The life of the adaptation mechanisms of the body is finite. "We can squander our adaptability recklessly, burning the candle at both ends, or we can learn to make this valuable resource last long by using it wisely and sparingly, only for things that are worthwhile and cause least distress" (Selye, 1974, p. 40).

It is important to note that not all bodily stressors result in the three-phase execution of the general adaptation syndrome. Many are adapted to in stage one; only those that are prolonged and intense require all three stages in coping. Conditioning factors can enhance or inhibit the effect of stress. The part of the body which will suffer the most is

determined by conditioning factors. "Thus, conditioning may be internal (for example, genetic predisposition, age, or sex) or external (treatment with certain hormones, drugs, or dietary factors)" (Selye, 1974, p. 45). These will determine the body's sensitivity to a stressor. Some of the behavioral signs and symptoms exhibited at this physical level may include an increased heart rate and blood pressure, sweat production, increase in the rate and depth of respirations, decreased peristalsis and increased muscle tension. On the psychological level, an individual's response is determined by his/her perception of the event. If an individual perceives an event as harmful, or potentially harmful, and the person's skills to cope with the event are inadequate, then stress is experienced. The major behavioral responses that may be manifested in this area are: "reduced intellectual processes," increased self-sensitivity; decreased ability to cope with or master tasks; and decreased sense of personal effectiveness" (Kozier and Erb, 1979, p. 120).

During periods of prolonged or intense stress, the body may also respond by developing symptoms of psychosomatic illnesses such as migraine headaches, ulcers, asthma and so on. Although the body does respond on a physical, as well as psychological level, the effects are not isolated. A stressor originating in the physical area may well produce signs and symptoms of a psychological nature, and vice-versa.

> The conditions determining our coping methods in particular situations are undoubtedly complex and

> largely unknown at this time, but likely depend upon the conditions being faced, the options available to us, and our personality. (Monat & Lazarus, 1977, p. 9)

This material on the general adaptation syndrome is, of course, not as directly related to the purposes of this study as other areas in this chapter; it is, however, crucial foundational material to the understanding of stress.

Personality Types and Stress

The attempt to classify personality types is not a new trend; as early as 400 B.C., the Greeks attempted to characterize individuals by their personality. It is assumed that personality affects a person's reaction to stressors, and that some people can adapt their behavior more readily to cope with stress-evoking situations. The linking of personality with a set pattern of behavioral responses to stress has not met with much success, the major reason being that there are many differing opinions as to what should be included in a definition of personality.

> ... some theorists dismiss the whole concept of personality, stating that instead of having unique personalities people have certain characteristic traits or methods of functioning. (Morse & Furst, 1979, p. 22)

> Many factors may contribute to these differences--personality, motivation, being well- or ill-equipped to deal with problems in a particular area of expertise, fluctuations in abilities (particularly with age), insight into one's own motivations and weaknesses, etc. (Cooper, 1981, p. 15)

Psychological Measures of Personality

One direction research has taken in the study of personality and stress is by examination of the relationship between various psychological measures and stress-related disease. The two psychological measures most frequently used for this purpose have been the Minnesota Multiphasic Personality Inventory (MMPI) and the 16 Personality Factor Inventory. The results of the studies utilizing the MMPI (e.g. Lobovits, Shekelle, and Osfeld, 1967) have generally shown:

> ...before their illness patients with stress-related coronary disease differ from persons who remain healthy on several MMPI scales, particularly those in the "neurotic" triad of hypochondriasis, depression and hysteria. (cited in Cooper, 1981, p. 15)

The three major studies utilizing the 16 PF (Bakker, 1967; Finn, Hickey, & O'Doherty, 1968; Lebovits, Shekelle & Ostfeld, 1967) all report:

> ... emotional instability, particularly for patients with angina pectoris (heart pain that comes on when the oxygen demands on the heart are increased through exercise, emotion, stress, etc. (Cooper, 1981, p. 16)

The results from the 16 PF studies portray the patients with CHD, or related illness, as emotionally unstable and introverted, which is consistent with the MMPI studies. (Cooper, 1981, p. 16). Although the results were consistent, a limitation of these studies is that they are retrospective. These symptoms may well be reactions, rather than precursors, to stress-related illnesses.

Behavior Patterns and Personality

A second direction in studying individual stress differences has been the study of behavioral patterns, by Friedman and Rosenman. "They found that individuals manifesting certain behavioral traits were significantly more at risk to CHD" (Cooper, 1981, p. 16). This behavioral pattern is called Type A, as opposed to Type B, which is the low risk behavioral pattern.

> Type A Behavior Pattern is an action-emotion complex that can be observed in any person who is aggressively involved in a chronic, incessant struggle to achieve more and more in less and less time, and is required to do so against the opposing efforts of other things or other persons. (Friedman & Rosenman, 1977, p. 203)

Friedman and Rosenman believed, as well, that such conflict is more often than not socially praised and applauded. This pattern represents; "...the reaction that takes place when particular personality traits of an afflicted individual are challenged or aroused by a specific environmental agent" (1977, p. 203). If this environmental challenge does not occur, the behavior pattern or reaction may not be exhibited. Friedman and Rosenman described the opposite of Type A as Type B. "He, unlike Type A, is rarely harried by desires to obtain a mildly increasing number of things or participate in an endlessly growing series of events in an ever decreasing amount of time" (1977, p. 204). This is not in any way to imply that Type B's intelligence and ambition is any less than Type A; it may, in fact, be greater. Throughout their research

they have found that Americans tend to fall into one or the other of these groups, with Type A being predominant.

> They usually represent somewhat over half of all those in the open samples we have tested; there are somewhat fewer true Type B individuals, perhaps 40 percent of the whole; people in who Type A and Type B characteristics are mixed account for about 10 percent. (p. 204)

Type A and Type B behavior has not been found to be in any way associated with socioeconomic position.

Type A behavior is characterized by a sense of time urgency. The individual incessantly strives to accomplish too much in too little time. "The fundamental sickness of the Type A subject consists of his failure to perceive or perhaps worse, to accept the simple fact that a man's time can be exhausted by his activities" (p. 208). Thus, the Type A individual is prone to heart disease.

Morse and Furst (1979) defined personality as; "... specific behavioral patterns of an individual which reflect thoughts, attitudes and emotions as he adapts to his life situations" (Morse & Furst, 1979, p. 23). All of these affect the individual's perception and appraisal of the events presented. Selye emphasized attitude; if one adopts a positive attitude, one can turn harmful distress into positive stress, eustress. Selye does not classify personality types.

Self-Perception and Stress

In viewing personality as a contributing factor in determining coping skills, self-concept (self-perception) has also

been considered. Self-perception deals with a person's self-esteem; or the value which one attributes to oneself. Individuals with low self-esteem concentrate on the negative aspects of life and constantly underrate themselves. Girdano and Everly felt that this happened in the developmental years. "As you grew up, your self-devaluation was encouraged by the societal edicts of passivity and modesty" (Girdano and Everly, 1979, p. 146). These authors believed that females were particularly vulnerable to this socialization process.

Reactive Behavior and Stress

The manner in which a person responds has also warranted some attention. This has been labelled the "anxious reactive personality." Anxious reactivity is described as a vicious cycle of obsessional thoughts. All people experience anxiety-producing situations which cause normal anxiety arousal. "However, in the anxious reactive personality the anxious arousal persists or is rekindled after the stressor is gone" (Girdano & Everly, 1979, p. 153). This occurs because the individual obsessively "relives" or "catastrophizes" the stressful situation in his/her mind.

The attempts to classify personality traits and their predisposition to stress have not been very successful due to the many conceptual problems, and, of course, the many differing opinions on how to measure personality. "Indeed for the most part, evidence linking personality patterns to disease has been very disappointing. Overall, research has

failed to support the idea that there are disease-prone personalities" (Totman, 1979, p. 134). The exception has been the linking of Type A behavior with heart disease.

It is generally accepted, however, that individuals vary in their reactions to stressors in various ways, regardless if they are classifiable by type. This reaction is determined by the particular stressor, the individual's perception of that stressor, the duration of the stressor, and the number of other stressful agents occurring at the time. Bosowitz et al. (1955) said that:

> ... in future research ... we should not consider stress as imposed upon the organism, but on its response to internal or external processes which reach those threshold levels that strain its psychological and physiological integrative capacities close to or beyond their limits. (p. 289)

Life Change Events and Their Relationship to Stress

Selye called stress illness the "disease of adaptation." The ability to adapt to change is something people utilize every day in some form. The fast pace of industrial and technological growth has required much adaptation for everyone. Karl Albrecht (1979) traced five major changes that have contributed to an increase of stress in industrialized nations:

> 1) from rural to urban living; 2) from being a stationary populace to a mobile case; 3) from isolation to interconnectedness; 4) from physically active to sedentary; and 5) from self-sufficiency to consumerism.

> Coping with change has become a preoccupation in our society. The coping styles have in turn become mind games. Thus we have developed a vicious cycle: increased thoughts lead to stress arousal, and the discerning of ways to reduce stress just adds to the arousal. The harder we try to reduce stress, the more stress we subject ourselves to, so we try even harder. (Girdano & Everly, 1979, pp. 4-5)

Whether one is consciously aware of coping, events which take place in an individual's life, pleasant or unpleasant, require adaptation.

It is almost impossible to pick up a book on stress today which does not refer to the "Holmes and Rahe Social Readjustment Rating Scale" (SRRS), which measures life changes and their implications in determining an individual's susceptibility to disease. Through intensive study, which began in the early 1960's, Dr. Thomas Holmes and Richard Rahe published, in 1967, the Social Readjustment Rating Scale (SRRS). The SRRS is a compilation of positive and negative life events, both of which contribute to stress reactions. The underlying premise is that certain life events are quantifiable in terms of the intensity and length of time needed to adjust to them (Holmes & Rahe, 1967).

> The magnitude of life change was observed to be highly significantly related to time of disease onset. The greater the magnitude of life change (or life crisis), the greater the probability that the life change would be associated with disease onset. (Dohrenwend & Dohrenwend, 1974, p. 68)

"Remember, it is changes, the disruption of homeostatic equilibrium, that produces stress and adaptation, regardless

of whether the event is desirable or undesirable" (Girdano & Everly, 1979, p. 58). The SRRS is composed of forty-three items. The individual is asked to indicate those items which he/she has experienced over the past 12 month period. Each item is given a Life Change Units (L.C.U.) weighting. For example, death of a spouse is the highest weighted life event (100 L.C.U.), while the lowest weighted event is minor violations of the law (11 L.C.U.). "This scale has proven to be a remarkable predictor of physical and mental illness for a two-year period after the accumulation of the stressors" (Girdano & Everly, 1980, p. 59). The higher the score, the more susceptible the person is to becoming ill.

> It is postulated that life-change events, by evoking adaptive efforts by the human organism that are faulty in kind and duration, lower "bodily resistance" and enhance the probability of disease occurrence.
> (Dohrenwend & Dohrenwend, 1974, p. 68)

Selye believed that there was a finite amount of adaptive energy which the human body possessed. "When the person's adaptive energy becomes drained, dysfunction can occur on a localized or specific level. When the body is totally depleted of adaptive energy, general bodily exhaustion may result in death" (Girdano & Everly, 1979, p. 61).

This research points out that, quite apart from occupational stressors, life, even living itself, requires constant adaptation. The key to coping lies in the recognition and awareness of those elements which cause stress. Although not directly related to the purposes of this study, it is deemed

important to point out that life change events can be closely related to stress arousal.

Teacher Stress

Introduction

Occupational environments have come under scrutiny in the past decade, and the role they play in contributing to the amount of stress experienced by its members has been revealed.

> In any job, there are a large number of environmental sources of work stress; the characteristics of the job itself, the role of the person and/or job in the organization, career development pressures, the climate and structure of the organization, the nature of relationships at work, and the problems associated with the interface between the organization and the outside world.
> (Cooper, 1981, p. 20)

> Air traffic control, surgery and teaching are probably three of the most potentially stressful occupations in the world ... in them people are responsible for functioning in learned patterns yet must also possess on-their-feet, high-speed thinking and decision-making skills to handle unexpected situations triggered by the variance of humans and the caprice of nature.
> (Hunter, 1977, p. 29)

Teachers are subject to stress from life events in general, and from the changing nature of the educational system.

> Declining enrollments, role conflicts, time pressures, inadequate administrative support, lack of self-control in children, public pressures (Often unrealistic and political in origin) and an attitude that education must be "all things to all people" have greatly increased teacher stress. Teachers, too, are trapped in the twentieth century malaise of rapidly changing conditions.
> (Truch, 1980, p. 2)

This section will present several factors which may result in teacher stress. The extent to which the demands made upon a teacher will result in stress include some of the following factors postulated by Kyriacou and Sutcliffe.

> (1) the degree of role conflict or role ambiguity involved, (2) the degree to which the teacher perceives that he is unable to meet the demands made upon him, (3) the degree to which the teacher's ability to meet the demands is impaired by poor working conditions, (4) the degree to which the demands are new or unfamiliar, and (5) the degree to which the teacher is already experiencing stress resulting from sources outside his role as a teacher. (1977, p. 299)

Role Conflict

Role conflict, role ambiguity and role expectations are defined by Cooper and Marshall (1976) as negative environmental factors. Although they refer to it in the context of the environmental model, it is stressed that perception is the deciding factor in determining whether or not these factors will induce a stress reaction.

> Role ambiguity exists when an individual has inadequate information about his work role, that is, where there is lack of clarity about the work objectives associated with the role, about colleagues' work expectation of the work role, and about the scope and responsibilities of the job. (Cooper, 1981, p. 23)

Studies have revealed that role ambiguity may result in "lower job satisfaction, lower self-confidence and tension on the job" (French & Caplan, 1970; Kahn et al., 1964; Margolis & Kroes, 1974).

> Role conflict exists when an individual in a particular work role is torn by conflicting job demands or by doing things he/she really does not want to do, or does not think are part of the job specification. (Cooper, 1981, p. 23)

The activities which define a role consist of the expectations of members of the "role set," who are usually occupants of offices adjacent to a role holder in the work flow structure, or in the hierarchy of authority; such a role set usually includes one's immediate supervisor, one's subordinates and certain members of one's own or other departments with whom one must work closely. The expectations of the role set are communicated or sent to the role incumbent, described as a "focal person." Members of the role set are therefore role senders (cited in Chinnery, 1979, p. 164). Such is the framework in which role conflicts and ambiguity arise. Kahn felt that conflict arose when the role senders' expectations and perceptions of the focal person were incongruent with those held by the focal person. "Translated into teaching terms the teacher has a role set which includes principal, colleagues, students, inspectors and parents" (Chinnery, 1979, p. 163).

Roth (1967), Price (1970), and Dunham (1976) revealed that role conflict was being experienced by teachers. Roth (1967) researched the relationship between role conflict and stress among secondary school teachers in England. He hypothesized that high congruence of perceived role expectations (low role conflict) is positively related to positional satisfaction (opposite of positional stress). His findings supported this hypothesis. A major purpose of his study was comparative. He assumed that teachers in England perceived a higher congruence between actual work and expectations than did teachers in the United States. He found support for this hypothesis as well

(pp. 4290, 4291). It is probable to assume, in generalizing the results of this study to Canada and specifically to Newfoundland, that due to the size and location of schools with regards to school boards and community, a higher congruence may be found here as well.

Price (1970) studied the relationship between organizational stress and job satisfaction among secondary teachers in the United States. "Organizational stress was conceptualized in terms of two components, conflict stress (conflicting demands made on the teacher), and structural stress (the degree to which the organizational structure of the school makes it difficult to teach" (pp. 5727-5728). The data, obtained through questionnaires, revealed that only the first, conflict stress, was significantly and negatively related to job satisfaction.

Dunham (1976) obtained reports from 688 teachers in primary and secondary schools in the United Kingdom. They were asked to describe situations they perceived as stressful, how they responded to them and how they could reduce stress. Three common stress situations were identified: (1) reorganization, (2) role conflict and ambiguity, and (3) poor working conditions. They felt that role conflict was caused by a lack of communication in the school and community (cited in Kyriacou & Sutcliffe, 1977).

Halpert (1967) conducted a study of stress with 248 student teachers in elementary and secondary schools in California. Halpert stated that the results, after a factor analysis, revealed there may be two specific factors, rather than one

general stress factor. The first related to the physical manifestations of stress, the second to doubt or uncertainty about the self in the teacher role or ambiguity about how to function in the classroom as a teacher. "There were some indications that role disagreement is more important in producing stress in men than in women..." (Sorenson & Halpert, 1968, p. 32). Later researchers reported that it was difficult to distinguish from Halpert's data whether these two factors were antecedents or consequences of the factors identified as sources of stress. As Dunham (1976) cited, role ambiguity may be a source of stress rather than a reaction.

The Alberta Teachers Association (1979) conducted a survey involving over 1,000 teachers. The teachers were asked to rank 67 items on the basis of how stressful they found the item and how often the situation occurred for them. Ranked in the top ten were: "conflicting needs of students (e.g. parents, teachers, central office, school board); and being required to make frequent role changes (e.g. mother, nurse, referee, judge, social worker, father, policeman" (Manitoba Teachers' Society Committee Report on Teacher Stress, 1981, pp. 10-11).

Role conflict may also occur within the individual teacher in the form of self-expectations. That is to say, teachers may impose unrealistic expectations on themselves. Dr. Joseph F. Montague, a long time researcher in the area of nervous tension and stress, wrote:

> This is especially true in education with so many students who need help and where pressures, responsibilities, and

> expectations are so high. Many of us feel that since we are educators, we must have all the answers and be models of exemplary behavior at all times. This is an unrealistic expectation. This is especially true as more and more schools are looked to as institutions to deal with an ever-widening list of social problems. (cited in Miller, 1979, pp. 9-10)

Arlene MacBride, a researcher with the social and community psychiatry section of Toronto's Clark Institute of Psychiatry, wrote that those in the helping professions "set high standards for themselves and then hit the reality of day-in and day-out pressures where they'll never be able to handle all the problems confronting them in any one day" (Cited in Spencer, 1981, p. 18).

Total congruency between expectations of the individual and the institution is idealistic. "There is inevitably a greater or lesser amount of strain or conflict between the individual and the demands of the institution" (Hills, 1960, p. 2).

Stress has to be present to some degree for efficient output and performance. The above studies reveal, however, that teachers are indeed perceiving role conflict as a negative aspect of the environment, and that these demands are causing job dissatisfaction and stress. It would be logical to assume that such perceptions could lead to stress.

Teacher Involvement in Decision-Making

The importance of being involved in the decision-making process, and its relation to job satisfaction, morale and productivity, is a well established theme. This has been

labeled by researchers as, "locus of control," representing "the degree to which a person feels that what happens to him--good or bad--depends on his own behavior (a feeling of internal control) as opposed to feeling it is dependent on chance, fate, or is under control of powerful others (external control)" (Truch, 1980, p. 41). There exist many factors and facets in and out of the teaching profession with which members are required to contend, but over which they have little control. Some of these may include: curriculum which is set forth with specific allocations of instruction time; the size of the classes themselves which fluctuates and are often high; the amount and variety of materials and supplies; parental influence; and the poor attitude of parts of society toward teachers.

Research into the effects of locus of control on stress is not new. "Although initially directed toward increasing employee effectiveness in business and industry, analyses of morale factors began to be applied to the field of education during the 1950's" (Barstow, 1970, p. 32).

Francis Chase (1951) investigated factors in the teaching environment required for job satisfaction. The data were gathered through questionnaires, with returns from 1,784 teachers in 200 school systems in 43 states. "Chase noted that significant factors influencing teacher satisfaction included the extent of participation in determining curriculum, in making policies for grouping, in promotion and control of pupils, and in preparation of salary schedules" (cited in Stinnett, 1970,

p. 32). Harap (1959) found that teachers regarded sharing in decision-making to be a major factor affecting job morale. Lieberman (1956) stated, "the absence of such participation by teachers induces frustration and low morale, and contributes to the teacher drop-out problem" (cited in Stinnet, 1970; p. 33).

Holdaway (1978) conducted a study in Alberta involving eight-hundred teachers in twenty-one school systems, both urban and rural, and found the following result. "Teachers are most satisfied with areas they feel they can control (such as freedom to select teaching methods) and least satisfied with areas where there is virtually no control (such as attitude of society toward education) (Department of Educational Administration, the University of Alberta, 1978).

Cichon and Koff (1978) produced a Teaching Events Stress Inventory, drawn from the work of Holmes and Rahe (1967). This inventory was sent to 22,448 teachers employed by the Chicago Board of Education. "The purpose of the study was to develop an instrument that would provide an estimate of the relative degree of stress induced by each event and the characteristics of people and school situations related to different stress" (p. 1). Twenty-two percent of the sample was returned. The analysis of the 36 rank-ordered teaching events identified four general clusters of items. The second cluster of events revolved around the theme of "management tension." This included such items as: involuntarily transferred; overcrowded classrooms; notice of unsatisfactory performance; lack of books and

supplies; and reorganization of programs and classes. They found, as well, that "regardless of sex, race, age, type of school, etc., teachers share common perceptions concerning stress associated with teaching" (p. 7). Although the sample was not chosen randomly, analysis of the ranking of events did not appear to hold particular biases.

"Management tension" was found to be a significant source of stress in the National Institute for Occupational Safety and Health (NIOSH) study of stress, which covered 130 occupations (Kotulak, 1977). When individuals work in jobs that require high performance/accountability, and where authority to do what is thought appropriate to providing clients with quality service is not granted, a stress pattern results (Cited in Cichon & Koff, 1977, p. 10). Lortie (1975) reported that lack of teacher control or authority in organizing activities of students undermines their relationship with them.

Robert H. Sebring (1978) organized a workshop to diffuse a teacher-administrator conflict in a Northeastern Pennsylvania school district. To gather information, a number of structured human relations skill training exercises and simulations were used. "Of all the sources of conflict, the most emotionally charged was increased teacher demand for involvement in the decision-making process. Disagreement arose over the extent of teacher involvement" (p. 39).

Michael Varius of West Virginia State College found that "veteran teachers wind up disillusioned because they feel they

have no control over their job environment and little opportunity for decision-making" (cited in Reed, 1979, p. 68).

In September of 1980, an Ad Hoc Committee on Stress selected by the Manitoba Teacher's Society began an investgation on stress. The first suggestion made by the committee, on the completion of the study, was that school boards consider the following to help reduce teacher stress: "effectively include teachers in the decision-making process, both in the school and in the division" (Manitoba Teachers' Society, March 1981). "This lack of direct teacher involvement in decision-making robs teachers of the psychological rewards of tackling a problem and contributes to the "burned out" or "what's the use syndrome" (Newell, 1979, p. 16).

It is evident from these studies that lack of decision-making power may indeed be a potential stressor for all occupations. The size and bureaucratic nature of the educational system certainly lends itself to problems of this nature.

Student-Teacher Relationships

Student-teacher relationships is an umbrella phase which encompasses many facets of classroom interaction. It involves the relationship of students with one another and the relationship, either individually or as a class, with the teacher. It is a two-way, cause and effect relationship; the teacher's behavior provides stimulus for subsequent student response and vice-versa. The fact that at any given moment a teacher may be facing 5 to 40 individuals is an element which demands attention

in any study of teacher stress. Robert Scrivens captured the essence of this situation very well:

> Students don't have to be "problems" to be an emotional drain on teachers. Teachers make thousands of decisions in the course of an average day. They range from major ones to minor ones, but the net effect is to sap their energy. The intensive personal contact with students' child-centered teaching demands is draining. Some teachers take a nap when they get home from a day of teaching. 'I'm not really sleepy,' said one, 'I'm just giving my brain a rest.' (1979, p. 35)

When the above presented situation is compounded with behavioral and discipline problems in the classroom, one may assume that the susceptibility for induction of a stress reaction increases. "Student vandalism, threat of verbal and/or physical abuse and student disinterest all pose problems which affect the time, quality and attitude of actual instruction" (Needle, Griffin, & Svendsen, 1981, p. 175). Poor discipline in the classroom may range from cheek (Hargreaves, 1976) to violent and disruptive behavior (Lowenstein, 1975, as cited in Kyriacou & Sutcliffe, 1977).

Some authors reported that in the research carried out on teacher stress, student behavior did not appear to be as significant as it was hypothesized. Nonetheless, Caspari (1976) argued that:

> the exhaustion felt by most teachers at the end of the term is more closely linked to the demands made on the skills and personality of a teacher in keeping discipline over the children he teaches than to any other aspect of his work. (p. 29)

Kyriacou and Sutcliffe suggested that if student behavior is not reported to be as large a stressor as is hypothesized, it

could be accounted for by the following explanations:

> 1. that teachers distinguish between aspects of the job which are regarded as an integral part of the job (teaching children, maintaining discipline), and those aspects of the job which can be changed by administrative decisions (salary, large classes).
> 2. that ego-defensive processes lead to the under-reporting of dissatisfactions which imply personal failures or deficiencies.
> 3. that the contribution of maintaining classroom discipline to teacher stress may be subtle, for example maintaining discipline may involve constant monitoring of the pupil's behavior, and as such, teachers may not be fully aware of its significance.
>
> (1977, pp. 301-302)

Rudd and Wiseman (1962), in a study designed to investigate sources of dissatisfaction among teachers in England, reported "pupils' misbehavior, (e.g. lack of apparent ability) and pupils attitudes (e.g. lack of respect for teacher)," as major categories of sources of dissatisfaction (p. 283).

Kyriacou and Sutcliffe (1978) investigated the occurrence of teacher stress in England. Their study was similar in many respects to the present one in this province. It was a questionnaire survey, and the sample population consisted of teachers from medium-sized, mixed comprehensive schools. The questionnaire was divided into four sections: 1) biographical information (sex, age, qualifications and so on), 2) a list of fifty-one sources of stress, which the teachers were asked to rate in response to the question, "...how great a source of stress are these factors to you?" 3) a third section in which the teachers were asked to respond to the following question: "In general, how stressful do you find being a

teacher?" The response to this question was used as a measure of self-reported teacher stress. 4) a final section, which dealt with symptoms of stress (pp. 159-167). The sample was chosen randomly, and questionnaires were filled in anonymously. Eighty percent of those distributed were returned. The authors investigated whether self-reported teacher stress was associated with the biological characteristics; all four of the analyses revealed no significant differences (for $P < .05$) for all the main effects and interaction terms. "Furthermore all 51 sources of stress were positively correlated with self-reported teacher stress." The principal components analysis revealed the following major factors: Factor I, "pupil misbehavior," factor II, "poor working conditions," factor III "time pressures," and factor IV "poor school ethos." The results indicated that about 1/5 of the teachers were experiencing a large amount of stress. Pupil misbehavior included such items as noisy pupils, pupils with lack of interest, poor attitude, pupils with low general ability, and discipline problems. They found that female teachers rated items on pupil misbehavior as causing more stress than their male counterparts. University graduates reported low stress ratings on school ethos and poor working conditions.

> Younger and less experienced teachers differed from their colleagues on a range of items which included reporting greater stress on punishing pupils, difficult classes, maintaining class discipline, poor promotion opportunities, lack of participation in decision-making, and attitudes and behavior of the headmaster." (Truch, 1980, p. 34)

Symptoms of stress were positively correlated with teacher perception.

In the study referred to earlier by Cichon and Koff (1978), the first cluster identified in analysis of the 36 rank ordered teaching events were issues labeled "priority concerns." "Priority concerns are managing disruptive children, threatened with personal injury, colleague assaulted at school, and target of verbal abuse by students. These events were ranked 2, 4, and 11 respectively" (Cichon & Koff, 1978, p. 8). In a Gallup Poll in 1977, student discipline was a major source of concern expressed by parents. In the study of Alberta teachers cited earlier, when the question, "how stressful is the situation" was coupled with, "frequency of occurrence," unmotivated students and disruptive students were ranked fourth and fifth respectively.

McMurray (1982) constructed a 67 item questionnaire to measure teachers' attitudes toward stress-related events and examine the perceptions of elementary school teachers from five Canadian Provinces. McMurray reported a return rate of 62%, consisting of 604 questionnaires. This study revealed that discipline matters was a significant source of teacher stress (p. 9).

It is highly probable that, if a teacher is experiencing stress, the students will in turn react to the situation. "High anxiety on the part of teachers may have an undesirable effect on their students' performance" (Bettie Burres Young, 1978, pp. 79-80). Fuller (1979), through clinical observation,

found that where teachers are under stress "the survival concerns of teachers increase and take precedent over direct teaching activities" (cited in Bettie Burres Young, 1978, p. 80).

D. R. Koon (1971), in his doctoral dissertation on "Effects of Expectancy, Anxiety and Task Difficulty on Teacher Behavior," stated that, "high anxiety teachers use significantly less task oriented behavior with students and they tend to administer fewer positive reinforcements" (cited in Bettie Burres Young, 1978, p. 80).

Kyriacou and Sutcliffe presented several arguments as to why teachers would not rate student behavior as a highly significant stress factor. These studies, however, indicate that teachers are finding student problems to be a significant source of stress.

Teacher Accountability

Educators are increasingly being held accountable for student performance and achievement. The past decade has witnessed the involvement of the courts in deciding on the competency of the educational system to provide the services required to educate its country's youth. In the United States the cry from legislators and citizens groups is to test teacher competency before permitting them to teach. In 1979, in Mobile, Alabama, all new teachers were required to take the 3½ hour National Teacher Examination (N.T.E.), which measures general knowledge, reading, writing, and arithmetic. A poll revealed that 85% of U.S. adults favored the proposed testing.

Although this occurrence has reached a greater magnitude in the U.S., the Canadian public has begun to question educational services as well.

> The National Education Association believes that the dynamics of our society and increased public demands on education have produced adverse and stressful classroom and school conditions. These conditions have led to increased emotional and physical disabilities among teachers and other school personnel. (cited in Mae, 1979, p. 36)

The key phrase in the above stated NEA resolution is "increased public demands." The educational system is burdened with additional responsibilities which have evolved over the years. Many of the functions of the family and the Church in the socialization process are now expected to be performed by the teacher in the classroom. "Moreover, social expectations naively suppose that schools should somehow equalize every student, despite individual differences and all the disparity and change that accompanies modern living" (Truch, 1980, p. 30). Time (1980) wrote "...the decline of the family that once instilled respect for authority and learning, the influence of television on student attention span... and the national policy of keeping more students in school longer, regardless of attitude or aptitude...", has increased the pressure on educators. "These problems coupled with working mothers and expectations of the teacher to be mother, father, priest or rabbi, peacemaker, police officer, playground monitor and lunchroom patrol," (Bardo, 1969), create an unbearable situation for teachers.

According to David Adams of Western Michigan University, three conditions of work make teaching especially difficult:

1) Conflicting values:
Teachers are expected to have model values and to serve as role models for their students in a time of conflicting societal values. Teachers are expected to serve as role models for students at a time when roles and values are in a state of change.

2) Demands upon teachers for public accountability:
Teachers are faced with a variety of attempts to make education 'accountable' to taxpayers, parents, school boards, students, the general public.

3) The good shepherd ethic:
Teachers are caught between the conditions of mass education and the ideal of providing the best education for the individual student.
(cited in Manitoba Teachers' Society Report on Stress, 1981, p. 12)

This increase in accountability requires an increase in adaptation on the part of teachers. The increase in demands, compounded with the fear of litigation, contributes to the pool of potential stressors.

Teacher Overload

The term overload is often used as a reason for or a cause of stress. It brings to mind the image of being loaded down, burdened with too much to do in too little time. French and Caplan (1973) have differentiated overload in terms of quantitative and qualitative overload; quantitative refers to having "too much to do," while qualitative means work that is "too difficult." Several studies have found that quantitative

overload was linked to stress related illnesses such as coronary heart disease (Breslow & Buell, 1960; French & Caplan, 1970; Russek & Zohman, 1958). French, Rupper and Mueller (1965) conducted a study on qualitative and quantitative work overload at the university level. They obtained the information by way of three sources, questionnaires, interviews and medical examinations. Their sample population consisted of 122 university administrators and professors.

> Qualitative overload was not significantly linked to low self-esteem among the administrators but was significantly correlated for the professors. The greater the 'quality' of work expected of the professor, the lower the self-esteem. (cited in Cooper, 1981, p. 22)

French and Caplan (1973) concluded from this research that both qualitative and quantitative overload produce at least nine different symptoms of psychological and physical strain: job dissatisfaction, job tension, lower self-esteem, threat, embarrassment, high cholesterol levels, increased heart rate, less skin resistance, and more smoking.

The term overload was classed by Girdano and Everly as a psychosocial stressor and was defined as "a level of stimulation or demand that exceeds the capacity to process or comply with those demands" (1979, p. 68). The four factors which they cited as contributing to excessive demands were 1) time pressures, 2) excessive responsibility or accountability, 3) lack of support and/or 4) excessive expectations from oneself and others.

Arthur F. Corey (1970), in an article on the "holding power" of teaching, had this to say about the workload of teachers:

> Although actual class size has decreased slightly in recent years, there have been other influences which conspired to increase markedly the work load of teachers. Cocurricular activities have expanded, teachers are expected to do more counseling, class periods have increased in length, democratic participation of teachers in planning and policy-making demands some time and general social tensions have increased discipline problems. (p. 7)

McLoughlin and Shea (1960) investigated teachers' job dissatisfactions among 348 elementary and 445 secondary school teachers in California. Sixty-seven items were obtained from these teachers in a series of meetings. It was found that elementary teachers cited (1) excessive clerical work and (2) supervisory duties at school; while the secondary teachers cited (1) inadequate salary, and (2) negative student attitude towards learning as sources of dissatisfaction. They reported that elementary teachers were more affected by overload, while secondary teachers regarded student-teacher relationships as a greater concern (pp. 216-224).

In the study of Rudd and Wiseman (1962) referred to in a previous discussion, several categories identified involved overload as a negative factor affecting job dissatisfaction: teaching load (e.g. extra-curricular activities, school meals); more time needed (e.g. for individual pupils, for study and research) and large classes. They found as well that, "women teachers seemed to be more preoccupied with day-to-day classroom

problems, whilst men found their frustrations in a wider context" (p. 275).

Kyriacou and Sutcliffe (1978) identified a factor they labeled time pressure, encompassing such sources of stress as: "not enough time to do the work," "lack of time to prepare lessons," "demands on after school time," and "too many periods actually teaching" (p. 163).

Dr. Christopher Wilson, in a 1980 study utilizing the WSPT with one-hundred-fifty-one teachers in a suburban school district in San Diego, California, found Time Management was ranked highest by the three levels of teachers under study. 1) I have too much to do and not enough time to do it, 2) I have to take work home to complete it, 3) I am unable to keep up with correcting papers and other school work, 4) I have difficulty organizing my time in order to complete tasks. These items, as those cited in the preceding studies, all reflect "overload" of one nature or another.

Girdano and Everly (1979) pointed out that academic overload is not restricted to teachers, but affects students as well. As society has increased the demand for higher education, it has created an increasingly competitive atmosphere in the classroom. "For many students the academic grind has led to dropping out of school, poor self-concept, and more severe mental disturbances (the most severe of which has been suicide)" (p. 71).

As is evident from this discussion, overload encompasses many facets of the work environment. The studies show that

the teaching profession does indeed perceive overload factors to be precursors of stress and dissatisfaction. It appears that expectations have increased enormously, but the structure and medium of delivery has not. In terms of qualitative overload, the call for accountability and responsibility may be somewhat unrealistic and beyond the capacity of teachers and students. Expectations grow, but the educational system may not be able to respond to such demands and expectations.

Biographical Variables and Stress

A review of the literature revealed that only a few studies involved any analysis of biographical variables as they relate to stress.

The study by Cichon and Koff (1978), which utilized an adapted version of the Holmes and Rahe (1967) SRRS, did seek to find how biographical characteristics of teachers related to differential stress. This study, however, involved those teachers from only one urban area and employed by only one board. Thus, the generalization of the findings to other settings and systems must be made with caution. The sample population was neither randomly chosen nor stratified, to provide for analysis of different biographical variables; the questionnaire simply appeared in the teachers' monthly newsletter. A twenty-two percent return was obtained from this population of teachers. The researchers point to these weaknesses and emphasize to the reader that a purpose of the study was to provide a base for future research. They

questioned the findings that no significant differences were revealed between the biographical subgroups, and postulated hypotheses for replication. The reliability and validity of the instrument were not adequately reviewed, indicative perhaps of its short life.

The study by Kyriacou and Sutcliffe (1978) was designed to compare the results of several research questions for different biographical subgroups. As with this study, the researchers assumed that teachers were able to provide valid reports of events perceived to be stressful. The schools were chosen randomly, although controls were instituted on the number of students enrolled and their age range. The questionnaires were distributed randomly by head teachers. Due to this randomization, the population encompassed adequate numbers for analysis and comparison of the biographical subgroups. The findings indicated little variance in the overall level of self-reported stress for the biographical subgroups; the sources of stress, however, did vary.

McMurray (1982) constructed a questionnaire to measure teachers' attitudes toward stress-related events to examine the perceptions of elementary school teachers from five Canadian Provinces. The principals were chosen randomly and instructed to give the questionnaires to a regular classroom teacher and a special education teacher. Thus, the teachers involved were not chosen randomly, and it appears that no arrangements were made to assure adequate numbers of subjects to represent the biographical variables used to analyze

responses. The population breakdown was not given. Little data analysis was presented to provide the reader the opportunity to examine the procedures taken which led to the statements on biographical differences. Thus, the validity of the results and its implications for the current study are questionable.

The specific findings of these studies were previously discussed in this chapter.

Physical/Psychological Manifestations of Stress

Many of the physical/psychological manifestations of stress have already been referred to in this chapter. Stressors result in psychological, behavioral, physiological and somatic effects.

> The following response correlates have been found to be associated with job stress: somatic (headache, dizziness, abdominal pain, sleeplessness, fatigue), psychological (job dissatisfaction, anxiety, tension, irritability, depression) and behavioral responses (use of medication, alcohol, cigarettes, appetite). Stress responses which persist or are intense or frequent can influence the person's health. (Needle, Griffin, & Svendsen, 1980, p. 97)

It is difficult, at times, to determine whether the symptoms are actually manifestations of stress or causes of stress.

Needle, Griffin and Svendsen (1981) carried out an extensive study on coping and health problems of teachers. Data were gathered from a random sample of Minnesota public school teachers in 1979, through a structured questionnaire.

One section was devoted to questions on health status, dealing with chronic conditions and physical symptoms. An overall index was formed from the sum of these numbers. Following are the self-reported symptoms of the teachers: forty-five percent reported chronic conditions such as high blood pressure, kidney or bladder trouble, stomach ulcer and heart disease. Of the nineteen physical symptoms presented, one or more were experienced often or sometimes by 96% of the respondents; symptoms included: finding it difficult to get up in the morning, being completely worn out at the end of the day, headaches, pains in the back or spine, poor appetite, and having trouble getting to sleep. The most frequently cited was, "finding it difficult to get up in the morning" and "feeling worn out at the end of the day." "Some of the symptoms, particularly those centering around fatigue and exhaustion (both physical and mental), are indicators of 'burnout'" (p. 178). On the general well-being scale, which measured psychological depression and anxiety, they found that "teachers are in good, very good or excellent spirits (72%), with only 21% feeling up and down in spirits and 5% reporting low or very low spirits" (p. 178). However, they stated that some teachers were experiencing distress and anxiety. In the area of health behavior, they found that

> teachers who report more positive health behaviors in relation to sleep, exercise, nutrition, use of preventive health services and cigarette and alcohol use report higher general well being (r = .41). It is clear that perceived job stressors are substantially related to psychological, somatic and health related problems. (pp. 179-180)

Simpson (1962), in an investigation of sickness and absenteeism for male and female teachers in Edinburgh, found that the highest absenteeism rates occurred at the beginning of teaching careers. Simpson (1976) suggested that such absenteeisms allows teachers a temporary break from stress caused by adaptation for beginning teachers.

Carranza (1972) studied a population of 110 high school teachers in Michigan to assess the impact of life changes as measured by the "Schedule of Recent Experience" on performance. He found significant positive correlations between L.C.U. scores and absenteeisms (p. 4996). Dunham (1976) distinguished two common responses of teachers to stress:

> The first is frustration, and is associated with headaches, stomach upsets, sleep disturbances, hypertension and body rashes, and in prolonged cases, depressive illness. The second is anxiety, and is associated with feelings of inadequacy, loss of confidence, confusion in thinking and occasionally panic. (cited in Kyriacou & Sutcliffe, 1977, p. 304)

Based on this evidence Dunham suggested that absenteeism, truancy, teacher drop out and early retirement are due to the level of stress experienced by teachers. This hypothesis was supported by Payne (1974).

Wilson (1980), in his study of California teachers utilizing the WSPT, found that twenty-nine percent of teachers scored in the High/Moderate to High range in Physical Symptoms of stress and twenty-four percent in the High/Moderate to High range of Psychological/Emotional symptoms of stress.

Robert Sylwester (1977, p. 39) of the Education Department, University of Oregon, looked at teacher behavior through the

General Adaptation Syndrome, and proposed these correlates:

(1) Fight responses: using censure and threat on misbehaving students; pressuring pupils to work quietly and stay in their seats; send home notes to parents.

(2) Flight responses: calling in sick on stressful days; scheduling disliked subjects at the end of the day so that time will be limited; using drugs and alcohol.

(3) Responses that ignore/tolerate: attending unnecessary meetings but correcting papers while there; and following disagreeable regulations.

These responses, of course, cannot continue in intensity and duration without endangering the individual's health.

The implications of stress are broad, affecting all facets of the individual, from physical to psychological well-being.

> Teaching effective coping skills and providing social supports that mitigate the effects of stressors on psychological, somatic and health outcomes should be included in a program aimed at promoting health and reducing disease. (Needle, Griffin, & Svendsen, 1981, p. 180)

The next section will deal with such stress management techniques and programs.

Stress Management Techniques

Research has documented the damaging effects of stress (distress), yet little systematic research has been carried out to find ways in which individuals learn to react to stress in a positive way. "More recently, however, there has been a rapid growth of curiosity and concern among researchers

about coping and adaptation" (Monat and Lazarus, 1977, p. 8). This may be evidenced in the work of Coelho, Hamburg, and Adams (1974), and Moos (1976). As the nature of stress is diverse, so will the coping mechanisms employed to reduce stress be diverse. Many questions arise with regards to coping, two major ones being, 1) how to classify the coping processes, and 2) how to determine which processes are the most effective.

> Unfortunately, any answer to this problem must be prefaced with a long string of qualifiers due to inherent value questions (Smith, 1961), levels of analysis (i.e. physiological, psychological, or sociological), points in time (i.e. short vs. long run), and particular situations (Cohen, 1978).
> (cited in Monat & Lazarus, 1977, p. 9)

Pearlin defined coping as "... any response to stressors that serves to prevent, avoid, or control emotional distress" (cited in Needle, Griffin & Svendsen, 1980, p. 178).

There have emerged two different approaches to the study of coping by researchers. Some have emphasized general coping traits, dispositions, and personality (e.g. Byrne, 1964; Goldstein, 1973). Other researchers have studied coping skills which are activated in certain situations (e.g. Cohen & Lazarus, 1973; Katz et al., 1970; Wolff et al., 1964). The first approach is pursued by those who study how different personalities react to stress. This line of research has been proven to be a less adequate predictor of behavior.

Lazarus (1975) proposed two major categories of coping, those involving direct action and those involving palliative

modes of coping.

Of course, managing stress is only indirectly related to the purposes of this study. This section presented fundamental material on stress management since the next logical step to the identification of stress is to determine management or coping schemes.

A Model for Management of Stress

The model of stress governing this study is holistic in nature, that is, it recognizes that stress may be induced by a host of factors, internal and external. Thus, stress management should be holistic as well.

> ...stress is environmental and social; it is mental as well as physical; it involves perceptions, thoughts and anticipation; it is action and the thwarting of action. Stress is caused by many situations--thus, stress cannot be managed, controlled or reduced via any one technique. (Girdano & Everly, 1979, p. 124)

In providing coping skills which cover the gamut of factors affecting the stress response, one must provide for known weaknesses and for those which are not as evident, such as personality defects and attitude problems.

The first step in coping with stress is to locate its origin, be it psychosocial, personality or bioecological. The next is to plan the means to change or adapt to these stressors. One such process is Social Engineering, which refers to the "willful altering of lifestyle and/or general environment in order to modify exposure to stressors" (Girdano & Everly, 1979, p. 125). Here, the stressor is directly dealt with, or

changed so as to be less stressful. Girdano and Everly (1979) offered the following strategies for dealing with stress of different origins. 1) Adaptive Stress - establish routines when possible, use time-blocking techniques, and establish a mental health day. 2) Stress from Frustration - find new alternatives to achieve your goal. 3) Overload - practice time management, set priorities, and accept fallibility. 4) Deprivational Stress - plan ahead to avoid potentially stressful situations and remember that boredom does not equal relaxation. 5) Bioecological Stress - use nutritional engineering and monitor your biorhythms.

Also proposed is Personality Engineering; "the intentional alteration of the stressful aspects of your personality" (Girdano & Everly, 1979, p. 144), which is governed by one's values, attitudes and behavior patterns. Such strategies include: A) Positive Verbalization - "refers to the process whereby you reinforce your self-image by pointing out some positive aspects about yourself" (p. 146). B) Learning how to accept compliments; and C) Assertiveness training. The authors suggested, as well, time management techniques for Type A behavior, based on the work of Friedman and Rosenman, and finally proposed a series of "thought-stopping" strategies for the anxious-reactive personality (Girdano & Everly, 1979, pp. 149-153).

For Type A behavior, Friedman and Rosenman recommended a number of drills that were aimed at changing Type A behavior, including: forcing yourself to listen instead of being the

center of attention by constantly talking, and trying to control an obsessional time-directed life by making oneself aware of it and changing the established pattern of behavior. They suggested penalizing oneself for rushing by making oneself go back, slow down, and repeat the action a second time. Friedman and Rosenman suggested asking the following questions when preparing for a task: "Will this matter have importance five years from now? and Must I do this right now, or do I have time to think about the best way to accomplish it?" (cited in Cooper, 1981, p. 72). These are but a few of the suggested ways for Type A's to learn how to slow down and decrease their susceptibility to CHD.

Morse and Furst (1979) recommended that stress management be divided into two phases, the first being coping with stress, the second being counteracting the stress response. Five major methods were suggested for coping with stress: avoidance, evasion, diversion, preparation (mental, nutritional, physical), and eustress responses (mental attitude and physical response). Counteracting the stress response involved sleeping, napping, and relaxing. The relaxation response involved self-hypnosis, meditation, biofeedback, yoga and zen.

Giammatteo and Giammatteo (1980) recommended a four stage approach to stress management: 1) awareness of stressors, 2) development of techniques to tolerate them, 3) means to reduce stress, 4) a plan for the management of events that cause stress.

Needle, Griffin, Svendsen and Berney (1980) explored the

sources and consequences of teacher stress. They maintained that a pattern similar to the aforementioned four stage approach is necessary to create a comprehensive stress management program for teachers. The sources of stress stem from such a vast array of potentially stressful situations that effective coping strategies cannot be designed without some guidelines. These authors elaborated on a program instituted in a suburban school district to aid teachers in identification and management of stress. This program took the form of in-service workshops.

> The central goal of the workshop was to involve teachers in activities to explore personal feelings about everyday teachings, to identify stressors and to explore practical strategies--both individually and collectively --to cope with the stress of those experiences. (p. 98)

This program consisted of four two and one half hour workshops. Films from the "Heart of Teaching" series were used as a catalyst for exploration. These films focused on four areas of concern; 1) staff meetings and teacher support; 2) parent-teacher conflicts; 3) student-teacher conflicts; and 4) individual learning needs and styles of students (p. 98). The films helped teachers explore the common feelings of frustration, loneliness and problems of communication that they each faced daily. Not all stressors were shared, but as discussion continued, consistent patterns of stressors did emerge; these patterns became the focus of specific planning. Some of these could be handled on an individual level among the teachers themselves, while others were caused by educational

policies requiring policy decisions and collective action. The final session dealt with strategies contributed and designed by the teachers to deal with their own stressors and those of their colleagues.

Kyriacou (1980) investigated the "relative frequency with which a sample of comprehensive school teachers used various actions to cope with occupational stress" (p. 57). The information was gathered through an anonymous postal questionnaire. Fifty questionnaires were sent and forty-two were returned for analysis. The teachers were asked to rate a list of thirty-three coping actions in response to the following statement. "Please consider each statement in the list below and indicate how frequently you use such actions to cope with stress at work." A five point scale was designed for response (always, usually, sometimes, rarely, and never). The most frequently used coping actions reported were: "try to keep things in perspective," "try to avoid confrontations," and "try to relax after work" (p. 57). Further analysis revealed the following three clusters: "express feelings and seek support," "take considered actions," and "think of other things." These findings supported the model of coping, that is, they involved recognition, planning and support from colleagues.

Needle, Griffin, and Svendsen, in their 1981 study of "Coping and Health Problems of Teachers," examined four psychological coping strategies: 1) "positive comparisons, a perceptual device intended to control the meaning of the problem", in which teachers compared their life at work to

the previous year, how they believed it will be in the future, and lastly, how it compared with the work of others, 2) optimistic action--"searching for the positive aspects of the job," 3) "substitution of rewards," and "maximizing the positive and minimizing the negative features of the job," 4) selectively ignoring problems and focusing on a more gratifying aspect of work" (Needle, Griffin & Svendsen, 1981, p. 178). They found that positive comparisons mitigated the effects of stressors on general well being. To prevent and reduce stress effectively a comprehensive program was needed.

> Teaching effective coping skills and providing social supports that mitigate the effects of stressors on psychological, somatic and health outcomes should be included in a program aimed at promoting health and reducing disease. (Needle, Griffin, & Svendsen, 1981, p. 180)

Marianne Betkouski developed a workshop for teachers on strategies for reducing stress and techniques for problem solving. Her philosophy was one of "informational learning."

> The goal, say researchers, is to present teachers with enough information about their jobs and the stresses they are likely to encounter to enable them to exert some positive control over their lives - in other words, "the more you know about something, the less likely you are to fear it." (1981, p. 35)

These workshops have been used successfully in teacher training sessions at the University of Florida and Florida State University and in school districts in North Florida and

South Georgia. Teachers are first introduced to the stress reaction itself. Selye's General Adaptation Syndrome and its three stages are then presented and discussed, followed by a discussion of burnout and the stages involved in becoming burned out. At this point teachers are reassured that signs and symptoms of burn out are normal reactions to perceived stress. They discuss the question of why so many teachers feel burned out. The teachers are presented with a matrix, one axis labeled, "What Schools Do" and the other "What People Do." Discussions of this matrix have led to the conclusion that teachers were prepared for only a small portion of the reality of teaching.

> ...that while teacher education programs claim to stress the preparation of "competent" teachers, they woefully underemphasize survival skills, such as belief in self, decision making, commitment, concern for people, and construction.

Thus, says Betkouski, a main purpose of the workshops was to help teachers develop skills. Active participation became the key for the teachers to become "their own agents of change." To achieve this, she developed a "Direct Action to Risk Enrichment" chart, DARE. This chart consists of five sections: Source of Stress, Emotional Reaction, Physiological Reaction, Coping Mechanism, and Time Line. In the first column teachers are asked to list the five most pressing sources of stress in their careers and in the next two the emotional and physiological reactions they experience. "The latter request emphasizes the close connection between mind

and body and helps participants to take a 'whole life' approach to the problem" (Betkouski, 1981, p. 35). Once this task has been completed, the group is divided into small groups of five members. Together the participants develop coping strategies to deal with each stressor in column one. These are listed in the fourth column, giving the teachers the opportunity to share their concerns, both unique and common, and gain social support. The last column, time line, is, according to Betkouski, a critical one. A time frame is established to test the preferred coping mechanism. The teachers return to their classes and try out the suggested strategies, keeping a log to report their progress. The teachers are urged to meet periodically and compare results, thus providing a feeling of commitment and follow-up. Problems are recognized and efforts are reinforced. "It enables each group member to leave the workshop with a workable plan and not simply evangelical good intentions" (Betkouski, 1981, p. 37).

The preceding presentation on stress management techniques serves to reiterate the need for practical programming. There are no simple remedies. Managing stress is a way of life. It is not restricted to one environment or another, and it is the responsibility of the individual, as well as the responsibility of the work setting.

> Preventing or reducing the consequences of job stress depends on individual, collective and organizational strategies; the ultimate goal is the improvement of teachers' health, well-being and effectiveness in their work. (Needle, Griffin, Svendsen, & Berney, 1980, p. 98)

Critical Review of Substantive Studies

As is evident in the foregoing discussions, stress is a generic term which encompasses in its scope numerous facets requiring study. Although the concept is old the study of stress, and specifically how it relates to occupational environments, is relatively new. Studies of stress in the teaching profession are limited, but some inroads have been made as researchers begin to delve into the construction of instruments to measure this phenomenon. Several studies, which have already been referenced throughout and actually comprise the bulk of available studies of stress in teaching, have provided direction both through their strengths and limitations.

The study by Kyriacou and Sutcliffe (1978) provided a very good reference. The methodology employed was designed to answer the questions postulated in a comprehensive manner. The sample population was randomized and controlled with regards to school size and student age. The return of questionnaires distributed totalled 80.3 percent, which was very acceptable for analysis purposes. It was a comprehensive study in that it dealt with degree of stress experienced, sources of stress, and symptoms most frequently experienced. The authors reported that the questionnaire was developed through a study of the literature, interviews and pilot studies. More information on such procedures would have been beneficial, although the reference list did point out some critical literature

reviews. They followed the assumption that teachers would validly report the sources of experienced stress. Also, a general question was instituted which was used as a measure of self-reported teacher stress; the authors found that all sources and symptoms of stress correlated significantly and positively with this measure. The recommendations were limited, although the presentation of major findings and the analysis were very informative.

The Teaching Events Stress Inventory developed by Cichon and Koff (1978) and based upon the work of Holmes and Rahe (1967) appeared weak in several areas. The study sought to probe two queries: (1) the development of an instrument to provide an estimate of the relative degree of stress induced by various events and (2) the characteristics of people and school situations related to differential stress. The first purpose was fulfilled in that the instrument provided an opportunity for teachers to assign values representative of the amount of stress experienced; however, one has to question the validity of such an open interpretation. The guideline set by the one given value of 500 points was left too much to the interpretation of each teacher and was quite arbitrary. The method of sample selection was a weakness noted by the authors, which in turn affected the fulfillment of the second purpose. As the return was only 22 percent, and the sample was not randomized, the analysis by biographical subgroups is open to question. The statistical analysis procedures were comprehensive and the discussion of results was very informative,

as the authors questioned their interpretations and provided useful information throughout. The recommendation section regarding policy implications, and especially their recommendations on future research, was very beneficial. The instrument, as the researchers pointed out, needs further study, and future attempts should study how well teachers are actually adapting and performing under stress levels indicated. Their work on this instrument was important, as it follows an established method of study, namely that of Holmes and Rahe, which provides further information on the validity of this approach.

The study by McMurray (1982) is important as it is Canadian, and thus the environments under study are similar to this province's. The report on this study raised many questions which could not be answered by the information presented. The methodology is not explained clearly and results are given which do not reflect the purpose of the study. Although a 62% return, consisting of 604 questionnaires, was obtained, one wonders about the sample population's characteristics. The distribution of the questionnaires was randomized only as far as the principals, who in turn chose the subjects themselves, on the basis of regular or specialist training. No indication of further instruction to these principals was given. The responses were analyzed by biographical characteristics, but no breakdown of the population is presented nor were statistical procedures or results other than a Chi Square given; this omission greatly limited the

ability of the reader to judge the validity of statements made.

The only other compilation of Canadian content on stress is a report from the Manitoba Teachers' Society. This is not a study in the same vein as those previously discussed as it is a review of the literature and a report through polls and interviews with various groups of teachers from Manitoba. It serves to shed light on how teachers in another province feel about the importance of studying stress and their attempt to determine possible causes and methods of dealing with stress. It is a very valuable report as it defines stress, presents findings of researchers, discusses the concerns of the Manitoba teachers and seeks to inform its members of their responsibilities in dealing with stress. A list of referral agencies and services was provided.

These studies, as is the case with exploratory research, all have strengths as well as weaknesses. The study by Kyriacou and Sutcliffe (1978) provided a good model in approach and analysis. The generalizability of this study to the current one must be made with caution. Nonetheless, it was beneficial, and the knowledge of the researchers, as evidenced in other writing presented, was apparent. Cichon and Koff (1978) used another approach in the examination of stress, which was useful in that it provided a good exploratory base. McMurray's (1982) study provided a basis for only limited comparison, as the methodology and analysis employed were confusing; however, it provided some direction in the presentation of the present study's results. The Manitoba report pointed out the

commonality that exists in attempts to understand stress.

Summary

This chapter has reviewed the literature on stress, including its evolution as a concept, its sources and manifestations, and its relationship to the teaching profession. A critical review of the substantive studies was also included. Chapter III will consist of a discussion of the methodology and procedures used in this study.

CHAPTER III

METHODOLOGY

In order to achieve the purposes outlined in Chapter 1 and in order to explore the research questions posed, the following instrumentation and methodology were utilized. The studies previously discussed and critiqued were considered in the selection of the instrumentation and the methodology to be described.

Instrumentation

Wilson Stress Profile for Teachers

The instrument chosen for this study was the Wilson Stress Profile for Teachers (WSPT), developed by Dr. Christopher Wilson, and published in 1979 (in author's possession). Wilson constructed the scale from information gained on research in the area of teacher stress and from unpublished surveys regarding stressful areas of teaching. "The WSPT measures, by self-report, perceived stress in major stressful categories related to teaching and also provides an overall general teaching stress score" (Wilson, 1979, p. 9). The major stress categories are: Student Behavior (SB), Employee/Administrator Relations (EAR), Teacher/Teacher Relations (TTR), Parent/Teacher Relations (PTR), Time Management (TM), Intrapersonal Conflicts (IC), Physical Symptoms of

Stress (PSS), Psychological/Emotional Symptoms of Stress (PSYCH), Stress Management Techniques (SMT). There are four items per category with 36 items in all. Responses are made on a 5 point Likert scale, number one representing "never," number five representing "very often." The scores of each of the nine categories are combined to derive an overall general stress score. The individual scores may be plotted on a grid to obtain a profile which visually depicts the relationships of the different categories. The scale can be self-scored; thus, the respondent may obtain immediate feedback. For the individual stress category scores, Wilson offers the following scale as a subjective measure of stress level: 1-8 = Low Stress; 9-15 = Moderate Stress; 16-20 = High Stress. The overall stress score measure is as follows: 36-73 = Low; 73-108 = Moderate; 109-180 = High.

Wilson suggests three uses of the WSPT:

1) as a needs assessment in a school (or district) so that the sources of stress can be clearly identified and compared with norms from other teachers.

2) as a pre/post instrument to measure stress level changes.

3) as an individual measure for teachers on a one-to-one basis.

The profile may be given individually or in a group setting and requires approximately 15 minutes for completion (Wilson, 1979). The purpose behind the construction of this scale was to provide a measure that would more clearly define the perceived major stressors in teaching and to aid in investi-

gation of the level of perceived stress for teachers of different teaching assignments. These were the primary purposes of this study and a major reason for the selection of this instrument.

Additional data analysis was completed on the teacher profile to further check reliability and construct validity. The analysis was based on data collected from 57 teachers and included a comparison of pre/post profile scores and the STAI (State-Trait Anxiety Index). The analysis concerning reliability was assessed by examining pre/post profile test scores for all 57 teachers, using the Spearman's Rho Technique. The correlation coefficient was +0.68 (slope 0.69, intercept 24.09). The P value for this score, with 55 degrees of freedom, was greater than 0.01. "On these grounds the test is highly reliable across administrations" (Wilson, 1980, p. 28).

Construct validity was measured by correlating the pre-scores on the profile test with scores on their STAI cumulative scores. The Rho value was 0.50 (slope = 0.63; intercept 10.53). The P value was greater than 0.01. "It appears that the instrument has sufficient construct validity to warrant its use for the measurement of stress among teachers" (Wilson, 1980, p. 28).

Normative data was obtained in the Spring of 1980; for this purpose 405 teachers in six San Diego school districts, grades K-12, completed the profile.

To test the usefulness of the instrument for teachers in the province of Newfoundland and Labrador, a pre-test was conducted in December of 1981. Forty teachers from the St. John's

area participated in the study. These teachers were chosen for reasons of accessibility, as they were attending night classes at the university. The sample consisted of teachers from three levels: primary, elementary and high school. Thirty-six of the forty teachers were female, and four were male, ranging in age from twenty-one to forty, and ranging in years of experience from one to twenty-one years. Twenty of the profiles were given in their original form, while the remaining twenty had the items randomized to test for influence of the order of the items. They were filled in anonymously with a provision for feedback upon request. The teachers had no difficulty relating to the scale and successfully completing the profiles. Analysis revealed that the overall mean scores of the fixed version and the randomized version were not significantly different, leading to the conclusion that the scale could be used in either form if the purpose of testing was to find an average stress score for groups of teachers. It was also found that the scale could discriminate between individual scores. The sample was not large enough to have equal representation for each of the three levels, primary, elementary, and high school; thus, the ability of the scale to discriminate between groups of teachers was inconclusive. In keeping with the purpose of this study, it was found that the instrument performed adequately, included most of the appropriate sources of stress, was useable for the population of teachers in the province, and thus could fulfill the purposes of the study.

The purpose of the Wilson Scale is to define stressors and to measure their frequency of occurrence for teachers of differing assignments (Wilson, 1979). The Scale encompasses issues which have been expressed in the literature and by members of the profession through their representatives. The research into occupational stress has only recently attempted to develop and refine instruments to measure stress. This Scale has some limitations which may affect the interpretation of the findings: (1) A major characteristic which needs consideration is the fact that the scale measures self-perceived stress. Thus, one must consider whether a respondent's perception is valid with regards to the items cited as stressful. There is no objective measure of emotional or physical arousal to serve as a validity check of self-reported stress. However, as pointed out in the model of teacher stress discussed previously, a person perceiving an event as stressful may indeed incur a stress reaction. (2) Another point due consideration is that the subjects may be influenced by the social desirability of rating certain events as highly stressful. (3) Many items in the scale describe behaviors, for example, 'I have to take work home to complete it." This may be stressful for some but not for others, although all engage in the behavior. (4) Other items are vague, such as, "I get too little support from the teachers with whom I work." Such a statement could be open for variable interpretation by the subject; thus, the meaning of the responses to such questions could vary and the usefulness of the information for future planning could be somewhat limited. (5) The population

of items is not exhaustive in terms of all the possible stressors that could exist for teachers. The Scale, however, does provide a starting point. It is definitive and exploratory in nature, as is this study. The items are relevant to the teachers of this province. The Scale's useability, in terms of readability, relevance, length of time required for completion, and the respondents' ability to obtain immediate feedback, are characteristics which make this scale feasible to use in an exploratory study into the broad area of teacher stress as it exists in this province. Areas that were deemed lacking adequate representation in the Wilson Scale, such as role conflict and involvement in decision-making, were incorporated into the Local Scale; the Local Scale was developed, pre-tested and administered with the purpose of incorporating questions or concerns which the Wilson Scale failed to cover (see page 98 and Appendix C).

Instruments reported in the literature at the time of selection were very limited. The instrument used by Cichon and Koff (1978) drew on the work of Holmes and Rahe (1967). One criticism of the SRRS is that it does not provide for subjective appraisal of life changes, but assigns the same value for all. Items in the adapted version were drawn from teachers in the Chicago area which, reportedly, have problems much different from this province's teaching population. The scale utilized by Kyriacou and Sutcliffe (1978) was based upon concerns of teachers in England, whose school structure differs significantly from this province's system. Thus, the Wilson Scale, given its limitations, was deemed to be the instrument

most suitable to the purposes of this study.

General Information Questionnaire

The thirty-six items on the Wilson Stress Profile were supplemented with a general information sheet requesting biographical data (see Appendix A). The general information sheet sought to obtain biographical data such as sex, marital status, teaching qualifications, and length of teaching experience. For further elaboration, see Appendix A. As discussed previously, the perception of stress is affected by a host of factors stemming from an individual's psychological and physiological domain. For these reasons researchers in the past have used biographical data as a basis for comparison in the analysis of perceived stress. For example, the socialization process of males and females, even considering the changes of the past decade, holds many differences. How a person copes with stress is determined, to some extent, by learning and life experiences. Unless both sexes have been subjected to similar learning experiences, it is logical to assume that their response to stress may vary, their perception having been influenced by the socialization process.

Age, as well, is considered to be an important variable influencing a person's perception, attitude, and level of job satisfaction. This may be due to several factors, one being that age brings maturity and another that the more one is familiar with his/her work environment, the lower the level of stress. As Evans and Maas (1969) so aptly stated, when

considering age in his study on job satisfaction, "the flaming liberal of 25 may become the staunch conservative at 45" (Evans & Maas, 1969, p. 16). Several studies have found that the level of job satisfaction increases with age (Binge & Capwell, 1947; Hoppock, 1960; Super, 1939). Hoppock, in a study of satisfied vs. dissatisfied teachers, found that, "...the satisfied averaged 7.5 years older than the dissatisfied, mean ages being 37 and 29.5" (Hoppock, 1977, p. 40).

The level of professional training has come to reflect the quality of performance expected. It is assumed that the more qualified a person is for the job, the greater the chance of job satisfaction and fewer the feelings of distress. This is not to imply that a person who is highly qualified will not experience stress, but that his/her tolerance may be greater in certain circumstances. If, for example, a teacher has majored in mathematics and has experienced teaching only that subject, it is conceivable that this person may find it stressful if required to teach English and Social Studies.

Research has produced many different findings with regards to biographical subgroups and their influence on the perception of stress in teaching (Cichon & Koff, 1980; Kyriacou & Sutcliffe, 1978; Rudd & Wiseman, 1962; Wilson, 1980). These researchers have looked at such factors as sex, age, length of experience, and qualifications, thus establishing a data base for further comparison of the results of this study.

Local Scale

Ten additional items, not deemed to be covered adequately in the Wilson Scale, were developed to investigate issues which are of current and topical concern for teachers in this province, such as overcrowded classrooms, declining enrolments, reorganization of the curriculum for grade twelve, and lack of involvement in decision-making. These items comprise the Local Scale (see Appendix C). The type and response pattern of the items on the Local Scale parallel that of the Wilson Scale. These items aided in localizing very important sources of potential stress which were not incorporated into the Wilson Scale.

The WSPT, in its original form, plus the general information questionnaire and the Local Scale, is known collectively as the WSPT-K.

The WSPT-K provided a population of items representative of potential stressors, allowed for teachers to report their perceptions of these items to determine those which are actual stressors, identified physical, emotional, and psychological indicators of stress experienced by teachers, identified stress management techniques which teachers currently employ, and provided biographical information for analysis and comparison to previous research.

In reference to the model of teacher stress presented in Chapter I, the WSPT-K provides a comprehensive instrument with which to study "teacher stress."

Procedure of the Study

Initial negotiations concerning research in the area of teacher stress began in June of 1981 (see Appendix B). Dr. L. Klas, professor with the Educational Psychology Department of Memorial University, conferred with Mr. Myrle Vokey, Director of Professional Development, Newfoundland Teachers Association, on the subject of research into the area of teacher stress. This proposal was well received and initial proceedings and plans were set in motion (see Appendix B). Dr. Klas obtained permission and direction from Dr. Christopher Wilson in using the Wilson Stress Profile for Teachers (WSPT) (see correspondence, August 25, 1981/September 8, 1981--- Appendix B). Contact was renewed in November of 1981 between the N.T.A. and the researchers. A meeting was held with the representatives of the Teaching Committee and Mr. Myrle Vokey, chairman of the Professional Development Committee, to discuss the N.T.A.'s involvement in financial and procedural aid.

The school boards were notified in writing of the purpose and importance of the study and what their involvement would entail in correspondence dated February 17, March 1, and April 1, 1982 (see Appendix B).

Sampling Procedure

The Department of Education records provided the researcher with the current statistical breakdown of teachers by board and by school in the province. These records provided the information necessary to obtain a stratified sample of the total teaching population of Newfoundland and Labrador.

The thirty-five school boards were identified and the number of teachers in each. Ten percent of this total provided the sample size. The sample was divided to represent the following levels: primary, elementary, and secondary. The number of teachers chosen for each level was determined by the overall representation of each category for the total number of teachers in the province; the number of teachers each board contributed to the total sample population was proportional to the size of the board. Schools within each board were chosen randomly to represent that board's contribution to the sample population.

The Newfoundland Teachers' Association assisted in some of the distribution of the instruments and covering letters. The branch presidents from all over the province received the questionnaires, which were to be filled out by the teachers in schools in their designated areas. They received individual packages for each of the schools containing all the information necessary for successful completion of the task. A cover letter accompanied each

questionnaire, containing the purpose of the study, sample selection procedure and an explanation of the procedure to be followed in completing the forms (see Appendix B). Where it was not feasible for the branch president to personally distribute the packages, due to distance or isolation of the schools chosen, they were mailed directly to the principals, who then had the responsibility for distribution and return. All profiles were filled in voluntarily and anonymously with provisions made, through the use of a personal code number, for teachers who wished to inquire about their score and for future research follow-up.

The questionnaires were prepared and distributed in the second week of April, totaling thirteen hundred and fifty in all. Follow-up procedures began in the third week of May. Two methods were used for follow-up: letters of reminder were sent on May 18, 1982 (see Appendix B) and telephone calls were made during this same period to those people responsible for return of the questionnaires. Questionnaires were received and coded for analysis until the last week of June. Of the returns, eight hundred and seven were deemed useable; two hundred of the other questionnaires may be accounted for by the following: (1) they never reached their destination; (2) they were delivered to the wrong school; (3) some were filled out inappropriately; (4) others lacked information necessary for inclusion in analysis; and (5) some were lost in the initial distribution, and return mail.

Therefore, the sample population was reduced to eleven hundred and fifty, producing a return of seventy-three percent. Of these eight hundred, 582 were regular classroom teachers, or approximately seventy three percent of the sample population. It is this population (582) that is used for analysis in this study. The following table depicts the breakdown of the sample population of regular classroom teachers by teacher category.

Table 1

The Sample Population of Regular Classroom Teachers by Teacher Category

	Primary	Elementary	High
Male	90	91	136
Female	68	82	115
Total	158	173	251

Analysis Procedures

The following statistical analysis procedures were conducted to answer research questions presented in Chapter I.

In order to answer research questions 1A, 2A, 3A, 8A, 9A, 10A, and 11A, descriptive statistical analysis was conducted to determine means and standard deviations.

In order to answer questions 1B, 2B, 3B, 8B, 8C, 9B, 9C, 10B, 10C, 11B, and 11C, an analysis of variance was conducted, and the Student-Newman-Keuls, a posteriori contrasts tests.

In order to answer questions 4, 5, 6, and 7, the mean scores for each item were examined by the researcher and placed in ranked order.

In order to answer questions 12 and 13, Pearson Product-Moment Correlations were conducted and two-tailed tests of statistical significance were applied.

Summary

This chapter has discussed the instrumentation utilized in this study, the procedures undertaken to conduct the study and obtain the sample, and the method of analysis of the data received. Chapter IV will present, analyze and interpret the resultant data.

CHAPTER IV

PRESENTATION, ANALYSIS AND INTERPRETATION OF THE DATA

Introduction

The purpose of this chapter is to present, analyse, and interpret the data gathered in the study. The data are presented in tables and portrayed graphically as an aid to conceptualize the results. The presentation of the data follows the order of the research questions outlined in Chapter One.

Mean Stress Levels for Regular Classroom Teachers

Mean total stress scores for primary, elementary and high school teachers, as measured by the WSPT and Local Scale, are presented in Table 2. The difference between the highest score, primary, ($\bar{X}$ - 91.55), and the lowest score, elementary, ($\bar{X}$ - 88.21) is three points. These scores fall into the high moderate range of stress. The mean stress scores, as measured by the Local Scale, revealed a like pattern, the highest score being primary ($\bar{X}$ - 26.65), and the lowest score elementary ($\bar{X}$ - 26.15), with a difference of less than one point. These differences were not found to be statistically significant at the .05 level of confidence, following an analysis of variance (see Table 3). The Student-Newman-Keuls procedure did not reveal different homogeneous groups for the total level of

Table 2

Mean Total Stress Scores by Teacher Category as Measured by the WSPT and the Local Scale

Teacher Category	WSPT			Local Scale		
	N	$\bar{X}$	S.D.	N	$\bar{X}$	S.D.
Primary	159	91.55	18.93	159	26.65	5.43
Elementary	174	88.21	17.51	174	26.15	7.10
High	255	89.13	18.43	255	26.23	7.26
Total	588	89.51	18.32	588	26.32	6.76

Table 3

Analysis of the Mean Stress Score as Measured by the WSPT and the Local Scale for Regular Classroom Teachers

Analysis of Variance

Source	WSPT			Local Scale		
	D.F.	M.S.	F	D.F.	M.S.	F
Between Groups	2	869.5	2.6	2	61.9	1.3
Within Groups	562	332.9		562	45.5	
Total	564			564		

measured stress by teacher category. The relationship between the mean stress scores, as measured by the WSPT and the Local Scale, are portrayed in Figures 8 and 9.

It appears that all teachers in the sample, regardless of level of teaching assignment, perceived equivalent amounts of stress in the teaching profession. These results support the findings of Wilson (1980), as he found no significant difference between mean total stress scores for elementary, middle school, and special education teachers. John Pratt (1978) found no difference in stress levels with regards to the age of children taught. Cichon and Koff (1978) reported that, regardless of type of school, teachers shared common perceptions concerning stress associated with teaching.

The WSPT Category Means and Ranked Order

The Wilson Stress Profile for Teachers is subdivided into the following nine categories: Student Behavior (STUBE), Employee/Administrator Relations (EMAD), Teacher/Teacher Relations (TTREL), Parent/Teacher Relations (PTREL), Time Management (TIME), Intrapersonal Conflicts (IPC), Physical Symptoms of Stress (PSS), Psychological/Emotional Symptoms of Stress (PSYCH), and Stress Management Techniques (SMT). Each of these categories consists of four items. The mean scores and ranks of these categories are presented in Tables 4 and 5. Figure 10 portrays the relationship between these categories and the positions of each on the

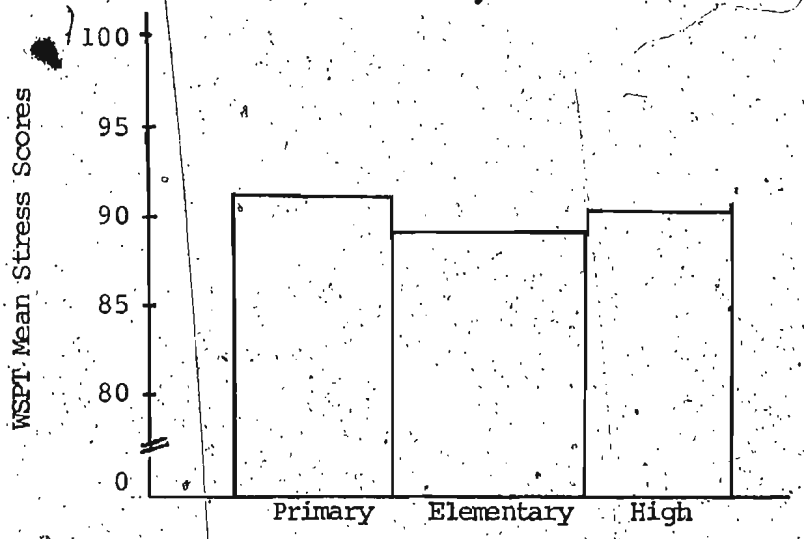


Figure 8. Mean stress scores for each teacher category, as measured by WSPT

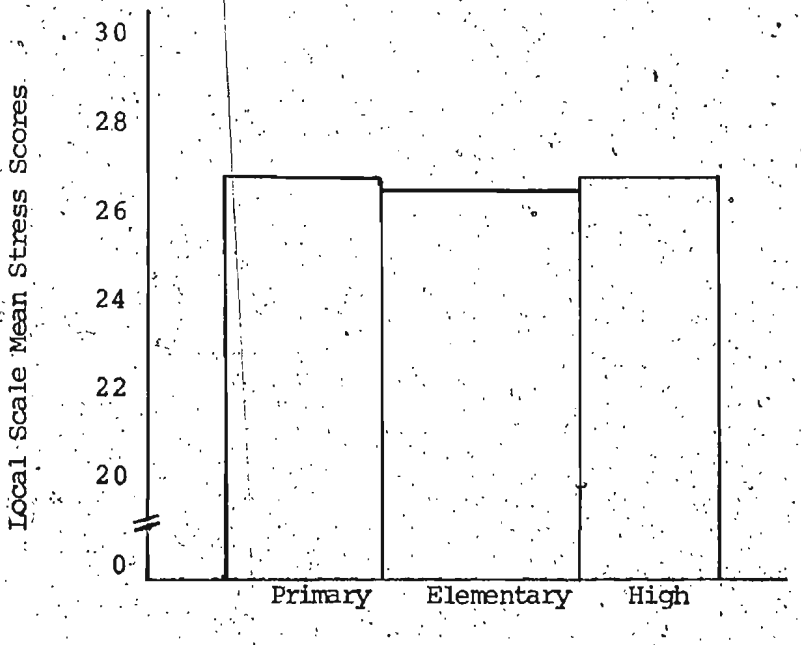


Figure 9. Mean stress scores for each teacher category, as measured by Local Scale

Table 4

Mean Scores and Ranks for the Nine Categories of the WSPT for Each Teacher Category

Categories of the WSPT	Primary		Elementary		High	
	Mean Score	Rank	Mean Score	Rank	Mean Score	Rank
Student Behavior	10.83	5	10.56	5	10.73	4
Employee/Administrator Relations	6.41	9	6.20	9	6.53	9
Teacher/Teacher Relations	6.77	8	6.44	8	6.90	8
Parent/Teacher Relations	11.74	2	11.60	2	11.54	2
Time Management	13.05	1	12.34	1	12.10	1
Intrapersonal Conflicts	11.61	3	10.97	3	11.10	3
Physical Symptoms of Stress	11.16	4	10.63	4	10.59	5
Psychological/Emotional Symptoms	10.40	6	10.08	6	10.22	6
Stress Management Techniques	9.59	7	9.40	7	9.44	7

Table 5

Ranked Order of the Mean Scores of the Nine Categories of the WSPT for Each Teacher Category

Categories of the WSPT	Ranked Order		
	Primary	Elementary	High
Time Management	1	1	1
Parent/Teacher Relations	2	2	2
Intrapersonal Conflicts	3	3	3
Physical Symptoms of Stress	4	4	5
Student Behavior	5	5	4
Psychological/Emotional Symptoms	6	6	6
Stress Management Techniques	7	7	7
Teacher/Teacher Relations	8	8	8
Employee/Administrator Relations	9	9	9

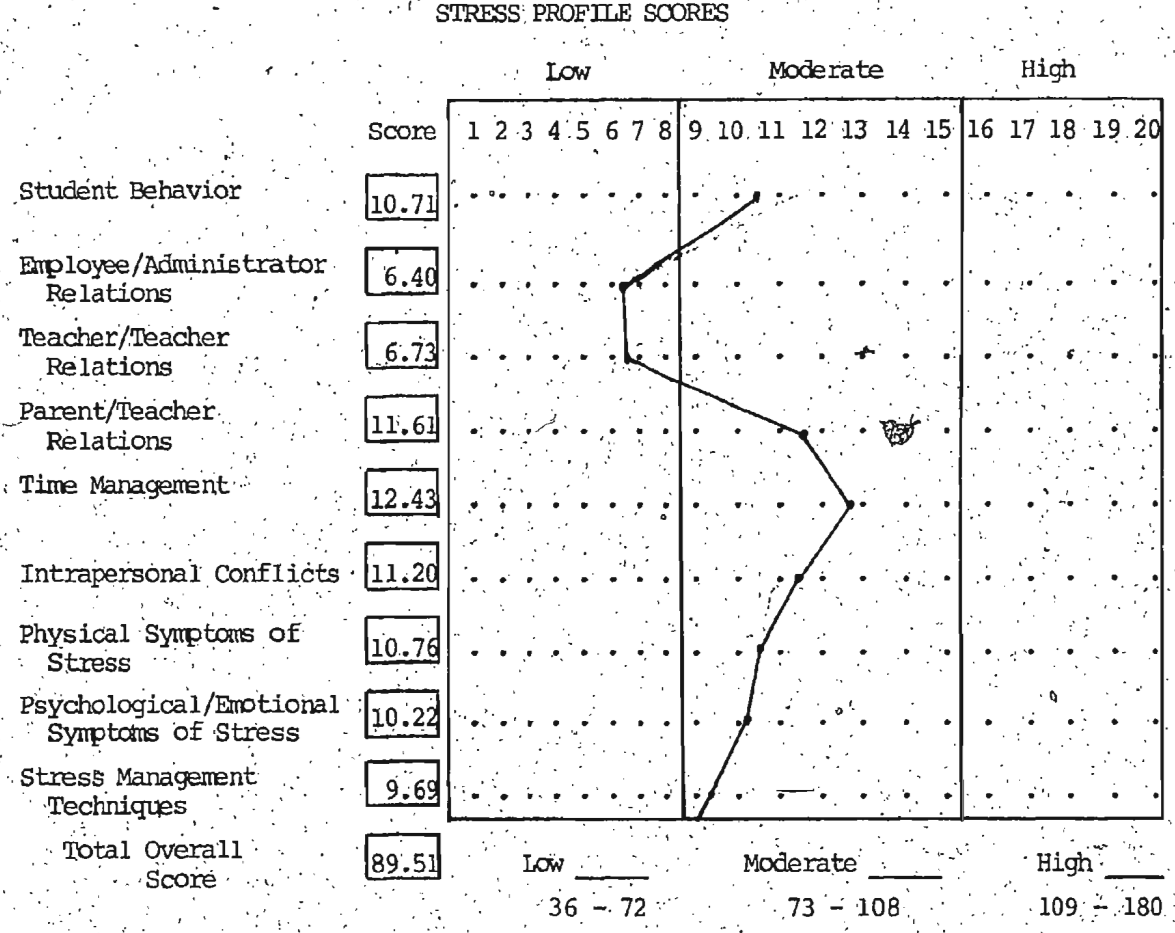


Figure 10. Stress profile for regular classroom teachers (adapted from Wilson, 1979).

range of perceived stress from low to high. As Table 5 reveals, the ranked order differs only slightly, with a reversal in Student Behavior and Physical Symptoms of Stress for high school teachers. McLoughlin and Shea (1960) had earlier reported that secondary teachers regarded student-teacher relationships as a greater concern than elementary teachers.

Time Management was ranked as the most stressful factor for each of the three teacher categories, falling into the high moderate range of stress. Wilson (1980) found this to be the highest ranked factor as well. Kyriacou and Sutcliffe (1978) identified "time pressures" as a factor significantly affecting stress in the teaching profession; the sources of stress comprising the category of "time pressures" were comparable to those included under "time management," such as "not enough time to do work," "lack of time to spend with individual students," and "demands on after school time" (see Appendix B for WSPT). J. G. McMurray (1982), in his study of perceived stress among Canadian teachers, identified the issues of "insufficient time for preparation," "the demands of course work," and "too many meetings." Rudd and Wiseman (1962) labeled a major category of dissatisfaction, reported by teachers in their study as "more time needed." The results of this and other research indicates that the time factor is a problem for educators.

An analysis of the variance (Table 6) revealed a significant

Table 6

Analysis of the Mean Stress Scores for the Nine Categories of the WSPT by Teacher Category

Analysis of Variance

Source	STUBE			EMAD			TIREL			PTREL			TIME			IPC			PSS			PYSCH			SMT		
	DF	MS	F	DF	MS	F	DF	MS	F	DF	MS	F	DF	MS	F	DF	MS	F	DF	MS	F	DF	MS	F	DF	MS	F
Between Groups	2	39.8	5.7**	2	10.6	1.0	2	48.0	8.6**	2	14.5	1.7	2	66.4	5.8**	2	35.2	3.1*	2	9.3	0.9	2	2.4	0.2	2	4.6	0.4
Within Groups	562	6.1		562	10.1		562	5.6		562	8.7		562	11.5		562	8.9		562	9.1		562	9.1		562	9.4	
Total	564			564			564			564			564			564			564			564			564		

** P< .01

* P< .05

difference at the .05 level of confidence when time management was considered with respect to teacher category. The Student-Newman-Keuls procedure reported the following homogeneous groups: group one, primary and elementary, and group two, elementary and high. These, however, are not exclusive. Further examination of the means by the researcher led to the following suggested homogeneous groupings: group one, primary, and group two, elementary and high, with elementary and high school groups showing significantly more stress in the category of time management. It is hypothesized that this may be due to the fact that upper elementary, and especially high school teachers, are more likely to be subject teachers and, thus, would have to prepare for more students each day and prepare for different climates. Extracurricular activities increase from grade school to high school, and teachers often are responsible for supervision of such activities after set classroom hours. Rudd and Wiseman (1962) found that infant teachers expressed a high degree of satisfaction with their work when compared with junior and secondary teachers, who reported higher levels of dissatisfaction.

Ranked second by each teacher category was Parent/Teacher Relations. This factor fell in the moderate range of stress. One item in this category looks at perceived parental dissatisfaction with the teachers' performance. Caspari (1976) made the following comment, in a discussion of parents and teachers.

> If things do not go as well as either parents or teachers expect, it is unavoidable that both are inclined to blame each other. The parents will doubt the teacher's skill in teaching, and the teacher will attribute the child's failure to the parents' attitude at home. (p. 31)

Realistically, this is not a black and white issue, as neither parents nor teachers could fulfil their role to perfection. Responsibility has increased for educators today as the pace and pressures of a rapidly growing and changing society warrant new coping skills that have to be taught. The educational environment is often expected to fulfil and provide for these needs. This expectation may be unrealistic. The other side of this issue is that teachers may not bring the problems of a student to the parents' attention for fear that it will reflect on their ability as a teacher. Public scrutiny and criticisms of educators have increased. If the attitude toward education in the home is a negative one, then children in that environment may very well adopt a similar attitude; this may affect classroom behavior, as well as academic performance. Lortie (1975) conducted an extensive sociological study of teaching involving five towns, representing five socioeconomic settings and grade levels. He wrote: "Parental actions, in short, can range across strong help, indifference, and open hostility; the parents' choice can have an important effect on the students' behavior in classes" (1975, p. 189). Teachers in this study wanted parents to be supportive but "distant assistants." Wilson (1980) reported Parent/Teacher Relations to be ranked first by some groups and fourth overall, with a

mean score of 11.2, a moderate score of perceived stress. An analysis of variance revealed no significant differences by teacher category.

Intrapersonal Conflicts was ranked third by each teacher category, and fell into the moderate range of perceived stress. This category focuses on fulfillment of self-expectations. "I put self-imposed demands on myself to meet scheduled deadlines," and "I think badly of myself for not meeting the demands of my job," are two of the items. The work demands of educators are not absolute. There is always another task, and tasks are seldom dealt with to the fullest extent; time, curriculum requirements, and the vast range of student potential negates this possibility. Thus, limits have to be set, no easy task for the conscientious teacher. Although personal comments were unsolicited in the data gathering, one teacher remarked on this issue: "There's never a feeling of accomplishment. This sounds very negative, but a job should not require 13 to 15 hours a day--to feel satisfied--life is too short."

J. Pratt (1978) reported that "the largest single cluster of events (Inadequate) related mostly to the teacher's observation of her own failure to teach satisfactorily or at least to cope with the wide variety of teaching problems" (p. 10). Pratt stated that self assessment was dependent upon self-imposed standards, and that high levels of stress in this area may reflect the increasing complexity of the job itself in a rapidly growing society. Dr. Joseph F. Montague wrote:

"This is especially true in education with so many students who need help and where pressures, responsibilities are so high" (Cited in Miller, 1979). The item, "I am unable to express my stress to those who place demands on me," points to the role conflict which may arise in the work environment. The role set of a teacher encompasses parents, students, colleagues, and administrators. With such extensive demands, the teacher is highly susceptible to experiencing incongruency among them, and the lack of opportunity or ability to express such concern will only lead to increased frustration and intrapersonal conflict. Halpert (1967), Roth (1968), Price (1971), Dunham (1976) and the Manitoba Teachers' Association (1981) all reported stress and job dissatisfaction arising from role conflict in the teaching profession. Wilson (1979) reported that Intrapersonal Conflict was ranked second by the sample in his study.

An analysis of variance revealed a significant difference at the .05 level of confidence when Intrapersonal Conflicts was considered with respect to teacher category. The Student-Newman-Keuls procedure distinguished the following homogeneous groups: group one, primary and elementary, and group two, elementary and high. These groups not being exclusive, they were examined further by the researcher, leading to these suggested groupings: group one, primary, and group two, elementary and high, with elementary and high showing significantly higher levels of stress due to intrapersonal conflicts. This may be explained, once again, by the fact that more upper elementary and high school teachers are

subject teachers and have to deal with more individuals. The developmental needs of pre-adolescents and adolescents require a major amount of understanding, patience and stamina that would no doubt add to the demands placed on teachers, in both the cognitive and affective domains.

Physical Symptoms of Stress was rated fourth by primary and elementary, and fifth by high school teachers; the variation was minimal. This factor, as well, falls into the moderate range of stress. As the title implies, the items are manifestations of physiological stress. Teachers are constantly under pressure to perform before an audience of students. These students demand constant attention from the teacher in order to keep discipline, to present material in an interesting and educational manner, and to deal with the differences in understanding which appear as a matter of course. This persistent call to attention is, of itself, strenuous, and the possibility of its being compounded in the normal flow of teaching by a host of other potential stressors increases the likelihood of physical symptoms. This factor was ranked third in Wilson's study (1980). Dunham (1976) reported that teacher frustration was associated with headaches, stomach upsets, sleep disturbances and hypertension. J. Pratt (1978) concluded that greater stress at work did lead to some degree of ill-health, as teachers in his study reported that minor illnesses such as headache, hay fever, and menstruation pains appeared to make teaching a more stressful profession than it

normally was. Simpson (1962), Carranza (1973), and Dunham (1976) all reported that higher stress levels were directly related to teacher absenteeism. An analysis of variance (Table 6) did not reveal a significant difference when physical symptoms of stress was considered with respect to teacher category.

The category of Student Behavior received a ranking of fourth by high school teachers and fifth by primary and elementary teachers. The scores fell in the moderate level of stress. Student behavior problems is a prevalent, often expressed stressor, and is a factor of stress consistently reported in the literature. Kyriacou and Sutcliffe (1977) presented several explanations as to why behavior problems do not receive even greater scores, more in line with verbal reports. Poor discipline in the classroom may range from cheek (Hargreaves, 1976) to violent and disruptive behavior (Lowenstein, 1975). Caspari (1976) argued that exhaustion experienced by teachers was more closely related to maintaining discipline than any other facet of work. Kyriacou and Sutcliffe (1978) revealed "pupil misbehavior" to be a major factor, involving such sources of stress as "noisy pupils," "pupils' general misbehavior," and "pupils' poor attitude toward work." Cichon and Koff (1978) identified the first cluster in analysis of the thirty-six ordered teaching events as "priority concerns," "managing disruptive behavior," and "being the target of verbal abuse." Rudd and

Wiseman (1962) reported pupils' behavior and pupils's attitudes as major sources of dissatisfaction. McMurray (1982) cited discipline matters as a significant source of stress. This research reveals that teachers experience stress due to behavioral problems of students; however, this category ranks lower in this sample than many other studies report. An analysis of variance (Table 6) reported a significant difference at the .01 level of confidence when the variable of student behavior was considered for each teacher category. The Student-Newman-Keuls procedure distinguished the following homogeneous groupings: group one, primary and elementary; and group two, elementary and high. These not being exclusive, they were subjected to further analysis by the researcher, leading to the following suggested distinction: group one, primary and elementary; group two, high school, with high school teachers reporting significantly higher stress. The adolescent stage of development, and the problems associated with it, present special problems of management and discipline to the teacher in the high school. The desire for identity, peer pressures, and greater expectations of significant others all place pressure on the students who often find adolescence a difficult passage. The high school teacher has to deal with such concerns as part and parcel of the academic endeavors. Secondary teachers are often responsible for three to five subject areas, and possibly even several grades, and have to adapt constantly to

such emotions and demands. Secondary teachers may not feel prepared for such expectancies when they confront them; the university degree requirements for secondary teachers does not include the number or variety of education courses that are required of primary or elementary teachers, especially in the area of psychological development of children and adolecents.

Psychological/Emotional Symptoms of Stress was ranked sixth. Because of the nature of the category, individuals may be more reluctant to admit to, or may even be more aware of, emotional problems. It is easier to recognize physical symptoms than to look at oneself and state, "I find myself complaining to others," and "I feel depressed about my job." These items may have represented greater risk. Wilson (1980) reported that his sample ranked this category fifth, with a mean score of 10.4, comparable to the 10.2 score obtained in this study.

Stress Management Techniques was ranked seventh by all teachers, and fell into the low moderate level of measured stress. It is the researcher's belief that the wording of the items in this category, except for item thirty-five (Appendix B), were somewhat threatening; this may have resulted in the lower scoring of the category. For example, "I am unable to use an effective method to manage my stress..." and "I feel powerless to solve my difficulties" are stated in absolute terms. Nonetheless, this score fell in the moderate range of perceived stress, but may be of greater significance than the

results show. Wilson (1979) reported the same ranking of this factor in his study. Needle, Griffin and Svendsen (1981) carried out an extensive study on coping and health problems of teachers. In the area of health behavior they found that: "teachers who report more positive health behaviors in relation to sleep, exercise, nutrition, use of preventive health services and cigarette and alcohol use report higher general well being (r = .41)." Their conclusion that perceived job stressors were substantially related to psychological, somatic and health related problems, the degree of illness being influenced by the stress management techniques employed.

Teacher/Teacher Relations was ranked eighth and fell into the low range of perceived stress. It appears that teachers perceived little stress from their relationship with one another. Lortie (1975), in a discussion of the data gathered in his study in 1963, wrote:

> The major psychic rewards of teachers are earned in isolation from peers, and they can hamper one another by intruding on classroom boundaries. It seems that teachers can work effectively without the active assistance of colleagues, since teacher-teacher interaction does not seem to play a critical part in the work life of our respondents. (p. 192)

The current study pointed out, as well, that teachers feel they are not being judged negatively by their colleagues. This may contribute to the reluctance of teachers to question or point out weaknesses in one another's work, as teaching style and

method depends a great deal on the individual. Colleagues may feel that it is not their place to judge. Also, little opportunity is provided for teachers to professionally assess one another's work in a constructive and non-threatening manner. As Lortie remarked; "Individualism characterizes their socialization; teachers do not share a powerful technical culture" (1975, p. 192). Interaction geared toward constructive assessment would require skill development and nurturance in a structured environment and could not take place in the context of the usual meetings which bring teachers together. Wilson (1980) reported like scores and ranks as found in this study for the factor of Teacher/Teacher Relations. The analysis of variance reported a significant difference at the .01 level of confidence when this variable was considered with respect to teacher category. The Student-Newman-Keuls procedure revealed the following homogeneous groups: group one, primary and elementary; and group two, high school. The population of high school teachers reported a significantly higher level of stress for the variable Teacher/Teacher Relations than either primary or elementary teachers. Lortie found that elementary teachers tended to compare their progress with one another more frequently, and even to exchange or share duties, moreso than other teachers. He reported, as well, that "senior high school teachers laid particular emphasis on the technical performance of peers" (1975, p. 194). This

may reflect the structure of the teaching assignments at the high school level. Individual teachers are responsible for a limited number of disciplines, in some cases perhaps even one; thus, they have no control over or involvement with the students' performance in other subjects. Perhaps they actually experience less professional interaction and less awareness of each other's disciplines. Rudd and Wiseman (1962) found that secondary teachers, both male and female, reported a greater amount of dissatisfaction in the category of poor human relations. This revelation warrants further study in this area.

Employee/Administrator Relations was ranked ninth and last by all teachers. It appears, then, that teachers generally perceived their relations with administrators as less stressful than other aspects of their work. The rank and score of this category corresponds with the Wilson (1980) results.

Means and Ranked Order of Stressors for Regular Classroom Teachers

Tables 7 - 10 present the means and ranked order of the ten most stressful items as measured by the WSPT for each teacher category and for the total population. Examination of these tables shows clearly that not only are teachers of differing levels experiencing the same levels of stress, but the same stressors are being perceived as the source. The

Table 7

Mean Scores and Ranked Order of the Ten Most Stressful Items as Measured by the WSPT for Primary Teachers

Rank Order	Items	Mean Score	S.D.
1	I have to take work home to complete it.	4.03	.98
2	I have too much to do and not enough time to do it.	3.60	.98
3	Parents' disinterest in their child's performance at school concerns me.	3.51	.93
4	The home environment of my students concerns me.	3.50	.87
5	I put self-imposed demands on myself to meet scheduled deadlines.	3.43	.91
6	I find my job tires me out.	3.42	.85
7	Lack of student motivation to learn affects the progress of my students negatively.	3.30	.93
8	I am tense by the end of the day.	2.99	1.02
9	Stress management techniques would be useful in helping me cope with the demands of my job.	2.96	.95
10	Teaching is stressful for me.	2.84	.88

Table 8

Mean Scores and Ranked Order of the Ten Most Stressful Items as Measured by the WSPT for Elementary Teachers

Rank Order	Items	Mean Score	S.D.
1	I have to take work home to complete it.	3.80	1.01
2	Parents' disinterest in their child's performance at school concerns me.	3.47	1.01
3	I have too much to do and not enough time to do it.	3.45	1.07
4	The home environment of my students concerns me.	3.39	.89
5	I find my job tires me out.	3.24	.99
6	I put self-imposed demands on myself to meet scheduled deadlines.	3.20	1.00
7	Lack of student motivation to learn affects the progress of my students negatively.	3.19	.93
8	Stress management techniques would be useful in helping me cope with the demands of my job.	2.88	2.88
9	I am tense by the end of the day.	2.85	1.01
10	I become impatient/angry when my students do not do what I ask them to do.	2.81	.69

Table 9

Mean Scores and Ranked Order of the Ten Most Stressful Items as Measured by the WSPT for High School Teachers

Rank Order	Items	Mean Score	S.D.
1	I have to take work home to complete it.	3.68	1.05
2	Parents' disinterest in their child's performance at school concerns me.	3.48	.96
3	I have too much to do and not enough time to do it.	3.35	1.03
4	The home environment of my students concerns me.	3.44	.98
5	Lack of student motivation to learn affects the progress of my students negatively.	3.20	.99
6	I find my job tires me out.	3.19	1.00
7	I put self-imposed demands on myself to meet scheduled deadlines.	3.15	.99
8	Stress Management techniques would be useful in helping me cope with the demands of my job.	2.93	.96
9	I am tense by the end of the day.	2.86	.97
10	I become impatient/angry when my students do not do what I ask them to do.	2.74	.63

Table 10

Mean Scores and Rank Order of the Ten Most Stressful Items as Measured by the WSPT for All Regular Classroom Teachers

Rank Order	Items	Mean Scores	S.D.
1	I have to take work home to complete it.	3.81	1.03
2	Parents' disinterest in their child's performance at school concerns me.	3.49	.96
3	I have too much to do and not enough time to do it.	3.45	1.03
4	The home environment of my students concerns me.	3.44	.92
5	I find my job tires me out.	3.26	.96
6	I put self imposed demands on myself to meet scheduled deadlines.	3.24	.98
7	Lack of student motivation to learn affects the progress of my students negatively.	3.20	.95
8	Stress management techniques would be useful in helping me cope with the demands of my job.	2.93	2.93
9	I am tense by the end of the day.	2.89	.99
10	I worry about my job.	2.70	1.03

item ranked number one by all categories was "I have to take work home to complete it." This item's scores ranged from 3.68 - 4.03, on the 5-point Likert scale. As already noted, this is an often-cited source of stress among teachers. The amount of work required before class in terms of preparation, and after each class in terms of evaluations, demands time which is not alloted for in the school day. Thus, teachers routinely have to take work home and take all the associated stressors home as well. The remaining items reflect the trend of the ranked order of the categories, and largely consist of items related to Time Management (two items), Parent/Teacher Relations (two items), Intrapersonal Conflicts (two items) and Physical Symptoms of Stress (two items). It is interesting to note that the item "Stress management techniques would be useful in helping me cope with the demands of my job" is ranked in the top ten by all teachers. Elementary and high school teachers included the item, "I become impatient/angry when my students do not do what I ask them to do." This may reflect the age of the children, as they are expected to be able to function in a group setting in an appropriate manner, moreso than children in the primary grades.

Tables 11 through 14 describe the mean scores and ranked order of the three most stressful items as measured by the Local Scale. The item, "I am unable to find sufficient outlets and extracurricular activities in my community," was ranked number one by each teacher category.

Table 11

Mean Scores and Ranked Order of the Three Most Stressful Items as Measured by the Local Scale for Primary Teachers

Rank Order	Items	Mean Scores
1	I am unable to find sufficient outlets and extracurricular activities in my community.	2.87
2	I feel my time and energies are spread over too many subject areas.	2.83
3	Teaching children—who are "below average".	2.82

Table 12

Mean Scores and Ranked Order of the Three Most Stressful Items as Measured by the Local Scale for Elementary Teachers

Rank Order	Items	Mean Scores
1	I am unable to find extracurricular activities in my community.	3.05
2	I feel my time and energies are spread over too many subject areas.	2.82
3	Teaching children "Below Average".	2.77

Table 13

Mean Scores and Ranked Order of the Three Most Stressful Items as Measured by the Local Scale for High School Teachers

Rank Order	Items	Mean Scores
1	Unable to find sufficient outlets in community.	2.96
2	I feel I have too little input in decision-making.	2.71
3	Teaching children who are below average.	2.69

Table 14

Mean Scores and Ranked Order of the Three Most Stressful Items as Measured by the Local Scale for all Regular Classroom Teachers

Rank Order	Items	Mean Scores
1	I am unable to find sufficient outlets and extracurricular activities in my community.	2.96
2	Teaching children who are "below average" in achievement is stressful to me.	2.75
3	I feel my time and energies are spread over too many areas.	2.71

In the province there are very few urban centers, and thus the majority of the schools are in small towns or in isolated regions, such as the South Coast and Labrador. The item, "I feel my time and energies are spread over too many subject areas," was ranked second by primary and elementary teachers and third by the total sample. This appears to be an issue of concern among teachers generally. The province of Newfoundland and Labrador has experienced, in the past few years, a decline in enrollment; subsequent teacher cutbacks have been the result, or in some areas a very restricted hiring policy. This has meant, in many instances, that the lay off of a teacher increased the enrollment of other classes, if the decline in enrolment was not equivalent to a total class size. The same has happened for subject teachers, who have found the range of subjects taught being increased; however, the secondary teachers did not rank this stressor as high as the primary and elementary, who generally are expected to teach all subjects in the curriculum. This item, as well, is obviously related to time management, discussed previously. "Teaching children who are below average" was also cited in the top three by each teacher category and by the total sample. This may be attributed to the composition of the classes. Regular classroom teachers have to deal with a wide range of ability in any given class. They are not trained to detect or deal with many of the difficulties that students may be experiencing, and do not have the time to

spend with children who are below average. McMurray (1982) reported "excessive ranges of student ability" as a significant source of stress for Canadian teachers in his study. The mainstreaming concept is gaining increased application and demands knowledgeable resource personnel if it is to be effectively applied in the schools. Teachers in this sample apparently did not feel adequately prepared to deal with below average children. The only item ranked in the top three which was unique to a teacher category was "I feel I have too little input into decision-making;" this was ranked second by high school teachers. This rank may reflect the reorganized high school program and the problems which have been incurred in its implementation. Teachers have been required to increase course loads and to partake of in service training to prepare themselves for new subjects, often without being involved in the decision-making process. They may feel that the manner in which the program is being implemented is not as well planned or as feasible as it should be. This issue elicited the following comment by a respondent:

> Item 37, 'I feel I have too little input in decision making,' and item 40, 'I feel my time and energies are spread over too many subject areas,' are connected directly to item 45. 'The reorganized high school program is a source of concern for me.' Stress has increased with the advent of grade 12. We have neither the personnel, facilities, equipment, or even programs to implement an efficient system. This year is a disaster--next will be a calamity."

This sentiment was expressed by several of the respondents.

The importance of having a feeling of "Locus of Control," has been revealed in many studies over the past few decades (Chase, 1951; Cichon & Koff, 1978; Harap, 1959; Holdaway, 1978) as an important factor influencing job satisfaction, teacher morale, and level of perceived stress.

The ranked order and scores presented for the WSPT and the Local Scale clearly indicate that, regardless of level taught, teachers are perceiving the same events as sources of stress.

Biographical Variables Related to Perceived Stress

Table 15 shows the relationship between biographical variables and perceived levels of stress as measured by the WSPT and the Local Scale, for the total sample population. The biographical variables chosen for analysis included the following: sex, age, teacher certificate level, length of teaching experience, school's student enrollment, class size and number of sick days taken. The distribution of the sample population over the biographical data, as expected, correlates highly with the actual population.

An analysis of each variable revealed that for several variables significant variance existed between the levels comprising each biographical subgroup. Analysis of variance was conducted for all variables by total level of stress as measured by the WSPT and the Local Scale. Table 16 reports these findings. As may be seen, two variables demonstrated

Table 15

Mean Stress Scores as Measured by the WSPT and the Local Scale, for Regular Classroom Teachers by Biographical Variables

	WSPT			Local Scale		
Biographical Variables	N	$\bar{X}$	S.D.	N	$\bar{X}$	S.D.
1. Sex						
Male	317	89.94	18.72	317	25.96	5.66
Female	265	88.83	17.79	265	26.71	7.87
	581	89.43	18.30	581	26.30	6.76
2. Age						
20-25 yrs.	77	85.69	18.67	77	25.81	5.65
26-30 yrs.	157	90.89	19.15	157	26.36	5.53
31-40 yrs.	258	89.81	17.62	258	26.19	7.08
41-50 yrs.	74	90.51	18.37	74	27.31	9.10
51+	16	85.43	19.23	16	25.69	5.92
	582	89.53	18.34	582	26.31	6.79
3. Teacher Certificate Level						
1	2	90.00	8.49	2	29.50	14.85
2	8	98.38	12.94	8	27.00	4.21
3	35	85.03	16.41	35	26.29	5.32
4	99	90.08	17.04	99	26.67	4.65
5	142	89.12	19.99	142	25.64	6.24
6	167	91.07	18.50	167	26.77	8.89
7	57	88.33	19.60	57	25.65	6.47
	510	89.73	18.56	510	26.29	6.95
4. Length of Teaching Experience						
0-4 yrs.	113	84.56	18.39	113	25.31	5.67
5-10 yrs.	193	91.52	18.83	193	26.49	5.45
11-19 yrs.	200	89.07	17.04	200	26.06	7.32
20+	81	92.58	18.91	81	27.94	8.98
	587	89.49	18.32	587	26.32	6.76
5. School's Student Enrollment						
50 or less	49	87.86	19.41	49	26.53	5.27
51-200	170	87.48	18.04	170	25.99	5.44
201-400	177	93.53	17.69	177	26.74	5.57
401-700	123	87.93	17.80	123	25.92	5.81
701+	54	89.07	19.59	54	27.59	13.78
	573	89.63	18.28	573	26.40	6.76

Table 15 (Cont'd)

Biographical Variables	WSPT N	WSPT $\bar{X}$	WSPT S.D.	Local Scale N	Local Scale $\bar{X}$	Local Scale S.D.
6. Class Size						
4 or less	14	89.79	20.86	14	27.00	6.46
5-12	115	87.36	16.95	115	25.40	5.82
13-20	116	86.60	17.40	116	25.77	5.41
21-30	252	90.62	18.69	252	26.73	6.83
31-35	65	90.66	19.36	65	27.01	9.68
36-40	9	101.56	11.10	9	27.00	5.00
41+	6	84.17	12.67	6	21.67	3.72
	577	89.25	18.16	577	26.26	6.73
7. Number of Sick Days						
0-7	544	89.20	18.26	544	26.39	6.81
8-15	17	95.94	21.23	17	25.82	8.78
16+	19	87.89	17.03	19	25.16	4.10
	580	89.36	18.32	580	26.33	6.80

Table 16

Analysis of the Mean Stress Scores, as Measured by the WSPT and the Local Scale, for Regular Classroom Teachers by each of the Biographical Subgroups

Analysis of Variance

		SX			AG			TCL			LTE			SNR			CS			SIC		
		DF	MS	F	DF	MS	F	DF	MS	F	DF	MS	F	DF	MS	F	DF	MS	F	DF	MS	F
WSPT	Between Groups	1	175.30	0.5	4	446.24	1.3	6	308.12	0.8	3	1452.40	4.4**	4	1002.27	3.0*	6	558.48	1.7	2	395.24	1.1
	Within Groups	580	335.11		577	335.69		503	345.07		583	329.99		568	329.51		570	327.52		577	335.38	
	Total	581			581			509			586			572			576			579		
Local Scale	Between Groups	1	81.38	1.8	4	25.97	0.6	6	26.81	0.6	3	115.46	2.5*	4	38.67	0.8	6	57.54	1.3	2	16.18	0.4
	Within Groups	580	45.61		577	46.20		503	48.50		583	45.34		568	45.77		570	45.21		577	46.28	
	Total	581			581			509			586			572			576			579		

** P< .01
* P< .05

significant variance within, Length of Teaching Experience and Schools' Student Enrollment.

The biographical variable, length of teaching experience, showed significant variance between the levels which comprise the variable (Figure 11). This variable was subdivided into four levels: 0-4 years, 5-10 years, 11-19 years and 20+ years. Analysis of variance revealed a significant difference at the .01 level of confidence between different lengths of teaching experience and reported level of stress. The Student-Newman-Keuls procedure indicated the following groups were homogeneous; group 1, 0-4 years; group two, 5-10 years, 11-19 years and 20 or more. Group one, representing the least amount of teaching experience, reported a significantly lower level of stress as measured by the WSPT. McMurray (1982) suggested from his study that stress is less likely to occur in the energetic young teacher or the seasoned veteran. Only the hypothesis of younger teachers experiencing less stress was supported in this study. One could only speculate as to why less experienced teachers reported less stress. New teachers may be at a peak of physical and mental energy and enthusiasm; they may be reluctant to rate items as highly stressful, as they may associate difficulties with the fact that they are new, and do not see them as inherent in their careers; also, they may be better trained, have more positive attitudes about teaching, and be closer to their professional training. They have not been teaching long enough to encounter many of the stressors presented on

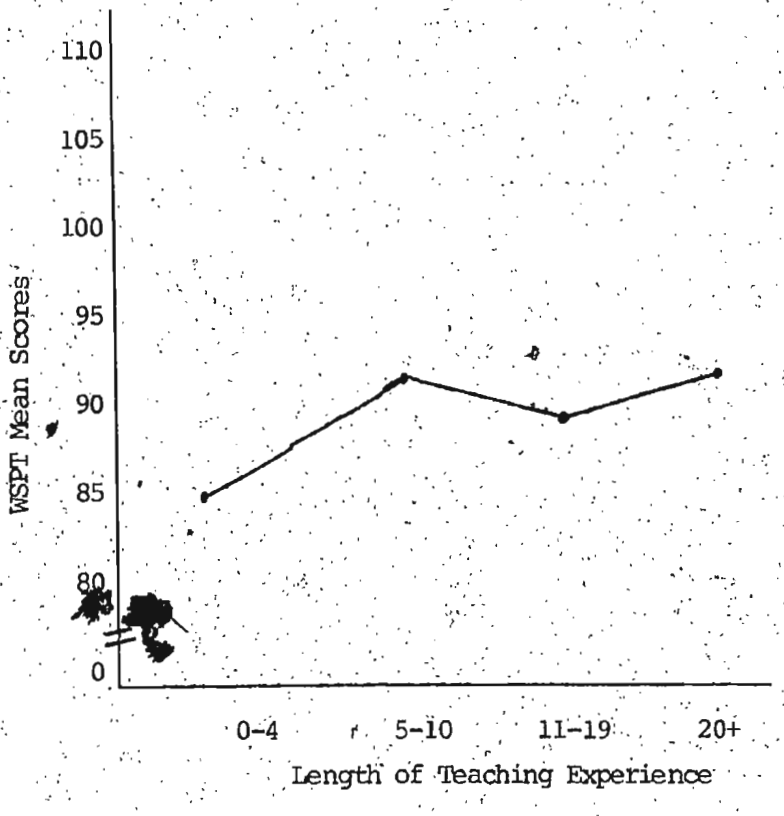


Figure 11. Mean stress scores, as measured by WSPT, for regular classroom teachers by length of teaching experience

the WSPT; new teachers, as well, tend to receive more support and are more willing than an experienced teacher to seek assistance from colleagues and administrators. As may also be seen in Figure 11, there is a slight decrease in stress for the 11-19 years group, and then an increase in the 20+ group. This decline is very slight, and was not reported in the Student-Newman-Keuls test of homogeneity. That the teachers who have taught the longest reported the greatest level of stress may well reflect the lack of adequate coping skills necessary in the teaching profession. They have experienced a prolonged exposure to stressors in the environment; this score may reflect the culmination of this exposure. Those who have been teaching for twenty years or more have witnessed the institution of many innovations, the most recent of which has been the reorganized high school program. Perhaps the time has arrived to question their own career decisions and personal contributions to their chosen profession. Whether or not such factors contribute to higher stress would require further study, of course.

Analysis of variance revealed a significant difference at the .05 level of confidence between different lengths of teaching experience and reported level of stress as measured by the Local Scale. The Student-Newman-Keuls procedure disclosed the following homogeneous groups: group 1, 0-4 years, 5-10 years, and 11-19 years; group 2, 5-10 years, 11-19 years and 20+ years. However, these two groups were not exclusive.

Therefore, on further examination of the means by the researcher the following homogeneous groupings are suggested: Group 1, 0-4 years; and group 2, 5-10 years, 11-19 years and 20+ years. This relationship is graphically portrayed in Figure 12; it is very similar to the relationship previously discussed and portrayed in Figure 11. The items of the Local Scale overlap with several issues on the WSPT; thus, this difference may be attributed to the same reasons presented above.

The analysis of variance indicated a significant difference at the .05 level of confidence between the levels which are encompassed in the variable School's Student Enrollment. This variable was subdivided in the following manner: 50 or less, 51-200, 201-400, 401-700, and 701+. The means and standard deviations for each of these groups are presented in Table 15. The Student-Newman-Keuls test of homogeneity divided the groups as follows: group one, 51-200, 50 or less, 401-700 and 701+; Group two, 50 or less, 401-700, 701+ and 201-400. As these groups were not exclusive, the means were subjected to further examination by the researchers, leading to the following divisions: group one, 50 or less, 51-200, 401-700; group two, 701+; and group three, 201-400. The least amount of stress was reported for group one, $\overline{X}$ - 87.75, and the greatest amount of stress was reported for group three, $\overline{X}$ - 93.53. The medium size school, 201-400, varied significantly from the other sizes of schools examined (see Figure 13). This may be attributed to the limited number of

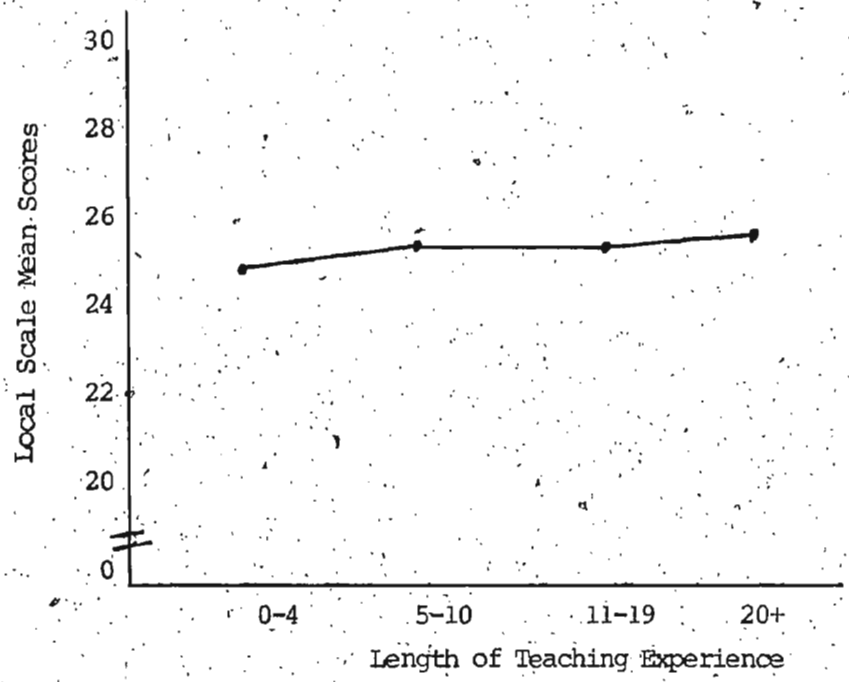


Figure 12. Mean stress scores, as measured by the Local Scale, for regular classroom teachers by length of teaching experience

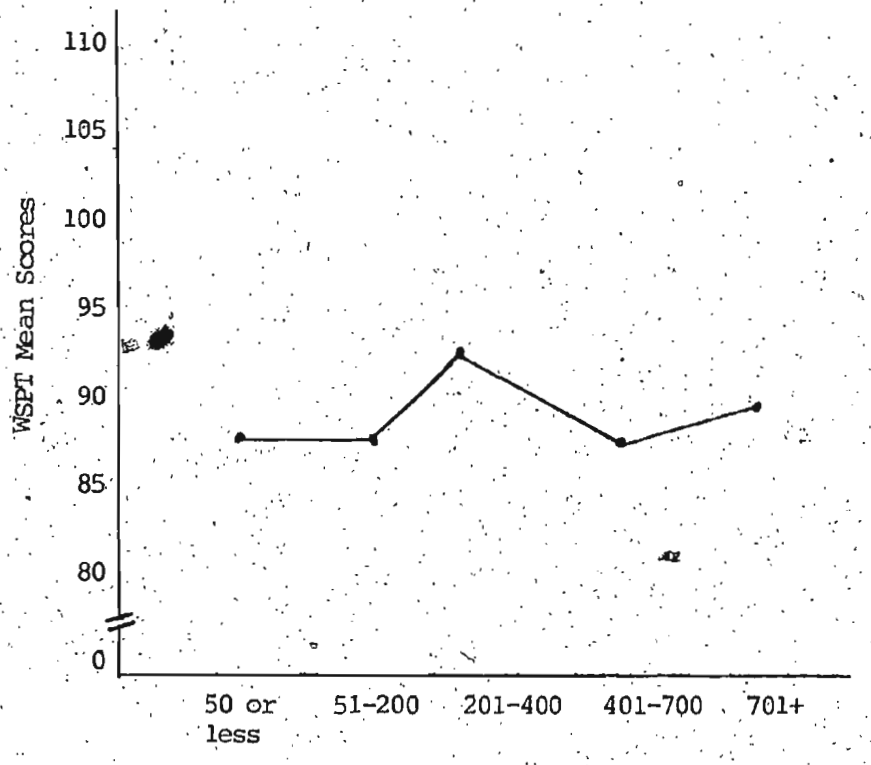


Figure 13. Mean scores, as measured by WSPT, for regular classroom teachers by school's student enrollment

specialists and resource people available to aid the regular classroom teachers. Specialists are assigned to units in a school. It may well be that a school of this size, although it houses a wide range of problems, may not have enough such students to warrant a unit to hire a specialist. Thus, the regular classroom teacher has to try to deal with the special needs of exceptional children in the regular stream. This size of school may also reflect the size of the community, and thus may include schools which do not have access to wide-ranging community resources. The following remark by a respondent indicates the concern of teachers in smaller communities: "Society's increasing demands cannot be met through our school systems, especially in the smaller communities. These more remote areas need to enrich their programs, yet receive less."

Correlates of Stress

Table 17 presents the Pearson Product-Moment correlation coefficients for the mean total stress scores, as measured by the WSPT, with Physical Symptoms of Stress and Psychological/Emotional Symptoms of stress for each teacher category and for the total sample population. The correlation of Physical Symptoms of Stress and Psychological/Emotional Symptoms of Stress for each teacher category and the total sample population was significant at the .01

Table 17

Correlation Between the Total Level of Stress, as Measured by the WSPT, with Physical Symptoms of Stress and Psychological/Emotional Symptoms of Stress, for Each Teacher Category

		Physical Symptoms	Psychological/ Emotional Symptoms
Teacher Category	N	Coefficient	Coefficient
Primary	159	0.79**	0.84**
Elementary	174	0.77**	0.85**
High	255	0.70**	0.82**
Total	588	0.74**	0.83**

** $P < .01$

level of confidence. This procedure served as a test for validity as the manifestations of stress experienced by teachers was comparable to the total level of reported stress. Symptoms of stress were positively correlated with perceived stress. Thus, one may assume that stress measured by self-report provides a valid assessment.

Biographical Variables as They Relate to Stress by Teacher Category

Tables 18 and 19 present the biographical variables chosen for study and how they relate to perceived levels of stress as measured by the WSPT and the Local Scale for each teacher category.

The independent analysis of each variable revealed that for some variables significant variation was found between the levels comprising each biographical variable (see Tables 20 and 21). The first biographical variable chosen for analysis was sex. A difference was found within this variable for the population of high school teachers and the level of stress as measured by the WSPT. Although this was not found to be statistically significant following an analysis of variance, it was so close, with an F probability of 0.0626, that the researchers felt it warranted consideration. The mean stress score

Table 18

Mean Stress Scores, as Measured by the WSPT, for Each Teacher Category by Biographical Subgroups

Biographical Variables	Primary			Elementary			High		
	N	$\bar{X}$	S.D.	N	$\bar{X}$	S.D.	N	$\bar{X}$	S.D.
1. Sex									
Male	90	89.91	19.65	91	83.32	17.81	136	91.04	18.75
Female	68	93.66	17.99	82	87.82	17.19	115	86.70	17.72
2. Age									
20-25	21	92.24	18.44	26	84.69	16.43	30	81.97	20.00
26-30	33	89.15	22.34	60	92.68	18.31	64	90.09	18.32
31-40	78	93.18	18.04	66	85.70	15.48	114	89.89	18.13
41-50	20	92.15	18.38	18	89.33	20.48	36	90.19	17.73
50+	5	78.80	12.46	2	81.00	36.77	9	90.11	19.74
3. Teacher Certificate Level									
1	1	96.00					1	84.00	
2	3	100.00	10.15	3	105.00	9.54	2	86.00	18.38
3	10	75.00	13.07	15	85.27	16.65	10	94.70	14.13
4	27	91.89	19.40	30	85.80	14.92	42	91.98	16.70
5	34	93.91	17.13	41	91.59	19.71	67	85.18	21.00
6	51	94.78	20.65	45	87.67	18.32	71	90.56	16.67
7	11	91.72	14.89	18	82.72	18.19	28	90.60	21.81
4. Length of Teaching Experience									
0-4 yrs.	30	88.07	18.93	36	83.69	16.86	47	82.98	19.24
5-10 yrs.	42	93.40	20.84	71	91.55	17.27	80	90.51	19.22
11-19 yrs.	62	91.81	18.65	50	85.90	15.97	88	88.93	16.31
20+ yrs.	24	91.54	16.88	17	90.65	22.10	40	94.03	18.99
5. School's Student Enrollment									
50 or less	2	105.00	4.24	33	84.61	18.65	14	93.07	20.78
51-200	41	87.71	20.27	65	89.58	15.91	64	85.19	18.56
201-400	73	94.11	18.72	40	91.90	18.03	64	93.89	16.45
401-700	38	90.18	17.03	16	91.75	19.88	69	88.12	17.66
701+				18	86.28	16.67	36	90.47	20.97

Table 18 (Cont'd)

Biographical Variables	Primary			Elementary			High		
	N	$\bar{X}$	S.D.	N	$\bar{X}$	S.D.	N	$\bar{X}$	S.D.
6. Class Size									
4 or less	4	97.00	22.91	4	81.25	10.34	6	90.67	25.53
5-12	15	91.33	17.39	43	89.19	15.56	57	84.93	17.75
13-20	35	87.09	18.47	50	81.42	15.44	31	94.42	16.65
21-30	77	93.13	18.82	62	90.90	19.08	113	88.76	18.34
31-35	20	89.70	21.66	10	101.20	18.73	35	88.20	17.63
36-40	4	104.25	8.02	1	77.00		5	99.40	13.61
Other	1	66.00					4	90.50	9.33
7. Number of Sick Days									
0-7	152	90.61	18.54	158	87.96	17.79	234	89.13	18.41
8-15	3	123.33	15.50	2	91.50	2.12	12	89.83	19.05
16+	3	98.00	8.72	8	86.75	16.87	18	85.25	19.67

Table 19

Mean Stress Scores, as Measured by the Local Scale, for Each Teacher Category, by Biographical Subgroups

	Primary			Elementary			High		
Biographical Variables	N	$\bar{X}$	S.D.	N	$\bar{X}$	S.D.	N	$\bar{X}$	S.D.
1. Sex									
Male	90	26.46	5.61	91	25.56	4.92	136	25.90	6.14
Female	68	26.97	5.22	82	26.81	8.93	115	26.48	8.39
2. Age									
20-25	21	27.10	4.36	26	26.04	5.57	30	24.70	6.42
26-30	33	26.39	6.70	60	26.97	4.81	64	25.77	5.53
31-40	78	26.65	5.51	66	24.59	5.15	114	26.80	8.73
41-50	20	27.05	4.57	18	29.61	16.07	36	26.31	5.65
50+	5	24.08	4.66	2	24.00	5.66	9	26.55	6.98
3. Teacher Certificate Level									
1	1	40.00					1	19.00	
2	3	24.00	4.58	3	30.67	1.53	2	26.00	2.83
3	10	25.40	3.75	15	24.93	5.13	10	29.00	6.21
4	27	27.00	4.52	30	25.30	4.40	42	27.43	4.80
5	34	26.44	5.97	41	27.07	5.51	67	24.36	6.62
6	51	26.92	5.41	45	26.67	11.04	71	26.73	9.49
7	11	26.27	5.82	18	24.50	5.68	28	26.14	7.26
4. Length of Teaching Experience									
0-4 yrs.	30	26.37	4.83	36	25.42	5.74	47	24.55	6.10
5-10 yrs.	42	26.45	6.55	71	26.65	4.61	80	26.36	5.59
11-19 yrs.	62	26.71	5.30	50	24.80	5.36	88	26.32	9.25
20+ yrs.	24	27.08	4.65	17	29.59	16.48	40	27.75	6.28
5. School's Student Enrollment									
50 or less	2	28.00	7.07	33	25.88	4.79	14	27.86	6.24
51-200	41	26.95	5.69	65	26.43	5.30	64	24.94	4.34
201-400	73	27.05	5.11	40	26.23	4.85	64	26.70	6.49
401-700	38	26.08	5.81	16	22.69	5.36	69	26.58	5.75
701+				18	28.61	16.31	36	27.08	12.55

Table 19 (Cont'd)

Biographical Variables	Primary N	Primary $\bar{X}$	Primary S.D.	Elementary N	Elementary $\bar{X}$	Elementary S.D.	High N	High $\bar{X}$	High S.D.
6. Class Size									
4 or less	4	27.25	6.90	4	27.75	2.22	6	26.33	8.71
5-12	15	27.67	6.16	43	25.95	4.83	57	24.39	6.28
13-20	35	25.43	5.92	50	24.70	5.11	31	27.87	4.81
21-25	77	27.19	5.08	62	26.18	5.59	113	26.72	8.36
26-30	20	26.40	5.75	10	33.30	20.80	35	25.57	5.44
31-35	4	26.00	4.08	1	23.00		5	27.80	5.97
36-40	1	20.00					4	21.75	4.65
7. Number of Sick Days									
0-7	152	26.55	5.48	158	26.27	7.37	234	26.36	7.21
8-15	3	31.33	2.89	2	29.00	1.41	12	23.92	9.82
16+	3	28.00	3.61	8	23.88	3.87	8	25.38	4.39

Table 20

Analysis of the Mean Stress Scores, as Measured by the Local Scale, for Each Teacher Category by Biographical Subgroups

Analysis of Variance

		SX			AG			TCL			LTE			SNR			CS			SIC		
		DF	MS	F	DF	MS	F	DF	MS	F	DF	MS	F	DF	MS	F	DF	MS	F	DF	MS	F
Primary	Between Groups	1	10.31	0.35	4	6.66	0.22	6	37.47	1.33	3	2.91	0.10	3	9.45	0.32	6	23.19	0.77	2	36.32	1.23
	Within Groups	156	29.67		152	30.48		130	28.28		154	30.17		150	29.83		149	30.25		155	29.51	
	Total	157			156			136			157			153			155			157		
Elementary	Between Groups	1	68.07	1.35	4	106.41	2.14	5	40.21	0.73	3	109.68	2.22	4	77.15	1.53	5	127.62	2.59*	2	29.79	0.57
	Within Groups	171	50.60		167	49.65		146	55.17		170	49.37		167	50.30		164	49.21		165	52.35	
	Total	172			171			151			173			171			169			167		
High	Between Groups	1	21.01	0.40	4	30.48	0.57	6	75.34*	1.35	3	75.54	1.44	4	47.61	0.91	6	67.99	1.35	2	37.09	0.70
	Within Groups	249	52.71		248	53.38		214	55.68		251	52.42		242	52.53		244	50.48		251	52.97	
	Total	250			252			220			254			246			250			253		

Table 21

Analysis of the Mean Stress-Scores, as Measured by the WSPT, for Each Teacher Category by Biographical Subgroups

Analysis of Variance

		SX			AG			TCL			LTE			SNR			CS			SIC		
		DF	MS	F	DF	MS	F	DF	MS	F	DF	MS	F	DF	MS	F	DF	MS	F	DF	MS	F
Primary	Between Groups	1	544.81	1.52	4	306.52	0.85	6	598.90	1.74	3	170.62	.47	3	505.44	1.45	6	395.14	1.10	2	1642.06	4.85**
	Within Groups	156	359.35		152	360.95		130	344.31		154	363.50		150	349.50		149	358.56		155	338.87	
	Total	157			156			136			157			153			155			157		
Elementary	Between Groups	1	10.88	0.03	4	576.03	1.70	5	431.04	1.36	3	631.20	2.10	4	457.16	1.51	5	958.71	3.31**	2	18.31	.06
	Within Groups	171	306.95		167	302.86		146	318.05		170	300.75		167	303.39		164	289.79		165	313.34	
	Total	172			171			151			173			171			169			167		
High	Between Groups	1	1169.56	3.50	4	428.41	1.26	6	323.51	.92	3	964.36	2.90*	4	692.21	2.07	6	406.62	1.27	2	62.16	.18
	Within Groups	249	334.25		248	338.84		214	350.34		251	332.25		242	334.59		244	321.54		251	341.19	
	Total	250			252			220			254			246			246			253		

* p .05
** p .01

for the male population, N = 136, was $\bar{X}$ = 91.04 and the female population, N = 115, with a $\bar{X}$ = 86.70 (see Figure 14). The fact that the male population reported a greater level of stress may be due to the fact that, in this province, men are still the main source of income, either on a full time or a part time basis, and the stress of this may add to perceived stress at school. McMurray (1982) stated "It would seem that the sources of stress are much greater for women than for men" (p. 17); it is interesting to note that this trend was found in the population of primary and elementary teachers, but not for the high school sample. The hypothesis that female teachers experience stress from a greater number of day to day sources is supported by Rudd and Wiseman (1962) and Kyriacou and Sutcliffe (1978). Rudd and Wiseman (1962) wrote: "The women find less and less cause for dissatisfaction as the age of the pupils decreases: for men exactly the opposite occurs" (p. 286). Cichon and Koff (1978) found no difference on the variable of sex. That this variation appeared close to significance for the high school population might reflect the fact that older students are being dealt with and males feel or are assigned more responsibility for control in the classroom and the school as a whole. Also males may assume more responsibility for extracurricular activities.

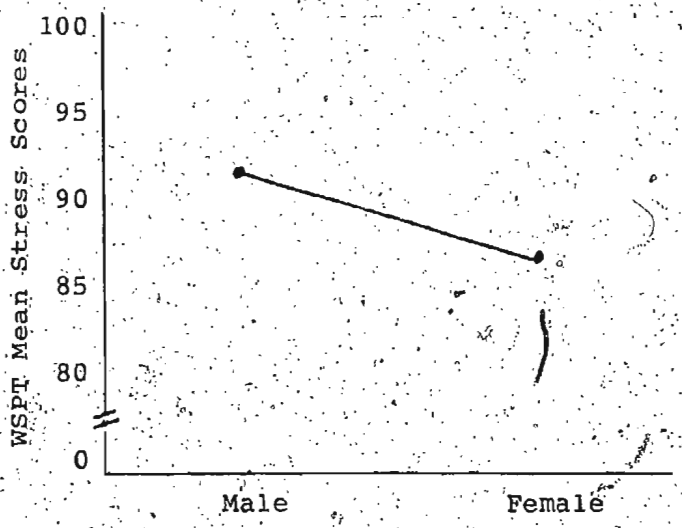


Figure 14. Mean stress scores as measured by the WSPT for high school teachers, by sex

Such hypotheses would need further investigation.

The second biographical variable examined was age. No significant differences were found among different age groups for the primary teachers or high school teachers. However, a difference was revealed with the elementary teachers on the Local Scale that was close to significance with an F probability of 0.077 (see Table 20). The biographical variable of age was broken down into the following categories: 20-25 years, 26-30 years, 31-40 years, 41-50 years and 50+ years (see Table 19). The researcher, upon examination of the means, suggested the following homogeneous groupings: group 1, 20-25, 26-30; group 2, 31-40, 50+; and group 3, 41-50. It appears that those in the years commonly called middle age, 41-50, are experiencing the greatest amount of stress (see Figure 15). This supports McMurray (1982), who reported in his study; "... excessive stress, at least as perceived and reported on questionnaires, is less likely to occur in the energetic young teacher or in the seasoned veteran. Teachers in the middle years are more at risk" (p. 9). As this difference occurs only in the analysis of measured stress on the Local Scale, it may be attributed to such factors as living in a small community with little extracurricular outlets, too little input in decision-making, declining enrollments, or over-crowded classrooms. These are concerns facing teachers of Newfoundland and Labrador. For the middle-aged teacher who

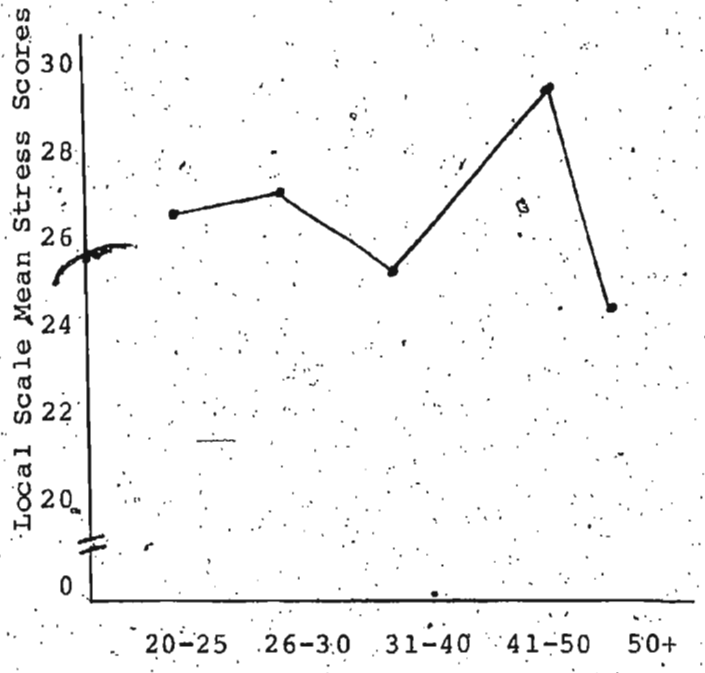


Figure 15. Mean stress scores, as measured by the Local Scale, for elementary teachers, by age

has had to contend with such factors for an extensive period, the time for questioning and frustration has probably arrived. That the middle years are characterized by questions concerning career choice is consistently supported in literature and research.

The third biographical variable examined was Teacher Certificate Level. No significant difference was revealed between the levels comprising this variable for any of the teacher categories. This may be attributed to the fact that the majority of the teachers in each category, primary, elementary, and high school, held certificates 4, 5 and 6, pointing out that the majority of teachers have obtained at least one university degree. There were insufficient numbers in the sample at certificate levels 1, 2, and 3 to carry out a meaningful analysis. In several cases, the stress level was higher for the few teachers in these groups (see Tables 18 and 19). Those with grade 7 tended to reflect a trend toward lower reported stress, although not significantly so.

Length of Teaching Experience was the fourth biographical variable examined. This variable was broken down in the following manner: 0-4 years, 5-10 years, 11-19 years, 20+ years (see Tables 18 and 19). The analysis of variance (Table 21) revealed no significant variation between these categories with respect to the population of primary teachers or the population of elementary teachers. However, the analysis of variance did report a significant difference at

the .05 level of confidence between different lengths of teaching experience for the population of high school teachers. The Student-Newman-Keuls procedure reported the following homogeneous groups: group one, 0-4 years, 11-19 years, 5-10 years; group two, 11-19 years, 5-10 years, 20+ years. As these groups were not inclusive, the researcher, after examination of the means, divided them homogeneously in the following manner: group one, 0-4 years; group 2, 5-10 years, 11-19 years; and group three, 20+ years. This relationship is presented graphically in Figure 16. This indicates that stress is generally cumulative, as those experiencing the greatest stress have the greatest amount of teaching experience. The same relationship was found for the total sample population on this variable. This may be related to prolonged exposure to stressors which have not been coped with effectively or to the emergence of the reorganized high school program. Of course, whatever the cause or the actual condition, it must be noted that such statistical significance may be of little practical importance, since the actual differences were not great. The following comment of one of the respondents speaks for itself:

> It is frustrating in the extreme to attempt achievement with totally no resources to facilitate the program. We have to date received no materials for new courses introduced and are informed there is no money for them. If that isn't frustrating, I'd like to kn[redacted] what is.

Age, of course, would be related to years of experience. It will be recalled that teachers above age 40 reported more

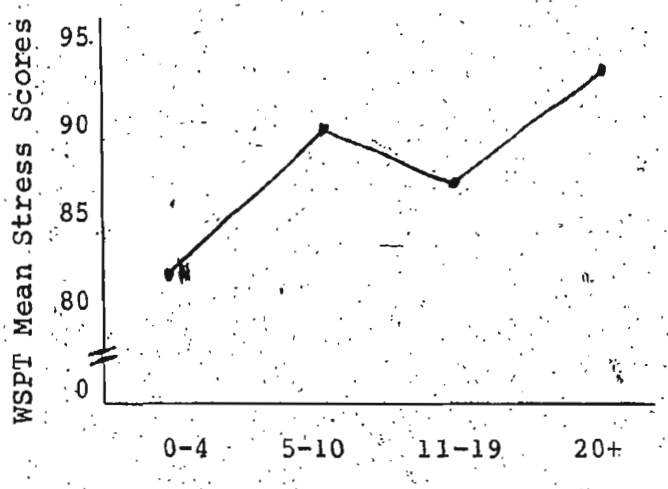


Figure 16. Mean stress scores for length of teaching experience for high school teachers, as measured by the WSPT

stress than the younger teachers (see p.143). Thus, factors related to age may also affect the variable of teaching experience, and vice-versa.

The fifth biographical variable subjected to further analysis was School's Student Enrollment. This variable was subdivided in the following manner: 50 or less, 51-200, 201-400, 401-700, 701+ (see Tables 18 and 19). The analysis of variance revealed no significant differences at the .05 level of confidence between these divisions for primary, elementary, or high school teachers. However, the difference in the high school population approached significance, with an F probability of 0.0855, and warranted examination. Further analysis of the means led to the following homogeneous groupings: group one, 51-200; group two, 401-700, 701+; group three, 50 or less, 201-400. The teachers in medium size schools experienced the greatest amount of stress (Figure 10). As pointed out previously, this may be attributed to lack of resources and specialists in the medium sized school. As this difference presents itself in the population of high school teachers, it may be related once again to the reorganized program or teaching the older student. A school with a population of 50 or less may have only one or two teachers; if it has to meet the needs of high school students this indeed could be very stressful.

The sixth biographical variable subjected to further analysis was class size. This variable was broken down in the following manner: 4 or less, 5-12, 13-20, 21-30, 31-35, 36-40,

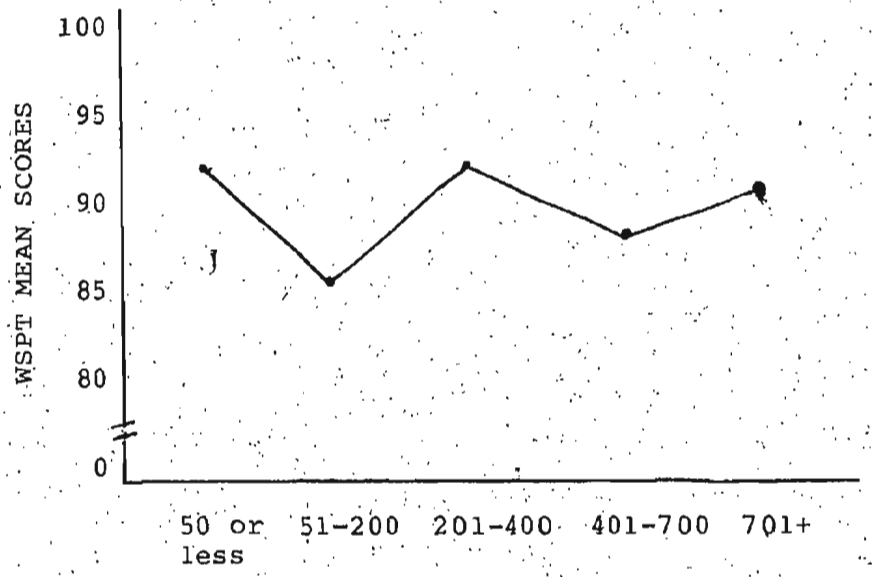


Figure 17. Mean stress scores for school's student enrollment for high school teachers, as measured by the WSPT

other (Table 18). An analysis of variance revealed no significant difference between class size for primary or high school teachers. A significant difference at the .01 level of confidence was revealed for the population of elementary teachers. Examination of the means led to the following homogeneous groupings: group one, 4 or less, 13-20; group two, 5-12, 21-30; group three, 31-35. Group three, 31-35, had the greatest mean stress score, $\bar{X}$ - 101.20 (see Figure 18). The population for this group was ten and thus may not be highly representative; however, it is logical that this group would find it more stressful dealing with so many different abilities and needs which would exist in such a large class. Needle, Griffin, Svendsen and Berney (1980) wrote: "It appeared that teachers experienced higher levels of satisfaction, a greater sense of achievement and were less exhausted at the end of the day when they had fewer students" (p. 97). As this difference occurs for elementary teachers, it may be also attributed to the fact that the majority of these teachers are responsible for teaching nearly all subjects. For the teacher who spends all day, every day, with the same large group of students, it is conceivable that the stress level would be higher. The analysis of variance for class size and level of stress, as measured by the Local Scale, revealed a significant difference at the .05 level of confidence (see Table 19 and Figure 19). The class size of 26-30 was rated most stressful by elementary teachers. The same reasoning could explain this difference as well. That it occurred in the Local Scale

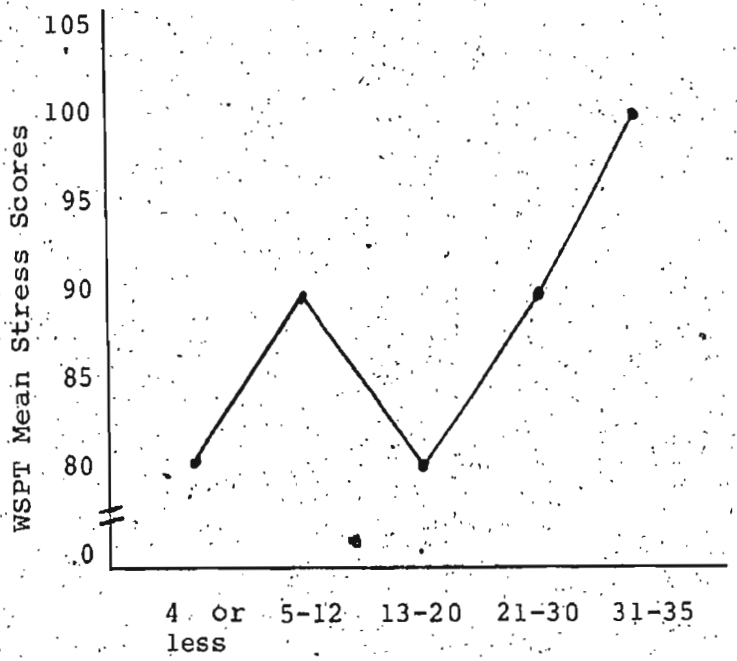


Figure 18. Mean stress scores for class size, as measured by the WSPT for elementary teachers

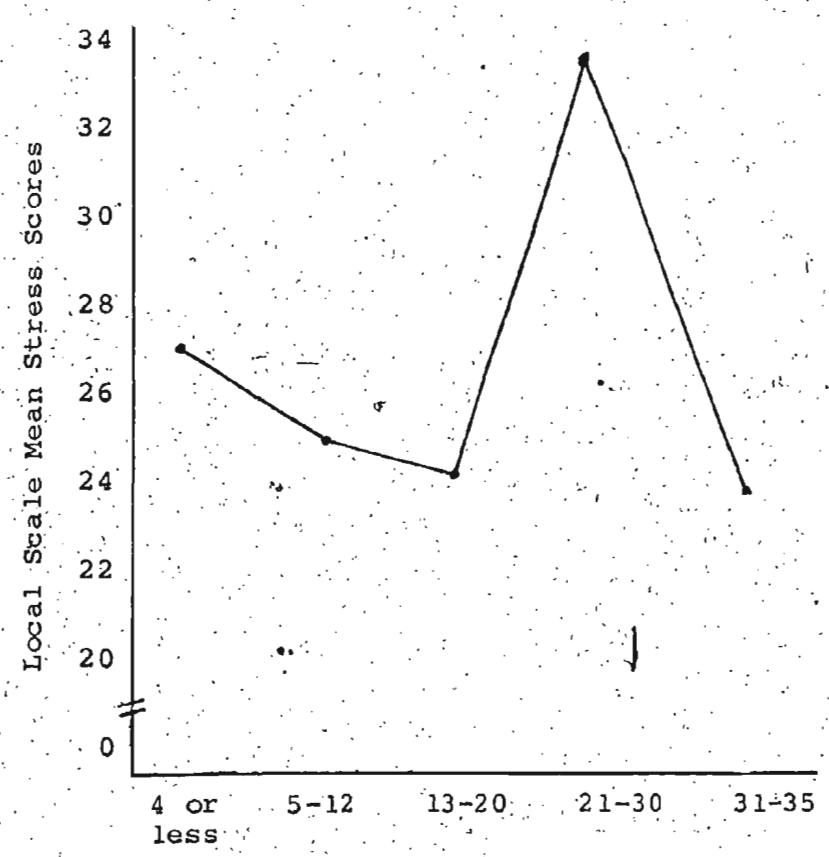


Figure 19. Mean stress scores, as measured by the Local Scale, for elementary teachers by class size

may be indicative of smaller communities, where this class size may be the largest class. As may be seen in Table 18, there is another group representing class size with a very low level of stress; as this group involves only one teacher, it was not plotted on the graphs, so as to avoid a misconception in that Figure. Similarly, class size groups of four to five were not plotted in previous Figures.

The seventh biographical variable analyzed was that of Number of Sick Days Taken. This variable was subdivided in the following manner: 0-7 days, 8-15 days, 16+. Analysis of variance revealed no significant difference between the levels comprising this variable in the WSPT and the Local Scale for teachers at the elementary and high levels. However, a significant difference at the .01 level of confidence was reported for this variable for the primary teachers in the WSPT. The Student-Newman-Keuls procedure reported the following groups as homogeneous: group one, 0-7, 16+; group two, 16+, 8-15. As these groups were not exclusive, they were subjected to further analysis by the researcher, who recommended the following divisions: group one, 0-7, 16+ and group two, 8-15. Group two reported the greatest amount of stress, $\bar{X}$ - 123.33. Stress has been related to absenteeism in several studies (Carranza, 1972; Dunham, 1976; Simpson, 1962). It should be noted that, although not significant, a similar trend, with the 8-15 group being highest, was also noted for the primary and elementary teachers on the Local Scale. The first level, 0-7 days absence, probably represents minor ail-

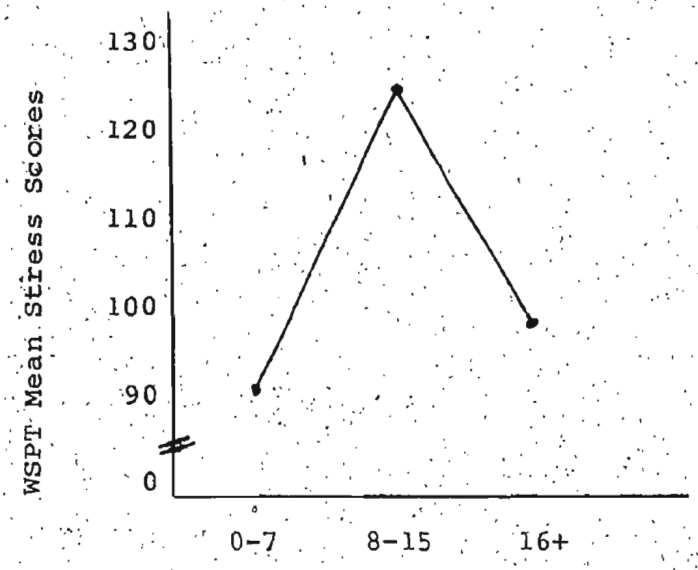


Figure 20. Mean stress scores, as measured by the WSPT, for primary teachers by number of sick days taken

ments experienced throughout the year; thus, it did not cause undue stress for most teachers. The third level, 16+, probably represents such cases as maternity leaves, leaves of absence or long-term hospitalization; these teachers were removed from the teaching environment for an extended period, and likely plans were made to deal with their absence. That the middle level, 8-15 days, reported greater stress may in fact indicate that those involved had a problem which reoccurred throughout the year, possibly resulting in a series of substitute teachers. Further analysis is necessary to determine reasons for absence and how they relate to level of perceived stress.

This chapter has presented an analysis and interpretation of the data gathered for this study. The following chapter will present the conclusions and recommendations based upon this analysis.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter will summarize purposes, methodology and findings of the study and present conclusions and recommendations which develop from the findings.

Summary of the Study

Statement of the Problem

This study was designed to: (1) identify elements in the teaching environment which regular classroom teachers in Newfoundland and Labrador perceive as being stressful; (2) determine to what degree stress is being experienced by teachers; (3) compare the findings in (1) and (2) for teachers of the three teaching levels, primary, elementary and high school; (4) examine the differences in stress levels perceived according to different biographical subgroups.

The detrimental effects of stress are well documented in the research. Identification of stressors in the environment is a necessary first step in coping with stress and in the development of stress awareness and stress management techniques and programs.

Methodology

The instrument used in this study was the Wilson Stress

Profile for Teachers, published in 1979, by Dr. Christopher Wilson. This instrument was pretested on a group of teachers attending a night class at Memorial University to determine if it was a viable scale for teachers in this province. To supplement this scale, an additional pre-tested section, consisting of items relating to unique provincial concerns, titled the Local Scale, was included, as was a biographical information sheet. The sample consisted of 588 teachers from all school boards in the province, comprised of representative numbers of primary, elementary and secondary teachers. The number of teachers chosen for each level was determined by the overall representation of each category in the total number of teachers in the province; the number of teachers each board contributed to the total sample population was proportional to the size of the board. Schools within each board were chosen randomly to represent that board's contribution to the sample. The final sample represented a seventy-three percent return of the questionnaires.

Conclusions

1. The degree to which regular classroom teachers experienced stress, as measured by the WSPT and the Local Scale, revealed no significant differences between the teacher categories of primary, elementary, and secondary. One could conclude that, regardless of teaching level, teachers are perceiving and experiencing the same amount of stress. The

stress levels reported represented a high moderate degree of stress. These results were consistent with those of previous studies reported.

2. The categories of Time Management, Parent/Teacher Relations and Intrapersonal Conflicts, in that order, were perceived as being most stressful by teachers of all categories.

3. Analysis of the ranked order of the most stressful items of the WSPT, for each teacher category, revealed that the following concerns are consistently most stressful for teachers of all levels:

1. I have to take work home to complete it.
2. Parents' disinterest in their child's performance at school concerns me.
3. I have too much to do and not enough time to do it.
4. The home environment of my students concerns me.
5. I find my job tires me out.
6. I put self imposed demands on myself to meet scheduled deadlines.
7. Lack of student motivation to learn affects the progress of my students negatively.
8. Stress management techniques would be useful in helping me cope with the demands of my job.
9. I am tense by the end of the day.
10. I worry about my job.

One may conclude that the teachers report difficulties in the preparation, delivery, and evaluation of classroom work; also, parental attitudes and pressures are a growing source

of concern for teachers of all grades. Further study may be required to determine whether teachers have insufficient contact time with students, whether teachers have adequate skills in time management and program organization, whether teachers simply have too many expectancies in too many areas, or whether such explanations interact with or superimpose on each other.

4. Items in the Local Scale which teachers perceived as being most stressful were:

   a. "I am unable to find sufficient outlets and extracurricular activities in my community."

Teachers of all levels ranked this as their primary stressor on this scale. It may be concluded that the demographic distribution of the province's populace into relatively small communities contributes to this lack of outlets. Teachers apparently felt a lack of social, intellectual and recreational stimulation and, further, felt that this lack created an undesirable level of stress for them.

   b. "I feel my time and energies are spread over too many subject areas."

This item was ranked second by primary and elementary teachers. The structure of the system dictates that these teachers usually teach all subjects. It appears that having to prepare for such a variety of subject areas causes stress.

c. "Teaching children who are below average is a source of concern for me."

This item was ranked third by all teachers. It may be concluded that regular classroom teachers may not have enough resource people to aid in the detection and instruction of children with special learning problems; also they may not feel adequately prepared to deal with such children themselves. Such a concern needs careful consideration in light of present provincial plans toward the mainstreaming of exceptional children.

d. "I have too little input in decision making."

Cited second by high school teachers, this may reflect the frustration experienced over such organizational issues as the reorganized high school program and inadequate consultation on the part of the administration (departmental, board and school levels). Such a demand for more input into decision-making may be inevitable, and productive, given the ever increasing level of training regular classroom teachers possess. High school teachers, in particular, likely possess special expertise in their subject areas and would expect to have input into decisions affecting their work.

5. The analysis revealed that significant differences existed between the levels comprising each biographical variable. The degree of perceived stress was related to the length of teaching experience and size of school. Teachers with 5-10 years experience perceived a higher level of stress. Teachers in medium sized schools, 201-400, perceived a higher level of stress.

When the biographical variables were analyzed by the teacher categories of primary, elementary and high school, additional differences emerged:

(a) Secondary male teachers perceived a higher level of stress than female secondary teachers.

(b) Elementary teachers in the age group 41-50 perceived a higher degree of stress than other age groups of elementary teachers.

(c) Secondary teachers with twenty or more years of teaching experience perceived a higher degree of stress than secondary teachers with lesser amounts of teaching experience.

(d) Secondary teachers in schools with student population of 50 or less and 201-400 perceived higher degrees of stress than secondary teachers in the other categories of school size.

(e) Elementary teachers with a class size of 31-40 perceived a greater degree of stress than elementary teachers with smaller classes.

(f) Primary teachers with 8-15 days absent from school perceived a greater amount of stress than those in the 0-7 and 16 plus categories.

6. Perceived stress was associated with reported physiological and psychological well-being.

Recommendations for Further Research

The basic purpose of this study was definitive in nature, namely to identify and define elements in the teaching environment perceived as causing stress by regular classroom teachers of Newfoundland and Labrador. In addition, this study has provided direction for further studies which might deal with more specific concerns and/or better clarify some of the findings in this study.

The following are suggested areas of further research:

1. Further analysis of the data with regards to biographical variables. For example, how sex and age, when coupled with length of teaching experience, affect the degree of stress experienced; also, further investigation should be conducted into how biographical differences affect the item scores.

2. A study to determine the similarities and differences in perception of stress of teachers in urban and rural communities.

3. A study aimed at administrator and student stress and how these relate to teacher stress.

4. A study to determine how stress affects the teachers' daily execution of duties.

5. A study to determine how occupational stress relates to life events stress.

6. A study comparing personality types of teachers and perceived types and levels of stress.

7. Further study of perceived stress focusing on teachers in one and two teacher schools.

8. The problem of time management is a source of stress for all teachers. Therefore, further research needs to be conducted into how the time presently alloted to teaching can be better managed; also, the suitability of the length of the school day or year may also need to be researched.

9. The relationship between parents and teachers is a source of stress. Thus, it is recommended that more study be done into how efficient arrangements be provided for teachers and parents to meet, in order to mutually increase awareness of their educational objectives. Such a study might result in greater congruency of educational objectives and expectations and point to a support system for both teachers and parents.

10. It is recommended that further research be conducted into how carefully teaching appointments are matched to background and training.

11. It is recommended that research be conducted into the present monitoring systems of the causes of

stress (e.g., teacher workload); if inadequate systems exist, new systems should be studied.

Recommendations for Action

The following recommendations for action are proposed. It should be noted, of course, that this study, as well as others previously discussed, are often inconclusive concerning these areas. Thus, caution and thorough assessment is called for in considering these recommendations.

1. It is recommended that in-service training be provided to aid in the personal development and growth of teachers, possibly focusing on such areas as student behavior, discipline, and personal problems of the teacher.

2. It is recommended that teachers have a greater opportunity to participate in educational decision-making and authority; as well, more responsibility should be delegated. A priority in this area should be the reorganized high school program, which would enable teachers to discuss the program and its purpose, present views, and plan means to implement the program more smoothly.

3. Although the findings of this study do not point directly to this concern, it is recommended that a procedure be introduced whereby teachers be recognized

for work and effort in educational endeavors and service. Some of the findings of this study suggest that there may be some such communication problems.

4. Working with children with special learning problems was a source of concern to many teachers. It is recommended that regular classroom teachers be given assistance in the detection of students' learning problems, and in providing instruction for skill development of weak areas. A plausible aid here may take the form of in-service training in the area of exceptionality. As well, a needs assessment should be carried out to determine where, and for what types of disabilities specialist staff are required.

5. It is recommended that various stress management programs be reviewed and those appropriate be considered for implementation into the school systems.

BIBLIOGRAPHY

Albrecht, K. Stress and the manager: Making it work for you. Englewood Cliffs, New Jersey: Prentice-Hall, 1979.

Appley, M. H., & Trumbull, R. (Eds.) Psychological stress. New York: Appleton, 1967.

Arnold, M. B. Stress and emotion. In M. H. Appley & R. Trumbull (Eds.) Psychological stress. New York: Appleton, 1967.

Bardo, P. The pain of teacher burnout: A case history. Phi Delta Kappan, 1969, 61, 254-56.

Barstow, R. The decision-making apparatus in public education. In T. M. Stinnett (Ed.). The teacher dropout. Illinois: F. E. Peacock Publishers, Inc., 1970.

Benge, E. J., & Capwell, D. F. Employee morale survey. Modern Management, 1947, VII, 19-22.

Benson, H., & Allen, R. L. How much stress is too much? Harvard Business Review. Sept.-Oct., 1980, 86-93.

Betkouski, M. On making stress work for you: Strategies for coping. The Science Teacher, Mr. 1981, 48, 35-7.

Bosowitz, H., Persky, H., Korchin, S. J., & Grinker, R. R. Anxiety and stress. New York: McGraw-Hill, 1955.

Breslow, L., & Buell, P. Mortality from coronary heart disease and physical activity of work in California. Journal of Chronic Diseases, 1960, 11, 615-26.

Byrne, D. Repression-sensitization as a dimension of personality. In B. A. Maher (Ed.), Progress in experimental personality research, New York: Academic Press, 1964, 1, 169-220.

Carranza, E. A study of the impact of life changes on high school teacher performance in the Lansing school district as measured by the Holmes and Rahe schedule of recent experience (Ph.D. thesis, Michigan State University, College of Education, East Lansing). Dissertation Abstracts International, 1972, 33 (9-A), 4996-4997.

Caspari, I. E. Troublesome children in class. London: Routledge and Kegan Paul, 1976.

Chinnery, P. Stress in schools: Manager or managed? National Education, 16 October, 1979, 163-173.

Cichon, D. J., & Koff, R. H. The teaching events stress inventory. College of Education, Roosevelt University, 1978. (ERIC Document Reproduction Service No. ED 150 662).

Coelho, G. U., Hamburg, D. A., & Adams, J. E. (Eds.) - Coping and adaptation. New York: Basic Books, 1974.

Cofer, C. N., & Appley, M. H. Motivation: Theory and research. New York: Wiley, 1964.

Cohen, F., & Lazarus, R. S. Active coping processes, coping dispositions and recovery from surgery. Psychosomatic Medicine, 1973, 35, 375-89.

Cooper, C. L., & Marshall, J. Occupational sources of stress: A review of the literature relating to coronary heart disease and mental health. Journal of Occupational Psychology, 1966, 49, 11-28.

Cooper, C. L. The stress check. Englewood Cliffs: Prentice Hall, Inc., 1981.

Corey, A. F. Overview of factors affecting the holding power of the teaching profession. In T. M. Stinnett (Ed.), The teacher dropout. Illinois: F. E. Peacock Publishers, Inc., 1970.

Cox, T. The nature and management of stress. New Behavior, 25 September 1975, 493-495.

Dohrenwend, B. P. The social psychological nature of stress. Journal of Abnormal and Social Psychology, 1961, 62, 294-302.

Dohrenwend, B. C., & Dohrenwend, B. P. Stressful life events: Their nature and effects. New York: Wiley and Sons, 1974.

Evans, G., & Maas, J. M. Job satisfaction and teacher militancy: Some teacher attitudes. Illinois: The Interstate Printers and Publishers, Inc., 1969.

Freese, A. S. Understanding stress. Public Affairs Committee Pamphlet No. 538, 1976.

French, J. R. P., & Caplan, R. D. Organizational stress and individual strain, 1972. In A. Marrow (Ed.), The failure of success. New York: Amacon, 1973.

French, J. R. P., & Caplan, R. D. Psychosocial factors in coronary heart disease. Industrial Medicine, 1970, 39, 383-97.

Friedman, M., & Rosenman, R. H. The key cause-Type A behavior pattern. In A. Monat & R. Lazarus (Eds.), Stress and coping. New York: Columbia University Press, 1977.

Giammatteo, M. C., & Giammatteo, D. M. Executive well-being. Stress and administrators. Reston, Va.: National Association of Secondary School Principals, 1980.

Girdano, D. A., & Everly, G. S. Controlling stress and tension: A holistic approach. New Jersey: Prentice-Hall, Inc., 1979.

Goldstein, M. J. Individual differences in response to stress. American Journal of Community Psychology, 1973, 2, 113-37.

Gunderson, E. K., & Rahe, R. Life stress and illness. Springfield: Charles C. Thomas, 1974.

Halpert, R. L. A study of the sources, manifestations and magnitude of stress among student teachers at UCLA. (Ed.D. thesis, University of California, Los Angeles). Dissertation Abstracts International, 1967, 27 (8-A), 2359.

Hargreaves, D. H., Hester, S. K., & Mellor, F. J. Deviance in classrooms. London: Routledge & Kegan Paul, 1976.

Help! Teacher can't teach! Time, June 16, 1980, 115, 54-63.

Hendrickson, B. Teacher burnout: How to recognize it; what to do about it. Learning, January 1979, 7, 37-39.

Hills, R. J. A new concept of staff relations. Administrator's Notebook, 8.7, Mar. 1960, 1-4.

Holdaway, E. A. Teacher satisfaction: An Alberta report. Department of Educational Administration, the University of Alberta, Edmonton, Alberta, Canada, 1978.

Holmes, T. H., & R. H. Rahe. The social readjustment rating scale. Journal of Psychosomatic Research, 1967, 11, 213-18.

Hoppock, R. Job satisfaction. New York: Arno Press, 1977.

Hoppock, R. A 27-year follow-up on job satisfaction of employed adults. Personnel Guidance Journal, 1960, XXXVIII, 489-92.

Hunter, M. Counterritants to ... teaching. Instructor, Aug. 1977, 87, 122-5.

Kahn, R. L., Wolfe, D. M., Quinn, R. P., Snoek, J. E., & Rosenthal, R. A. Organizational stress. New York: Wiley, 1964.

Katz, J. L., Weiner, H., Gallagher, T. G., & Hellman, L. Stress, distress, and ego defenses. Archives of General Psychiatry, 1970, 23, 131-42.

Kollar, E. J. Psychological stress: A re-evaluation. Journal of Nervous and Mental Disease, 1961, 132, 382-396.

Kotulak, R. Is your job driving you crazy? Chicago: Chicago Tribune, September 18, 1977.

Kozier, B., & Erb., G. Fundamentals of Nursing. Mass.: Addison-Wesley Publishing Co., 1979.

Kyriacou, C. Coping actions and occupational stress among school teachers. Research in Education, Nov. 1980, 24, 57-61.

Kyriacou, C., & Sutcliffe, J. Teacher stress: Prevalence, sources and symptoms. British Journal of Educational Psychology, 1978, 48, 159-167.

Kyriacou, C., & Sutcliffe, J. Teacher stress: A review. Educational Review, 1977, 29, 299-306.

Kyriacou, C., & Sutcliffe, J. A model of teacher stress. Educational Studies, 1978, 4, 1-6.

Lazarus, R. S. A cognitively oriented psychologist looks at biofeedback. American Psychologist, 1975, 30, 553-61.

Levi, L., M.D. Stress: Sources, management and prevention. New York: Liveright Publishing Company, 1967.

Levine, S., & Scotch, N. A. Social stress. Chicago: Aldine Publishing Company, 1976.

Lortie, D. C. Schoolteacher. London: The University of Chicago Press, 1975.

Lowenstein, L. F. Violent and disruptive behavior in schools. Hemel Hempstead: National Association of Schoolmasters, 1975.

Mae, D. A prescription. Today's Education, Nov./Dec. 1979, 68, 37-39.

Margolis, B. L., Kroes, W. H., & Quinn, R. P. Job stress: An unlisted occupational hazard. Journal of Occupational Medicine, 1974, 16 (10), 654-61.

McGrath, J. E. (Ed.) Social and psychological factors in stress. New York: Holt, Rinehart & Winston, 1970.

McLean, A. A. Work stress. London: Addison-Wesley Publishing Company, 1979.

McLean, A. A. (Ed.) Occupational stress. Springfield, Illinois: Thomas, 1974.

McLoughlin, J. W., & Shea, J. R. California teachers' job dissatisfactions. California Journal of Educational Research, 1960, 11, 216-224.

McMurray, J. G. Canadian elementary-teacher burnout: Yesterday and tomorrow. Paper presented at the Annual Meeting of the Canadian Association for Educational Psychology. Ottawa, June 10, 1982.

Miller, W. C. Dealing with stress: A challenge for educators. Indiana: Phi Delta Kappa Educational Foundations, 1979.

Monat, A., & Lazarus, R. S. Stress and coping. New York: Columbia University Press, 1977.

Moos, R. H. (Ed.) Human adaptation: Coping with life crisis. Lexington, Mass.: D. C. Heath and Company, 1976.

Morse, D. R., & Furst, L. Stress for success. New York: Van Nostrand Reinhold Company, 1979.

Needle, R. H., Griffin, T., & Svendsen, R. Occupational stress, coping and health problems of teachers. The Journal of School Health, Mr. 1981, 51, 175-81.

Needle, R., Griffin, T., Svendsen, R., & Berney, C. Teacher stress: Sources and consequences. The Journal of School Health, 1980, 50, 96-99.

Newell, R. C. Teacher stress. American Teacher, Dec./Jan. 1978-79, Vol. 64.

Payne, J. Educational Priority. EPA Surveys and Statistics, London: HMSO, 1974, 2.

Pepitone, A. Self, social environment and stress. In M. H. Appley & R. Trumbull (Eds.) Psychological stress. New York: Appleton, 1967.

Pines, A. Burnout: An occupational hazard. Learning. January 1979, 7, 37-39.

Pratt, J. Perceived stress among teachers: The effects of age and background of children taught. Educational Review, 1978, 30, 3-14.

Price, L. W. Organizational stress and job satisfaction in public high school teachers. (Ph.D. thesis, Stanford University). Dissertation Abstracts International, 1970, 31 (11-A), 5727-5728.

Reed, S. What you can do to prevent teacher burnout. National Elementary Principal, March 1979, 58, 67-70.

Roth, R. H. Incongruence of perceived role expectations and positional stress: Secondary school teachers in England and the United States. (Ph.D. thesis, Duke University). Dissertation Abstracts International, 1967, 28 (10-A), 4290-4291.

Rudd, W. G. A., & Wiseman, S. Sources of dissatisfaction among a group of teachers. British Journal of Educational Psychology, 1962, 32, 275-291.

Russek, H. I., & Zohman, B. L. Relative significance of hereditary, diet and occupational stress in CHD of young adults. American Journal of Medical Science, 1958, 235, 266-75.

Scott, R., & Howard, A. Models of stress. In S. Levine & N. A. Scotch (Eds.), Social stress. Chicago: Aldine Press, 1970.

Scrivens, R. The big click. Today's Education, November/December, 1979, 68, 34-35.

Sebring, R. H. Teacher administrator conflict: Can it be resolved? NASSP Bulletin, Feb. 1978, 62, 37-42.

Sells, S. B. On the Nature of Stress. In J. E. McGrath (Ed.), Social and psychological factors in stress. New York: Holt, Rinehart & Winston, 1970.

Selye, H. The stress of life. New York: McGraw Hill Company, 1956.

Selye, H. Stress without distress. London: Hodder & Stoughton, 1974.

Selye, H. Implications of the stress concept. New York State Journal of Medicine, 1975, 75, 2139-2145.

Simpson, J. Stress, sickness absence and teachers. In National Association of Schoolmasters (Ed.), Stress in schools, Hemel Hempstead: National Association of Schoolmasters, 1976.

Simpson, J. Sickness absence in teachers. British Journal of Industrial Medicine, 1962, 19, 110-115.

Sorenson, G., & Halpert, L. A study of the sources, manifestations, and magnitude of stress among student teachers at UCLA. Dissertation Abstracts International, 1968, 2359-A.

Spencer, G. Burn out! The shattering effect of management stress. Industrial Management, Nov. 1981.

Stinnett, T. M. (Ed.) The teacher dropout. Indiana: Phi Delta Kappan Incorporated, 1970.

Stress on teachers and other school personnel. NEA Resolution E79-81. In D. Moe (Ed.), Today's Education, November/December, 1979, 68, 37-39.

Styles, K., & Cavanagh, G. Stress in teaching and how to handle it. English Journal, Jan. 1977, 66, 76-78.

Super, D. E. Occupational level of job satisfaction. Journal of Applied Psychology, 1949, XXIII, 547-64.

Sylwester, R. Stress. Instructor, March 1977, 87, 39.

Teachers and stress. The Manitoba Teachers' Society, March 1981.

Totman, R. Social causes of illness. London: Sovenir Press, 1979.

Trush, S. Teacher burnout and what to do about it. California: Academic Therapy Publications, 1980.

Welford, A. T. Man under stress. London: Taylor and Francis Ltd., 1974.

Wilson, C. Stress profile for teachers. California: Dept. of Education, 1979.

Wilson, C. The Christopher Wilson Preliminary Research Data. California: Department of Education, 1980.

Wolff, C. T., Friedman, S. B., Hafer, M. A., & Mason, J. W. Relationship between psychological defenses and mean urinary 17-hydroxycorticosteroid excretion rates. I. A predictive study of parents of fatally ill children. Psychosomatic Medicine, 1964, 26, 576-91.

Young, B. B. Anxiety and stress--how they affect teachers. National Association of Secondary School Principals Bulletin, November 1978, 62, 78-83.

APPENDICES

APPENDIX A

GENERAL INFORMATION SHEET

1. Code Number _____

2. Sex: M ____ F ____

3. Age Category:
   - 20-25 ____
   - 26-30 ____
   - 31-40 ____
   - 41-50 ____
   - 50+ ____

4. Marital Status:
   - Single ____
   - Married ____
   - Divorced/Separated ____
   - Widowed ____

5. Qualifications:

   Teacher Certificate Level (I-VII) _____
   Highest University Degree Achieved (B.A.,M.Ed.,etc.) _____
   Major _____
   Other (e.g., Diploma) Specify _____

6. If member of the clergy, indicate:
   - Sister ____
   - Brother ____
   - Priest/Minister ____

7. Length of Teaching Experience:
   - 0-4 years ____
   - 5-10 years ____
   - 11-19 years ____
   - 20+ years ____

8. Present grade level(s) you teach. Please check more than one, if applicable:
   - Primary K-3 ____
   - Elementary 4-6 ____
   - High School 7-12 ____
   - All Grades ____

9. What percent of time do you spend as a:
   - Regular Teacher ____
   - Subject Teacher ____ *
   - Specialist Teacher ____ **
   - School Administrator ____

*a. If subject teacher, indicate major subject area in which you teach:
   - Mathematics ____
   - Sciences ____
   - Social Studies ____
   - Language Arts ____
   - Foreign Languages ____

**b. If specialist teacher, indicate your area of speciality:

Special Education/Work Study ____
Counsellor ____
Remedial Reading ____
Music ____
Physical Education ____
Librarian ____
Home Economics ____
Industrial Arts ____
Other (Specify) _____

10. Are you presently teaching in the area for which you were trained?

Grade Level Yes ____ No ____
Subject Major Yes ____ No ____

11. Indicate your school's student enrolment:

50 or less ____
51-200 ____
201-400 ____
401-700 ____
701+ ____

12. Average class size that you are teaching this year:

4 or less ____
5-12 ____
13-20 ____
21-25 ____
26-30 ____
31-35 ____
36-40 ____
Other, Specify ____

13. How many teachers are there in your school?

1 ____
2 ____
3 ____
4-6 ____
7-10 ____
11-15 ____
16-25 ____
25-30 ____
30+ ____

14. Do you teach more than one grade in the same class? _____
If so, how many? _____

15. Number of sick days you have taken this school year:

0-7 ____
8-15 ____
16+ ____

APPENDIX B

MEMORIAL UNIVERSITY OF NEWFOUNDLAND
St. John's, Newfoundland, Canada A1C 5S7

Faculty of Education
Office of the Dean

Telex: 016-4101
Telephone: (709) 753-1200

June 19, 1981

Mr. Myrle Vokey
Director of Professional Development
Newfoundland Teachers' Association
Kenmount Road
St. John's, NF

Dear Mr. Vokey:

As a follow up to our earlier discussions concerning my proposed research on teacher stress factors and burnout, I hereby request, for your consideration, the following assistance in carrying out the research:

1. Duplication of a three-page questionnaire plus a one-page covering letter and information sheet (could be done back-to-back).

2. Mailing of questionnaires to each school in the province, using the most economical and expedient method.

3. Agreement to receive the completed questionnaire at the NTA office via the school mail.

4. Mailing of a limited number of reminder letters to specific schools which do not return the questionnaire on the first request.

The present time line is to duplicate the questionnaires in late September and to mail them out between the end of October and the middle of November, 1981. I am working in collaboration with Ms. Jane Francis, a graduate student in Guidance and Counselling here at Memorial University.

As discussed earlier, the study will focus on the stress factors related to the professional activity of teaching. It is the long-range intent of the researchers to use the findings from this initial research to set up effective preventative in-service programmes, as well as programmes that can assist teachers presently under stress; it would be hoped that such programmes could be developed in consultation with the NTA and carried out with the cooperation of the NTA, quite possibly through your office.

I thank you for your consideration and support of this research.

Sincerely,

Leroy D. Klas, Ph.D.
Coordinator of Student
Selection and Advising

LDK:amb

cc Ms. Jane Francis

MEMORIAL UNIVERSITY OF NEWFOUNDLAND
St. John's, Newfoundland, Canada A1B 3X8

Department of Educational Psychology
Faculty of Education

Telex: 016-4101
Telephone: (709) 737-8611

August 25, 1981

Dr. Christopher Wilson
Project Director, Department of Education
San Diego County
6401 Linda Vista Road
San Diego, California
U.S.A. 92111

Dear Dr. Wilson:

I am writing to obtain your permission to use your "Stress Profile for Teachers" (as printed in Stephen Truch's Teacher Burnout and What To Do About It, 1980) as a part of some research I am conducting on teacher stress factors here in Newfoundland. A graduate student, Ms. Jane Francis, is assisting me in the research. The research has been endorsed by the Newfoundland Teachers' Association, which is also providing assistance in duplication and mailing.

With your kind permission, I would either duplicate useable copies or purchase copies of the scale, if it is now published. If you are aware of any research results using the scale I would appreciate knowing of that as well. Of course, a copy of the results of this study would be forwarded to you, upon its completion.

No research has been done on teacher stress in the province. We are unique in that we have essentially a denominational system of education, with many teachers working in remote and small communities.

Any suggestions on the use of the scale would be most appreciated. We have to begin data collection early this fall, so an early reply would be much appreciated. Thank you very much.

Sincerely,

Leroy D. Klas, Ph.D.
Associate Professor of Education

LDK/ba
c.c. Ms. Jane Francis

3 KENMOUNT ROAD, ST. JOHN'S, NFLD. A1B 1W1
PHONE 726-3223 (AREA CODE 709)

193

Newfoundland Teachers' Association

September 4, 1981

Dr. L. D. Klas
Office of the Dean,
Faculty of Education
Memorial University of Newfoundland
St. John's, Nfld. A1B 3X8

Dear Lee:

This letter is in reply to your request of June 19th requesting cooperation and assistance from the NTA pertaining to your study on Teacher Stress. The NTA Executive was delighted with your plans. The Teaching Committee, under the Chairmanship of Dunc Ford, is looking forward to cooperating and working with you on your project during the coming year. I would suggest that you and I get together as soon as possible to discuss the ways in which we can be of assistance to you in facilitating the study. Also, I would like to inform you that we are in the process of establishing a new Teaching Committee which will be centered here in St.John's and I believe that it would be most appropriate that you and Jane Francis attend some of our meetings. Duncan will be in touch with you later pertaining to that point.

Best of luck for a very successful year.

Yours sincerely,

Myrle Yokey,
Director of Professional Development.

MV/eon

Copy to: Dunc Ford, Chairman
NTA Committee on Teaching.

Superintendent of Schools
DEPARTMENT OF EDUCATION
SAN DIEGO COUNTY
6401 Linda Vista Road
San Diego, CA 92111
(714) 292-3500

September 8, 1981

Dr. Leroy D. Klas
Associate Professor of Education
Memorial University of Newfoundland
St. John's, Newfoundland, Canada A1B 3X8

Dear Dr. Klas:

Thank you for your interest in the Stress Profile for Teachers. I have enclosed the publisher's brochure through which it can be ordered. Also available through the publisher is my new book, Preventing Burnout in Education, which is a comprehensive program in stress management for educators.

During the last two years I have been conducting research on the effect of stress management on teachers and their students. The enclosed research report dramatically illustrates the pervasive effects of stress in the educational millieu. I am sure you will find the results interesting in light of your own proposed research and that of Ms. Jane Francis. I have also enclosed the preliminary research data on the profile.

Best of luck with your research activities. If I can be of assistance in any way, feel free to contact me.

Cordially,

Christopher Wilson, Ph.D.
Project Director
Special Projects Section

CW:pr
Enclosures 3

September 18, 1981

Mr. Myrle Vokey
Director of Professional Development
Newfoundland Teachers' Association
3 Kenmount Road
St. John's, Newfoundland
A1B 1W1

Dear Myrle:

Thank you for your letter of September 4 in which you informed me of your Association's interest in and support for my proposal to research into the area of teacher stress factors. I am sure that we can work cooperatively in the development and carrying out of the project.

I am presently awaiting word from Dr. Chris Wilson, the developer of the scale I hope to use, for approval to duplicate and use the scale. Also, Jane Francis, the graduate student who has been working with me on the project development up to this time, has taken full-time employment out of the city; she is presently assessing her workload as to whether it will allow her the time to participate in the study. If not, I may be involving another graduate student.

I'll keep you informed. I'll be looking forward to working with Dunc Ford and his committee.

Sincerely,

L.D. Klas, Ph.D.
Associate Professor

LDK/ba

POOR PRINT
Epreuve illisible

MEMORIAL UNIVERSITY OF NEWFOUNDLAND
St. John's, Newfoundland, Canada A1B 3X8

Department of Educational Psychology
Faculty of Education

Telex: 016-4101
Telephone: (709) 737-8611

February 17, 1982

A copy has been sent to all School Boards

Dear

We are presently involved in setting up a research project involving a study of stress factors as perceived by regular classroom and specialist teachers in the Province. The study is being conducted by the undersigned and is co-sponsored and supported by the Newfoundland Teachers' Association.

In order to obtain a representative sample of teachers at the primary, elementary, and secondary levels we used the Department of Education records; however, we find it difficult to obtain an accurate and reliable breakdown of the number and types of specialists in each of the Boards. It would be of great help to the study if you could provide the number of specialists* in your Board for the following (you may write the number in the space provided and return this letter to us):

Special Education	_____	Guidance and Counselling	_____
Remedial Reading	_____	Librarian	_____
Physical Education	_____	Home Economics	_____
Music Education	_____	Industrial Arts	_____

We hope to send out the research questionnaire to the teachers selected for the sample by March 1, so an early reply would be very much appreciated.

Sincerely,

*By actual teaching assignment rather then specialty training.

L.D. Klas, Ph.D.

Sharon Kendell

Leonie Kennedy

LDK/SK/LK/bm
c.c. Mr. Myrle Vokey, NTA

MEMORIAL UNIVERSITY OF NEWFOUNDLAND
St. John's, Newfoundland, Canada A1B 3X8

Department of Educational Psychology
Faculty of Education

Telex: 016-4101
Telephone: (709) 737-8611

March 1, 1982

Dear Mr. _____,

The undersigned are presently involved in setting up a research project studying teacher stress in the Province of Newfoundland and Labrador. The project is being co-sponsored and co-conducted by the Newfoundland Teachers' Association.

It is intended that regular classroom teachers, specialist teachers, and teachers in special schools will be included in the sample. Teachers from all Boards will be asked to participate in the study. Hopefully the sampling will include a proportionate number of teachers from all grade levels and specialty areas; schools will be randomly selected.

As you are undoubtedly aware, stress factors can be of an internal or external nature, and can have both positive and negative effects on an educator's professional and personal functioning. This research will study the types and extent of teacher stress, with the intent that once identified, such concerns can be dealt with through appropriate stress awareness and management programs.

Obviously, participation is voluntary on any teacher's part and no identification of teacher, school or Board is involved.

It is hoped that the research instruments will be distributed during March or April, 1982. Reports will be distributed to each Board participating.

If you have any questions, we would be most happy to discuss them with you.

Sincerely,

L.D. Klas, Ph.D.

Sharon Kendell

Leonie Kennedy

LDK/SK/LK/bm
c.c. Mr. Myrle Vokey

MEMORIAL UNIVERSITY OF NEWFOUNDLAND
St. John's, Newfoundland, Canada A1B 3X8

Department of Educational Psychology
Faculty of Education

Telex: 016-4101
Telephone: (709) 737-8611

April 1, 1982

Dear Sir:

In an earlier correspondence (March 1, 1982) the undersigned outlined an upcoming research study on teacher stress factors to be carried out in our province's schools during Spring, 1982. The research is now underway.

Attached is a list of the schools in your Board that have been randomly selected, from a stratified sample, for the study. In addition, we have attached, for your information, a copy of the letter to all respondents; the letter explains the purpose of the study and outlines procedures for completion of the instruments.

We hope that you will give your support and encouragement to the study.

Sincerely,

Dr. L.D. Klas
Mr. Myrle Vokey
Ms. Sharon Kendell
Ms. Leonie Kennedy
(Teacher Stress Research Team)

LDK/bm

MEMORIAL UNIVERSITY OF NEWFOUNDLAND
St. John's, Newfoundland, Canada A1B 3X8

Department of Educational Psychology
Faculty of Education

Telex: 016-4101
Telephone: (709) 737-8611

TO: All Respondents

FROM: Teacher Stress Research Team (Dr. L.D. Klas, Mr. Myrle Vokey, Ms. Sharon Kendell, and Ms. Leonie Kennedy)

SUBJECT: 1. Explanation of the study on Teacher Stress.
2. Procedures for completion and return of General Information Sheet and Teacher Stress Scale

---

1. The above named research team is presently conducting research on factors related to teacher stress in the schools of our province. The study is co-sponsored and co-conducted by the Newfoundland Teachers' Association and members of the Department of Educational Psychology, Memorial University of Newfoundland.

The purpose of the study is to identify the types and degree of stress confronting teachers in different school settings, grade levels, subject areas and specialties. Stress factors can be of an internal or external nature and can have both positive and negative effects on an educator's professional and personal functioning. Better identification of such factors can lead to the development of stress awareness and stress management programs which can be specifically focused to our provincial, regional, and local needs.

The sample selected for the study includes proportionate numbers of teachers from all Boards, all teaching levels, and both regular and special school settings in the province. Your school was selected randomly, within such a stratification, to participate in the study. All Board Superintendents have been made aware of the study and your school's selection in the sample. Participation of any school, or individual in a school, is quite voluntary and strictly confidential. Full participation of all respondents will, of course, better enable the researchers to achieve the purposes of the study outlined above; thus, your participation is greatly appreciated.

.../2

2. Attached to this letter are:

a. General Information Sheet: Please indicate, in the space provided, a four-digit code number of your choosing. The code number is for the purpose of maintaining anonymity, and as well to allow you, the respondent, to be identified if you wish follow-up information. Please use your code number in any subsequent correspondence with the research team. Please complete all applicable items on the information sheet. You may write in additional information on any item.

b. Wilson Stress Profile and Supplement: Follow the directions as outlined on the profile. Once you complete the profile you may, if you wish, score your own profile for items 1-36; such self-scoring is optional, of course. Be sure to put your code number in place of your name. Fill in the date; you need not fill in the blanks for "school" or "district".

It would be most appreciated if you could complete the instruments as soon as possible so that they can be returned to the NTA offices for analysis during the month of April. Any questions concerning the study's purposes and procedures may be directed to Dr. L. Klas, Department of Educational Psychology, Memorial University of Newfoundland (737-8605 or 8611) or Mr. Myrle Vokey, NTA Building (726-3223).

Completed profiles and information sheets will be picked up by the NTA representative in your area, who will forward the instruments to the research team at the NTA offices in St. John's.

MEMORIAL UNIVERSITY OF NEWFOUNDLAND
St. John's, Newfoundland, Canada A1B 3X8

Department of Educational Psychology
Faculty of Education

Telex: 016-4101
Telephone: (709) 737-8611

May 18, 1982

TO:

FROM: Mr. Myrle Vokey, NTA and Dr. L. Klas, Dept. of Educational Psychology, MUN

SUBJECT: A reminder on the Stress Scale for Teachers

As of this date, we have not yet received the completed teacher stress scales from your school. We would very much appreciate the participation of as many of your teachers as possible so as to insure a large enough provincial sample; an insufficient sample, of course, limits the usefulness of any findings in the study.

Could you please forward the completed forms to the address below. Also, if for some reason your school staff will not be participating in the study, could you forward the unused scales to the same address.

Thank you for your cooperation.

Mr. Myrle Vokey
NTA Building
3 Kenmount Road
St. John's, Nfld.
A1B 1W1

MEMORIAL UNIVERSITY OF NEWFOUNDLAND
St. John's, Newfoundland, Canada A1B 3X8

Department of Educational Psychology
Faculty of Education

Telex: 016-4101
Telephone: (709) 737-8611

TO: All Respondents

FROM: Teacher Stress Research Team (Dr. L.D. Klas, Mr. Myrle Vokey, Ms. Sharon Kendell, and Ms. Leonie Kennedy)

SUBJECT: 1. Explanation of the study on Teacher Stress.
2. Procedures for completion and return of General Information Sheet and Teacher Stress Scale

---

1. The above named research team is presently conducting research on factors related to teacher stress in the schools of our province. The study is co-sponsored and co-conducted by the Newfoundland Teachers' Association and members of the Department of Educational Psychology, Memorial University of Newfoundland.

The purpose of the study is to identify the types and degree of stress confronting teachers in different school settings, grade levels, subject areas and specialties. Stress factors can be of an internal or external nature and can have both positive and negative effects on an educator's professional and personal functioning. Better identification of such factors can lead to the development of stress awareness and stress management programs which can be specifically focused to our provincial, regional, and local needs.

The sample selected for the study includes proportionate numbers of teachers from all Boards, all teaching levels, and both regular and special school settings in the province. Your school was selected randomly, within such a stratification, to participate in the study. All Board Superintendents have been made aware of the study and your school's selection in the sample. Participation of any school, or individual in a school, is quite voluntary and strictly confidential. Full participation of all respondents will, of course, better enable the researchers to achieve the purposes of the study outlined above; thus, your participation is greatly appreciated.

.../2

2. Attached to this letter are:

a. General Information Sheet: Please indicate, in the space provided, a four-digit code number of your choosing. The code number is for the purpose of maintaining anonymity, and as well to allow you, the respondent, to be identified if you wish follow-up information. Please use your code number in any subsequent correspondence with the research team. Please complete all applicable items on the information sheet. You may write in additional information on any item.

b. Wilson Stress Profile and Supplement: Follow the directions as outlined on the profile. Once you complete the profile you may, if you wish, score your own profile for items 1-36; such self-scoring is optional, of course. Be sure to put your code number in place of your name. Fill in the date; you need not fill in the blanks for "school" or "district".

It would be most appreciated if you could complete the instruments as soon as possible so that they can be returned to the NTA offices for analysis during the month of April. Any questions concerning the study's purposes and procedures may be directed to Dr. L. Klas, Department of Educational Psychology, Memorial University of Newfoundland, (737-8605 or 8611) or Mr. Myrle Vokey, NTA Building (726-3223).

Completed profiles and information sheets should be mailed to:

Mr. Myrle Vokey
Director of Professional Development
Newfoundland Teachers' Association
NTA Building, 3 Kenmount Road
St. John's, Newfoundland
A1B 1W1

APPENDIX C

Local Scale

		Never	Seldom	Sometimes	Often	Very Often
37.	I feel I have too little input in decision making.	1	2	3	4	5
38.	I worry about job security because of declining enrolments.	1	2	3	4	5
39.	Overcrowded classrooms cause me to feel anxious and frustrated.	1	2	3	4	5
40.	I feel my time and energies are spread over too many subject areas.	1	2	3	4	5
41.	Teaching children who are "below average" in achievement is stressful to me.	1	2	3	4	5
42.	Public scrutiny and opinion is a source of concern for me.	1	2	3	4	5
43.	Parental scrutiny is a source of concern to me.	1	2	3	4	5
44.	I am able to find sufficient outlets and extracurricular activities in my community.	1	2	3	4	5
45.	The reorganized high school program is a source of concern for me.	1	2	3	4	5
46.	My attitude toward my students is a source of concern for me.	1	2	3	4	5

Total Items 37-46 ____