AN INVESTIGATION OF THE LEVEL AND SOURCES OF PROFESSIONAL STRESS AS PERCEIVED BY SPECIALIST TEACHERS OF NEWFOUNDLAND AND LABRADOR

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AN INVESTIGATION OF THE LEVEL AND SOURCES OF PROFESSIONAL STRESS AS PERCEIVED BY SPECIALIST TEACHERS OF NEWFOUNDLAND AND LABRADOR

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Abstract

The general purpose of this study was to determine the level of stress specialist teachers in this province are experiencing and to identify which on-the-job stressors are contributing to this level of stress. The study also hoped to determine if specialist teachers differed in level and type of stress. Biographical variables of sex, age, teacher certificate level, length of teaching experience, school's student enrolment, class size and number of sick days taken were also examined in relationship to perceived levels of stress.

During the months of April, May, and June, the data were collected for the study, by means of a 3-part questionnaire. Part I obtained the biographical data from the participants, while Part II (the Wilson Stress Profile for Teachers - WSPT) and Part III (the Local Scale, devised for the study), identified stressors and level of reported stress.

Approximately eight hundred teachers, who were randomly selected to represent the population of Newfoundland teachers, completed the questionnaire. Of those eight hundred, 210 represented specialist teachers. This 210 were the sample used for this study.

The major findings of the study suggested that specialist teachers, regardless of their area of specialty, are experiencing similar levels of stress in our schools.

As well, regular classroom teachers (Kendell, 1982) and specialist teachers did not differ significantly in level and type of reported stress. The scores represent a "low/moderate" level of stress for this sample.

Results of the study revealed that the stressors of Time Management and Parent/Teacher Relations created significantly more stress than the other categories of the WSPT. On the Local Scale specialist teachers indicated that insufficient outlets in the community, the reorganized high school program, and little input into decision making were particular sources of stress.

Related to biographical variables and the WSPT, it was found that the specialists from a school with an enrolment of 201-400 students reported a greater mean level of stress than specialists in smaller or larger schools. Finally, the results indicated that perceived job stress is highly correlated to psychological, somatic and health related problems.

A number of recommendations were made by the researcher for the improvement of pre-service programs, and the development of in-service programs in the area of stress management. Personal and organizational strategies for dealing with job stress were suggested. Moreover, recommendations for future research which derived from this study were included.

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In particular, I wish to thank Dr. Leroy Klas, my thesis supervisor, for his assistance and guidance during the course of this research.

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CHAPTER I

INTRODUCTION

Purpose of the Study

The general purpose of this study was to determine the level of stress specialist teachers in this province are experiencing and to identify which on-the-job stressors are contributing to that level of stress.

The specific purposes of this study were: (1) to identify the on-the-job stressors which specialist teachers report to be stressful for them (type of stress); (2) to assess the overall stress level (high, medium, or low) for specialist teachers; (3) to ascertain how specialists, depending on their area of specialty, differ in type and level of reported stress; (4) to examine how biographic data affect type and degree of stress for specialists; (5) to ascertain to what extent regular classroom teachers differ from specialists in type and degree of reported stress; (6) to suggest and clarify implications for educational policy and future research.

Rationale and Significance

Although the term stress has been widely used (e.g., Lazarus, 1966; Holmes and Rahe, 1967; McGrath, 1970; Selye, 1974; Cox, 1975), there appears to be little consensus as to how the term should be defined. Dr. Hans Selye (1974),

considered by some to be the dominant figure in research in this area, gives the most comprehensive and widely accepted explanation of this term in his book Stress Without Distress, where he defines stress as "... the non-specific response of the body to any demand made upon it." The human body reacts to specific demands with specific responses. In addition, the body makes generalized adaptational responses, regardless of the nature of the demand, in an on-going attempt to maintain normalcy; this adaptation is, in Selye's view, a stereotyped response to any demand or stressor, e.g., infection, joy, or sorrow. Also, Selye believes that this stress response is physiological and totally non-specific, since it is the same whatever the stressor (Selye, 1976). However, he does divide stress into two categories: eustress, which is healthy positive stress; and distress, which is harmful, negative stress. It is the latter category which was examined throughout this study.

The definition of the term stress depends very much on the approach of those using it. Selye focused on the physiological reactions to stress, as did Cannon (1929). Other investigators, however, noted other aspects of the stress reaction; for example, Green et al. (1970) suggested that every change in the physiological state is accompanied by a change in the psychological state, and vice versa (Kremer and Owen, 1979). Holmes and Rahe (1967) reported that the reaction to stress could be physical, psychological,

or a combination, and Lazarus (1966) believed the whole person reacted, physiologically, psychologically and behaviorally. It is accepted that individuals have a tolerance level for stress, and if this level is exceeded for a prolonged period the individual may suffer particular physical, emotional, and behavioral problems, or a complex of problems.

Selye believed that the problems resulting from prolonged stress were symptoms of a condition he termed "exhaustion" and which more recently is referred to as "burnout". Some of the symptoms of prolonged stress which have been reported in the literature include: high blood pressure, heart disease, nervous and mental illness (Selye, 1965); fatigue, hypertension and insomnia (Bloomfield, 1974); hypertension, peptic ulcers and diabetes (Cobb and Rose, 1975); cancer, infections, hypertension (Schmale and Greene, 1976); suicide, depression, alcoholism (Cobb, 1973); and family breakdown, low productivity, absenteeism, drug addiction, tension (Newell, 1979).

Do teachers display these symptoms of stress? Dunham (1976) reviewed several common stress responses among teachers; these included headaches, stomach upset, hypertension, depression, loss of confidence, confusion of thinking, and nervous breakdown. Several studies reported sick leave being positively associated with stress among teachers (Dunham, 1976, Carranya, 1972, and Simpson, 1976).

Similarly, in a study of teachers in San Diego (Wilson, 1979), the reported reaction to stress was worry, fatigue, and depression. Kyriacou and Sutcliffe (1978), in a study of teacher stress, assessed the most frequent symptoms experienced. In rank order these included exhaustion, anger, depression, nervousness, inability to cope, panickyness, and tearfulness. From the results of the Kyriacou and Sutcliffe studies these authors subsequently defined teacher stress as: "a response by a teacher of negative affect (such as anger, anxiety, depression)" accompanied by potentially pathogenic physiological changes (such as increased heart rate) (Chinnery, 1979, p. 165).

The general effects of prolonged stress on teachers have been documented by Bloch (1978) and Maslach (1976). Both of these investigators observed the following as characteristic consequences of prolonged stress: a disruption of personal and professional life, destructive feelings, loss of concern and detachment, a cynical and dehumanized perception of students, and a deterioration of the quality of teaching. It is likely that when job stress in a human service setting (of which teaching is one) is chronic, the helper's (or teacher's) motivation, involvement, and positive regard for the work and for the clients may suffer (Cherniss, 1980). In fact, there is some research to suggest that enthusiasm, idealism, and hope on the part of the teacher are critical ingredients. For instance, in an extensive

review of the research on classroom teaching, Lortie (1973) found evidence suggesting that the enthusiasm of the teacher is strongly associated with higher rates of student learning. Hence, the amount of stress a teacher is under will affect his job performance, and high levels of stress over long periods will have a negative affect on his job performance.

But how prevalent is teacher stress? Dunham (1976), in a study which included reports from 658 school-teachers, concluded that more teachers are experiencing stress and that severe stress is being experienced by more teachers. Other authors have argued that there appears to be an increase in stress among teachers (Andrews, 1977). In the Wilson (1979) study, 77 percent of his sample reported experiencing stress. Almost 60 percent of teachers in a U.S.A. survey were suffering from stress associated with their jobs, and over 36 percent of teachers in a recently conducted Alberta Teachers' Association survey of more than 1,000 teachers reported that they had experienced stress in their jobs during the past two years. Similarly, Walsh (1979) reported that in Chicago, Illinois, a teachers' union stress survey found 56.6 percent of the 5,500 respondents claimed to be suffering from stress as a direct result of their jobs.

A recent teacher opinion poll indicated that only 6 out of every 10 teachers questioned plan to continue their teaching career (McGuire, 1979). Also, Walsh (1979) stated that in 1962 more than one-fourth of all teachers had twenty

years of experience, but by 1976 this proportion had been cut in half. Mackiel (1979) estimated the turnover rate in the teaching profession to be 7 to 10 percent. Such statistics show that many teachers are dissatisfied with the profession, much of this dissatisfaction may be due to stress.

The fact that teacher stress is currently a common topic of concern, and that sessions on stress and burnout are seen with increasing frequency at conferences, are also indicators of the extent of the teacher-stress problem. For instance, Sparks (1979) stated that teacher stress or burnout has reached epidemic proportions in some school districts. Because of this, the Northwest Staff Development Center (NSDC), a federally funded teacher center in Wayne County, Michigan, has developed a program on the issue of teacher stress and burnout. Similarly, at the National Education Association (NEA) Convention of 1979, the topic of teacher stress was a prime concern (NEA, 1979). Willard McGuire, president of NEA, stated that mental and physical stress is driving thousands of American teachers out of the profession and the problem threatens to reach hurricane force if it is not checked. Resolutions were adopted at the convention recognizing the destructive role of stress in teaching and calling on local associations to develop programs for combating stress.

Unfortunately, the problems of teacher stress are not self-contained; rather, teacher stress extends beyond the teacher by also affecting students. Coates and Thoresen (1976), using information from Kaplan (1959), point out that even if stress among teachers is no greater than among other professional groups, the possible negative effects on students could be serious. Statistically speaking, stress may negatively affect as many as 200,000 teachers and through them, five million pupils. Further support for possible negative effects on student populations was demonstrated by Wilson (1979).

As the above review indicates, teacher stress can have a debilitating effect on the process of education, the teacher's personal health, and the delivery of services to students. Because of the unique socio-economic conditions and geographic and demographic characteristics of this province it may be presumptuous to generalize the findings of the above cited studies to the province of Newfoundland and Labrador. Many of the previous mentioned studies of teacher stress were carried out with populations who lived and worked in other countries, i.e., the United Kingdom and the United States, where the occupational variables associated with teaching may be different from those in this province. As well, these teacher populations usually worked in large, urban, middle-class cities. Newfoundland has a relatively small population, which is spread over a

large area, and many of the communities are small, rural, and many times isolated, with a working-class background. Is the level of teacher stress in Newfoundland and Labrador similar to that which has been documented in the literature for other teacher populations? How prevalent is stress in our schools? How many of our teachers are suffering from stress? The present study attempted to answer these and other questions.

The preceding discussion revealed the presence of stress in the teaching profession; however, little attempt has been made to study the causes or sources of this stress. In order to understand the consequences of stress, and to be able to cope effectively, some of the major sources of stress should be identified. From reviewing the literature on stress in other occupations it is possible to divide the causes of occupational stress into two broad categories, i.e., internal stressors (causes of stress) and external stressors. Internal stressors refer to the personal and biographical aspects of the worker which may affect his particular response to stress; external stressors refer to the stressors which are intrinsic to the job.

A number of authors have acknowledged that there are internal or individual variables related to stress (Appley and Trumbell, 1967, Wolff, 1968, Lazarus, 1966, 1971, and Lazarus and Launer, 1978). Several personality dimensions have been identified as influencing stress. One dimension

has been identified as neurotic anxiety by Kahn et al. (1964), Freudenberger (1975), and Pines and Kefry (1978). In the teacher stress literature little has been done on the personality of teachers; however, Fuller (1969) identified concerns with self and adequacy as a source of anxiety in teachers. Similarly, Kyriacou (1980) found that the typical situations that most teachers regard as stressful are those which involve them in some way as failing to achieve, and which attack their self-esteem.

Another individual characteristic that makes one susceptible to stress is the Type A personality. Friedman and Rosenman (1974) identified two opposite personality types, Type A and Type B. Type A is composed of people seemingly under constant stress. They are aggressive, competitive, and impatient to achieve more in less and less time. Type B are people who are more relaxed, free from hostility and competitiveness. These authors discovered that Type A people were three times more likely to end up with coronary heart disease than Type B. There are no definitive studies, however, which indicate that teachers fall into one classification or another.

Rotter (1966), Seligman (1975), and Cherniss (1980) identified locus of control as being a personality trait associated with stress in other occupations. It is important to good health and good teaching that an individual feels "in control". Numerous researchers have linked "internality"

with a healthy personality; one is less anxious, more self-confident and willing to remedy personal problems. Almost all researchers who study stress in industrial settings cite evidence showing that feelings of alienation, job dissatisfaction, high absenteeism, and other symptoms of stress stem from a feeling of external control. Most authorities, therefore, suggest that workers must participate in the decision-making process (Cherniss, 1980; Buck, 1972, Cooper and Marshall, 1977). This generalization most certainly applies to teaching as well. One study (1980), where Alberta teachers were asked to rank items on the basis of how stressful they found the item, ranked the item of 'implementing policies with which I disagree' in the top ten. Kyriacou and Sutcliffe (1978), in their study of the sources of stress in comprehensive schools in England, found lack of participation in decision-making one of the main sources of stress for their population. Cichon and Koff (1978) also found control as a source of stress for teachers.

From the literature on industrial stress other individual characteristics, i.e., biographic data, have been studied as internal causes of stress. Biographic data (including age, race, sex, years of experience), have been investigated by Cichon and Koff (1978), Wilson (1979) and Pulvermacher (1981), among others. At present, however, there is little agreement as to the amount and type of

stress perceived by individuals who vary on biographic dimensions.

The literature on industrial stress also provides examples of external stressors, i.e., stressors intrinsic to the job. One external stressor which has received some empirical attention and support as a source of stress is work overload. Work overload refers to work which is too difficult or too much to do. The studies by French and Caplan (1973), Margolis, Kroes and Quinn (1974), Cherniss (1980), and Barad (1979) report results which are relatively consistent and indicate that work overload produces different symptoms of psychological and physical stress. In the teaching or school environment work overload may be seen as overcrowded classrooms, too many periods of actual teaching, demands on after school time, and excessive clerical and supervisory duties; there are studies which do show that these factors are seen as sources of stress for teachers. Early studies, McLaughlin and Shea (1960) and Rudd and Wiseman (1962), found teaching load and excessive supervisory duties as sources of stress for their teaching population. The following studies reported that teachers ranked too much work or overcrowded classrooms in the top five as a source of stress: Cichon and Koff (1978); Kyriacou and Sutcliffe (1978); and a New York (1979) study (cited in the Manitoba Study, 1980). Similarly, Kremer and Owen (1979),

reported that taking on too heavy a caseload is stressful for counselors, in particular.

Closely related to work overload is time management, which was ranked as the highest cause of stress in the 1979 Wilson study. Similarly, Kyriacou (1980) analysed 700 questionnaires completed by teachers and found time pressure to be the major source of stress for these teachers; these results are supported by Olander and Farrell (1979) and Campbell and Williamson (1974).

The other type of work overload includes work being too difficult to do. For teachers this may include poor professional training, teaching assignment not consistent with qualification, and working with special students. Campbell and Williamson (1974) reported "lacking command over subject matter" as a cause of stress for teachers in their sample. Rudd and Wiseman (1962) reported inadequate teacher training as a main source of teacher dissatisfaction. Reed (1979) feels that inadequate professional training was a major cause of teacher stress and burnout. Teaching physically and mentally handicapped children and improper placement of special needs students were reported as stressful by Cichon and Koff (1978) and Kyriacou and Sutcliffe (1978).

Another major source of stress, which has been pointed out in the literature on occupational stress, is a person's role at work. A great deal of research in this

area has concentrated on role conflict and role ambiguity. French and Caplan (1970), Shirom et al. (1973), Margolis, Kroes and Quinn (1974) and Cherniss (1980) all found symptoms of stress in workers to be highly associated with role conflict. Role ambiguity was identified by Kahn, et al. in 1964, and since then Margolis et al. (1974), Cooper and Marshall (1977), and Cherniss (1980) found a number of significant relationships between symptoms or indicators of physical ill health and role ambiguity.

Trying to associate role conflict and ambiguity to teacher stress may be facilitated by defining what these terms may mean for teachers. Role ambiguity is associated with uncertainty about how one's work is evaluated, scope of responsibility, and other (outside the profession) expectations of one's performance. Kremer and Owen (1979) indicated that a source of stress for counselors was role ambiguity, i.e., conflict between counsellors' expectations for change and clients' actual progress, as viewed by an evaluator.

Other expectations may be viewed as how others see the teaching profession or the status of the profession. Rudd and Wiseman (1962) and Kyriacou and Sutcliffe (1978) found that the low status of the teaching profession was a source of stress for the teachers they surveyed.

Teaching groups of too wide an ability, a change in work responsibilities, reorganization of a program, and

increased responsibilities are associated with role ambiguity in the teaching profession. Studies which support this include Youngs (1978), Kyriacou and Sutcliffe (1978), and Cichon and Koff (1978).

Role conflict occurs when a person is required to carry out more than one role in the same situation. In a study of teachers in Alberta (1980) (cited in the Manitoba study) being required to make frequent role changes (e.g., nurse, social worker, librarian) was perceived by teachers as causing severe stress. Roth (1967) investigated the relationship between role conflict and stress among secondary school teachers and found that perceived role expectations (high role conflict) was positively related to positional stress. This was supported by Price (1970) and Dunham (1976).

A third set of external stress factors which has been reported in the industrial stress literature as highly associated with symptoms of stress is related to career development (Wan, 1971, Erikson, et al., 1972, and Brook, 1973). In the literature on teacher stress Cichon and Koff (1978) found denial of promotion or advancement as a source of stress. Kyriacou and Sutcliffe (1978) found that teachers perceived poor career structure, poor promotional opportunities, and inadequate salary as stressful. In New Zealand the NZEI (1978) (cited in Chinnery, 1979) reported that lack of tenure and low salary were reasons given by teachers as to why they felt stress. There appears, then,

to be some amount of stress associated with career development issues for teachers as well as for workers in other professions and occupations.

The above discussion has shown that stress on the job is a function of the worker and his work, i.e., internal and external stressors. Individuals will perceive the same external stressor as having different stress value, depending on their internal make-up, as Lazarus (1977) and Cohen (1978) suggested. Although this interactional effect is an important concept in understanding job stress, it is the external stressors which are denoted in this study, since it has not been shown that specialists and regular classroom teachers differ in respect to internal stressors; rather, they have different work environments or external stressors.

Similarly, external stressors (as opposed to internal stressors) are more easily identified and are more easily manipulated in terms of eliminating workplace stressors, and thus eliminating or reducing occupational stress. Therefore, this study attempted to identify the external stressors perceived as stressful by the local population of teachers. As well, it identifies the ranking of these stressors for each of the 9 specialist groups (see definition of specialist, p. 21). Finally, the study hoped to indicate how perceived stress varies for specialists who differ according to biographical data.

The clear implication of identifying these causes of stress is the formulation of management strategies for teachers. It may prove useless to ask individuals to assume all the responsibility for coping with stress, when the sources of much of this stress is inherent in their work environment.

Stress awareness and management were underlying themes of the present research. The first step in this management is to become aware of the factors that cause stress. Stress can debilitate us, motivate us, or cause us to isolate ourselves by using unpredictable behavior. It is important to understand the concept of stress awareness because it can teach us the negative and positive consequences of stress. Often, when we become aware of the factors that cause stress, stress can be eliminated or at least channelled into efficient energy, enabling us to perform at optimal levels.

The importance of stress management can be seen by reviewing the benefits of well managed stress: stress related diseases are avoided, absenteeism decreases, and productivity increases. In the teaching profession, well managed stress ensures that students are being taught by teachers who are working at optimum level.

This present research, then, is attempting to identify and analyze perceived stress among the teachers of Newfoundland and Labrador. The importance of this was

put well by Chinnery (1970) when he said:

> 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. (p. 163)

Research Questions

1A. What is the mean stress score, as measured by the Wilson Stress Profile for Teachers (WSPT), for each category of specialist teachers?

B. Is the mean stress score as measured by the WSPT significantly (significance is indicated, in all instances, to be at the .05 level of confidence unless otherwise stated) different for each specialist category?

2A. What is the mean stress score, as measured by the Local Scale, for each category of specialist teachers?

B. Is the mean stress score, as measured by the Local Scale, significantly different for each specialist category?

3A. What is the mean stress score for each of the nine categories of the WSPT (major stressors) for each specialist category?

B. Is there any significant difference between the mean stress score for the nine categories for each specialist category?

4. What are the means and ranks of the five most stressful items as measured by the WSPT for each specialist group?

5. What are the means and ranks of the five most stressful items as measured by the WSPT for the total number of specialists?

6. What are the means and ranks of the three most stressful items as measured by the Local Scale for each specialist group?

7. What are the means and ranks of the three most stressful items as measured by the Local Scale for the total number of specialists?

8A. What are the mean stress scores, as measured by the WSPT, for the total group of specialists for each of the following biographical variables: sex, age, teacher certificate level, length of teaching experience, school's student enrollment, class size, and number of sick days taken?

B. Is there a significant difference between the mean stress scores, as measured by the WSPT within each biographical variable, for the total number of specialists?

9A. What are the mean stress scores, as measured by the Local Scale, for the total group of specialists for each of the following biographical variables: sex, age, teacher certificate level, length of teaching

experience, school's student enrollment, class size, and number of sick days taken?

B. Is there a significant difference between the mean stress scores, as measured by the Local Scale within each biographical variable, for the total number of specialists?

10. How do regular classroom teachers and specialist teachers compare in terms of levels of reported stress, and mean score for the major stressors?

11. Is there a significant correlation between the reported physical symptoms of stress, and mean stress scores as measured by the WSPT for each specialist group?

12. Is there a significant correlation between the reported psychological/emotional symptoms of stress, and mean stress scores as measured by the WSPT for each specialist group?

Definitions

Stress

The standard definition of stress is that given by Selye (1976) in his book, Stress Without Distress: "Stress is the non-specific response of the body to any demand made upon it" (p. 1).

Selye further divided stress into two categories: eustress, which is healthy, positive stress; and distress, which is harmful, negative and potentially disease producing

stress. It is this definition of stress (i.e., distress) which was used throughout this study.

Burnout

More recently researchers are using this term to refer to stress and the potentially harmful effects of stress. Burnout, however, refers to the syndrome of physical and emotional exhaustion which does not respond to conventional distress-management.

The Stress Reaction

This is a series of physiological changes of the body to any demand made upon it. These changes occur in an attempt to maintain homestasis (balance of internal states), and help the body adapt.

Stressor

An event or condition that may be purely physical, social, or psychological - including anticipation and imagination - and that triggers a stress reaction.

(a) Physical stressors are external factors, including chemicals, drugs, noise, temperature and trauma. If these agents are sufficiently intense and enduring, then distress will result. Physical stressors are often related to a person's occupation (e.g., noise related to student behaviors).

(b) Social stressors are externally induced and result from the interaction of the individual with his environment. These include death of a loved one, loss of a job, divorce or financial problems.

(c) Psychological stressors may be brought on by physical or social stressors or they may be self-induced. The psychological stressors are intense emotions and include frustration, worry, jealousy, fear, feelings of inferiority, etc.

Stress Levels

In this study stress levels refer to the overall stress score as measured by the Wilson Stress Profile for Teachers (WSPT). Wilson offered the following general guide of stress level: 1-8 = Low Stress; 9-15 = Moderate Stress; 16-20 = High Stress. For the general overall or total score, the scale of 36-73 is Low; 73-108 is Moderate; and 109-180 is High.

Regular Classroom Teacher

Includes those persons who are assigned to teach, for more than fifty percent of the work time, in a subject area or classroom which is not considered a special subject or class.

Specialist Teachers

Those teachers who have been assigned, by their School Board, to teach the following subject areas for a

minimum of fifty percent of their teaching time, regardless of their qualifications or training: Music, Physical Education, Counselling, Industrial Arts, Home Economics, Special Education, and Remedial Reading.

As well, specialists include teachers who teach in the Special Education Schools of Pine Grove School, Virginia Waters School for the Physically Handicapped, Newfoundland School for the Deaf (and for purposes of analyses these teachers are classified as special education teachers).

Primary/Elementary School Teachers

This includes those teachers who teach in a school which houses grades kindergarten to six (K-6), or in some instances kindergarten to eight (K-8).

Secondary School Teachers

This includes those teachers who teach in those schools which house grades seven, eight or nine to eleven (7, 8, 9-11).

Multi-Level School Teachers

These include teachers who teach in a school which houses a combination of Primary/Elementary grades and Secondary grades as defined above.

Limitations

(1) The use of self-report method of investigation to identify type and degree of teacher stress has some potential limitations. This method fails to take into account the fact that different teachers may interpret the meanings of the questions differently, they may develop an acquiescent response set, or other responding tendencies (social desirability effect), and that teachers may genuinely lack insight into their situation.

(2) Research is not conclusive as to the relationship between personality variables and levels of stress. However, this study did not involve itself with the issue of teachers' personality; therefore, the explanations of the results are more limited to on-the-job or external stressors. High levels of stress, therefore, may be due to a person's personality and proneness to stress or low resilience to stress.

(3) This research investigated stress as it occurs at one single point in time. Recent research has shown the presence of stress cycles during the school year. If, when the teachers answered this questionnaire, they were in a high stress cycle their responses may differ than if they answered during a low stress cycle. The

respondents were asked to answer in terms of a period of time rather than a specific day; however, these stress cycles may last for weeks.

(4) This research investigated external stressors as they related to the local population, so the degree of generalizability of these results may be limited.

(5) The stressors investigated in this study are not an exhaustive list of possible external stressors for specialists. Therefore, conclusions can only be based on the stressors examined in this study.

(6) The sample population was not selected so that each biographical subgroup proportionally represented the total population of specialists. Since equal representation of each biographical subgroup was left to chance, the generalizability of the results may be somewhat minimized.

CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction

Around 1925, Cannon suggested that man responds to stressful events with a physical and psychological set that prepares him for either fight or flight. In the 1930s Selye developed a somewhat more specific concept of human reactions to stressors, which he called the "general adaptation syndrome" (GAS). In the early 1940s Wolff and Wolf at Cornell University methodically studied the response of the human stomach to an extra-ordinary range of emotions precipitated by a variety of stressful events in everyday life. These four men laid the medical and biological foundations for understanding "stress".

In the last 30 years, medical and psychological research on stress has burgeoned, moving into every aspect of life's conditions and events. Yet, with the conclusion of each study, new research is suggested and even more new avenues of exploration are opened. New research methods allow increasingly sophisticated understanding of the details of human behaviour and new methods of coping with the world around us.

The literature on human stress, already copious, is ever more rapidly increasing in volume. In part, this may

be due to the almost universal appeal of the subject to researchers in almost all of the biological and behavioral sciences. Not only does the annual production of scientific literature continue to increase in volume, but also the range of special studies is broadening, now involving such disciplines as biology, endocrinology, medicine, physiology, psychiatry, psychology, psychosomatic medicine, and occupational health.

What sparked the sudden explosion is not entirely clear, but, following Selye's seminal work, first reported in 1950, the amount of stress-related research has increased to such a degree as to make a comprehensive review difficult. As might be expected in any field of scientific research of such recent origin, the literature is characterized by considerable disagreement, many overlaps, and numerous lacunae (Greenwood and Greenwood, 1979).

Furthermore, much of the research in this area was derived from the cumulative efforts of investigators who have worked in this field for many years; however, many recent studies repeat both the findings and the flaws of the earlier studies, hindering a true growth and development of knowledge in the field. For instance, the term "stress" has been widely used (e.g., Appley and Trumbull, 1967; Lazarus, 1966; Holmes and Rahe, 1967; McGrath, 1970; Cox, 1975), yet there appears to be little consensus as to how the term should be defined. The proliferation of similar terms such as anxiety, frustration, strain, pressure,

and tension, illustrates the conceptual confusion which is prevalent in this area of investigation. Moreover, there is less than complete within-term agreement among investigators about the meanings of the above expressions; the between-term agreement is even lower (Appley and Trumbull, 1967).

This chapter will evaluate the conceptual and methodological approaches used by previous researchers in the field of stress. It will also present a review of the relevant literature to delineate trends in its development, describe the stress response, identify causes of stress and finally define teacher stress.

Historical Developments

The research in the field of human stress over the last 30 years has articulated several ideas that appear to be basic to the emerging concept of stress. For instance, if one examines the history of research on stress one finds that most experts on stress look upon Dr. Walter Cannon's 1929 book, Bodily Changes in Pain, Hunger, Fear and Rage, as the basis of all organized research in the field (Freese, 1976). He described an emergency response, expressed in elevations in blood pressure, heart rate, and so on, which prepared the individual to confront or flee a stressful situation; while this response was of survival value to the caveman, current societal conditions often make "natural" expression impossible. It is this psychophysiological tendency to react that is central to human stress.

Another investigator who extended the body of knowledge about stress was Dr. Wolff, of Cornell University, who brought together the views of physiology and those of psychiatry. Wolff studied the different ways in which people respond to stressful stimuli. He defined stimuli as anything which increases any body function or metabolic process. In 1953, in his classic book, Stress and Disease, Dr. Wolff pointed out that a noxious stimulus may be either an actual physical threat like a broken leg, or a "symbol" of danger like a change in an intimate relationship.

Dr. Hans Selye is considered by some to be the dominant figure in research on stress; he has developed the most comprehensive and widely accepted explanations of this bodily response. Selye (1974) defined stress as "the non-specific response of the body to any demand made upon it." Specific demands on the body are made by such stimuli as cold, heat, and exercise. These stimuli are usually called stressors. All stressors are alike in that they result in physiological change (i.e., altered heart rate, hormonal change) and a consequent need for readjustment and adaptation to the problem. This adaptation is, in Selye's view, a stereotyped response to any stressor, whether the stressor is infection, joy or sorrow, cold or heat, and so on. This stress response, Selye believed, is hormonal and totally nonspecific, since it is the same whatever the stressor

(Selye, 1976). For this reason, Selye (1974) further divided stress into two categories: eustress, which is healthful positive stress; and distress, which is harmful negative stress.

> Stress is not always due to something bad, nor is it always bad for you. Stress is the rate at which we live at one moment.... freedom from stress is death. Don't try to avoid stress, it's the very salt and spice of life. (Selye, 1976, p. xv)

In 1956, after a decade of study, Selye first described the "General Adaptation Syndrome" (GAS) as the body's typical mechanism of response to disease and other stressors. The first stage of this syndrome he called the alarm reaction. Once the "alarm system" is initiated (by a stressor), a fairly predictable biochemical sequence of events occurs in the body. This may be similar to Cannon's fight/flight theory, in which the body is mobilized for emergency situations. With prolonged activation or arousal the body enters into the second stage, the resistance or adaptation stage. At this stage the body is adapting to the demands made upon it, and the bodily signs characteristic of the previous stage fade and virtually disappear. If the stressor continues and continued adaptation is required, the body finally enters into the exhaustion stage (modern researchers have coined the term "burnout" for this stage); the person in this stage becomes susceptible to disease, illness, and other forms of dysfunction. These are often called "stress-related diseases", or what Selye

termed "diseases of adaptation": disorders such as peptic ulcers, hypertension, rheumatoid arthritis, among others.

While many researchers on stress accept Selye's theory of the nonspecific nature of stress, there has been some debate about it. Differing with Selye's theory, Mason (1964) thinks it likely that psychological stressors set off other hormonal systems besides those activated by the physiological stressors such as cold, electrical shocks, and so on. More recently, stressors have been identified as environmental (Kahn, et al., 1964; Cooper and Marshall, 1977); physiological (Cox, 1975; Selye, 1956); or psychological (Appley and Trumbull, 1967; Warr and Wall, 1975; Morris, 1975). Lazarus (1966), when he developed his model of stress, focused on the transaction between an individual and the stress event, that is, how the person reacted to the stressor. This response depended on the person's cognitive and affective memory. Lazarus felt that the individual reacted holistically, that is, physiologically, psychologically, and behaviorally. Further work on the concept of stress has been pioneered by Holmes and Rahe (1967), who relate disease to significant life changes (divorce, death of a spouse, etc.). The accumulation of stressful life events leads to reduced adaptive energy; consequently, there is an increased susceptibility to dysfunctioning, whether physical, psychological, or a combination of the two (Hembling and Gilliland, 1981).

The Nature of the Stress Response

Much of the literature on stress discusses the reaction of the body to stress. Selye's GAS was basically a physiological reaction. Green (1970) suggested that every change in the physiological state is accompanied by a change in the psychological state, or vice versa (cited in Kremer and Owen, 1979). Holmes and Rahe (1967) reported that the reaction to stress could be physical, psychological, or a combination of both, while Lazarus (1966) believed that the whole person reacted physiologically, psychologically and behaviorally. All agreed that stress has specific effects, but what are these effects? The only way to recognize and determine the effects of stress was to review the way it manifests itself to the senses. When speaking of the effects of stress it should be realized that some effects are specific, some are nonspecific, some benign, some malign; consequently, since there are so many overt responses to stress, the author intends to discuss only those consistently reported in the current literature.

Stress is directly or indirectly related to many diseases or, as some researchers say, dysfunctions. Stress affects our psychology, our emotional health, and our physical health simultaneously. Each of the following diseases have been isolated in terms of its relationship to stress by Selye (1965) in his book, The Stress Life: high blood pressure, heart disease, diseases of the kidney, infections, allergy, nervous and mental diseases.

It is not suggested that all of these diseases are solely or even fundamentally caused by stress reactions within the body. Selye has provided evidence, however, for the hypothesis that stress is a factor in the progression of these illnesses.

> There can be little doubt about the negative impact of stress upon the body. Evidence has suggested that stress, at the very least, provides a serious complicating effect upon such illnesses as high blood pressure and heart disease. Many eminent physicians see the stress reaction in a far more serious light, i.e. as the root cause of illness, both physical and mental. (Frew, 1977, cited p. 59)

The high incidence of stress is very clearly mirrored within society itself. Dr. Bloomfield (1974) presented evidence on the complexity and magnitude of stress reactions in the United States. There are currently 230 million prescriptions written for the alleviation of fatigue, hypertension, and insomnia, all of which are primary symptoms of stress. Dr. Bloomfield asserted that the number one health problem in the United States today is stress (Frew, 1977).

Cobb and Rose (1975) compared the health of 4,325 air traffic controllers (a high stress job) with that of 8,435 second-class airmen (relatively stress-free). These authors found evidence of increase for three diseases in the stress-filled job holders, namely, hypertension, peptic ulcers, and diabetes.

One of the centres of research into the relationship between psychological disturbances, stress, and physical disorders is the University of Rochester. Dr. Schmale, a physician there, reported that about 80 percent of a group of patients treated for infections, cancer, heart disease, hypertension, rheumatoid arthritis, diabetes, and other troublesome ailments had experienced a serious life event (that was stressful) shortly before the health problems arose. Dr. Greene, who is also with the University of Rochester, was studying adults with cancer, and noted that the majority of cases appeared at a time of life stress. Relapse, also, coincided with stressful situations.

Moreover, in 1975, Medical World News described Cobb's Study, which probed the health of 100 blue-collar workers facing job loss in a Detroit auto plant; suicide was 30 times the usual rate and workers suffered from hypertension, ulcers, depression, and alcoholism (Freese, 1976).

As Newell (1979) noted:

> If left uncontrolled, stress can result in hypertension, coronary disease, migraine and tension headaches, peptic ulcers, renal disease and asthma. ...doctors believe unrelieved stress can lead to depression and general anxiety, to alcoholism and drug addiction, and to a breakdown in normal relations with family and colleagues. On the job front, people are realizing that stress can also lead to low productivity, absenteeism, hospitalization, and premature death. (p. 16)

One may feel confident in concluding from the results of the above cited studies that when people consistently report feelings of stress, their physical and psychological well-being is affected. This result is based on a wide variety of retrospective and prospective investigations, which used large, heterogeneous samples, and gathered data by means of a questionnaire supported with medical record data. A modest, yet statistically significant, relationship has been found between stressful events and illness onset in each study.

Stressors

It has been shown that stress causes physical (peptic ulcers), psychological (depression, anxiety), or behavioral (deterioration of work performance) disorders, but what causes stress?

At its most basic level stress is a function of internal and external variables. The internal variables include personality and biographic data; the external variables include on the job factors. It is the combination of these variables which determines whether an individual perceives an event as stressful or not; it is this perception which differentiates a stressor from a stimulus and which determines the nature of the stress reaction and subsequent coping activities (Lazarus and Launier, 1978).

Internal Stressors

Earlier it was pointed out that Dr. Wolff (1968) recognized the importance of understanding the individual as a precursor to understanding the concept of stress. He placed considerable importance on the idea that different stressors will have different meanings for individuals in line with their past experiences. Similarly, Appley and Trumbull (1967) noted that different individuals respond to the same stimulus event in different ways; the context, intensity, and duration of the exposure have differential effects on individuals; and psychophysiological response patterns may be consistent at the intra-individual level. These authors are saying that what is stressful for one person may not be for another, and when two people are under stress, their responses may be quite different in their physiological, psychological, and sociological expression. This latter point finds support in Wolpe's (1973) concept of an individual's characteristic constellation of responses (cited in Kremer and Owen, 1979, p. 40).

The modern theorist who has contributed most along these lines is Lazarus, in his 1966 study, and his joint study with Launier in 1978. While pointing out that both the environment stimulus and the reacting individuals are vital elements, Lazarus emphasized that it is the nature of the relationship between the two which is crucial. Lazarus and Launier (1978) suggested that stress, to be fully understood, must be viewed in terms of a relationship

between external and internal demands made upon or by an individual and the extent to which these demands exceed the resources of that person to cope effectively. If, for example, the appraisal of situational demands is consistent with perceived individual capacities, the event is not viewed as stressful. This suggests an emphasis on a cognitive appraisal component for determining the experience of stress. "Cognitive appraisal is an essentially individually-based affair. The appraisal of threat is not a simple perception of the elements of the situation, but a judgment, an inference, in which the data are assembled into a constellation of ideas and expectations" (Lazarus, 1966: cited in Cooper and Marshall, 1977, p. 6).

Most of the research in this area has focused on personality variables. It may be important at this point to offer a definition of personality. The following definition is quoted from the book Controlling Stress and Tension: A Holistic Approach by Girdano and Everly (1979):

> Personality may be thought of as the summation of the characteristics, attitudes, values, and behavioral patterns that individuals manifest when interacting with their environment. (p. 125)

Five personality traits have been identified in the literature as influencing an individual's response to stress: neurotic anxiety; type 'A' syndrome; locus of control; flexibility; and introversion.

Neurotic anxiety actually is a constellation of traits and dispositions that tend to occur together. Many psychologists and psychiatrists have been concerned with this particular dimension of personality. Viewed as the opposite of emotional stability, neurotic anxiety is usually thought of as a combination of the following traits: excessive and conflicting motivations; low self-concept; emotional instability; and the inability to cope (Cherniss, 1980). Kahn et al. (1964) found that individuals who scored high in neurotic anxiety (as measured by a pencil and paper test) had a sensitivity to stress. Under high-conflict conditions, people who tended to be anxiety-prone experienced the conflict as more intense and reacted to it with greater tension than people who were not anxiety-prone. In other words, they had a lower tolerance than their more stable counterparts to stressful situations. In one of the earliest studies of reaction to stress, Grinker and Spiegel (1945) found that unrealistic, neurotic motivation was a major cause of negative stress reactions in combat fliers. In one of the first papers to refer to burnout in the human services, Freudenberger (1975) found those at risk to burnout were workers who had a strong need to be accepted and liked. Similarly, Pines and Kafry (1978) found that workers who were lower in self-esteem (a neurotic trait) tended to be more dissatisfied with their work and rated their job performance lower than others. Finally, Lazarus and Launier (1978) suggested that an individual's sense of

vulnerability and susceptibility to stress is increased by a belief that a setting is hostile or dangerous, and by feelings of inadequacy (Cherniss, 1980).

Another individual characteristic that makes one more susceptible to stress is the "Type A" personality. According to Friedmen and Rosenman (1974), certain individuals seem prone to a striving, competitive, time-pressured lifestyle, while others are characteristically more calm and relaxed in their approach to life. These authors identified the driven, pressured style as Type A, and the more relaxed, easy-going style as Type B. During a series of impressive research studies by these authors, known as the Western Collaborative Studies, the Type A behavior pattern was shown to precede the development of coronary heart disease in 70 to 85 percent of those tested. These results strongly suggested that Type A individuals experienced more stress related illness, especially coronary heart disease. Type A, then, is not a stress response, but a deeply ingrained personality trait.

Locus of control is a third personality dimension that has been linked to differences in stress reactions. According to Rother (1966), individuals differ in the degree to which they believe they control important sources of reinforcement in their lives. "Internals" tend to believe that they control their destinies. "Externals" believe they are at the mercy of fate or powers beyond their control.

Seligman (1975) suggested that externals are more prone to learned helplessness. Because externals feel they have no control over a situation, they will tend to give up and withdraw when faced with stressful situations. Internals, on the other hand, are less likely to manifest the motivational deficits associated with burnout (Cherniss, 1980).

Flexibility is another personality trait that affects reactions to stress. The flexible person is defined as one who is outer-directed and participative rather than self-oriented, close-minded, and indecisive. The rigid person, on the other hand, is more concerned with authority systems than with the people who surround him. He is decisive, dogmatic, disciplined, and persistent (Frew, 1977). Kahn, et al. (1964) found evidence to suggest that "rigids" and "flexibles" perceived different types of situations as stressful, the former being more susceptible to rush jobs from above (superiors) and dependence on other people, while the latter were more open to influence from other people and thus easily became overloaded; the nature of their approach to work encourages role conflicts. They reacted to role conflict with more manifest anxiety, tension, and worry than did rigid individuals. The rigid person would reject role conflict and get on with the job; also, he tended to withdraw socially and have compulsive work habits. The flexible personality type may make a person more susceptible

to stress than the rigid personality. When stress does occur, however, the flexible person has better adaptive skills.

Another personality dimension which has attracted quite a lot of attention is the extroversion-introversion characteristic. The Kahn (1964) research showed that extroverts appear to be better equipped to deal with stress than introverts, because they tend to see problems and anxieties external to themselves. Kahn and his colleagues found that the withdrawn behavior of the more introverted person may be their way of coping with stress. Introverts and extroverts differ in their reaction to stress. Kahn, et al. (1964) found that introverts experienced more tension in high role conflict situations than did extroverts. Extroverts appear unaffected by stress and introverts withdraw, perhaps impeding effective coping.

The research suggests that a person's personality also has an impact on the level of stress which is manifested by specific individuals. However, this conclusion may be misleading due to methodological weaknesses. Most of the research in this area has focused on personality differences between high and low-stressed individuals and has taken two principal directions: one has concentrated on examining the relationship between various psychometric measures, primarily using the MMPI (Minnesota Multiphasic Personality Inventory) and 16 PF (Catell's 16 Personality Factors scale),

and stress-related disease (primarily coronary heart disease); the other approach was to look at stress-prone behavior patterns and the incidence of disease.

The limitations of these studies is that they are, on balance, retrospective. That is, anxiety and neuroticism may well be reactions to stress-related illnesses rather than precursors of it. As well, the doubtful reliability of psychometric tests also makes their use in casual research less intuitively appealing than that of behavioral measures (Cooper and Marshall, 1977).

Moreover, the evidence presented by Kahn and his colleagues does not support the proposition that certain individuals are stress-proof. In fact, the opposite is probably more accurate. Each of the dimensions discussed previously would appear to be a two-ended continuum, with one end associated with stress-proneness and the other with stress-proofness; the difficulty with the idea of stress-related personality dimensions is that most people do not lie at extreme ends of the continua; rather, personality measures are usually closer to the centers. Also, the various personality dimensions which are associated with the low-stress personality type are not necessarily correlated, which suggests that most of our personalities are composites of relatively stress-free and stress-prone dimensions (Frew, 1977).

The implication for this study, since no measure of personality was taken, was to assume that each person in our sample was subject to various levels of stress based on their complex personality type and to discover what variables, other than their personality, were related to stress.

Biographic characteristics such as age, education, income, and occupation may also contribute to the individual's evaluation of stressful conditions and his response to them. The effects of some of these biographic variables in mediating stressful conditions are fairly obvious: persons with more skills, assets, and resources, and with broader experiences tend to fare better. McGrath (1970) found that people with prior experience with the task, the stressor, and/or the situation attenuated the effects of stress. In general, the more competence the individual has demonstrated in the past, the more likely it is that he will cope adaptively with the current stressor. Lewin (cited in Hall, 1976) recognized that individuals who experienced "psychological success" in a role were more prepared to accept new challenges and were less likely to suffer incapacitating stress when the challenges became difficult.

This might lead one to expect that higher educational levels would be associated with less job stress and burnout. However, the research suggests a different conclusion. Two different studies, Berkeley Planning Associates, (1977) (cited in Cherniss, 1980) and Maslach and Jackson, (1978) found that service providers with post-baccalaureate training

were more likely to experience burnout than were providers with less education.

Occupation as a biographic variable may mediate stress and stress responses. Among those who suffer most, says MacBride (1981), are the people-helpers --- nurses, teachers, social workers and even air traffic controllers. Freudenberger (1975), when reporting on the burnout syndrome, noted that the professional --- whether he be a psychologist, a physician, a nurse, a social worker, a lawyer, or an educator --- needs to be aware of his tendency to over-identify with those for whom he works. In agreement with this was Carroll (1979), who said that human service providers are most susceptible to burnout. While burnout seems to claim an inordinate number of those who provide direct services to clients, it also occurs among administrative staff. Furthermore, as Freudenberger (1975) observed, it is possible for whole organizations to experience burnout. Thus, a wide variety of occupational fields lend themselves to stress.

Age and sex are two other personal characteristics associated with burnout in the research literature. Maslach and Jackson (1978) found that younger workers scored higher on two measures of burnout than did older workers. However, Cichon and Koff (1978), when researching teachers' stress, found that age did not affect the level of stress being experienced by their sample. Yet, McMurray (1982) found teachers in the middle years to be at more risk to burnout.

The effect of sex on stress revealed different underlying patterns; for example, Rudd and Wiseman (1962) concluded from their data that female teachers seemed to be more concerned with day-to-day problems, while male teachers found their frustrations in a wider context. Cherniss (1980), when commenting on the Maslach studies, reported that male and female workers in human service fields may not differ in the amount of stress experienced in the job, but that the stressors may be different. McMurray (1982) suggested from his data, and quoted a study by Kerps and Posthuma (1982) to support the finding, that women seem more vulnerable to stress, or at least to events as they perceive them. Similarly, Pulvermacher (1981), who has done a study of stress in Canadian working women, felt that women were more vulnerable to overextending themselves, which is the first step to burnout. This trend of sex differences for women may be recent, due to the Woman's Liberation Movement. However, Cichon and Koff (1978) failed to find any significant effect from sex differences in their data.

External Stressors

Another broad set of contingencies, or mediating variables, in the stress equation have been referred to as external stressors and include a variety of work situations which affect an individual's reaction to stress. Specifically,

what is referred to in the literature as "occupational and industrial" stressors will be reviewed.

Cherniss (1980), in her book Staff Burnout, gave two reasons and a rationale for considering the organizational and job environment when looking for sources of stress. The first reason she gave was that differences in jobs and organizations probably are more powerful sources of stress (burnout) than are individual differences. Some support for this proposition came from a study of burnout in workers in child abuse programs, a study which assessed the relative contribution to burnout of various factors (Berkley Planning Associates, 1977). These researchers found that "organizational climate variables" such as leadership behaviour and communication were more significant to burnout than individual variables. The second reason for focusing on the job is that ultimately it is easier to reduce the incidence and severity of burnout by intervening at this level. Changing individuals is not easy. For instance, it is easier to reduce "role conflict" (an organizational-level source of stress) than to change an adult's "locus of control" from external to internal (an individual-level source of stress). Interventions at this level are more effective, and have the potential for affecting more individuals with the same resources (Cherniss, 1980).

Earlier, personal variables were operationally defined as "internal factors". External factors are operationally defined here as the residual, non-personal, independent variables which have as referents something or someone other than self (Buck, 1972).

One of the main problems facing research workers in the field of stress is that there is no integrated framework in the area. In the last few years, however, there has been a determined effort by social scientists to consider more systematically the sources of management, industrial, and organizational stress (Cooper and Marshall, 1977). The framework offered here is basically an attempt to integrate the findings of this research. Much of this work will be in the field of managerial stress. However, from an examination of the blue-collar studies, it would appear that most of the factors to be discussed here are applicable to the labor force as a whole. A review of the literature revealed a formidable list of over forty interacting factors which might be sources of managerial stress; those chosen to be dealt with here are drawn from a wide body of theory and research.

An important stressor for managers is work overload. Research into work overload has been given substantial empirical attention. One of the first studies on overload was carried out by Stephen Sales (1969), who studied stress

using as subjects engineers, scientists, and administrators at the National Aeronautics, and Space Administration (NASA). He was intrigued by the frequency with which respondents in his study talked about overload. He then improvised an index of overload from three items from that study -- the amount of pressure felt to do more work, the feeling of not being able to finish one's work in an ordinary day, and the feeling that the amount of work interferes with "how well it gets done". He found that these items correlated 0.60 with job-related tension.

Subsequent studies at Gaddard and Kennedy Space Centers (Caplan, 1971) concentrated on defining overload more explicitly and developed separate measures of quantitative load (a continuum running from "having too little to do" to "having too much to do") and qualitative load (a continuum running from "having work that is too easy to do" to "having work that is too difficult to do").

In a study of 100 young coronary patients, Russek and Sohman (1958) found that 25 percent had been working at two jobs which required (due to work overload) 60 or more hours per week. They added that although prolonged emotional strain preceded the attack in 91 percent of the cases, similar stress was observed in only 20 percent of the controls. Breslow and Buell (1960) also reported findings which support a relationship between hours of work and death from coronary disease. In an investigation of mortality rates of men in California, they observed that

workers in light industry under the age of 45, who are on the job more than 48 hours a week, have twice the risk of death from coronary heart disease compared with similar workers working 40 or less hours a week. Another substantial investigation on quantitative overload was carried out by Margolis, Kroes, and Quinn (1974) on a representative national sample. They found that overload was significantly related to a number of symptoms or indicators of stress, i.e., escapist drinking, absenteeism from work, low motivation to work, and lowered self-esteem. More recent research studies have confirmed the existence of a relationship between quantitative work overload and burnout. For instance, a study of abuse programs found that the size of the case load was strongly correlated with staff burnout rates (when the increase exceeded the staff member's resources) (Cherniss, 1980).

A study of new professionals employed in human services organizations found a relationship between quantitative work load and burnout (Cherniss, 1980). When the most stressed persons were compared with those who were most resistant to burnout, it was found that the typical work loads of the burned-out subjects were much heavier. Similarly, Barad's 1979 study of 845 Social Security Administration workers (again reported in Cherniss, 1980) found a correlation between large case loads and burnout.

The results from these studies are relatively consistent and indicate that the factor of quantitative overload is a potential source of occupational stress that adversely affects both health and job satisfaction.

There is also some evidence that qualitative overload is a source of stress. According to Cherniss's (1980) theoretical framework this qualitative overload creates an imbalance between resources and demands. As she suggested, stress results when there is an imbalance between worker resources, i.e., qualifications and experiences, and the demands of the job; in some instances, the demands of the job exceed worker resources and stress results. In other instances, the worker's resources exceed the demands and the result is boredom.

The distinction between qualitative and quantitative work load was developed in a study by French, Tupper and Mueller (1965). Factor analysis of their results indicated that these were two distinct and separate variables, and that they showed some similar and some disparate effects. Their research used questionnaires, interviews and medical examinations to obtain data on risk factors associated with heart disease for 122 university administrators and professors. They found that one symptom of stress, low self-esteem, was related to work overload but that this was different for the two occupational groupings. Qualitative overload was not significantly linked to stress for administrators, but was significantly correlated for

the professors. The greater the quality of work expected of the professors the more likelihood that stress symptoms would result. However, in this study both qualitative and quantitative overload were related to job tension ($r = .4 + .6$ respectively).

Several other studies reported an association between qualitative work overload and symptoms of stress: a tax deadline for accountants (Freidman, Rosenman, and Carroll, 1958), and medical students performing a medical examination under observation (Dreyfuss and Czackes, 1959). French and Caplan (1973) summarized this research by suggesting that both qualitative and quantitative overload produce at least nine different symptoms of psychological and physical strain. In analyzing this data, however, one cannot ignore the vital interactive relationship of the job and employee; objective work overload, for example, should not be viewed in isolation but relative to the individual's capacities and personality (Cooper and Marshall, 1977).

Another major source of stress which has been pointed out in the literature on occupational stress is a person's role at work. A great deal of research in this area has concentrated on role ambiguity and role conflict, since the seminal investigations of the Survey Research Center of the University of Michigan. These studies were reported in Organizational Stress: Studies in Role Conflict and Ambiguity (Kahn, Wolfe, Quinn, Snolk and Rosenthal, 1964).

Role conflict exists when an individual in a particular work role is torn by conflicting job demands or by having to do things he really does not want to do or does not think are part of the job specifications. French and Caplan (1970) and Shirom et al. (1973) found that mean heart rate (and other physiological measures) for an individual was strongly related to his report of role confliot. Other researchers provided empirical support for this finding; Margolis and Kroes (1974), for example, found that foremen (high role-conflict prone jobs) are seven times as likely to develop ulcers as blue-collar workers.

A special case of this type of role conflict which frequently occurs is "professional - bureaucratic role conflict" (Kramer, 1974; Cherniss, 1980). This conflict occurs when the professional's conception of what the job entails differs from the bureaucratic conception of that job. When this incompatability of role orientation occurs, the person's professional autonomy and self-esteem may be threatened, contributing to stress. The stress associated with professional - bureaucratic role conflict is usually severe because many times autonomy is a motive for choosing a professional career, and bureaucratic interference is unexpected (More and Kohn, 1966; Sarason et al., 1975). This type of role conflict is a significant element for persons during the first part of their career and during the transition from student to professional (Kramer, 1974;

Cherniss, 1980), since conflict over role is usually not anticipated by the beginner.

Role ambiguity was a second major type of role strain identified by Kahn et al. (1964). Role ambiguity occurs 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' expectation of the work role, and about the scope and responsibilities of the job. Thirty-five percent of Kahn's (1964) sample said they were unclear about their responsibilities and were disturbed by the fact. Moreover, the experience of role ambiguity was correlated with job related tension ($r = .5$) and with job dissatisfaction ($r = .3$). In a subsequent study at Kennedy Space Flight Center (French and Caplan, 1973) results relating role ambiguity to stress were reported; investigators found role ambiguity associated with job related threat ($r = .5$) and to anxiety ($r = .3$).

Margolis, Kroes and Quinn (1974) also found a number of significant relationships between symptoms or indications of physical ill health and role ambiguity. The stress indicators related to role ambiguity were depressed mood, lowered self-esteem, life dissatisfaction, job dissatisfaction, low motivation to work, and intention to leave the job. These were not very strong relationships but, nevertheless, were statistically significant and indicated that lack of role clarity may be one among the many potential stressors at work (Cooper and Marshall, 1977).

To summarize, the role structure of the job affects job-related stress through its impact on role conflict and ambiguity. Role conflict and ambiguity make it difficult for workers to adequately meet the demands associated with their jobs. If the worker is not able to reduce the role conflict and ambiguity, then the likelihood of that worker experiencing or perceiving stress increases.

A third set of environmental stressors is related to career development; this refers to the impact of over-promotion, underpromotion, status incongruence, lack of job security, and thwarted ambition. Brook (1973) provided four indepth case studies of individuals showing behavioral disorders as a result of being either overpromoted or underpromoted. In each case the progression of the status disorder was from minor psychological symptoms (episodes of panic for example) to marked psychosomatic complaints and then to mental illness.

Erikson and Gunderson of the U.S. Navy Neuro-psychiatric Unit carried out comprehensive research in the U.S. Navy to assess a facet of career development stress which they term "status congruence", or the more systematic matching of one individual's advancement with his experience and ability. In an earlier study Arthur and Gunderson (1965) found that promotional lag was significantly related to psychiatric illness. Later Erikson, Pugh, and Gunderson (1972) found that Navy personnel experienced greater job

satisfaction when their rates of advancement exceeded (but not excessively) their expectation; dissatisfaction increased as advancement rates were retarded. Those who were least successful with regard to advancement tended to perceive the greatest amounts of stress in their lives (Cooper and Marshall, 1977).

The issue of status congruency (which is a career development issue) has been researched from a sociological perspective, that is, discrepancies between an individual's education and income level, or education and occupational rank, as well as the incongruity between an individual's social status and that of his parents. Rabkin and Struening (1974), who have done an extensive review of life events, stress and illness, noted from a review of the Swedish literature (written in the native language) that while a few of these investigators have failed to find an association between status incongruence and measures of health, several have found such a relationship, using different kinds of samples and measures of health.

Hinkle (1973) and his colleagues analyzed the medical histories of 2600 semiskilled workers who worked for the New York City telephone company continuously for 20 years. The investigators found that healthy workers (fewer than 5 days a year of absence due to illness episodes) were workers whose social background coincided with their present circumstances, whose family, educational and occupational status were consistent. This was not the case for the

frequently ill workers (an average of 50 days a year absent due to health reasons) whose educational or family status was often inappropriately high for the kind of work they were doing.

One may from these and other studies conclude with some degree of confidence that career development may indeed be considered a mediating external stressor for some workers.

Another major source of stress at work has to do with the nature of relationships with one's boss, subordinates, and colleagues. A number of behavioral scientists (Argyris, 1962; Cooper, 1975) have suggested that good relationships between members of a work group are a central factor in individual and organizational health. Nevertheless, very little research has been done in this area to either support or disprove this hypothesis. French and Caplan (1973) defined poor relations as "those which include low trust, low supportiveness, and low interest in listening to and trying to deal with problems that confront the organizational member." The most notable studies in this area are by Kahn et al. (1964), French and Caplan (1970), and Buck (1972). Both Kahn et al. and the French and Caplan studies came to a similar conclusion: that mistrust of persons one works with is positively related to "psychological strain in the form of low job satisfaction and to feelings of job-related threat to one's well being" (cited Cooper and Marshall, 1977, p. 30).

Buck (1972) focused on the attitude and relationship of workers' managers to their immediate boss. He found that those workers who felt that their boss was low on consideration reported feeling more job pressure. Workers who were under pressure felt that the boss played favorites, took advantage of them, and rarely allowed them participation in decision making. Buck concluded that the behavior and interaction with supervisors may contribute to feelings of job pressure.

The kinds of support that staff seek from supervisors may also be provided, or withheld, by their colleagues. The benefits of social interaction and support in alleviating stress have been recognized for some time by researchers interested in stress and burnout. For instance, Caplan et al. (1975) found that depression and somatic complaints were related to perceived low levels of social support from supervisors and others at work. Maslach (1976) observed that staff who are able to meet regularly with others in a "support group" are less likely to burnout. Thus, interaction between supervisors, subordinates, and colleagues represents a potentially important source of support for adaptive coping with work-related stress.

The literature concerning variables that mediate the impact of stressful events on individuals comes from a variety of sources. Some of it represents conventional well-executed laboratory studies with clearly defined, independent and dependent variables. Other studies are

retrospective in design, based on samples of convenience and ad hoc measures of change. However, most of the findings summarized here have been reported by several investigators working independently, with different populations. The results are therefore cumulatively persuasive, and point to five primary sources of stress in the work setting: work overload, role conflict, role ambiguity, career-development, and social interaction among workers. Obviously, these factors interact and are interrelated in important ways. Supervisors and administrators, for example, many times determine the amount of work a worker is expected to do, or whether a worker is promoted or not. Similarly, the influence of role structure on social interaction among staff was discussed. Many other interactions between the various factors could be identified as well.

Thus far, the sources or causes of stress which have been identified include individual differences as sources of stress and organizational or work related sources of stress. A third category of stressors can be identified as off-the-job stressors, or extra-organizational sources of stress.

Other Stressors

Needless to say there are a number of other sources of stress which affect the physical and mental well-being of an individual. Included here are deteriorating relationships at home with one's mate and/or children, neighborhood

problems (e.g., higher real estate taxes, vandalism), high rates of inflation, natural catastrophies, racism, sexism, problems at school, moving to a new area, and loss of people within the individual's social network (e.g., divorce, death).

Despite repeated calls to researchers to acknowledge that the individual "functions as a totality" (Wright, 1975), the practical problems of encompassing the whole person in one research plan usually leave those who try with incomprehensible and complex results. Most studies usually have only one area as the focus of study. Pahl and Pahl (1971), for example, looked at family problems of managers and their wives. Dohrenwood and Dohrenwood (1974) researched life crisis and life satisfaction. The relationship between family work life is a popular area of research (Kane, 1977; Cherniss, 1980; Perlman and Hartman, 1979). One's personal life influences level of stress generally and job stress particularly. Gowler and Legge (1975) found that in general terms, stress may arise over the allocation of resources (i.e., time and commitment) to these two areas of home and work life. Rapoport and Rapoport (1978) studied the stress of dual career families. Marital status and stress have been found to interact; Maslach and Jackson (1978) found that workers who were single or divorced reported feeling more exhaustion from their work than married persons. One cannot say that being married reduced stress, but it does suggest that close, supportive personal relationships do alleviate stress (Cherniss, 1980).

Further evidence for the potential conflict between work and family life came from a study of burnout in police officers by Maslach and Jackson (1978). They found that officers scoring high on a measure of burnout were more likely to want to be alone when they were home and more likely to get angry with spouses. Thus, the stresses and strains of work "spill over" and affect the family (Piotrkowski, 1979). The family's response affects how well the person copes with the stressors. Like personality traits, work overload, role conflict and career development, the quality of one's life outside of the job will influence one's vulnerability to stress and one's ability to cope with or adapt to the stress that occurs.

The review to this point includes a definition of stress, i.e., the nonspecific response of the body to any demand made upon it. This demand, referring to any person, thing or event, became known as a stressor. An individual's personality traits, biographic disposition, occupational environment, and home environment were all discovered to be important variables which interacted in a variety of ways to determine whether any given event (or series of events) operated on that person as a stressor. If the person perceived any event as stressful, then the underlying basic stress reaction is the same -- the GAS. But the

immediate effects were different for different individuals, and for the same individual at different times. From this, one can appreciate the richness and complexity of the interactions and other events which are continuously occurring and the infinite number of potential stressors.

Teacher Stress

The following discussion focuses on the interactions which occur in one occupational environment, namely, the classrooms. The major purpose of this section is to review the phenomenon of teacher stress, and to identify, from the relevant research, the potential stressors confronting specialist and regular classroom teachers. In this section an attempt will be made to show, from a review of relevant literature, that teacher stress does exist, it is prevalent, its consequences are detrimental, and that a more systematic study of the causes of teacher stress is needed.

Teacher Stress Studies

As has been documented in this review, (Selye, 1974; Holmes and Rahe, 1967; Wolff, 1968) emotional and physical diseases are directly related to stress and individual experiences. Similarly, standard medical textbooks routinely acknowledge that anywhere from 50 to 90 percent of diseases are stress-related. Therefore, to answer the question, "Does the phenomenon of teacher stress exist?" one should ask of the teaching population "Is teaching hazardous to your health?" A nationwide survey conducted by Instructor

magazine, found that the majority of 7,000 teachers responded "yes" to this question. Moreover, 87 percent of the respondents indicated that there were "chronic health hazards" stemming from teaching. Another 27 percent felt that they had personally developed "chronic health problems" such as headaches, allergies, hypertension and colds as a result of teaching, while 40 percent said that they took prescription drugs to treat the health problems developed as a result of the hazards of teaching. Even more telling was that 33 percent claimed that most of the sick leave they had taken was related to stress in their schools (Newell, 1979).

A study by the Chicago Teachers Union in 1978 found 56.6 percent of 5,500 respondents claimed physical and/or mental illness as a direct result of their jobs.

More medical insurance claims are being made by teachers than from other professionals. In England, the deaths of male teachers approaching retirement has doubled in the last ten years. The number of teachers qualifying for a breakdown pension has tripled. Results of a recent study indicate that the life expectancy of a teacher is four years lower than the national average (Truch, 1980). In this country over 36 percent of the teachers in the recently conducted Alberta Teacher's Association survey of over 1,000 teachers reported that they had experienced illness which they felt was related to stress in their work during the past two years.

Thus, these indicators suggest that there is such a phenomenon as teacher stress, or at least, there are variables in the teaching environment which are affecting teachers in a stressful manner.

Is stress really a problem for teachers? Bardo (1979) noted a National Education Association (NEA) estimate that 30 percent of American teachers would like to be doing something else and that they are burned out. The National Education Association has passed a resolution encouraging local school authorities "to develop stress management programs that will facilitate the recognition, prevention and treatment of stress related problems" (Swick and Hanley, 1979, p. 36.

In 1962, one-fourth of the teachers in the United States had twenty or more years of teaching experience. However, by 1976, this figure had declined to only one-eighth of all teachers in the United States. A suspected cause of this decline is teacher burnout (Walsh, 1979).

A recent opinion poll of teachers revealed that only 6 out of 10 teachers planned to continue careers in teaching until retirement (McGuire, 1979). A Geneva-United Nations agency reported in a study that a growing number of the youngest and brightest teachers are dropping out of the profession because of stress inside and outside the classroom (cited Daily News, 1981).

Between 20 and 30 percent of teachers in comprehensive schools experienced a great deal of occupational

stress, a major research project has revealed. The finding has been reported by Kyriacou (1978), who has conducted four surveys into teacher stress during the past three years. Similarly, in 1976, Dunham drew attention to the prevalence of stress among school teachers. In a survey that included reports from 658 school teachers, he concluded that more teachers are experiencing stress, and that severe stress is being experienced by more teachers. Teacher stress, then, was a real phenomenon for the majority of teachers who were surveyed.

Why Study Teacher Stress?

Why study teacher stress? Looking at the consequences of teacher stress may help answer this question. Dr. Alfred Bloch and Dr. Christine Maslach (cited in Walsh, 1979) have identified a number of conditions characteristic of burnout or its effects: (a) reaction of the nervous system to stress, leading to a variety of physical diseases; (b) a disruption of personal or professional life as a result of occupational stress; (c) destructive feelings of emotional stress as a result of occupational stress; (d) loss of concern and detachment from those with whom you work; and (e) a cynical and dehumanized perception of students, accompanied by a deterioration of the quality of teaching.

Anger, fear, and frustration are frequent responses leading to such behavior reactions as absenteeism, alcoholism, and abandonment of the profession (Maslach and Pines, 1977; Dunham, 1976; Payne, 1974). The list of physical ailments

ascribed to school stress range from ulcers to depression, headaches, heart disease, hypertension, and stomach problems (Dunham, 1976; Wilson, 1979; Cichon and Koff, 1978; Kyriacou and Sutcliffe, 1978).

Unfortunately, the problems of teacher burnout are not self-contained; rather, burnout extends beyond the teacher by also affecting students. In their review of research on teacher anxiety, Coates and Thoresen (1976) suggested that anxiety in the teacher may become detrimental both to the teachers and students. For example, Doyle and Forsyth (1973) found a positive correlation between teacher anxiety and students' test anxiety.

Because of their potential for shaping lives, it is essential that only mentally healthy persons be allowed in the classroom as teachers. Though certainly the majority of teachers fit the "mentally healthy" category, a recent investigation by Ester Rothman (1977) suggested that there are teachers who are mentally ill, disturbed and incompetent who should not be teaching children.

> Teaching is a field pervaded by emotion. The dynamic environment of the classroom is filled with many latent possibilities. Each student represents a unique combination of complex feelings and ideas which may surface, lie dormant, or explode during the course of a day. The teacher must be able to respond to each student and handle each situation in such a way as to allow minimum disruption and provide maximum learning. The "total" child is the teacher's responsibility--and what an overwhelming responsibility this is! (Machiel, 1979, p. 307).

While it is claimed more and more frequently that teachers in general and special educators in particular are burning out on the job, at present no data exist on exactly how many educators burn out every year, or more drastically, how many continue to teach while burned out.

The cost of stress and burnout are real, and they constitute a definite threat to the well-being of education. Medical care costs of stress - related illness, compounded by the educational costs of absenteeism and decreased teacher effectiveness, are staggering (Holland, 1982). The ultimate effect of stress is that the teachers withdraw from the profession.

Teacher burnout must have a debilitating effect on the process of education, the teacher's personal health, and the delivery of services to students.

Sources of Teacher Stress

A prior understanding of potential sources of stress increases the professional's ability to cope with stress both personally (McLean, 1974) and through changing the organization. Moreover, identifying the major sources of stress should help one understand the consequences of stress. It may prove useful to define these causes as the researchers in the field of occupational stress have done.

Cooper and Marshall (1976) reported that occupational stress results from a combination of several agents. They stated that there are different sources of stress:

(1) the dimensions or characteristics of the person,
(2) stress in the work environment (i.e, work overload, poor relationships at work, physical dangers, etc., and
(3) extra-organizational sources of stress (i.e., family problems, life crises, financial difficulties, etc.) (pp. 11-12)

One source from the work environment which has received empirical attention from the industrial literature has been called work overload (French and Caplan, 1973; Margolis et al., 1974; Barad, 1979; Cherniss, 1980). Work overload can either be quantitative, which refers to work which is too much, or qualitative, which refers to work which is too difficult to do because the workers lack experience or qualifications. If quantitative overload (too much in volume) is considered, such areas in teaching as size of class, time pressures, and having other duties beside teaching emerge.

McLaughlin and Shea (1960) investigated teachers' job dissatisfactions among 348 elementary and 445 secondary school teachers in California. Most of the data were collected at a series of meeting with teachers. The teachers were asked to list all items of dissatisfaction which they considered hindrances in performing their daily tasks. Sixty-seven items of teacher dissatisfaction were obtained. McLaughlin and Shea reported that the main source of stress for secondary school teachers was teacher-pupil relations, while elementary school teachers were more concerned with the area of overload.

Rudd and Wiseman (1962) conducted a survey of 590 teachers in the United Kingdom, in schools ranging from infant schools to further education establishments. By means of a postal questionnaire the teachers were asked to list their chief sources of professional dissatisfaction. Rudd and Wiseman reported that in their sample the main sources of dissatisfaction related to quantitative overload, including "teaching load", "large classes" and "more time needed".

Lortie (1975), in a study of 94 teachers in elementary and secondary schools in New England, found that the main areas of complaint reported by the teachers were "clerical duties" and "time pressures".

Olander and Farrell (1979) reported the results of a questionnaire asking teachers to rate 126 "problems" in teaching according to their perceived "degree of difficulty". Nine hundred sixty-seven elementary teachers responded. Three of the most difficult problems identified by the questionnaire related to quantitative overload and included: (a) finding time for individual and remedial work; (b) working without benefit of a daily preparation period; (c) and finding time for creative teaching.

Cichon and Koff (1978), using a technique pioneered by Holmes and Rahe in 1967, developed a Teaching Stress Events Inventory. The Inventory, derived from a sample of 4,934 teachers, ranked 36 major teaching events in order of their degree of stress. Overcrowded classrooms was one of the events which was found to be most stressful for teachers.

Similarly, one of the factors found to be problematic for teachers in the Needle, Griffin and Svendsen (1981) study was overcrowded classrooms. This study involved a postal questionnaire to a 5% random sample of Minnesota public school teachers (n = 937).

Wilson (1979) found Time Management was the highest ranked stressor for his sample and was 1.5 points ahead of the number two ranked stressor. Wilson's results were based on a population of one hundred and fifty-one teachers in a suburban school district in San Diego County, California. The participation involved filling out a 36-question stress profile questionnaire known as the Wilson Stress Profile for Teachers (WSPT).

Another type of work overload includes work which is too difficult, i.e., qualitative. For teachers this may include poor professional training, teaching assignment not consistent with qualifications, and working with special students. Campell and Williamson (1974) reported teaching command over subject matter as a source of stress for teachers in their sample. Rudd and Wiseman (1962) reported teacher training as a main source of teacher dissatisfaction. Reed (1979) reported inadequate professional training to be a major cause of teacher stress and burnout. Teaching physically and mentally handicapped children and placement of special needs students were reported as stressful by Cichon and Koff (1978) and Kyriacou and Sutcliffe (1978).

Another major source of stress which has been pointed out in the literature on occupational stress was a person's role at work. A great deal of the research in this area has concentrated on role conflict and role ambiguity (French and Caplan, 1970; Shiram et al., 1973; Margolis and Kroes, 1974; and Cherniss, 1980). Kremer and Owen (1979) indicated that a source of stress for counselors was role ambiguity, i.e., conflict between counselor's expectations for change and client's actual progress as viewed by an evaluator.

Teaching groups of too wide an ability, a change in work responsibilities, reorganization of program and increased responsibilities are associated with role ambiguity in the teaching profession. Studies which support this position include Young (1978), Kyriacou and Sutcliffe (1978), and Cichon and Koff (1978).

Role conflict occurs when a person is required to carry out more than one role in the same situation. In a study of teachers in Alberta (1980) (cited in the Manitoba study) being required to make frequent role changes (e.g., nurse, social worker, librarian, music teacher) was perceived by teachers as causing severe stress. Roth (1967) investigated the relationship between role conflict and stress among secondary school teachers and found that perceived role expectations (high role conflict) was positively related to positional stress. This finding was supported by Price (1970) and Dunham (1976).

Another environmental factor which has been reported in the industrial literature on stress relates to career development (Wan, 1971; Erikson et al., 1972; and Brook, 1973). In the literature on teacher stress, Cichon and Koff (1978) found denial of promotion or advancement to be a source of stress. Kyriacou and Sutcliffe (1978) found that teachers perceived poor career structure, poor promotional opportunities, and inadequate salary as stressful. In New Zealand and NZEI (1978) (cited in Chinnery, 1979) lack of tenure and low salary were reasons given by the teaching population as to why they were feeling stress. There appears, then, to be similar events in both the teaching profession and other occupations identified as causing stress.

Besides events which are intrinsic to the job, what are the other possible sources of stress? Reviewing the literature on stress in other occupations, individual differences, including personality and biographic aspects, were found to contribute to stress and were reported to be a major cause or source of stress (Wolff, 1968; Appley and Trumbull, 1967; Lazarus, 1966, 1971; and Lazarus and Launier, 1978). It has been documented in the literature that individual variables interact with environmental variables to determine type and level of stress perceived.

Several personality dimensions have been identified as influencing stress. One is known as neurotic anxiety (Kahn et al., 1964; Freudenberger, 1975; and Pines and Kefry, 1978). In the teaching stress literature little has been

done on the personality of teachers, but Fuller (1969) showed concerns with self and adequacy as a source of anxiety (stress) among teachers. Similarly, Kyriacou (1980) found that the typical situations that most teachers would regard as stressful are those which involve them in some way as failing to achieve and which attack their self-esteem (both are traits of a neurotic anxious personality).

The Type A personality has been shown to be susceptible to stress. Friedman and Rosenman (1974) identified two opposite personality types, Type A and Type B. Type A people are seemingly under constant stress. They are aggressive, competitive, and impatient to achieve more in less and less time. Type B are people who are more relaxed, free from hostility and competitiveness, and less prone to stress. Sylvester (1977) asked the teachers in Instructor magazine, "which type are you?". There were no definitive studies, however, which indicated that teachers fall into one classification or another.

Rotter (1966), Seligman (1975) and Cherniss (1980) found locus of control as being a personality trait associated with stress in other occupations. It is important to good health and effective teaching that an individual feels "in control". Numerous researchers have linked "internality" with healthy personality characteristics, i.e., less anxious, more self-confident and willing to remedy personal problems. Almost all researchers who study stress cite evidence showing that feelings of alienation, job dissatisfaction, high

absenteeism and other symptoms of stress stem from a feeling of external locus of control, and lack of say in decision making. One study showed that Alberta teachers ranked the item "implementing policies with which I disagree" in the top ten of all stressors. Kyriacou and Sutcliffe (1978), in their study of the sources of stress in comprehensive schools in England, reported that the teachers found lack of participation in decision making one of the main sources of stress. Cichon and Koff (1978) also found lack of control as a source of stress for teachers. Personality of an individual may play a significant role in an individual's perceived level of stress; however, the role personality plays in teacher's experiencing stress has yet to be determined.

Biographic data, individual specific variables, has been documented by researchers in industrial stress to contribute to stress (Greenwood and Greenwood, 1979; McLean, 1976; Pulvermacher, 1981). However, this has not been supported in the teacher stress literature. Kyriacou and Sutcliffe (1978) found little association between stress and biographic differences. Wilson (1979) and Cichon and Koff (1978) reported that sex, marital status, age, race, level of school, and school size had no significant effect on the degree of stress reported by their samples.

It is difficult to come to any definite conclusions about causes of teacher stress, since many of the studies reviewed here have conceptualized teacher stress in different

ways. Some of the studies reviewed were investigations of job dissatisfaction (McLaughlin and Shea, 1960; Rudd and Wiseman, 1962; Payne, 1974); Lortie (1975) investigated "areas of complaint" and associated this with stress, while Gier (1970) used an inventory of attitudes toward student teaching to measure stress. Many times these researchers came to similar conclusions about the level of stress being experienced by their populations, but can one really generalize these measures of job dissatisfaction and area of complaint to stress?

Many of the researchers in this area used a variety of instruments to identify stressors and measure levels of stress (i.e., The Maslach Burnout Inventory (MBI), Maslach and Jackson, 1978; The Social Readjustment Rating Scale (Holmes and Rahe, 1967; School Events-Survey, Young, 1980; Teaching Stress Events Inventory, Cichon and Koff, 1978; Wilson Stress Profile for Teachers (WSPT), Wilson, 1979). However, how many of these scales have been tested for reliability and content validity?

Research has also focused on "particular sources of stress" for teachers, notably where reorganization has involved readjustment for experienced teachers (Dunham, 1976); for example, the introduction of mixed ability teaching (Kelly, 1974), or teaching in a large comprehensive school (Hinton, 1974). Attention has also been paid to the general working conditions of teachers (Payne, 1974) and the problems of dealing with difficult pupils (Caspari,

1976; Lowenstein, 1975). Some of these studies have very limited, narrow conclusions.

Although several studies have been reported that investigated teachers' stress, many focused on specific groups of teachers. Student teachers (Gier, 1970; Coates and Thoresen, 1976) and probationary teachers (Gough, 1974; Taylor and Dale, 1971) have received particular attention. The problems facing heads of departments (Marland, 1971) and principals (Reed, 1979) have also been investigated. Therefore, generalizing from those studies to specialist teachers does not seem valid.

As well, many of these studies were not carried out in Canada; many were carried out in the United States (Cichon and Koff, 1978; Wilson, 1979; Needle, Griffin and Svendsen, 1981); or the United Kingdom (Kyriacou and Sutcliffe's, 1978; Rudd and Wiseman, 1962; and McLaughlin and Shea, 1960). It should be noted, as well, that studies conducted in other countries have only limited applicability to teachers in Canada, and specifically Newfoundland and Labrador. Moreover, generalizing the results carried out in large urban centers (Minnesota, Needle, Griffin and Svendsen, 1981; California, Wilson, 1979; Chicago, Cichon and Koff, 1978) may not be a valid procedure for Newfoundland and Labrador.

Stress Among Specialists

The following is a brief review of the literature dealing with stress among specialist teachers. In an

article by Kremer and Owen (1979) the authors review studies of stress and teacher stress in general, discuss the sources of stress for counselors, and suggest ways to manage stress. Unfortunately, the article does not discuss stress among counselors more specifically.

Foster (1980) discussed how teachers of severely handicapped autistic children too often burn out after a brief career. After a discussion of the stressors which may be unique to teachers of handicapped children, Foster reviews the stages these teachers go through before burning out and presents a strategy of personal growth as a preventative measure against burning out for these specialists.

Weiskopf (1980) attempts to review the literature on burnout among teachers of exceptional children. However, she explains that most of the literature refers to burnout of persons in the "helping" professions, and thus for the purposes of her article, teaching is considered a helping profession. Weiskopf concludes from her review that research regarding burnout among teachers in general and specialists in particular is limited, that precise data are not available. The author feels that special educators may be subjected to additional emotional stressors than regular teachers; however, further research is needed.

More recently, McMurray (1982) reported on a study he conducted measuring teachers' attitudes toward stress-related events. McMurray used a 67-item questionnaire to examine perceptions of regular and special education trained

teachers in elementary schools of 5 Canadian Provinces. The data from the study neither confirmed nor denied the existence of teacher burnout. However the study did identify teaching events which were different for teachers with different training, i.e., regular versus special education.

These studies represent the available literature on stress and the specialist teacher. The deficit in the literature on specialist teachers is apparent. Relevant to the present research is that the literature is void of any studies which used "specialists" as they are defined for this study. Moreover, the majority of the reported literature is based on commentaries and personal opinions rather than scientific research and survey studies. Therefore, the present study does not have any comparison group in terms of its sample population, i.e., specialist teachers in Newfoundland and Labrador with its mainly rural communities.

The next chapter will describe the methods and procedures used in carrying out this study.

CHAPTER III

METHODOLOGY

Introduction

The present chapter will describe the instrumentation used for the study, the sampling procedure and nature of the sample. A statement of the research procedures will also be reported, as well as the statistical procedures which were used to analyze the data.

Instrumentation

The instrument used to gather data for this study was divided into three parts. Part I, General Information Inventory, contained multiple choice questions which obtained biographical information: sex, age, teaching experience, academic qualifications, type and size of school in which the respondent worked, class size, teaching assignment, and number of sick days taken. This part of the questionnaire was constructed from a review of the appropriate literature, with input from the author and her consultants. The form which was adapted for this paper followed a pre-test with former teachers, and revisions based on their recommendations.

Part II was the Wilson Stress Profile for Teachers (WSPT). This questionnaire was constructed by Dr. Christopher Wilson, who published it in 1979. Permission to use the instrument was granted by Dr. Wilson via correspondence, dated September, 1981.

The WSPT measures through self-report, perceived stress in nine major categories (36 stressors in total) related to teaching, and provides an overall level of stress as well. The major stress categories measured are: Student Behavior; Employee/Administrator Relations; Teacher/Teacher Relations; Parent/Teacher Relations; Time Management; Intrapersonal Conflicts; Physical Symptoms; Psychological/ Emotional Symptoms; and Stress Management Techniques. A score for each stressor is obtained, using a Likert scale, indicating how often the source of stress occurred; each score is then added to derive an overall stress score and category scores, which are indicative of perceived level of stress being experienced by the respondent. The writer deemed the WSPT to be applicable to the population under the study, in terms of the nature of the stressors. A scale used in other studies of teacher stress, i.e., The Teacher Stress Inventory, included stressors which are not relevant for the local populations (e.g., stressors related to cultural and racial issues). Furthermore, the WSPT has been shown to be an adequate measure of stress among teachers from previous administrations (Wilson, 1979; Kendell and Thorburn, 1982). In particular, the Kendell and Thorburn

(1982) study, completed locally, indicated that the items on this scale were applicable and therefore useable for identifying sources of stress for the local teaching population. The 1979 Wilson study included reliability and construct validity information on the WSPT. The reliability was assessed by examining pre and post stress scores for the teachers in the sample. A Spearman's Rho was calculated, resulting in a correlation coefficient of 0.68. This was considered significant at the 0.01 level of confidence; thus, the WSPT was considered to be highly reliable across administrations. The construct validity of the instrument was measured by correlating pre-WSPT scores with scores on the State Trait Anxiety Index (STAI) for each member of the sample. The Spearman Rho resulted in a coefficient which was significant at the 0.01 level of confidence. Therefore, the WSPT was considered to have sufficient construct validity and reliability to warrant its use in the identification of perceived sources of stress among and between the specialist teachers in the present population.

Part III, The Local Scale, of the questionnaire consisted of ten supplementary items which were regarded by the researcher and her consultants to be sources of stress which were not included in the WSPT, but which were considered unique potential stressors for the participants in this study. The supplement is referred to in this study as the "Local Scale", (see Appendix B) and was used for the first time in this study; it has a format which is consistent with that of the

WSPT. The Local Scale was developed by reviewing appropriate literature on stressful areas of teaching, and noting which events other authors found stressful for their population of teachers which were not included in Wilson's scale, as well as discerning stressful events which may be unique to the local population. Again, the Local Scale was pretested with a local group of former teachers. The Local Scale was finalized when recommendations from the pre-test were made.

Sampling Procedure and Nature of the Sample

The sampling procedure attempted, by a stratified random method, to produce a sample which would be representative of specialist teachers in the province. Approximately ten percent of all teachers in this province were surveyed, including teachers from all 35 school boards, and from three of the four special education schools. However, the sample for this study included only those teachers who were considered "specialists", as defined in Chapter I.

The total number of teachers in each school board was calculated; then, the schools in each board were classified either as primary, elementary, high or multi-level, according to level taught. The schools, from which the sample was chosen, were randomly selected within each board such that the sample population of teachers would represent each school level and each board in the same proportion as that board contributed to the total population. As well, teachers from the special education schools; Pine Grove, Virginia Waters,

and the Newfoundland School for the Deaf were selected to participate.

Approximately 1350 questionnaires were sent out; of the returns 800 were deemed useable. Approximately 200 of the non-useable questionnaires were accounted for in one of the following ways: (1) they never reached their destination due to distribution and mailing problems, (2) the questionnaires were delivered to the wrong school, (3) of those returned some were filled out inappropriately and (4) some lacked the information necessary for inclusion in the analyses. Therefore, the possible sample population was reduced to 1150; seventy (70) percent of this sample returned useable questionnaires. Of the 800 useable questionnaires, 210 were from specialist teachers as defined for this study, which is thirty (30) percent of the total returned. It was this sample (210) of specialist teachers that was the focus of this study; the remainder of the sample consisted of regular classroom teachers and were used in an accompanying study carried out by Kendell (1982). Table 1 gives, for each specialist group, the total number in the population, the number in the sample and the percentage of the population represented by the sample.

Table 1

Percent and Number of Specialist Teachers in Each Specialist Group

Specialist Area	Total in Population	Number in Sample	Number in Sample Represented in Percentage
1. *Special Ed.	895	100	11.2
2. Remedial Read.	50	12	24.0
3. Counselor	81	9	11.1
4. Music	178	15	8.4
5. Phys. Ed.	285	41	14.0
6. Librarian	108	14	12.9
7. Home Econ.	54	13	24.1
8. Indust. Arts	42	6	14.8

*Special Ed. includes those from specialist schools.

Statement of Procedures

This study was conducted in the Province of Newfoundland and Labrador with specialist teachers who worked in the classrooms across the province.

One of the first steps in conducting this research was to request the co-operation and support of the Newfoundland Teachers Association (NTA). The Association's support and co-operation was granted in September, 1981 (see letters of correspondence, Appendix A).

Next, the approval to use the stress scale was requested from its developer, Dr. C. Wilson; this approval was granted on September 8, 1981 (see correspondence, Appendix A). A letter was then sent to the Supervisors/Superintendents of the 35 school boards informing them of the nature and purpose of the research project, since the sample included teachers from all school boards across the province (see Appendix A). A second letter was sent to all school Superintendents requesting information on the number of specialists (as defined for the study) who worked for each board (Appendix A). After the stratified random sample had been selected, another letter was sent informing Superintendents which schools in their board had been selected to participate in the study (see Appendix A). The names and addresses for each school were obtained from The Directory of School Boards, 1982.

Distribution and collection of the questionnaires were carried out by NTA branch representatives, unless direct

school mailing (due to isolation of community) was a more feasible route. This distribution, which began in April, 1982, involved providing each NTA branch representative with the appropriate number of questionnaires, and covering explanatory letters, for each respondent as well as an explanatory letter for each NTA school representative, including a return address for completed surveys (see Appendix A).

Follow-up, which began in May, 1982, was carried out by a means of a letter and/or phone call to each school which had not, up to that date, returned its questionnaires. The last week in June, 1982 was the cut-off date for accepting questionnaires for inclusion in the study.

Analysis Procedures

The following procedures were used to help answer the research questions in Chapter I.

1. Questions 1A, 2A, 3A, 8A and 9A were answered using descriptive statistical analyses.
2. Questions 1B, 2B, 3B, 8B, and 9B were answered by performing an analysis of variance (ANOVA); an *a posteoriori* contrast test (Student Newman Keuls) was also carried out on the data.
3. Questions 4, 5, 6 and 7 were answered by a ranking procedure, which involved a comparison of means and a distribution of these means from highest to lowest.

4. Question 10 was answered with a two-tailed t-test for independent samples.
5. Questions 11 and 12 were answered by performing Pearson Product-Moment Correlations; two-tailed tests of statistical significance were also performed.

This chapter has described the methodology used in the study; the next chapter will present, analyze and interpret the results of the survey.

CHAPTER IV

PRESENTATION, ANALYSIS AND INTERPRETATION OF RESULTS

Introduction

The purpose of this chapter is to present the results of the analysis of the data gathered on the perceived levels of stress and stressors of specialist teachers in the province of Newfoundland and Labrador. The tables which follow present the results in both descriptive and inferential modes, including means, standard deviations, rank order, f-ratios, Pearson-product-moment correlations, and t-tests for independent samples. Figures are used as visual aids to present significant findings. The Statistical Package for Social Scientific Research (SPSS) was used to analyze the data.

Reported Mean Stress Levels

Mean total stress scores, as measured by the WSPT and Local Scale for each specialist category, are presented in Table 2. The difference between the highest mean stress score (remedial reading teachers $\bar{X}$ = 100.67, a high/moderate score) and the lowest mean stress score (music teachers $\bar{X}$ = 81.67, a low/moderate score) as measured by the WSPT is 19 points. The difference between the highest mean stress score (remedial reading teachers $\bar{X}$ = 31.33) and the lowest mean stress score (physical education teachers, $\bar{X}$ = 23.78) as measured by the Local Scale is 7.55 points. These

Table 2

Mean Total Stress Scores By Specialist Category as Measured By the WSPT and the Local Scale

Specialist Area	WSPT			Local Scale		
	N	$\bar{X}$	S.D.	N	$\bar{X}$	S.D.
Special Educators	100	87.40	16.83	100	26.06	11.73
Counselors	13	91.77	16.46	13	24.69	5.12
Remedial Reading Specialist	9	100.67	21.17	9	31.33	10.04
Music Teachers	15	81.67	16.94	15	24.53	5.71
Physical Education Specialist	41	82.85	16.89	41	23.78	5.49
Librarians	14	89.86	20.31	14	24.36	5.36
Home Economics Specialist	13	91.08	20.54	13	27.54	5.43
Industrial Arts Specialist	6	91.83	9.79	6	26.50	5.32
Total	211	87.46	17.56	211	25.64	9.22

differences were not found to be statistically significant from an analysis of variance and Student Newman-Keuls' procedure (see Table 3).

Figures 1 and 2 present historgrams of the relationship between the mean total stress levels, as measured by the WSPT and the Local Scale, and each of the eight specialist groups. As previously stated the differences between these means are not significant; but from the figures it appears that remedial reading teachers perceived higher amounts of stress. However, this finding needs further investigation.

Several investigators found role ambiguity to be a source of teacher stress; these include Kremer and Owen (1979), Young (1978), Kyriacou and Sutcliffe (1978) and Cichon and Koff (1978). Similarity, qualitative and quantitative work overload may cause remedial reading specialists to experience more stress than other specialists. McLaughlin and Shea (1960), Rudd and Wiseman (1962), Lortie (1975) and Needle, Griffin and Svendsen (1981) found quantitative overload to be a source of reported teacher stress. Campbell and Williamson (1974) and Reed (1979) reported inadequate professional training, i.e., qualitative work overload, to be a cause of teacher stress and burnout. The finding that there were no significant total stress differences among the different specialty areas is supported

Table 3

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

Analysis of Variance

Source	D.F.	M.S.	F. Ratio	D.F.	M.S.	F. Ratio
Between Groups	7	507.19	1.68	7	79.36	0.933
Within Groups	203	301.45		203	85.10	
Total	210			210		

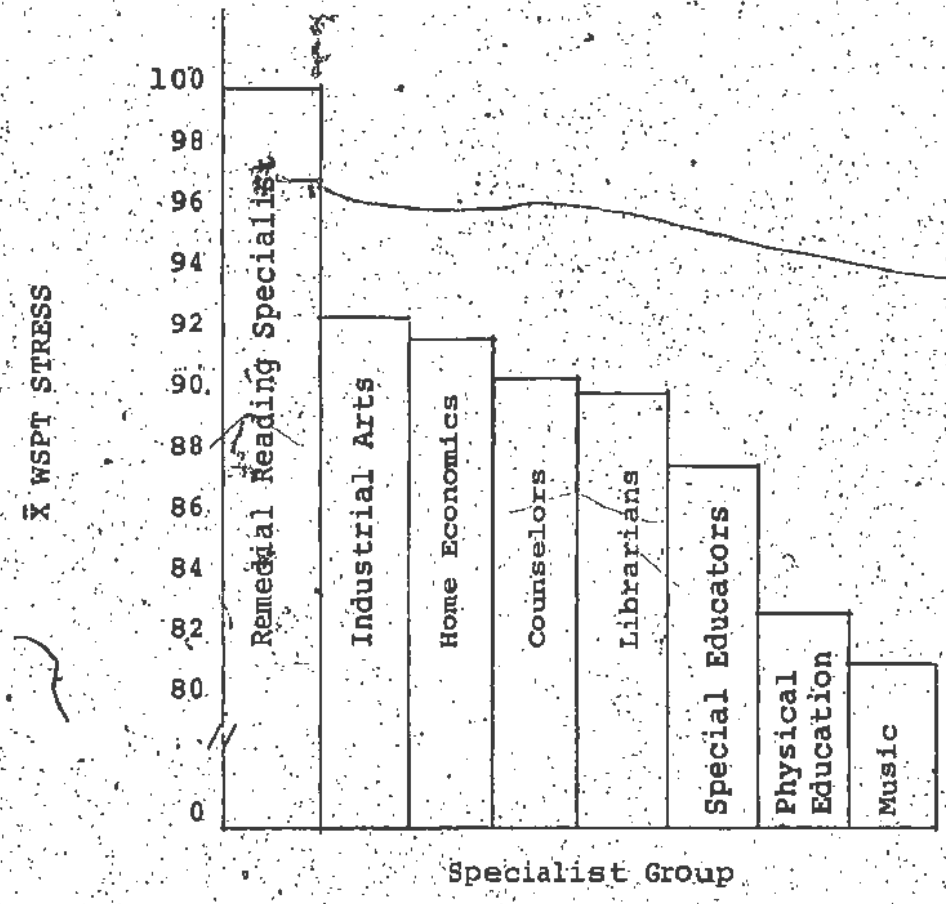


Figure 1. Mean Level Total Stress For Each Specialist Group on the WSPT

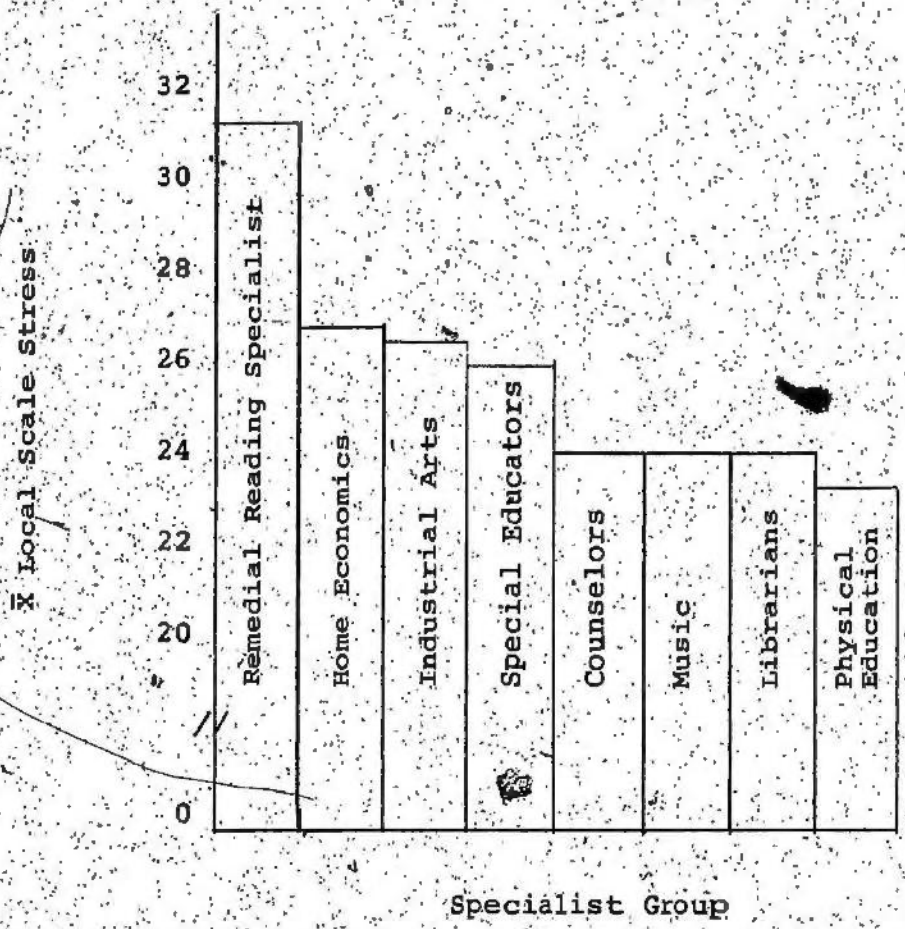


Figure 2. Mean Level Total Stress for each Specialist Group, on the Local Scale

by Wilson (1979), who did not find a statistically significant difference between mean total stress scores and teacher category.

Mean Scores and Rank of Major Stressors of the WSPT

The items of the WSPT are subdivided into nine categories; these include: Student Behavior (SB); Employee/Administrator Relations (EAR); Teacher/Teacher Relations (TTR); Parent/Teacher Relations (PTR); Time Management (TIME); Intrapersonal Conflicts (IPC); Physical Symptoms of Stress (PSS); Psychological/Emotional Symptoms of Stress (PESS); and Stress Management Techniques (SMT). Table 4 presents the mean scores and ranks for these nine categories of the WSPT for each specialist group. Time management had a rank of 1 (most successful) for six of the eight specialist groups, and a rank of 2 for the other two specialist groups. Parent/Teacher Relations and Intrapersonal Conflicts were also reported by the specialists as stressful; these two categories had a ranking of 2 or 3 for most of the specialist groups. The mean stress scores for these three categories (TIME, PTR and IPC) for all groups of specialists fell within the moderate range of stress levels. The Employee/Administrator Relations

Table 4

Mean Scores and Ranks for Each of the Nine Categories of the WSPT for Each Specialist Group

Categories	GROUP MEANS: Special Education	Counselor	Remedial Reading	Music	Physical Education	Librarian	Home Economics	Industrial Arts
Student Behavior (STUBE)	10.49 (4)	10.31 (5)	11.89 (5)	10.27 (3)	10.61 (2)	11.21 (3)	11.77 (2)	10.00 (7)
Employee/Administrator Relations (EMAD)	6.35 (9)	5.92 (9)	6.55 (9)	4.80 (7)	5.73 (9)	6.07 (9)	7.08 (8)	7.00 (8)
Teacher/Teacher Relations (TTREL)	7.21 (8)	8.15 (8)	6.89 (8)	6.40 (6)	7.34 (8)	7.57 (8)	6.23 (9)	6.83 (9)
Parent/Teacher Relations (PTREL)	11.86 (1)	11.69 (3)	14.78 (1)	10.27 (3)	10.49 (4)	9.36 (6)	10.69 (6)	11.50 (2)
Time Management (TIME)	10.80 (2)	13.31 (1)	13.78 (2)	10.80 (1)	11.10 (1)	13.64 (1)	12.15 (1)	13.17 (1)
Intrapersonal Conflicts (IPC)	10.74 (3)	12.23 (2)	12.55 (3)	10.53 (2)	10.51 (3)	12.43 (2)	11.15 (4)	11.33 (3)
Physical Symptoms of Stress (PSS)	10.42 (5)	10.38 (4)	11.33 (6)	10.00 (4)	9.44 (5)	10.57 (4)	11.69 (3)	11.17 (4)
Psychological/Emotional Symptoms of Stress (PSYCH)	10.23 (6)	9.84 (7)	12.33 (4)	10.53 (2)	9.41 (6)	9.00 (7)	10.85 (5)	10.50 (5)
Stress Management Techniques (SMT)	9.30 (7)	9.92 (6)	10.56 (7)	8.07 (5)	8.22 (7)	10.00 (5)	9.46 (7)	10.33 (6)

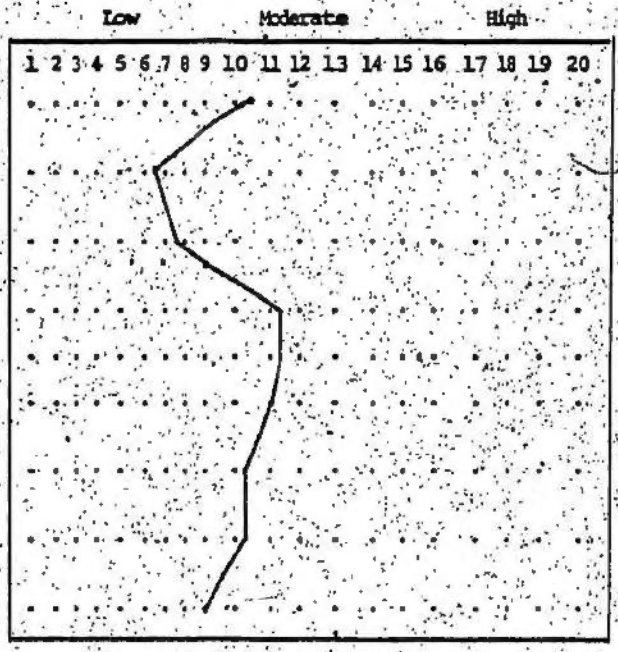
(EAR) category was perceived as least stressful for specialists; the mean stress level score for this category fell within the low range of stress levels.

Figure 3 presents a graphic relationship between the nine categories of the WSPT and the mean stress levels for each category as reported by the total number of specialist teachers. It can be seen that when the means for each category are plotted, the reported level of stress for specialist teachers ranges from the low to moderate ranges of perceived stress. Two of the categories (EAR, TTR) fell into the low stress level range, while the other seven categories fell into the moderate stress level range.

Table 5 presents an analysis of the variation in the reported mean stress for each of the nine categories of the WSPT for specialist teachers. There is a significant difference ($f = 4.32$, $p < .01$; $f = 3.41$, $p < .01$) for the two categories PTR and TIME. The finding that Time Management is perceived as significantly more stressful for specialists in this province is supported by results of studies previously reported in the review of related literature. Olander and Farrell (1979, Lortie (1975), Cichon and Koff (1978) and Wilson (1979) found that Time

STRESS PROFILE SCORES

	Score
Student Behavior	10.66
Employee/Administrator Relations	6.15
Teacher/Teacher Relations	7.18
Parent/Teacher Relations	11.35
Time Management	11.48
Intrapersonal Conflicts	11.00
Physical Symptoms of Stress	10.35
Psychological/Emotional Symptoms of Stress	10.35
Stress Management Techniques	9.18
Total Overall Score	87.46



Low ____ Moderate 87.46 High ____

36 - 72 73 - 108 109 - 180

Figure 3: Stress Profile Scores For Specialist Teachers

Table 5

Analysis of the Reported Mean Stress for
Each of the Nine Categories of the HSPT
for Specialist Teachers

Analysis of Variance

	STUBE			EMAD			TTREL			PTREL		
	D.F.	M.S.	F	D.F.	M.S.	F	D.F.	M.S.	F	D.F.	M.S.	F
Between Groups	7	6.20	1.06	7	8.04	1.23	7	5.42	0.90	7	34.67	4.32**
Within Groups	203	5.87		203	6.51		203	5.99		203	8.02	
Total	210			210			210			210		

	TIME			IPC			PSS			PSYCH			SMT		
	D.F.	M.S.	F	D.F.	M.S.	F	D.F.	M.S.	F	D.F.	M.S.	F			
Between Groups	7	34.08	3.41**	7	12.97	1.48	7	10.45	100	7	13.50	1.58	7	14.35	1.56
Within Groups	203	9.97		203	8.71		203	10.45		203	8.53		203	9.18	
Total	210			210			210			210			210		

** $p < .01$

Management was one of the highest ranked stressors for teachers in their samples. More recently, Manera and Wright (1981), using a 14 item Q-sort ranking instrument with a sample of 164 professional educators, found Time Management ranked as the number one stressor for their group; Kendell (1982) also found Time Management to be a significant source of stress for regular classroom teachers in the province. Similarly, in the area of special class teachers, Weiskopf (1980) and McMurray (1982) both reported such work issues as quantitative work overload and insufficient time for preparation as significant sources of stress. Since time management and time restraints are consistently reported as sources of stress for teachers, one may speculate that the teaching profession is one which has unique problems with time pressure. Teachers must follow a curriculum guide, students are expected to accomplish certain skills within a certain time frame and grade level, and teachers are subsequently forced to meet these set standards. Time restraints may be inherent in the teaching role. Therefore, one may conclude that time and the management of time is a true stressor for teachers.

This study also found Parent/Teacher Relations to be a significant source of perceived stress for specialist teachers in this province. Unfortunately, few studies have been reported which studied the relationship of parents, the home environment, and specialist teachers with regard to

level of teacher stress. Kendell (1982), however, found Parent/Teacher Relations to be a significant stressor for regular classroom teachers in the province. Wilson (1979) found that Parent/Teacher Relations was a high source of stress for teachers working in a low socioeconomic school, as compared to teachers in a middle and high socioeconomic school. A study by Pratt (1978), on perceived stress among teachers with regard to background of children taught, reported that financial deprivation in the home background (i.e., as indicated by the percentage of free meals in a given school) was positively and significantly related to the incidence of perceived stress among teachers. Holland (1982) reported on a study by Bensky et al. (1980), who found that for special educators "interaction with parents regarding placement decisions" and "parent conferences" were ranked fourth and fifth respectively in terms of stress levels. There is some evidence which suggests that the relationship between parents or the home environment and teachers does affect the amount of perceived stress; however, from the studies reported this may only be true when the home environment is deprived in some way. Some of the school children in this study may be from lower socioeconomic settings.

A possible reason why specialist teachers, and special education and remedial reading teachers in particular, experience greater stress from parents may relate to the fact that these teachers are dealing with so called

"problem" children, or low achievers; some parents may resent the fact that their children have these labels and even reject the idea that their children are different, perhaps blaming the teachers or the school for their child's problem. Such parents would likely be less co-operative and supportive of the teachers. In addition, special education teachers and remedial reading teachers may be dealing with many children who are from a lower socioeconomic level, which seems to interact with perceived teacher stress. Other specialists, such as music teachers, physical education teachers and industrial arts teachers, more likely deal with children from all skill levels and backgrounds. A possible reason why these specialists experience greater stress from some parents may relate to the fact that the subjects they teach are less academic but related to actual skill development or performance. Thus, some parents may be less supportive and concerned about such subjects, whereas other parents may place high expectations on their child's product or performance in the subject. Without a doubt, the product of an industrial arts, physical education, music, or art course is very visible to parents and student alike. Such product visibility and its relationship to perceived stress needs further investigation.

Intrapersonal Conflicts (IPC) was also found to be a relatively high stressor for specialist teachers in this province. Again, this particular stressor has not received much attention in stress research; however, this finding is

supported by Kendell (1982), who found IPC as stress provoking for regular classroom teachers, and Wilson (1979) who reported that IPC was the number two ranked stress factor for his population. Since both authors used the same scale as the present researcher (WSPT), this may suggest that IPC is stressful for virtually all educators including specialists. One might also relate the IPC factor to the issue of lack of perceived success which Weiskopf (1980) discussed in her article on burnout among teachers of exceptional children. Her discussion may help explain why the specialists in this study (many of whom are special educators) perceived greater stress from intra-personal conflicts.

> Teachers often perceive only the child's problems and fail to see any progress or success within their relationship. Lack of perceived stress on the job contributes to low self-esteem .... More importantly how the teacher perceives the situation, not necessarily the reality of it, contributes to this deterioration of self-esteem (Kyriacou and Sutcliffe, 1978). A teacher may set unrealistic goals for students to achieve. When goals are not realized, feelings of failure produce emotional stress, thereby lowering the teacher's self-esteem and self-confidence. (p. 20)

Teachers in this study reported very little stress with respect to their supervisors (i.e., Employee/Administrator Relations--EAR) or with each other (i.e., Teacher/Teacher Relations--TTR), as evidenced by the rankings in Table 4 and the mean stress levels illustrated in Figure 3. Kendell (1982) and Wilson (1979) reported similar results.

Means and Rank Order of Stressors for Each Specialist Area

The most stressful items, as measured by the WSPT and their means, are listed in rank order from most to least stress for each specialist group in Tables 6 - 13; Table 14 presents the rankings by mean stress for the most stressful items for the total group of specialists. A review of the tables shows that the majority of stressors fell within the categories of Parent/Teacher Relations and Time Management. For example, "The home environments of my students concerns me", or "I have to take work home to complete it" are ranked as number 1 and/or 2 for all groups of specialists. These stressors, as reported by the different specialist groups, have means ranging from 3.27 to 4.21 on a five point scale. Table 14 indicates that specialists as a group reported both items, students' home environments, and taking work home, as the number 1 stressors, with the same mean of 3.52. These results support the previous results of PTR and TIME as stressors for specialists. Therefore, specialist teachers reported that parent/teacher relations and time were perceived as highly stressful.

A few of the differences which were reported among the specialist groups include: "I put self-imposed demands on myself to meet scheduled deadlines" which was reported by counselors and librarians. This may be related to the fact that both these specialists do not have a set curriculum to follow, and much of their work, due to the definition of

Table 6

Mean Scores and Rank Order of the Ten Most Stressful Items of the WSPT for Special Education Teachers

Rank	Item	Mean
1	The home environments of my students concerns me.	3.71
2	Parents' disinterest in their child's performance at school concerns me.	3.53
3	I have to take work home to complete it.	3.43
4	Lack of student motivation to learn affects the progress of students negatively.	3.25
5	I have too much to do and not enough time to do it.	3.15
5	I find my job tires me.	3.15
6	I put self-imposed demands on myself to meet scheduled deadlines.	3.11
7	Stress management techniques would be useful in helping me cope.	2.84
8	Parents of my students are a source of concern for me.	2.73
8	I am tense by the end of the day.	2.73
9	I worry about my job.	2.71
10	I am frustrated and/or feel angry.	2.67

Table 7

Mean Scores and Ranks of the
Five Most Stressful Items of
the WSPT for Counselors

Rank	Item	Mean
1	I put self-imposed demands on myself to meet scheduled deadlines.	3.92
2	I have too much to do and not enough time to do it.	3.77
3	I have to take work home to complete it.	3.69
4	The home environment of my students concerns me.	3.46
5	I find my job tires me out.	3.31
5	Stress management techniques would be useful in helping me cope with the demands of my job.	3.31

Table 8

Mean Scores and Ranks of the Five Most Stressful Items of the WSPT Scale for Remedial Reading Teachers

Rank	Item	Mean
1	The home environments of my students concerns me.	4.00
1	I have to take work home to complete it.	4.00
2	Parents' disinterest in child's performance at school concerns me.	3.89
2	I have too much to do and not enough time to do it.	3.89
3	Parents of my students are a source of concern for me.	3.75
4	I put self-imposed demands on myself to meet scheduled deadlines.	3.67
5	I am tense by the end of the day.	3.33
5	I worry about my job.	3.33
5	Stress management techniques would be useful in helping me cope with the demands of my job.	3.33

Table 9

Mean Scores and Ranks of the Five Most Stressful Items of the WSPT for Music Teachers

Rank	Item	Mean
1	I have to take work home to complete it.	3.27
2	The home environment of my students concerns me.	3.20
2	I put self-imposed demands on myself to meet scheduled deadlines.	3.20
2	I find my job tires me out.	3.20
3	I have too much to do and not enough time to do it.	3.07
4	Parents' disinterest in their child's performance at school concerns me.	2.93
5	I worry about my job.	2.87

Table 10

Mean Scores and Ranks of the Five Most Stressful Items of the WSPT for Physical Education Teachers

Rank	Item	Mean
1	I have to take work home to complete it.	3.32
2	The home environment of my students concerns me.	3.27
2	I have too much to do and not enough time to do it.	3.27
3	Parents' disinterest in their child's performance at school concerns me.	3.12
4	Lack of student motivation to learn affects the progress negatively.	3.05
5	I find my job tires me out.	2.98

Table 11

Mean Scores and Ranks of the
Five Most Stressful Items of
the WSPT for Librarians

Rank	Item	Mean
1	I have too much to do and not enough time to do it.	4.21
2	I have to take work home to complete it.	4.00
3	I put self-imposed demands on myself to meet scheduled deadlines.	3.64
4	I find my job tires me out.	3.36
5	Lack of student motivation to learn affects the progress of my students negatively.	3.21

Table 12

Mean Scores and Rank Order of the Five Most Stressful Items of the WSPT for Home Economics Teachers

Rank	Item	Mean
1	I have to take work home to complete it.	4.15
2	Lack of student motivation to learn affects the progress negatively.	3.46
2	The home environment of my students concerns me.	3.46
3	I become impatient/angry when my students do not do what I ask them.	3.23
3	Parents' disinterest in their child's performance at school concerns me.	3.23
3	I find my job tires me out.	3.23
4	I am tense by the end of the day.	3.08
5	I put self-imposed demands on myself to meet scheduled deadlines.	3.00

Table 13

Mean Scores and Ranks of the
Five Most Stressful Items of
the WSPT Scale for
Industrial Arts Teachers

Rank	Item	Mean
1	I find my job tires me out.	3.67
2	The home environment of my students concerns me.	3.50
2	I am unable to keep up with correcting papers and other school work.	3.50
3	I have too much to do and not enough time to do it.	3.33
3	I have to take work home to complete it.	3.33
3	Stress management techniques would be useful in helping me cope.	3.33
4	Parents' disinterest in their child's performance at school concerns me.	3.17
4	I am tense at the end of the day.	3.17
5	Lack of student motivation to learn affects the progress of students negatively.	3.00
5	I have difficulty organizing my time in order to complete tasks.	3.00
5	I think badly of myself for not meeting the demands of my job.	3.00

Table 14

Mean Scores and Rank Order of the Ten Most Stressful Items As Measured by the WSPT Items for Specialist Teachers

Rank	Item	Mean
1	The home environment of my students concerns me.	3.52
1	I have to take work home to complete it.	3.52
2	Parents' disinterest in their child's performance at school concerns me.	3.33
3	I have too much to do and not enough time to do it.	3.30
4	Lack of student motivation to learn affects the progress of my students negatively.	3.18
5	I put self-imposed demands on myself to meet scheduled deadlines.	3.17
6	I find my job tires me out.	3.16
7	Stress management techniques would be useful in helping me cope with job demands.	2.87
8	I am tense by the end of the day.	2.75
9	I become impatient/angry when my students do not do what I ask them.	2.74
10	I think badly of myself for not meeting the demands of my job.	2.72

their jobs, is self-initiated. Home economic specialists reported "lack of student motivation to learn affects their progress negatively" more frequently than the other specialist. One may speculate that home economics is a subject which students do not take seriously as an academic subject and thus are poorly motivated to do well. Similarly, industrial arts teachers reported a stressor among the most stressful that was not reported by the other specialist groups, i.e., "I find my job tires me out". This may be due to their job role which includes handling heavy equipment and more laborious work.

Tables 15-22 present the most stressful items as measured by the Local Scale and their means in rank order from most to least stressful for each Specialist group. Table 23 shows the overall major stressors of the Local Scale for the total group of specialists. Most often reported as the number one stressor was "I am unable to find sufficient outlets and extracurricular activities in my community". Also frequently reported were: little input into decision making, overcrowded classrooms, the re-organized high school program, and job security. It was found that overcrowded classrooms was stressful for remedial reading teachers, counselors, physical education teachers and industrial art teachers. This finding is in agreement with data from Rudd and Wiseman (1962). These authors found "large classes" listed by teachers as one of the chief sources of professional dissatisfaction. Cichon and Koff (1978) reported that their population of teachers

Table 15

Mean Scores and Rank Order of the Three Most Stressful Items of the Local Scale for Special Educators

Rank	Item	Mean
1	I am unable to find sufficient outlets and extracurricular activities in my community.	3.00
2	I feel I have too little input in decision making.	2.66
3	I worry about job security because of declining enrolments.	2.54

Table 16

Mean Scores and Ranks of the Three
Most Stressful Items of the
Local Scale for Remedial Reading Teachers

Rank	Item	Mean
1	I feel I have too little input in decision making.	3.44
2	Overcrowded classrooms cause me to feel anxious and frustrated.	3.33
2	Teaching children who are "below average" is stressful to me.	3.33
3	I worry about job security because of declining enrolments.	3.11
3	I feel my time and energies are spread over too many subject areas.	3.11

Table 17

Mean Scores and Ranks of the Three
Most Stressful Items of the
Local Scale for Counselors

Rank	Item	Mean
1	I feel my time and energies are spread over too many subjects.	3.15
2	The reorganized high school program is a source of concern for me.	2.92
3	Overcrowded classrooms cause me to feel anxious and frustrated.	2.85

Table 18

Mean Scores and Rank Order of the Three Most Stressful Items of the Local Scale for Home Economics Teachers

Rank	Item	Mean
1	I am unable to find sufficient outlets and extracurricular activities in my community.	3.38
2	The reorganized high school program is a source of concern for me.	[illegible]
3	I feel I have too little input in decision making.	2.92

Table 19

Mean Scores and Ranks of the Three Most Stressful Items of the Local Scale for Librarians

Rank	Item	Mean
1	I am unable to find sufficient outlets and extracurricular activities in my community.	2.93
2	The reorganized high school program is a source of concern.	2.86
3	I feel I have too little input in decision making.	2.64

Table 20

Mean Scores and Ranks of the Three Most Stressful Items of the Local Scale for Physical Education Teachers

Rank	Item	Mean
1	I am unable to find sufficient outlets and extracurricular activities in my community.	2.83
2	Overcrowded classrooms cause me to feel anxious and frustrated.	2.73
3	The reorganized high school program is a source of concern for me.	2.63

Table 21

Mean Scores and Ranks of the Three Most Stressful Items of the Local Scale for Music Teachers

Rank	Item	Mean
1	I am unable to find sufficient outlets and extracurricular activities in my community.	3.53
2	I feel I have too little input in decision making.	2.87
3	My attitude toward my students is a source of concern for me.	2.67

Table 22

Mean Scores and Ranks of the Three Most Stressful Items of the Local Scale for Industrial Arts Teachers

Rank	Item	Mean
1	The reorganized high school program is a source of concern for me.	3.67
2	Overcrowded classrooms cause me to feel anxious and frustrated.	2.83
2	Public scrutiny and opinion is a source of concern for me.	2.83
2	I am unable to find sufficient outlets and extracurricular activities in my community.	2.83
3	I feel I have too little input in decision making.	2.67
3	Parental scrutiny is a source of concern for me.	2.67

Table 23

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

Rank	Item	Mean
1	I am unable to find sufficient outlets and extracurricular activities in my community.	2.97
2	I feel I have too little input in decision making.	2.62
3	Teaching children who are "below average" in achievement is stressful to me.	2.53

reported overcrowded classrooms to be one of the most stressful teaching events. Similarly, one of the factors found to be problematic for teachers in the Needle, Griffin and Svendsen (1981) study was overcrowded classrooms. With regard to special class teachers, both Weiskopf (1980) and McMurray (1982) reported increasingly high staff-child ratios and overcrowded classrooms as sources of stress.

Little input into decision making was another high source of stress for specialists in the present study. Many researchers who have studied stress cite evidence showing that symptoms of stress stem from a feeling of external locus of control, i.e., lack of input into decision making. In the Alberta (1980) study, (see Manitoba Study), teachers there ranked the item "implementing policies with which I disagree" (this may suggest lack of participation in policy formation) in the top ten of most stressful factors. For example, Kyriacou and Sutcliffe (1978) found that lack of participation in decision making was one of the main sources of stress for teachers in their sample. This result was further supported by Cichon and Koff (1978), who found lack of control as a major source of stress for teachers.

The item on the Local Scale most often ranked as number 1 for specialists was lack of sufficient extracurricular activities and outlets in the community. This finding, which was supported by Kendell (1982) for regular classroom teachers, reflects what may be a totally specific source of

stress for Newfoundland teachers. No other study has referred to this issue and the fact that it was ranked most often as stressful indicates that where a teacher lives may affect the amount of stress which is perceived. Many times, the primary factor which brings a teacher to a certain community is the prospect of a job. Newfoundland's geographic make-up is one of many small, rural, isolated communities. Are many of our teachers working in a community only because that is where the job is, and not because they prefer to be there?

The Local Scale measured another source of stress which is particular to Newfoundland, namely the re-organized high school program. This may be related to what the literature calls role-ambiguity. With the reorganized high school curriculum, specialists are not sure of their work objectives and, at present, have incomplete information about their work role. Other authors which support role ambiguity as being a stressor include Young (1978), Kyriacou and Sutcliffe (1978) and Cichon and Koff (1978).

From such findings, one might conclude that the Local Scale was sensitive enough to pick up major sources of stress unique for teachers in the province.

Differences noted among the Local Scale stressors were Remedial Reading Specialists and Counselors who reported "I feel my time and energies are spread over too many subjects" more often than the other groups. This

finding may indicate that these two groups, more than the other specialist groups, are required to teach other subjects as a part of their teaching assignment.

Biographic Variables Related to Stress

Table 24 presents the biographic data and perceived mean levels of stress for specialists as measured by the WSPT and the Local Scale. The biographic data which were chosen for analysis were: sex, age, teacher certification level, length of teaching experience, school student enrolment, class size and number of sick days taken. The demographic and institutional characteristics of the sample, as presented in Table 24, indicate that this sample was quite representative of the actual population of teachers in the province.

Independent analysis of each variable, however, revealed a significant variation in level of reported stress on the WSPT with the variable "school student enrolment" (See Figure 4 and Table 25). The analysis of variance (Table 25) revealed a significant difference at the .01 level of confidence ($f = 3.47$, $p < .01$) between school student enrolment (50 students or less; 51-200; 201-400, 401-700, 700 plus) and reported mean scores of stress as measured by the WSPT for specialist teachers. An *a posteriori* contrast test, a Student Newman Keuls, did not distinguish between the groups in terms of reported mean stress. However, upon examination

Table 24

Mean Stress Scores as Measured by the WSPT and the Local Scale for Specialist Teachers -- Biographic Variables

Biographic Variables	WSPT N	WSPT Mean	WSPT S.D.	Local Scale N	Local Scale Mean	Local Scale S.D.
Sex						
Male	100	87.32	17.21	100	25.24	8.51
Female	110	87.47	17.99	110	26.04	9.87
Total	210	87.40	17.58	210	25.66	9.23
Age						
20-25 years	43	85.19	18.62	43	25.42	5.96
26-30 years	62	87.76	18.65	62	25.58	10.28
31-40 years	82	89.01	17.52	82	26.23	10.79
41-50 years	18	84.33	12.91	18	23.33	4.06
50 plus	5	88.40	12.89	5	26.60	3.21
Total	210	87.44	17.60	210	25.63	9.24
Teacher Certificate Level						
1	0	0	0	0	0	0
2	1	73.00	0.	1	24.00	0.
3	4	75.00	7.39	4	21.75	4.27
4	29	91.24	17.14	29	30.90	14.95
5	67	85.81	18.88	67	24.67	6.58
6	62	89.47	17.36	62	25.87	9.98
7	21	90.48	17.42	21	25.33	5.44
Total	184	88.12	17.83	184	26.06	9.56
Length of Teaching Experience						
0-4 years	69	84.48	18.35	69	24.87	5.85
5-10 years	75	88.43	16.85	75	25.48	9.68
11-19 years	51	90.22	18.04	51	27.14	12.77
20 plus	15	85.87	15.08	15	24.60	4.03
Total	210	87.38	17.56	210	25.62	9.23

Table 24 (cont'd)

Mean Stress Scores as Measured by the WSPT and the Local Scale for Specialist Teachers -- Biographic Variables

Biographic Variables	WSPT N	WSPT Mean	WSPT S.D.	Local Scale N	Local Scale Mean	Local Scale S.D.
School's Student Enrolment						
50 or less	7	81.43	13.07	7	23.29	5.09
51 - 200	63	83.79	18.68	63	24.79	8.57
201 - 400	54	94.68*	16.20	54	27.63	10.21
401 - 700	49	88.02	16.14	49	26.51	11.13
700 plus	34	85.29	17.48	34	24.12	5.50
Total	207	87.80	17.52	207	25.78	9.24
Class Size						
4 or less	11	88.64	18.45	11	25.73	5.83
5 - 12	85	85.35	16.62	85	25.56	10.71
13 - 20	34	87.41	17.78	34	26.38	12.44
21 - 30	56	88.59	18.56	56	25.23	6.12
31 - 35	13	94.38	21.25	13	28.08	4.59
36 - 40	3	100.67	10.02	3	29.33	3.21
Other	6	84.17	12.67	6	21.67	3.72
Total	208	87.48	17.59	208	25.72	9.26
Number of Sick Days						
0 - 7	201	87.18	17.48	201	25.57	9.35
8 - 15	9	90.56	19.68	9	27.11	6.41
16 plus	1	80.00	0	1	27.00	0
Total	211	87.46	17.56	211	25.64	9.21

* $p < .05$

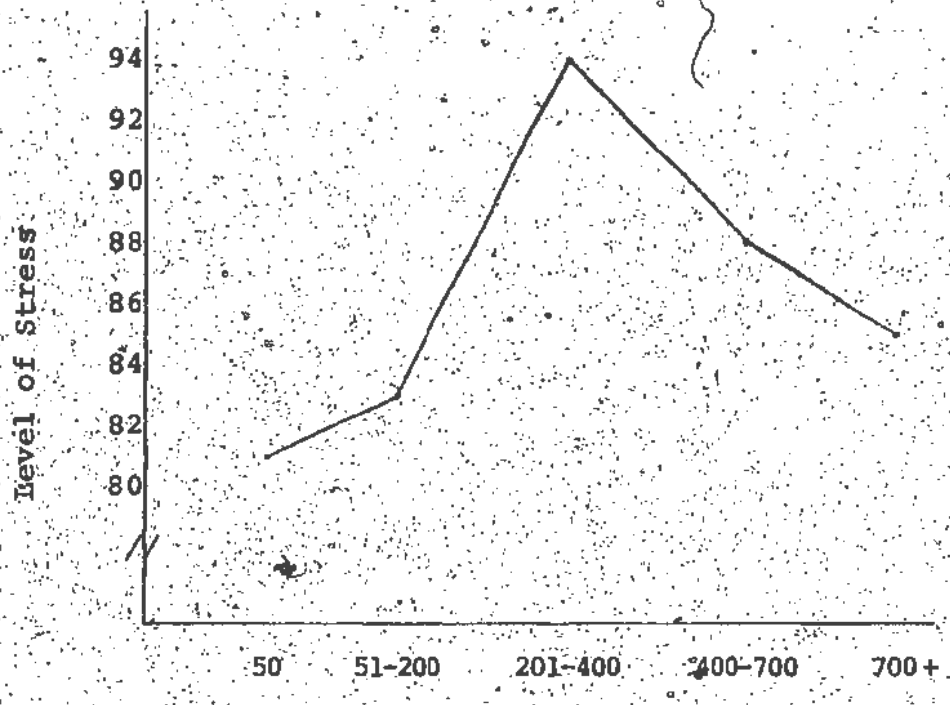


Figure 4. Mean Stress Levels of WSPT for Specialists By SNR

Table 25

Analysis of Mean Stress Scores for the Local and NSPT scales
Across Biographical Values for Specialists

Analysis of Variance

	SX			AG			TCL			LTE			SNR			CS			SIC		
Source	D.F.	M.S.	F	D.F.	M.S.	F	D.F.	M.S.	F	D.F.	M.S.	F	D.F.	M.S.	F	D.F.	M.S.	F	D.F.	M.S.	F
Between Groups	1	1.17	.004	4	151.41	0.48	5	357.51	1.13	3	369.19	1.20	4	1017.78	3.47**	6	279.29	0.899	2	262.33	0.85
Within Groups	208	310.50		205	312.81		178	316.79		206	307.58		202	292.89		201	310.54		208	308.75	
Total	209			209			183			209			206			207			210		
Between Groups	1	33.23	.39	4	32.85	0.38	5	179.87	2.02	3	57.79	0.675	4	102.41	1.204	6	40.04	0.46	2	11.44	0.13
Within Groups	208	85.49		205	86.33		178	88.99		206	85.62		202	85.07		201	87.04		208	85.61	
Total	209			209			183			209			206			207			210		

** p < .01

of the mean level of stress for each category of the variable school student enrolment, the researcher concluded that category 3 (i.e., 201-400 students) was significantly different from the other four. That is specialists, from a school with an enrolment of 201-400 students, reported a greater mean level of stress as measured by the WSPT ($\bar{X}$ = 94.68) than specialists in smaller ($\bar{X}$ (50 or less) = 81.43; and $\bar{X}$ (51-200) = 83.79) or larger schools ($\bar{X}$ (401-700) = 88.02; $\bar{X}$ (700+) = 85.29). Figure 6 presents this significant difference graphically. This difference between mean level of stress by school student enrolment was not significant for stress levels as measured by the Local Scale (see Table 25), although the direction of difference was similar.

No other significant differences were found for reported mean level of stress and other biographical variables considered independently. However, upon inspection of the f-probabilities, the categories of the biographic variable teacher certification level and mean level of reported stress as measured by the Local Scale approached the level of significance (f prob. = 0.0778). This difference is presented in Figure 5.

Therefore, the biographical variables used for analysis did not differ significantly in the amount of stress, as perceived by specialists and measured by the WSPT and Local Scale. This is reflected in Table 24, which shows that the mean levels of perceived stress on the WSPT

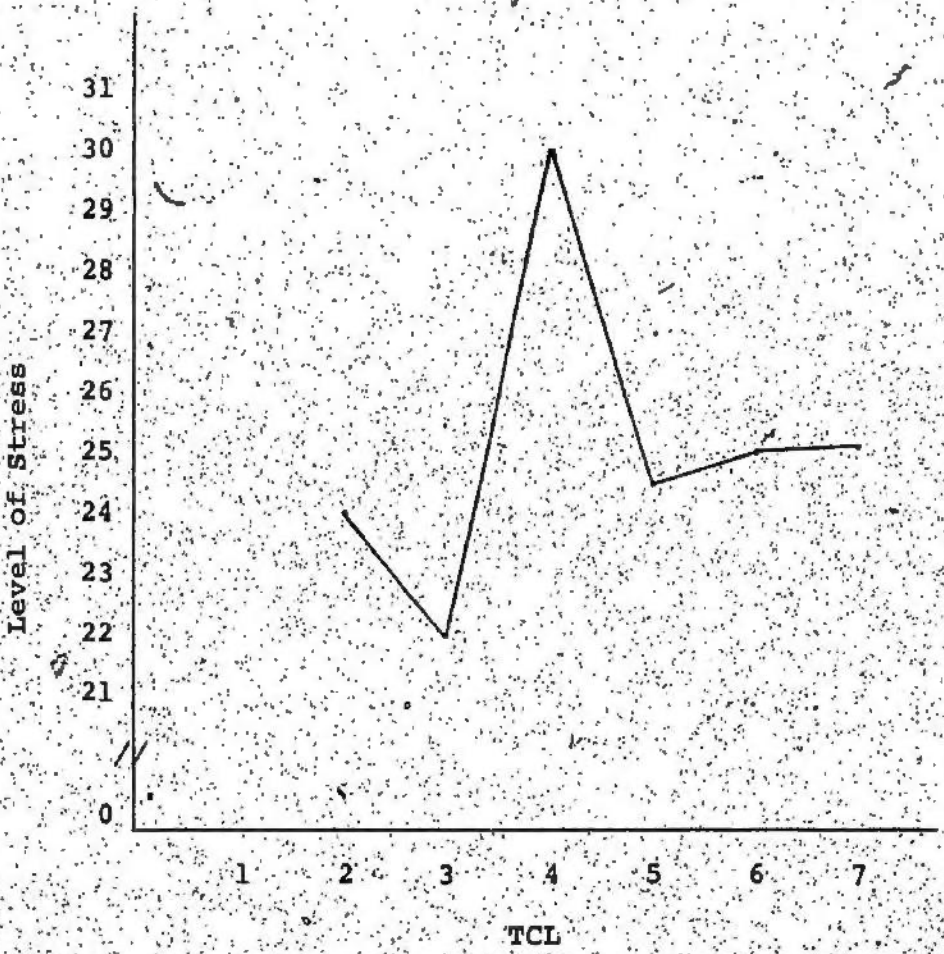


Figure 5. Mean Stress for Specialists for Local Scale By TCL

for the biographical variables range from 87.38 - 88.12 (i.e., a difference of 0.74); on the Local Scale the range is 25.36 - 26.06 (i.e., a difference of 0.43). These scores indicate a lack of overall variation in level of stress reported between biographical variables. The research on the effect of biographical factors on levels of stress is not conclusive; for example, some researchers found that younger workers experienced more stress (Maslach and Jackson, 1978) while McMurray (1982) and Meadow (1981) found teachers in the middle years to be more at risk for burnout and emotional exhaustion. Cichon and Koff (1978), on the other hand, found that age did not affect the level of stress being experienced by their sample. In this study, stress gradually increased from age 20 to age 40 then dropped to earlier levels. The present studies found that there was no significant difference in amount of stress perceived when the biographic data were compared to each other; however, when the biographic data were considered independently, the categories of the variable "school student enrolment" varied significantly in amount of perceived stress on the WSPT for specialists. As previously stated, the specialists who taught in a middle-size school (201-400) experienced more stress than teachers in smaller or larger schools.

One can only speculate on the reasons for the significantly high amount of stress for teachers in medium sized schools. Special units are assigned according to size

of school. The range of problems may vary with size of school. The smaller schools would have fewer specialists, but the problems would likely be more homogeneous. The background of the children would likely be similar in smaller schools, and the student/teacher ratio may be lower than that in medium sized schools. In a larger school there may be a wider range of problems, but the size of the school would warrant more specialists to deal with them; the medium size school may be large enough so that the problems are diverse but too small to warrant an adequate number of personnel to deal with those problems. Therefore, one could hypothesize that the medium sized school may have the diverse problems of the large school but not as many resources, whereas in smaller schools the population is more homogeneous and not as demanding of resources.

The results also indicated that the variable of teacher certification level was approaching significance in terms of amount of stress perceived on the Local Scale. Table 24, (disregarding teachers with certification level lower than 4, since the numbers in these categories were too small for significance) shows that teachers with a certification level of 4 had a much greater mean level of stress on the Local Scale ($\bar{X} = 30.90$) than teachers with a higher certification level ($\bar{X}_5 = 24.67$, $\bar{X}_6 = 25.87$, $\bar{X}_7 = 25.33$). The level 4 teacher was also the highest in reported stress on the WSPT (see Table 24). One could hypothesize that the teachers in the sample with a fourth grade certificate level

might not have had the specialist training, or as much comparable training, for their position, yet were working in the field as a specialist. Some may not even have degrees. Persons with fifth grade certificates have a degree, and if working as a specialist, would be more likely to have had some training in the area. This difference might be more evident in the Local Scale because schools in smaller communities may have to accept applicants with less training because fewer highly trained specialists apply to work in small communities. Therefore, such issues as "I am unable to find sufficient outlets and extracurricular activities in my community" may be very stressful for the person who was forced to go to a small community to work because his lack of training excluded him from getting a job in a larger center.

Table 26 illustrates the Pearson-product-moment correlations (r) between Physical Symptoms of Stress (PSS) and Total Stress Level and Psychological/Emotional Symptoms of Stress (PESS), as measured by the WSPT, for each specialist group. This correlation is a measure of the association of two variables, PSS with WSPT and PESS with WSPT.

From this table it is apparent that physical symptoms of stress and psychological/emotional symptoms of stress are significantly correlated ($p < .01$ or $p < .05$) with total levels of stress, as measured by the WSPT, for each specialist group, except for Industrial Arts. These results lend

Table 26

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 Specialist Area

Specialist Areas	Number	Correlation Coefficients: Physical Symptoms	Correlation Coefficients: Psychological/Emotional Symptoms
Special Educators	100	0.69**	0.84**
Counselors	13	0.76**	0.86**
Remedial Reading Specialists	9	0.78*	0.86**
Music Specialists	15	0.89**	0.90**
Physical Education Specialists	41	0.85**	0.85**
Librarians	14	0.79**	0.87**
Home Economics Specialists	13	0.75**	0.92**
Industrial Arts Specialists	6	0.81	0.63
Total	211	0.76**	0.84**

* $p < .05$

** $p < .01$

validity to the point that persons who report they are experiencing stress actually display physical, emotional, and psychological symptoms of stress. Specialist teachers reporting more specific problems (as indicated by items 25-32 on the WSPT) reported greater stress from work dimensions. Those reporting higher stress reported more physical ailments ($r = .76$) and more psychological symptoms ($r = .84$). One may conclude that perceived job stressors are substantially related to psychological, somatic and health related problems. The health of teachers is affected by stress. These results are supported by Kendell (1982) and Wilson (1979).

Moreover, as was documented in the literature review (Selye, 1974; Holmes and Rahe, 1967; Wolff, 1968), emotional and physical diseases are directly related to stress. Newell (1979) reported that 33 percent of the teachers studied claimed that most of their sick leave they had taken was related to stress in their schools. Results of a recent study indicated that the life expectancy of a teacher is four years lower than the national average (Truch, 1980). Finally, these results of the present study are further supported by the findings of a study conducted by the Alberta Teacher's Association where 36 percent of 1,000 teachers surveyed reported that they had experienced illness which they felt was related to stress in their work during the past two years.

Perceived Stress: Specialist Teachers As Compared to Regular Teachers

The information on regular classroom teachers was taken from a study completed by Kendell (1982), who studied stress of regular classroom teachers in this province, using the same instruments as the present researcher; thus, the information gathered by Kendell lends itself to a direct comparison to the present study.

Table 27 shows the total mean stress scores as measured by the WSPT and Local Scale for both samples (specialist teachers and regular classroom teachers). A t-test for independent samples was carried out, showing no significant difference between the samples on total amount of stress perceived. This table also shows the rankings for the nine categories of stressors of the WSPT. All rankings were exactly the same, except for the reversal of ranks 4 and 5. Figure 6 shows the overlapping of the ranking graphically. Figure 6 also shows that teachers are experiencing a moderate amount of stress. One can conclude that teachers in Newfoundland, regardless of category (i.e., regular or specialist), are experiencing similar amounts of stress and that this stress is a function of the same stressors for all teachers.

Teachers, regardless of category, found the amount of time allotted for them to complete their work to be inadequate; they apparently feel that they have too much

work and not enough time to do it. As previously discussed, it may be possible that the teaching profession is one which lends itself to time restraints. Similarly, all teachers found working with parents stressful. Also, there was no difference between the amount of stress experienced by regular and specialist teachers. It should be noted that this result supports Wilson's (1979) findings that there was no difference in perceived stress by teacher category. If there is a difference between specialist teachers and regular teachers in the amounts or types of stress, that difference was not obvious in this study.

This chapter has presented the results of the study, along with analysis and interpretation of the results. Chapter Five will summarize the study and present conclusions and recommendations.

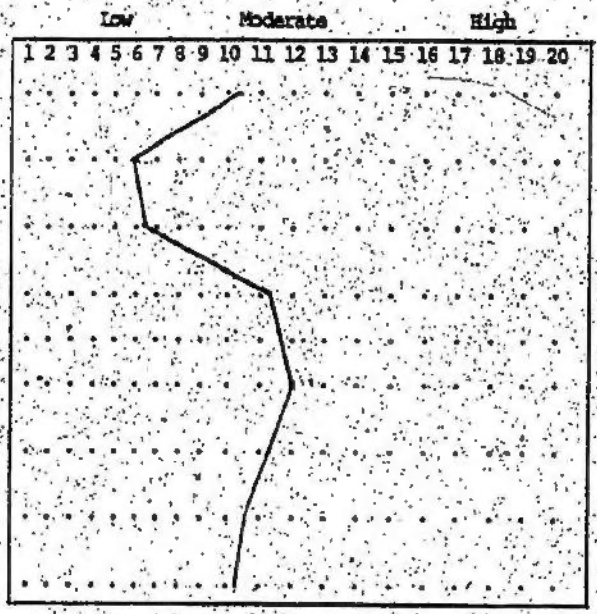
Table 27

Mean Stress Scores and Rank Order for Specialists and Regular Classroom Teachers -- A Comparison

	211 Specialist Teachers		591 Regular Teachers	
Stress Item	Mean Score	Rank Order	Rank Order	Mean Score
Student Behavior	10.66	4	5	10.71
Employee/Administrator Relations	6.15	9	9	6.40
Teacher/Teacher Relations	7.17	8	8	6.73
Parent/Teacher Relations	11.35	2	2	11.61
Time Management	11.48	1	1	12.42
Intrapersonal Conflicts	11.01	3	3	11.20
Physical Symptoms	10.35	5	4	10.76
Psychological/ Emotional Symptoms	10.12	6	6	10.22
Stress Management Techniques	9.18	7	7	9.69
Total WSPT	87.46			89.514
Total Local Scale	25.64			26.32

STRESS PROFILE SCORES

	Score
Student Behavior	10.71
Employee/Administrator Relations	6.40
Teacher/Teacher Relations	6.73
Parent/Teacher Relations	11.61
Time Managment	12.92
Intrapersonal Conflicts	11.20
Physical Symptoms of Stress	10.76
Psychological/Emotional Symptoms of Stress	10.22
Stress Management Techniques	9.69
Total Overall Score	89.51



Low ____ 36 - 72 Moderate 89.51 73 - 108 High ____ 109 - 180

Figure 6. Stress Profile Scores For Regular Classroom Teachers

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of this chapter is to present a summary of the present study, conclusions based on the obtained results, implications of these results, and recommendations for further research.

Summary of the Study

The purpose of this study was to determine the amount and type of stress being experienced by specialist teachers in this province. The study also determined how the various specialists differed in terms of level and types of reported stress. A variety of biographic data was included in the analyses to determine what, if any, effect these variables may have had on perceived stress. Identification of the major stressors is the first step in designing strategies to eliminate, reduce, or positively direct workplace environmental stress. The significance of the study related to the issue that stress affects specialist teachers physically and emotionally, and also affects the students. The specialist more often deals with exceptional children, who often lack the ego, strength and learning skills of regular children; these children are especially vulnerable to impairment of their academic and social skills (Weiskopf, 1980). As well, it was hoped that the study would provide information on implementation of strategies for enhancing the

work environment for specialist teachers in this province.

The data were collected by using a 3-part questionnaire. Part I obtained biographical data from the participants, while Parts II and III identified stressors and level of stress perceived for each participant.

The sampling procedure attempted to produce a sample which would be representative of specialist teachers in the province. A stratified random sample based on the total number of teachers in the province was used. The number of teachers in each school board was determined and the number of teachers selected from each board to be in the total sample was proportional to the size of the board. The schools in each board were arranged into categories according to level taught. Four categories were defined as follows: primary (k-3), elementary (4-6 or 7), high (7 or 8-11) and multi-level (any combination of the above three levels). A random selection was made from each category from each board until the ten percent of teachers selected represented each category level and each board in the same proportion as that board contributed to the total population. As well, the special education schools Pine Grove, Virginia Waters, and School for the Deaf, participated. The questionnaire was distributed and collected with the cooperation of the NTA.

There was approximately a 70 percent return; 30 percent of these were defined as specialists. As a result, 210 specialists were used for this study.

Data collection took place from April through June, 1982. The data were analyzed using the SPSS package, and the results compiled.

Conclusions and Implications

Examination of the results led to the following conclusions.

1. The mean stress scores, as measured by the WSPT and Local Scale, were not significantly different for specialist teachers. Therefore, regardless of specialty category, specialist teachers are experiencing the same amount of stress in the schools. The scores represent a "moderate" level of stress for this sample. This implies that programs for helping teachers combat and cope with stress should be made generally available. Much of the literature on coping indicates that exercise, sleep, and sound nutrition are helpful; however, it must be pointed out that although these activities increase resistance to stressors, they do not eliminate sources of stress. Thus, the most fundamental strategy for coping with occupational stress is to modify those factors in the work or home situation that cause stress.

2. Analysis of the variation in reported mean stress scores for the nine major stressors of the WSPT revealed a significant difference for the stressors of Time Management and Parent/Teacher relations for all specialists. Stressors under these two categories created significantly more stress

than the other categories. Although not significant, the study showed that specialists were also perceiving stressors in the category Intrapersonal Conflicts as causing them appreciable stress. Again, the mean stress scores for this category represented a moderate degree of stress. Therefore, in-service programs for these teachers could concentrate in helping teachers manage their time more effectively, work with parents more successfully, initiate more effective parent teacher conferences, and help them better resolve their intrapersonal conflicts, and more effectively plan appropriate programs for individual children. As well, special educators need to set specific, realistic goals for themselves and their students, so that their job is seen as more successful and directed.

3. The ranked order for the stressors of the WSPT indicated that stressors which were included under the category of Parent/Teacher Relations or Time Management were ranked in the top five as most stressful for all specialists. This confirms the previous conclusion that specialists in this sample are experiencing a moderate amount of stress, and stressors involving parent relations and time management are contributing to this level. These results imply that teachers should be provided help in the specific areas of time management and working with parents.

4. When the three most stressful items were ranked for items on the Local Scale, the ranking revealed that specialist teachers find insufficient outlets in the

community, and little input into decision making to be particular sources of stress. The reorganized high school program was frequently reported among the top three most stressful items as measured by the Local Scale. These results suggest that teachers need more varied extra-curricular activities in their communities. Perhaps teachers should take it upon themselves to support, initiate and/or coordinate such activities inside and outside the school. It would be interesting, at some future time, to assess whether this "lack of sufficient outlets" is a Newfoundland phenomenon or an urban/rural one. Teachers also wanted to be more involved in decision-making in the school. Principals and other administrators may help alleviate this stressor by more frequent and meaningful consultation with teachers and delegation of authority and responsibility. The findings that specialists are finding the re-organized program as stressful should alert the program planners that teachers need guidance and perhaps more information on the new structure of the high school program.

5. Such factors as sex, age, amount of sickness, length of teaching experience, teacher certification level, and class size were not significantly related to stress level. When biographical variables were analyzed independently, the results showed a significant difference between level of reported stress (for WSPT) and size of

school. It was found that specialists from a school with an enrolment of 201-400 students reported a greater mean level of stress than specialists in smaller or larger schools. This implies that the criteria for assigning specialist units should be investigated by appropriate officials, especially in terms of the medium-sized schools.

6. Physical symptoms of stress and psychological/emotional symptoms of stress were significantly correlated with levels of stress as measured by the WSPT for each specialist group, except Industrial Arts. This result suggests that perceived job stressors are substantially related to psychological, somatic and health-related problems. This implies that teachers should look after their physical health. Physical exercise, a well-balanced diet, time out for relaxation, and sufficient amount of sleep should all be promoted by the schools for the teachers as well as the children. Most schools have athletic facilities which could be used by teachers before and after school. As well, schools could promote good mental health through supportive in-service programs and open communication between staff members.

7. When specialists were compared to regular classroom teachers as to amount and type of perceived stress no significant difference was found. Rankings of stressful items were similar as well. Teachers of Newfoundland, regardless of teaching assignment, are experiencing a moderate amount of stress, and those stressors which contribute to this

level are similar for both groups.

There are significant policy implications for the development of in-service education programs that derive from this study. For example, in-service education programs might be re-designed to emphasize problems associated with the intrapersonal conflicts of teachers, parent/teacher relations and time management. If the assumption about the negative impact that stress can have on the teaching-delivery system is correct, then the solution of stress-related problems should become an important priority for in-service education. Most in-service programs are highly subject matter/academically oriented. By definition and design they do not deal with the personal problems of teachers. However, in-service programs on improving teachers' and administrators' personal coping skills, and social support systems and strategies to improve the school environment, should be considered. As Cichon and Koff (1978) reported, programs have been developed and are in operation that assist individuals in other professions to deal more effectively with stress. For example, many large city police departments provide counselling and related support services to personnel who have need of them. Perhaps similar services should be more readily available for teachers. Of course, individual teacher's action will be less effective when the problems have their origin in the social, economic and public environments in which teachers are being asked to work. In such a case, group or ecological approaches may be necessary.

It is quite likely that school administrators could work more effectively and efficiently to help reduce stress by involving teachers in decision making and reinforcing efforts by teachers to improve and increase their ability to manage stress. It might be possible, for those who have the authority, to remove or reduce the organizational stressors that might arise from school policies, assigned tasks and schedules.

Parent-teacher organizations could devote some time to devising mutual support systems where each group realizes the frustrations and contributions of the other. Too often stress leads participants to lose sight of the benefits and rewards of their parent/teacher roles.

Colleges and universities responsible for preparation of teachers and administrators should consider ways to reduce teacher stress and continue to encourage and support research into the causes and consequences of teacher stress. As well, continuing education offerings should be relevant to teachers' needs to improve personal coping skills.

Not all stressors can be eliminated; however, those that can should, and others should be minimized. Finally, personal and organizational strategies for dealing with job stress should be identified, developed, complemented and evaluated. Preventing or reducing job stress depends on collective strategies, the ultimate goal of which is the improvement of teachers' health, well-being, and effectiveness in their work.

Recommendations for Further Research

Following are what the investigator considers to be useful recommendations for future research.

1. The first recommendation is based on the premise that the instrument used in the present study may not have been totally sensitive to the issues which specialists find stressful. It is recommended that similar data, using a different instrument, be collected on the population of specialists as defined in this study. From interviewing select persons in the field, and generating a list of issues which are relevant to specialists, a more sensitive instrument could be developed for use in future research.

2. It is recommended that case histories be carried out on teachers who describe themselves as over-stressed to understand the full implications of stress and the symptoms of possible burnout.

3. Due to the fact that Newfoundland has a distinct geographical make-up, it is recommended that data be collected on regions which are distinctively urban and distinctively rural, and a comparison made of levels and sources of stress of specialists in these areas.

4. It is recommended that future research consider how administrators view teacher stress. How would their perceptions differ from those of teachers? Do principals understand the needs of special students, and special educators in general? What are the relationships between

sources of administrator stress and sources of stress for specialist and regular classroom teachers?

6. Further research should be carried out to determine which methods are effective in reducing and managing stress. Field experiments need to be conducted to determine which preventative methods would be most beneficial in preventing burnout among educators.

7. Further research is needed to determine the actual effects of stress on the teacher, and his personal health and work performance.

8. It is recommended that a similar study be carried out during a different time in the school year, to determine if the time of year affects levels of stress. Hembling and Gilliland (1981) suggested that there are identifiable stress cycles in the school year; the data for this study were gathered in April, May and June, which may be considered a high stress cycle of the year.

In conclusion, further studies may help educators better understand professional teacher stress and how it affects teaching performance and the personal life of the teacher. Educators must become more aware of the different kinds of stressful situations and the impact they have upon teachers and students. This awareness may then enable teachers, as a group and individually, to better cope with the demands that the profession of education places upon them. Dealing with stress in a positive way is necessary

for the teachers if they are to effectively educate their students.

Because of its exploratory nature, recommendations and conclusions emanating from this study must be viewed as tentative. As previously outlined, there is a lack of substantive research evidence on how stress affects each of the specialist areas, as such. Although this study has shed some light on the sources and degrees of stress on specialist teachers, larger scale studies with larger samples would be required to be more definitive in the findings.

REFERENCES

REFERENCES

Aanestad, K. A view on teacher burnout. The CSA Bulletin, 1981, 20, 4-7.

Andrews, A.G. Ground rules for 'the great debate'. Cambridge Journal of Education, 1977, 7, 90-94.

Appley, M.H., and Trumbull, R. Psychological stress. New York: Appleton, 1967.

Argyris, C. Interpersonal competence and organizational effectiveness. Homewood, Ill.: Dorsey Press, 1962.

Arthur, R.J., and Gunderson, E.K. Promotion and mental illness in the navy. Journal of Occupational Medicine, 1965, 7, 452-456.

Barad, C.B. Study of burnout syndrome among social security administration field public contact employees. Unpublished report. Washington, D.C.: Social Security Administration, 1979.

Bardo, P. The pain of teacher burnout: A case history. Phi Delta Kappan, 1979, 61, 252-254.

Barrow, J.C. Educational programming in stress management. Journal of College Student Personnel, 1981, January, 17-22.

Bensky, J.M., Shaw, S.F., Gouse, H.S., Bates, H., Dixon, B., and Beane, W.E. Public law 94-142 and stress: A problem for educators. Exceptional Children, 1980, 47, 24-29.

Bloch, A. The battered teacher. Today's Education, 1978, March, 58-63.

Bloomfield, H. Improving productivity through stress reduction. Lecture given at Rensselaer Polytechnic Institute in Troy, New York, on March 19, 1974.

Breslow, L., and Buell, P. Mortality from coronary heart disease and physical activity of work in California. Journal of Chronic Diseases, 1960, 11, 615-626.

Brook, A. Mental stress at work. The Practitioner, 1973, 210, 500-508.

Buck, V. Working under pressure. London: Staples Press Ltd., 1972.

Campbell, L.P., and Williamson, J.A. Disregard of those anxieties: Reassurance for student teachers. Southern Journal of Education Research, 1974, 8, 222-235.

Cannon, W.B. Bodily changes in pain, hunger, fear, and rage: An account of recent researches into the function of emotional excitement. New York: Appleton, 1929.

Caplan, R.D. Organizational stress and individual strain: A social psychological study of risk factors in coronary heart disease among administrators, engineers, and scientists. Doctoral dissertation, University of Michigan, 1970.

Caplan, R.D., Cobb, S., French, J.R.P., Van Harrison, R., and Pinneau, S.R. Job demands and worker health: Main effects and occupational differences. Niosh Research Report, 1975.

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. Doctoral dissertation, Michigan State University, 1972.

Carroll, J.F.X. Staff burnout as a form of ecological dysfunction. Contemporary Drug Problems, Summer 1979, 207-223.

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

Cherniss, C. Staff burnout: Job stress in the human services. London: Sage Publications, 1980.

Chinnery, P. Manager or managed? National Education, 1979, October, 1963-1966.

Chinnery, P. Stress in schools. National Education, 1979, 16, 163-173.

Cichon, D.J., and Koff, R.H. The teaching events stress inventory. Paper presented at the annual meeting of the American Educational Research Association, Ontario, Canada, March 1978. (Eric Document Reproduction Service N. ED 160 662).

Coates, T.J., and Thoresen, C.E. Teacher anxiety: A review with recommendations. Review of Educational Research, 1976, 46, 159-184.

Cobb, S. Role responsibility: The differentiation of a concept. Occupational Mental Health, 1973, 3, 489-492.

Cobb, S., and Rose, R.M. Hypertension, peptic ulcers, and diabetes in air traffic controllers. JAMA, 1975.

Cohen, J. Health care, coping and the counselor. Personnel and Guidance Journal, 1978, 56, 616-620.

Cooper, C.L., and Marshall, J. Understanding executive stress. New York: PBI Books, 1977.

Cooper, K.H. Arobics rev. New York: Bantam Books, 1975.

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

Dohrenwood, B.S., and Dohrenwood, B.P. Stressful life events. New York: Wiley, 1974.

Doyle, C. Stress isn't such a killer after all. Observer, 9, 1975.

Doyle, G.T., and Forsyth, R.A. Relationship between teacher and student anxiety levels. Psychology in the Schools, 1973, 10, 231.

Dreyfuss, F., and Czakes, J.W. Blood cholesterol and uric acid of health medical students under stress of examination. Archives of International Medicine, 1959, 103, 798.

Dunham, J. Stress in schools. Birmingham, England: National Association of Schoolmasters and Union of Teachers, 1976.

Erickson, J., Pugh, W.M., and Gunderson, E.K. Status congruency as a predictor of job satisfaction and life stress. Journal of Applied Psychology, 1972, 56, 523-525.

Foster, R.E. Burnout among teachers of severely handicapped, autistic children. The Pointer, 1980, Winter, 24-28.

Freese, A.F. Understanding stress. Public affairs pamphlet No. 538, New York, 1976.

French, J.R.P., and Caplan, R.D. Psychosocial factors in coronary heart disease. Industrial Medicine, 1970, 39, 383-397.

French, J.R.P., and Caplan, R.D. Organizational stress and individual strain. In Marrow (Ed.), The failure of success. New York: Amacon, 1973, 30-66.

French, J.R.P., Tupper, C.J., and Mueller, E.I. Workload of university professors. (Unpublished research report). Ann Arbor, Mich.: University of Michigan, 1965.

Freudenberger, J.H. The staff burnout syndrome in alternative institutions. Psychotherapy: Theory, Research and Practice, 1975, 12, 73-82.

Frew, D.R. Management of stress. Chicago: Nelson-Hall, 1977.

Friedman, M., and Rosenman, R.H. Type A behavior and your heart. New York: Knoff, 1974.

Friedman, M., Rosenman, R.H., and Carroll, V. Changes in serum cholesterol and blood clotting time in men subjected to cyclic variations of occupational stress. Circulation, 1958, 17, 852-861.

Fuller, F.F. Concerns of teachers: A developmental conceptualization. American Educational Research Journal, 1969, 6, 207-226.

Gier, D.L. An investigation of dogmatism and stress of elementary student teachers. Doctoral dissertation, University of Michigan, 1970.

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

Gough, R.G. The induction year - a sociological focus. Master of Science thesis, University of London, 1974.

Gowler, D., and Legge, K. Stress and external relationships - the 'hidden contract'. In D. Gowler and K. Legge (Eds.), Managerial stress. Epping: Gower Press, 1975.

Green, A., Green, E., and Walters, D. Voluntary control of internal states: Psychological and physiological. Journal of Transpersonal Psychological, 1970, 2, 1-26.

Greenwood, J.W., and Greenwood, J.W. (Jr.). Managing executive stress - a systems approach. New York: John Wiley and Sons, 1979.

Grinker, R.R., and Spiegel, J.P. Men under stress. Philadelphia: Blakiston, 1945.

Gunderson, E.K., and Rake, R.H. Life stress an illness. Illinois: Charles C. Thomas Publishers, 1974.

Hall, D.T. Careers in organizations. Santa Monica, CA.: Goodyear Publishing, 1976.

Hall, F.S., and Hall, D.T. The two career couple. Massachusetts: Addison-Wesley, 1979.

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

Hembling, D.W., and Gilliland, B. Is there an identifiable stress cycle in the school year? The Alberta Journal of Educational Research, 1981, 27, 324-330.

Hinkle, L.E. The concept of stress in the biological and social sciences. Science, Medicine, and Man, 1973, 1, 31-48.

Hinton, M.G. Teaching in large schools. Headmaster's Association Review, 1974, 72, 122-128.

Holland, R.P. Special educator burnout. Educational Horizons, 1982, 60, 58.

Holmes, T.H., and Rahe, R.H. The social readjustment rating scale. Journal of Psychosomatic Research, 1967, 11, 213-218.

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

Kahn, R.L., Wolfe, D.M., Quinn, R.P., Snalk, J.E., and Rosenthal, R.A. Organizational stress. New York: Wiley, 1973.

Kane, J.S. Work alienation and the dynamics of intrinsic fulfillment. Unpublished doctoral dissertation, University of Michigan, 1977.

Kaplan, C. Mental health and human relations in education. New York: Harper and Row, 1959.

Kearney, G., and Sinclair, K.E. Teacher concerns and teacher anxiety: A neglected topic of classroom research. Review of Educational Research, 1978, 48, 273-290.

Keith, V. Design and analysis in experimentation. Ottawa: University of Ottawa Press, 1972.

Kelly, A.V. Teaching mixed ability classes. London: Harper and Row, 1974.

Kendell, S. An investigation into stress factors and levels of stress as perceived by regular classroom teachers of Newfoundland and Labrador. Unpublished Masters thesis, Memorial University of Newfoundland, 1982.

Kendell, S., and Thornburn, B. A study on teacher stress. Unpublished paper, Memorial University of Newfoundland, 1982.

Kerps, B., and Pasthuma, A. Beyond stress and coping: Women's place and stress. Homemaker's Magazine, 1982, 4, 20-36.

Kramer, M. Reality shock. St. Louis: C.V. Mosley, 1974.

Kremen, B.J., and Owen, G. Stress in the life of the counselor. The School Counselor, 1979, 27, 40-45.

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

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

Kyriacou, C., and Sutcliffe, J. Teacher stress and satisfaction. Educational Research, 1979, 21, 89-96.

Lazarus, R.S. Psychological stress and the coping process. New York: McGraw-Hill, 1966.

Lazarus, R.S. The concepts of stress and disease. In L. Levi (Ed.), Society, stress and disease, Vol. 1. London: Oxford University Press, 1971.

Lazarus, R.S. Cognitive and coping processes in emotion. In A. Monat and R. Lazarus (Eds.), Stress and coping: An anthology. New York: Columbia University Press, 1977.

Lazarus, R.S., and Launier, R. Stress-related transactions between person and environment. In L.A. Pervin and M. Lewis (Eds.), Perspectives in Interactional Psychology, 1978.

Lortie, D.C. Observation on teaching as work. In R.M.W. Travers (Ed.), Second handbook of research on teaching. Chicago: Rand McNally, 1973.

Lortie, D.C. Schoolteacher: A sociological study. Chicago: University of Chicago Press, 1975.

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

MacBride, A. Stress on the job is a $13 billion problem for industry. The Globe and Mail, 1981, November 9, p. 3.

Mackiel, J. Positive mental health for teachers. The Clearing House, 1979, 52, 307-310.

Manera, E.S., and Wright, R.E. Can you identify your source of stress? The Clearing House, 1981, 55, 53.

Manitoba Teachers Society, Teachers and Stress, March, 1981.

Margolis, B.L., Kroes, W.H., and Quinn, R.P. Job stress: An unlisted occupational hazard. Journal of Occupational Medicine, 1974, 16, 654-661.

Marland, M. Head of department. London: Heinemann, 1971.

Maslach, C. Burned-out. Human Behavior, 1976, 5, 16-22.

Maslach, C., and Pines, A. The burnout syndrome in the day care setting. Child Care Quarterly, 1977, 6 (2), 100-113.

Maslach, C., and Jackson, S.E. A scale measure to assess experienced burnout. The Maslach Burnout Inventory. Paper presented at the convention of the Western Psychological Association, San Francisco, April 1978.

Mason, J. Don't eliminate tension - use it! Business Management, August, 1964.

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

McGuire, W.H. Teacher burnout. Today's Education, 1979, 68, 5-10.

McLaughlin, J.W., and Shea, J.T. California teachers: job dissatisfactions. California Journal of Educational Research, 1960, 11, 216-224.

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

McLean, A.A. Job stress and the psychosocial pressures of change. Personnel, 1976, 53, 40-49.

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 1982.

Meadow, K.P. Burnout in professionals working with deaf children. American Annals of the Deaf, 1981, 126, 13.

More, D.M., and Kohn, N. (Jr.). Some motives for entering dentistry. In H.M. Vollmer and D.L. Mills (Eds.), Professionalization. Englewood Cliffs, N.J.: Prentice-Hall, 1966.

Morris, J. Managerial stress and the cross of relationships. In D. Gowler and K. Legge (Eds.), Managerial stress. Epping: Gower Press, 1975.

Morse, R.D., and Furst, M.L. Stress for success: A holistic approach to stress and its management. New York: Van Nostrand Reinhold Company, 1975.

National Education Association. The pressure cooker world of the teacher. NEA Reporter, 1979, 18 (6), 79-94.

Needle, R.H., Griffin, T., Svendsen, R. Occupational stress: Coping and health problems of teachers. The Journal of School Health, March 1981, 175-181.

Needle, R.H., Griffin, R., Svendsen, R., and Berney, C. Teacher stress: sources and consequences. The Journal of School Health, 1980, 50, 37-39.

Newell, R.C. Teacher stress. American Teacher, January 1979, 15-18.

Olander, J.T., and Farrell, M.E. Professional problems of elementary teachers. Journal of Teacher Education, 1979, 21, 276-280.

Pahl, J.M., and Pahl, R.E. Managers and their wives. London: Allen Lane, 1971.

Payne, R. 'A' type work for 'A' type people? Personnel Management, 1974, 7, 22-24.

Perlman, B., and Hartman, E.A. A critical analysis of the phenomenon we label "burnout". Paper presented at the Seventh Annual Study Session, Association for Rural Mental Health, Madison, Wisconsin, June 1979.

Pines, A., and Kafry, D. Occupational tedium in the social services. Social Work, 1978, 23, 499-507.

Piotrkowski, C. Work and the family system. New York: Free Press, 1979.

Pratt, J. Perceived stress among teachers: The effects of age and background of children taught. Educational Review, 1978, 30 (2), 3-14.

Price, L.W. Organizational stress and job satisfaction in public high school teachers. Doctoral dissertation, Stanford University, 1970.

Price, R.H., and Cherniss, C. Training for a new profession: Research as social action. Professional Psychology, 1977, 8, 222-231.

Pulvermacher, G. Cool down before you burn out: Some of the nicest people succumb to on-the-job stress. Flare, 1981, July.

Rabkin, J.G., and Struening, E.L. Life events, stress, and illness. Springfield, Ill.: Charles C. Thomas, 1974.

Rapaport, R., and Rapaport, R.N. Dual career families re-examined. London: Martin Robertson, 1978.

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

Roth, R.H. Incongruence of perceived role expectations and positional stress: in England and the U.S. Doctoral dissertation, Duke University, 1967.

Rothman, E.P. Troubled teachers. New York: David McKay Co., Inc., 1977, 253.

Rotter, J.B. Generalized expectencies for internal vs external control of reinforcement. Psychological Monographs, 1966, 80, 1-28.

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

Russek, H.I., and Sohman, B.L. Relative significance of heredity, diet, and occupational stress in CHD of young adults. American Journal of Medical Science, 1958, 235, 266-275.

Sales, S.M. Differences among individuals in affective, behavioural, biochemical and physiological responses to variations in work load. (Doctoral dissertation). Ann Arbor, Mich.: University Microfilms, No. 60-18098, 1969.

Sarason, S.B., Sarason, E., and Cowden, P. Aging and the nature of work. American Psychologist, 1975, 30, 584-593.

Seligman, M. Helplessness: On depression, development, and death. San Francisco: Freeman, 1975.

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

Selye, H. Stress without distress. New York: J.B. Lippencott Company, 1974.

Selye, H. The stress of life. (rev. ed.). New York: McGraw-Hill, 1976.

Shirom, A., Eden, D., Silberriasser, S., and Kellerman, J.J. Job stresses and risk factors in coronary heart disease among occupational categories in Kibbutzin. Social Science and Medicine, 1973, 7, 875-892.

Simpson, J. Stress, sickness, absence, and teachers. In National Association of Schoolmasters (Ed.), Stress in schools. Birmingham, England: National Association of Schoolmasters and Union of Teachers, 1976.

Sparks, D. A biased look at teacher job satisfaction. The Clearing House, 1979, 52, 447-449.

Sparks, D. A teacher center tackles the issue. Today's Education, 1979, 68, 37-39.

Sylvester, R. Stress. Instructor, 1977, 86, 72-76.

Sylvester, R. Stress and the classroom teacher. Education Digest, 1977, 42, 14-17.

Taylor, J.K., and Dale, I.R. A survey of teachers in their first year of service. University of Bristol, 1971.

Teacher burnout: A national issue says NEA Panel. NEA Reporter, 1979, 18, 7-10.

The Times Educational Supplement (London), 1975, December 5.

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

Walsh, D. Classroom stress and teacher burnout. Phi Delta Kappan, 1979, 61, 253-264.

Wan, T. Status stress and morbidity: A sociological investigation of selected categories of work -limiting chronic conditions. Journal of Chronic Diseases, 1971, 24, 453-468.

Warr, P., and Wall, T. Work and well being. Harmondsworth: Penguin, 1975.

Weiskopf, P.E. Burnout among teachers of exceptional children. Exceptional Children, 1980, 47, 18-23.

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

Wolff, H.G. and Goodell, H. Stress and disease (2nd ed.). Springfield, Illinois: C.C. Thomas, 1968.

Wright, H.B. Executive ease and disease. Epping: Gower Press, 1975.

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

APPENDICES

APPENDIX A

Letters of Correspondence

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

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.

September 13, 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

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

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

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

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

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 <u>each</u> 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

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

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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

TO: NTA Representative

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

SUBJECT: Enclosed Questionnaires and Stress Scales

Enclosed are: (1) the General Information Questionnaire, (2) the Wilson Stress Scale and Supplement and (3) an Explanatory Sheet to all respondents for each staff member of the school. In addition, could you insure that any of the specialist staff assigned to the school (even on a part-time basis) be asked to fill out the same instruments? (Extra copies are provided for this purpose.) Such specialists include the following: Music, Physical Education, Guidance, Special Education, Librarian, Home Economics, Industrial Arts. School administrators are also asked to fill out the instruments.

The instruments could be filled out in a single group session, if it could be arranged. If such a group session cannot be arranged, it is acceptable to leave the forms with each teacher and specialist and arrange a time to pick up the completed forms. Only 15 to 20 minutes should be required to fill out both forms.

If at all possible, we would appreciate receiving the forms by the end of April.

Your cooperation and assistance in this study is most appreciated.

TO: NTA Representative or School Official

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

SUBJECT: Sampling of Teachers from _____ School

Only _____ of the _____ teachers in _____ school are to be included in the sample for this study. Such a procedure is followed, in this case, to avoid having a preponderance of teachers from any one grade level or type of school in the overall sample.

Could you be so kind as to request every _____ teacher on the alphabetical teacher roll to complete the enclosed instruments? Also, could you insure that any specialists (e.g., Music, Physical Education, Guidance, Special Education, Librarian, Home Economics, Industrial Arts) are included in the sample? Extra forms are included for this purpose.

Thank you for your assistance. The completed forms will be picked up by the NTA representative.

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

APPENDIX B

Instruments

1) General Information Sheet

2) Local Scale

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: (include 1981-82 year)
   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 specialty:

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+ _____

	Never	Seldom	Sometimes	Often	Very Often
OTHER					
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 _____