









**An Investigation into the Physical and Psychological  
Stress Factors that Elementary Teachers Experience:  
Recommendations to Boards and Personal Calming Strategies**

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## Abstract

The primary objective of this study was to identify and describe the physical and psychological stress factors that elementary school teachers experience and how teachers cope with stress. A secondary objective was to offer boards and teachers potential coping strategies counteracting stress and the effects of stress.

The sample consisted of 120 elementary teachers from southern Ontario. Ten elementary schools were randomly chosen.

The Teacher Stress Inventory questionnaire (Fimian, 1989) was used. Data were analyzed using a variety of statistics. Test norms and interpretations were performed based on standard results obtained from the author of the questionnaire (Fimian, 1988).

Overall, the results indicated that work-related stressors were the main factor for teacher stress. This included such factors as caseload/class is too big, too much administrative paperwork, and having little time to prepare lessons. Implications for further research and practical suggestions for further research are discussed. Also a variety of recommendations to boards and for individual use are discussed. Some recommendations are having counselling available for teachers, workshops on how to handle stress, and learning how to breathe and using calm visualization.





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## CHAPTER ONE: THE PROBLEM

### Introduction

In order to get a thorough understanding of stress, it is helpful to consider the etymology of stress. It stems from the Latin *stringere*, which translates to draw tight and from other derivatives as to tax or to exert (Driskell & Salas, 1996). Thus, from its early origin we have a strong message of what stress means—it restricts, it strains, and it taxes (Driskell & Salas).

Stress is an overused term and it may mean many different things to many people (Lowe & Northcott, 1986). For the purpose of this investigation, a stressor is “an event or condition to which the individual reacts negatively” (Lowe & Northcott, p. 15). Stress is the “employee’s negative response to a stressor” (Lowe & Northcott, p. 15). Temporary stress can be mildly discomforting. However, if the stress persists, major problems can develop (Lowe & Northcott). These problems can be physical, psychological, or a combination of both. However, it should be noted that some stress is necessary in our lives to some extent in order to get people motivated and challenged (Lowe & Northcott). It is the stress of a certain deadline, making a team, or achieving an A that enables the human psyche to develop and be nurtured; to make life meaningful (Lowe & Northcott). According to Selye (1974, p. 32), “complete freedom from stress is death.”

Some physical stressors that the human body must contend with are poor nutrition, inadequate warmth, and air pressure (Levi, 1967). The body must also contend with viruses, bacteria, accidents, and





unnecessary physical strain. These can cause high blood pressure, heart attacks, excessive fatigue, and headaches. Some psychological stressors are an unhappy marriage, financial insecurity, and strained working conditions. These can result in depression and a variety of anxiety disorders. According to Levi:

A difficult mother-in-law, a strict and demanding employer, or heartlessly joking companions may cause stress or even disease in many individuals as effectively as bacteria, poor nutrition, or persistently cold weather. (p. 35)

Jex (1998) believes that a great deal of stress may result from large differences between organizational values and employee values. According to Jex, "if an employee works for an organization with values extremely different from his or her own, it is quite possible this may cause the employee to experience stress over time" (p. 8).

Keita and Hurrell (1994) believe that a physically and mentally healthy workplace is a country's most valuable asset. However, the authors state:

There are signs that work related psychological disorders are a serious threat to the well-being of any workforce: Workers' compensation claims for psychological disorders are at unprecedented levels, and the number of books on the market about managing stress attest to national concern about the problem. Stresses and strains in the workforce manifest themselves in reduced productivity, increased absenteeism due to illness, and, most important, a decreased sense of personal well-being and effectiveness. (p. 25)



According to Fletcher (1991, p. 20), "lay people place stress and tension above traditional risk factors such as smoking, blood pressure and cholesterol levels as causes of heart attacks."

Some common symptoms of stress, according to Lowe and Northcott (1986) are "insomnia, headaches and tired muscles to ulcers and heart disease." Not only does job stress affect an employee's health, but it also crosses over to his/her personal life (p. 15). "Marital conflict, and divorce, family violence, unhappiness, social withdrawal, and accidents are some of the problems that can be influenced by job stress" (Lowe & Northcott, p. 13). According to the Globe and Mail, March 3, 1984 (as cited in Lowe & Northcott, p. 13), "it may therefore be no exaggeration to claim that stress is today's most debilitating medical and social problem"

This is a study of the physical and psychological stress factors that elementary teachers encounter on a daily basis and how they adapt to stress. Furthermore, this study will also provide plausible recommendation to boards of education to help eliminate and alleviate these stress factors. Some psychological stress factors include time management, work-related stressors (little time to prepare for lessons), professional distress (lack of promotion opportunities), discipline and motivation (attempting to teach students who are poorly motivated), and professional investment (lack of control over decisions made about the school). Some physical stress factors include fatigue manifestations (sleeping more than usual), cardiovascular manifestations (increased blood pressure), and gastronomical manifestations (stomach cramps).





## Background to the Problem

The problem of stress in the teaching profession is highly relevant. "Studies of teacher stress undertaken in the USA and Britain have found that up to one-third of teachers surveyed reported their job as stressful or extremely stressful" (Borg, Riding, & Falzon, 1991; Coates & Thoresen, 1976, as cited in Pithers & Soden, 1999, p. 51). Teachers must contend with a variety of stressful situations on a daily basis. These include increase of work role (work load, class sizes); student misbehavior (e.g., verbal and physical abuse to teachers as well as to other students); negative public perception (e.g., being overpaid and having a great deal of time off); unsupportive principals; and opposing interference from parents (e.g., parent councils and unsupportive parents). To further add to the stressful nature of the teaching work environment, most of these variables are out of the control of the teacher. According to Guglielmi and Tatrow (1998), many talented men and women enter the teaching profession with the noblest intentions of reaching out to young children and teaching. However, with the barrage of extraneous factors being continually thrown at them, much of their time is spent on issues other than teaching. These include disciplining students and meeting administrative demands.

The result is that teaching has become a highly stressful profession. On a broad level, this continues to cost boards of education thousands of dollars yearly in terms of employee absenteeism and stress-related symptoms (Griffith, Steptoe, & Cropley, 1999; Lowe & Northcott, 1986). The teaching profession in Ontario is currently undergoing a teacher shortage. "The Ontario College of Teachers called for an increase





of 2,000 teacher education places in each of the five years starting in 1999-2000, focused mainly in areas of impending shortages" (Twillie & Petty, 1990, p. 26). This is due to the fact that experienced teachers no longer want to put up with the myriad of changes taking place and are opting for early retirement. Many boards have introduced the 85 factor, which is a combination of a teacher's age and their years of teaching experience. Once teachers reach the number 85 they are entitled to receive their full pension. This basically eliminates 5 years of extra working.

On a more personal level, many teachers are suffering from a variety of physical and psychological stress factors on a daily basis (Cooper, 1995; Guglielmi & Tatro, 1998). These include "exhaustion, depression, estrangement from work, powerlessness, alienation, burnout, depersonalization, and the meaninglessness of work" (Cedoline, 1982; Cherniss, 1980; Cherniss, Egnatios, & Wacker, 1976; Dworkin, 1985, 1987; Dworkin et al., 1988; Ivanicki & Schwab, 1981; Maslach, 1978a, 1978b; Schwab & Ivanicki, 1982, as cited in Dworkin, Haney, Dworkin, & Telschow, 1990, p. 61). Individuals with a low concept of themselves and their abilities are more likely to suffer from feelings of depression and helplessness (Harter, 1999).

### Statement of the Problem

The primary objective of this study was to identify and describe the physical and psychological stress factors that elementary teachers experience and how teachers cope with stress. A secondary objective was to offer boards and teachers potential coping strategies for counteracting stress and the effects of stress.



### **Purpose of the Study**

The purpose of this study was to identify the physical and psychological stress factors that elementary school teachers experience and how they adapt to stress. It will also provide practical and concrete coping strategies which may be used by boards of education and individual teachers.

Stress has serious consequences which make it important to study it in relation to the profession of teaching (Pithers & Soden, 1999). The physical consequences are fatigue, nervous tension, and headaches (Pithers & Soden). High anxiety, emotional exhaustion, and depression are some of the psychological ramifications (Pithers & Soden). All of these "outcomes may result in poorer teaching performance, lowered job satisfaction and self-esteem, poor decision-making and bad judgement" (Eckles, 1987, cited in Pithers & Soden, p. 51). Furthermore, research on self-concept shows that individuals with low self-esteem and a low self-concept of their worth will suffer a negative effect on their abilities as teachers (Harter, 1999).

### **Questions to Be Answered**

1. What are the physical stress factors that elementary teachers experience?
2. What are the psychological stress factors that elementary teachers experience?
3. How do teachers adapt to stress?
4. What can boards of education do to help alleviate physical and psychological stress factors?





5. What are some techniques that individuals can do to alleviate the physical and psychological stress factors that they encounter?

### Definitions of Terms

**Adrenal Cortex:** The adrenal outer layer, or cortex, secretes about 30 steroid hormones, but only a few are secreted in significant amounts.

**Autonomic nervous system:** in vertebrate anatomy, one of the two main divisions of the nervous system, supplying impulses to the body's heart muscles, smooth muscles, and glands. The autonomic system controls the actions of the glands and the function of the respiratory, circulatory, digestive, and urogenital systems.

**Corticosteroids:** Any steroid hormone that derives from the outer layer or cortex of the adrenal gland.

**Elementary school:** "An elementary school is a school which includes any of the grades of kindergarten to eight" (Prosser, 1993, p. 5).

**Endocrine system:** group of specialized organs and body tissues that produce, store, and secrete chemical substances known as hormones. Because of the hormones they produce, endocrine organs have a great deal of influence over the body.

**Hypothalamus:** part of the brain, important in regulating the internal activities of the body.

**Physical stress symptoms:** "Physical strain that results in such health problems as fatigue, insomnia, headaches, and nervous tensions (Capel, 1987; Pratt, 1985, cited in Pithers & Soden, 1999, p. 51).

**Pituitary gland:** master endocrine gland in vertebrate animals.





The hormones secreted by the pituitary stimulate and control the function of almost all other endocrine glands in the body.

**Psychological stress symptoms:** mental or emotional strain that results in such health problems as “high anxiety, depressions, emotional exhaustion” (Capel, 1987; Pratt, 1985, cited in Pithers & Soden, 1999, p. 51).

**Self-concept:** “primarily reserved for evaluative judgments of attributes within discrete domains such as cognitive competence, social acceptance, physical appearance” (Harter, 1999, p. 5).

**Self-esteem:** “Focus is on the overall evaluation of one’s worth or value as a person” (Harter, 1999, p. 5).

**Tachycardia:** In arterial arrhythmia, the heart begins beating in a fast but irregular pattern known as fibrillation. Arterial arrhythmia can increase the risk that blood clots will lodge in the brain, causing a stroke.

### Rationale

It is important to investigate the physical and psychological stress factors that affect elementary school teachers and how they adapt to stress. The main reason is that while teachers are trying to cope with the various stress factors in their lives it is inevitably taking away their effectiveness as teachers (Eckles, 1987, cited in Pithers & Soden, 1999). This problem has existed for many years (Cooper, 1995). The result is that many professionals in the elementary teaching profession are working and living their lives in highly uncomfortable states. This ultimately affects their effectiveness as teachers (Eckles, 1987, cited in



Pithers & Soden). While teachers are being consumed by paper work, parental interference, large class sizes, and disruptive students, their emotional and physical reservoirs are being constantly drained (Griffith et al., 1999). If teachers did not have to contend with these variables, they could indeed put more effort into their work, bond more with students forming more workable relationships, and have an overall energized state of being (Cooper, 1995). This would result in more effective teachers, which would have tremendous impact on their students. A positive cycle is formed—effective, energized teachers will be better teachers. This will result in better taught children, which will ultimately benefit society as a whole.

Teachers being absent or taking extended leaves is costing boards of education considerable amounts of money on a yearly basis (Griffith et al., 1999; Lowe & Northcott, 1986). If eliminating or reducing the various factors that contribute to elementary teacher stress could be accomplished, perhaps some of the money saved could be put to use for other, much needed educational pursuits. Alleviating some of the stress factors that elementary teachers encounter will have positive effects for school boards, teachers, students, and the larger community.

### Theoretical Framework

Prominent Canadian scientist Dr. Hans Selye is the developer of the General Adaptation Syndrome (GAS) model. GAS describes the three phases the body undergoes while being exposed to stress. The first stage is the Alarm Reaction. The body's first reaction to a stressful event (severe burns, unreasonable boss) is alarm (Levi, 1967). A message is





sent from the hypothalamus and the pituitary. Then, from the autonomic nervous system and the endocrine glands, further changes are transmitted by the body to try to adapt to the stressors (Levi).

The second stage is the Stage of Resistance (Selye, 1974). If the stressor continues, the fight continues on a more defensive level (Levi, 1967). "The bodily signs characteristic of the alarm reaction have virtually disappeared, and the resistance rises above normal" (Selye, p. 39). At this stage, the production of the hormones of the adrenal cortex, the corticosteroids, and the production is stepped up.

The final stage is Exhaustion. According to Selye:

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

When looking at the physical and psychological stress factors, one must note the importance of self-concept. Individuals who have a positive self-concept, who feel that they are in control, and are more confident will suffer from lower rates of physical and psychological disorders associated with stress (Harter, 1999).

### Importance of the Study

The investigation of the physical and psychological stress factors of elementary teachers is important for a variety of reasons. Elementary school teachers in Ontario are accused by politicians, media, and much of the general public of merely babysitting, of having tremendous salaries for the work they do, and of having a ridiculous amount of time off. This



is a highly erroneous depiction of the work environment of 21st century elementary teachers (Hiebert, 1985). The reality of teaching is that teachers have to teach anywhere from 25 to 35 children. Many of these children have learning and behavioral problems. Many teachers have to purchase out of their own money necessary teaching supplies, many do not have textbooks, many do participate in extracurricular activities after school and on weekends, and many devote time after work to marking students' work. The starting salary for a beginning teacher is \$31,000 and this can go as high as \$68,000 with 10 years of teaching experience (Ontario Elementary Catholic Teacher' Federation, 2000, p. 40); but that is after 10 years of teaching and taking various courses to upgrade. By doing this investigation and identifying these stress factors and how teachers adapt to stress, and by providing some plausible recommendations to boards of education and elementary school teachers, teachers' working environments can be improved, making their jobs more enjoyable. This can result in retaining some talented teachers and attracting high-caliber individuals to the profession of elementary school teaching. Also, by supplying personal recommendations to help alleviate and cope effectively with the stress factors, teachers' personal lives can be made somewhat more relaxing. All these recommendations will, it is hoped, benefit the elementary teaching profession.

The results of this study would be of interest to boards of education. They should consider the various stress factors (work related, emotional manifestations) and helpful recommendations (reducing class size, mediation) to help maintain and attract highly talented and dedicated professionals to the field. Also, some of the recommendations





could possibly cut down considerably on the amount of money the boards must pay due to stress-related sick leaves of absence and days off. Teachers would also be interested in the results of the study. They can have validation of the long-held beliefs of the stress factors they are forced to deal with on a daily basis. They are also offered a variety of solutions that can benefit them professionally and personally.

The results of the study will most likely be used in the daily practice of the elementary teaching profession. Many of the stress factors that this contingent of teachers has had to contend with unnecessarily for years may be identified and alleviated. Again, eliminating or reducing some of the stress factors to which teachers are exposed will result in more energized and better teachers. This will have a direct, positive impact on students. They may experience closer bonds with teachers and may have enriched learning environments. Such experience will have a positive, long-lasting effect on society.

### Scope and Limitations of the Study

The sphere of observation in the present study was the stress factors of elementary school teachers. These factors were divided into the physical and psychological stress factors. Inasmuch as elementary teachers were thought to undergo stress in their work environments, the researcher developed an investigation that was intended to explore and expose variables that contributed significantly to teacher stress.

The present study has a number of limitations. These limitations set the parameters within which the study occurred. Among these limitations were: the number of participants was small (120); the data



may be biased because we were dealing with a Catholic school board; and the type of data collection procedures implemented, and the fact that the researcher was not present when instructions for completing the questionnaire were being given.

### Outline of the Remainder of the Document

Chapter Two serves to familiarize the reader with the related literature around the physical/psychological stress factors of elementary school teachers and the General Adaptation Syndrome.

The methodology of the present investigation is addressed in Chapter Three. That is, the methods used and the reasons for the implementation of these methods are discussed. The instrumentation and the procedures used for the purposes of data collection are also outlined and explained.

Chapter Four provides a detailed review of the research findings from the quantitative investigation. Appropriate tables are included to supplement the research findings.

Chapter Five provides a summary and discussion of the investigation. Conclusions are made about the results of the study and about the relation of these results to the literature reviewed. The implications of the research for practice and theory are discussed, as are recommendations for future research. Also, recommendations for boards of education and teachers are made to help alleviate such stress factors.





## CHAPTER TWO: REVIEW OF RELATED LITERATURE

### Introduction

To work and to live in any social group is to experience stress. In the workplace, stress may come from the work environment, the nature of the work, or job-related social interactions with clients, superiors, or colleagues (Dworkin et al., 1990). In recent years, our educational system has been highly scrutinized (Guglielmi & Tatrow, 1998). Also, at the same time the rewards of teaching have been greatly obscured by the poor working conditions in schools (Guglielmi & Tatrow). Increased job pressures and decreased job satisfaction have led to repeated statements in educational literature of the growing prevalence of teacher stress (Guglielmi & Tatrow). A large number of teachers describe their jobs as stressful (Borg, 1990; Kyriacou & Sutcliffe, 1978, cited in Griffith et al., 1999). A great deal of literature has tried to identify the stressors in the profession of teaching and their impact on well-being and health (Travers & Cooper, 1996, cited in Griffith et al.).

The following literature review discusses the physical and psychological stressors that teachers encounter. The subheadings of the literature reviewed in the chapter are the General Adaptation Syndrome, personal characteristics, organizational factors, physical results of stress, review of coping strategies, conclusion, and a refocus on the present study.

### General Adaptation Syndrome

In order to have a thorough understanding of stress and its effects on the physical and psychological parts of the human body, one





must become familiar with the work of Hans Selye. He is the originator of the General Adaptation Syndrome model, which examines the body's responses to stress. Selye's work has been documented for over 40 years.

In the book, The Stress of Life (1956), Hans Selye thoroughly examines the biological effects which stress has on the body and how the body adapts to stress. The book covers the evolution of stress. Selye describes how we all undergo stress, from the soldier in battle to the housewife who tries to discipline her children. He describes the mechanisms the body undergoes when it is attacked by stress. Selye goes on to describe his General Adaptation Syndrome model. GAS is divided into three phases. The first stage is the Alarm Reaction, where the body first encounters the stressor and shows characteristic changes. The second stage is the Stage of Resistance, where the body tries to adapt to the stressor. The final stage is the Stage of Exhaustion, where after long exposure to the stressor the body has become adapted but reaches the stage of exhaustion (see Appendix A). Selye describes the sicknesses the body undergoes when subjected to stress. These include mental derangements, cardiovascular diseases, and digestive disorders.

The book is best known for bringing Selye's General Adaptation Syndrome to the forefront. The Stress of Life is pivotal reading for anyone interested in gaining a thorough understanding of biological mechanisms the body undergoes.

In the book, Stress Without Distress (1974), Selye describes the physiological adaptations that the body undergoes to try to combat and even avoid the stress. He describes his well-known General Adaptation Syndrome (GAS) model in great detail.



However, in Stress Without Distress (1974) Selye makes a more philosophical examination of stress. He examines the place of God and faith in one's life as a way of dealing with stress. He examines how, in order for individuals to achieve some peace of mind, they must be actively engaged with work that is in the service of some cause they respect.

Stress Without Distress is an extension of The Stress of Life because it updates Selye's philosophy on gratitude. It focuses on doing work that is meaningful and can be of service to your fellow man, be it in the arts, medicine, etc.

#### Personal Characteristics

A variety of personal characteristics can affect teachers' stress. This part of the literature review analyzes such attributes as person-environment fit (personal attributes), a teacher's confidence level, personal hardiness, age, gender, and marital status.

Person-environment fit can be one factor linked to teacher stress. Pithers and Soden (1999) examined the relationship between person-environment fit and teacher stress. Generally, only limited support was found that incongruence in person-environment fit would result in significantly more strain and teacher stress. However, it was found that these employees do show significantly higher levels of strain, especially among women. It was also found that even though strain was not found to be widespread, if it persisted it could be damaging for teacher job performance. The authors recommended that the organization could do little to lessen the stress produced by person-environment fit. The





authors, however, did recommend some personal techniques to help alleviate stress, such as counselling and planned relaxation. The sample was relatively large: 300 Australian and Scottish vocational teachers. The study also used a valid statistical tool, the Occupations Stress Inventory. The study clearly defined its purpose and used appropriate data collection, and the results were not significant at the chosen alpha level. Yet, more research would need to be consulted.

Weller and Pearson (1985) examined the relationships among job stressors, personality characteristics, and coping strategies, as well as the impact of these variables on teacher stress. Correlations between work stressors and physical exhaustion were close to zero, indicating that the two do not affect one another. Also, there was no relationship among coping strategies, personality traits, and physical exhaustion. The fact that university faculty were surveyed as opposed to public school teachers makes a huge difference. Although both are teaching occupations, the demands, pressures, and daily duties are quite diverse.

Results of a study by Greenwood, Olejnik, and Parking (1990) indicated that teachers who believed they could motivate students to achieve better grades felt less stress and showed more locus of control (confidence, control of their classrooms) than did teachers who could not affect student performance. Generally, this study found that teachers who had more confidence in their teaching abilities and believed they could make a difference experienced less stress.

Holt, Fine, and Tollefson (1987) examined the relationship between hardiness and teacher stress. The participants were asked to report the number of stress-related physical and mental illnesses they



had experienced in the last 2 years. The sample of participants was divided into a high-stress group and a low-stress group. The results found a significantly higher frequency of physical illness in the high-stress group. These findings should be viewed with caution. An all-female sample of regular and special education teachers was used. The fact that males were not included weakens the results because the study focused only on females in the teaching profession and excluded the males. Also, the health measure used is vulnerable to contamination and its reliability and validity are weak. Participants were asked to report the number of stress-related illnesses they had experienced within the last 2 years. It is unlikely that the participants could accurately recount the number of times they were sick in the last 2 years and then further decipher if the sicknesses were related to stress.

Gold, Schwab, and Iwanicki (1982) examined the relation of age and teacher stress. It was found that less experienced teachers (0-5 years) experienced more exhaustion, stress, and higher degrees of depersonalization than experienced teachers (20 years plus). In a study conducted by Ayalon (1989) of first-year teachers, it was found that 42% of beginning teachers reported being frequently emotionally and physically stressed. It can be ascertained from the research that age is an important factor related to teacher stress.

Another factor to consider is whether gender has an influence on stress. In a study conducted by Richardson and Sistrunk (1988) males were found to perceive higher levels of depersonalization than females. It should be noted that the sample was small—only 120 high school teachers—so the results can not be that valid. However, Byne and Hall





(1989) used a more varied population. The results indicated that female teachers at the elementary and university levels experienced higher levels of emotional stress. Males demonstrated higher levels of depersonalization. There does seem to be some evidence that gender is a contributing variable that affects stress.

Marital and family status is another factor to consider in relation to teacher stress. Twillie and Petry (1990) compared the stress levels between married and unmarried teachers. The authors found that marital status had little influence on teacher stress. A study conducted by Byne and Hall (1989) revealed no significant differences between married and unmarried teachers.

In light of the literature consulted in the area of personal characteristics contributing to teacher stress, some general conclusions can be made. For person-environment fit and the characteristic of hardiness (psychologically stronger), more research would need to be consulted. It was found that teacher confidence (locus of control), age, and gender of teachers do have significant effects on teachers' stress levels. More confident teachers felt less stress. It also appears that the older and more experienced a teacher is, the less stress they will encounter. It also appears that males get less stressed than females. However, more research is needed.

### Organizational Factors

The organizational factors that were reviewed are work load, student misbehavior, professional recognition, professional isolation, and the effect principals have on teacher stress.



In a study by Boyle, Borg, Falzon, and Baglioni (1995), the authors focused on the multidimensional nature of teacher stress. They examined the direct effects from work load, student misbehaviors, time/resource difficulties, professional recognition needs, and poor relationships on the overall stress of teachers. While the method used was rigorous, a causal relationship between stressors and stress responses could not be established to be significant. The main reason was that the results were confounded because the teacher self-reports were possibly inflated.

Work load can be another factor that is related to teacher stress. Work load was defined as the number of subjects taught and number of students. It was found that work load was a significant factor in teacher stress in a study conducted by Mazur and Lynch (1989). Using the Maslach Burnout Inventory subscale, the  $p$  value was  $p < .01$  for personal accomplishment, and on the subscale of emotional exhaustion the  $p$  value was  $p < .01$ . Overall, the study was conducted properly and the sample size was adequate.

Professional isolation has also been linked to teacher stress. Teachers spend a great deal of time either by themselves or in the presence of children; this was how the authors defined professional isolation. Dussault, Deaudelin, Royer, and Loiselle (1999) examined the relation between professional isolation of teachers and their occupational stress. The teachers were elementary teachers (junior kindergarten to grade 6). The occupational stresses examined were student behavior, work load, and parental interference. The results of the study support that teacher professional isolation is positively related





with occupational stress. These authors stressed the importance of looking at techniques to reduce teachers' professional isolation. They believe that training programs built around peer collaboration, such as mentor programs and peer coaching, could help lessen teacher professional isolation. The study did have its limitations. The origin of the data and their correlational design did not allow the testing of causal relations. However, the study is important in several ways. It supports the theory of professional isolation of teachers and confirms the importance of supporting teachers. It also has a great deal of potential for further research because no one up to this point had ever assessed this relationship. Hence further research would be needed.

The principal of a school has an impact on teacher stress. Dworkin et al. (1990) examined the relationships among teacher job stress, stress-induced illness behaviors, and the support by principals and co-workers. It was found that the behavior of a principal is important in reducing the stress among teachers, and the support of co-workers plays no significant role. The authors recommended that principals include teachers in planning curriculum, showing them respect, and showing an interest in their work. This will communicate to teachers that their work is meaningful. However, the argument can be made that dissatisfied teachers are more likely to perceive their principals and co-workers as unsupportive. Further research in this area would be needed to properly address this concern.

Twillie and Petry (1990) reported finding that teacher stress resulted regardless of a supportive or nonsupportive working environment. A major factor related to the level of stress had more to do





with having a supportive or unsupportive principal. (A more supportive principal would lower their stress levels.) However, only 22 teachers from an urban elementary school and 19 teachers working in an inner-city school were used. Since the sample size was relatively small, the validity of the results is limited.

Another factor that is related to teacher stress is the principal's supervisory behavior. Richardson and Sistrunk (1988, 1989) completed two studies to determine whether supervisory behavior affected teacher stress. Generally, it was found that teachers who felt stressed perceived their principals to be directive. Teachers who reported low levels of stress described their principals as nondirective. Richardson and Sistrunk found a significant relationship between teachers' levels of stress and the principal's supervisory behavior. However, this study was limited in that the sample included only secondary school teachers.

Role ambiguity (not knowing what is required from them by administration) and routinization (basic routine) were examined in relation to stress. Conley, Bocharach, and Beura (1989) examined how these two factors predicted teacher stress. Both elementary and secondary teachers reported that role ambiguity and routinization were associated with teacher dissatisfaction. This study used a large sample size: 42 elementary and 45 secondary schools. This gave more credibility to the results. Role ambiguity and routinization are two factors that can affect teacher stress.

Coping responses and social support can also be linked to teacher stress. Griffith et al. (1999) assessed the associations among teacher stress, psychological coping responses (such as talking to someone), and



social support. It was suggested that behavioral disengagement (staying isolated from peers) may contribute to job stress. The study was well defined and used appropriate data collection procedures. There was a relatively large sample size and a good response rate of 53.3%. The authors looked at job stress independently of gender, age, class size, and occupational grade. Generally, it was found that coping and social support lessen the impact of stressors on overall well-being (both physical and psychological) and act to lessen the actual appraisal of environmental demands as stressful.

It has also been reported that pupil-related difficulties affect a teacher's stress. Brenner, Sorbom, and Wallium (1985) examined the relationship between teacher stress and pupil-related difficulties. The authors administered a questionnaire to a group of Swedish teachers twice during the school year. The authors made a methodologically sophisticated contribution to the literature by using the linear structural relationship (LISREL) method across subject and time to test the goodness of fit as it affects teacher stress. It was found that pupil-related difficulties led to psychological and physiological stress in teachers. However, the fit to other methods was not evaluated, so further research is required.

Guy Clayton (1989) identifies the realities of teaching and the stresses that teachers encounter. He reviews the current predicament in which teachers find themselves and proposes another area of stress that has not been discussed. Clayton argues that various factors push teachers to their limits, forcing individual teachers to break down (take stress leaves). The author believes that perfectly normal individuals will





behave out of character when they are exposed to extreme conditions. Being a teacher today has many intense sets of stresses which often leave people acting in ways they do not like and are powerless to control. One such pressure is an increasing punitiveness towards students, colleagues, and family members. Teachers see that this type of behavior is actually worsening their relationships, but they are unable to stop such behavior.

Bryan Hiebert (1985) summarized research on teacher stress in Canada. The first section of the report describes a model of stress. The second section deals with research relating to teacher stress in Canada. Common findings were grouped together from all regions of Canada. Canadian teachers reported on a variety of stressors. Student discipline problems and work overload were the two most common stressors. However, the level of stress reported by teachers was not extreme. The third section of the report deals with suggestions teachers can use to cope with stress. Some suggestions included decreasing class size, reducing teachers' instructional time, to even ensuring that staff meetings are capped to one hour.

Hiebert did a thorough job of reporting on teacher stress. Numerous teacher groups, educational associations, and various researchers in Canada that were working on teacher stress were surveyed. When the Canadian data appeared insufficient, he expanded the database to include research from other countries.

There are multidimensional organizational factors that can lead to teacher stress. These include work load and professional isolation. A major factor is having an unsupportive principal.





### Physical Results of Stress

This part of the literature review deals with some of the physical symptoms that can result from teacher stress. These include tachycardia, headaches, nocturnal urinary epinephrine, norepinephrine, and somatic complaints.

Kyriacou and Sutcliffe (1977) wanted to find out simply how stressful being a teacher was. The authors asked the one question and in the same questionnaire had a related checklist of stress-related symptoms (e.g., tachycardia and headaches). All correlations were found to be statistically significant. However, there were a number of problems with the study. The practical significance of the correlations appeared low, and several of the correlations reported were due to predictor-criterion contamination.

Kinnunen (1987) examined the relationship between self-reported stress and catcholiamin levels. Questionnaire data and nocturnal urinary epinephrine (E) and norepinephrine (NE) levels were obtained six times in the year. (Increased E and NE excretion levels are well established correlates of stress of exposure.) It was found that as the term progressed, self-reports of stress increased and the catcholiamin excretion decreased. This study was confounded because the catcholiamin method was not sensitive enough.

Job satisfaction can also be related to teacher stress. Meir, Melamed, and Aba-Freba (1990) examined how various indices of job satisfaction affected teacher stress. It was found that all satisfaction measures were significantly positively correlated with health outcomes. They also found a very high correlation between somatic complaint



scores and stress scores. However, this study was full of faulty statistical measures. The authors used the measures of job satisfaction, occupational satisfaction, and work satisfaction almost interchangeably. The reliability of these measures was also questionable. The occupational satisfaction scale was composed of three items, and the job satisfaction scale was made up of one question. The results were high because of extensive predictor-criterion overlap.

DeFrank and Stroup (1989) also examined the relation between teacher stress and job satisfaction. The authors found a significant correlation between the level of job satisfaction and somatic symptoms such as headaches and stomach pains. It would be helpful if researchers could find direct physical evidence related to stress to support their findings.

### Review of Coping Strategies

This section deals with suggestions for alleviating some of the stress on teachers. These suggestions include reducing the amount of time teachers work in isolation and assertiveness training courses.

Barry Farber (1991) identifies the etiology of teacher stress. These include student violence, classroom discipline, administrative insensitivity, bureaucratic incompetence, unreasonable or unconcerned parents, public criticism, involuntary transfers, overcrowded classrooms, public demands for accountability, excessive paperwork, loss of autonomy and sense of professionalism, inadequate salaries/lack of promotional opportunities, isolation from other adults, and role ambiguity.





Farber (1991) reviews the history of the development of stress. He discusses the alternatives available to combat teacher stress. These include involving teachers in decision-making, providing recognition for their current work, encouraging teachers to try new things, protecting teachers from impossible demands from parents, government, or the school board, and following up on requests with action, etc. He notes that these strategies may help lessen teacher stress but can never solve the problems that teachers face and that lead them to stressful states.

Cole and Walker (1989) examine the causes of stress in teaching, but also offer effective solutions. The authors state that teachers must face a variety of challenges on a daily basis. If teachers feel that the demands will be difficult or impossible, they are likely to experience stress. They will also feel bitter, frustrated, and suffer from low morale. Some strategies are offered. These include ensuring that teachers do not work in isolation, making time for quiet reflection daily, counselling among staff, more support offered to staff suffering from stress, improving teaching staff's self-esteem, helping them to rationalize work patterns, etc. The authors offer techniques in relaxation training exercises, assertiveness training, and helpful physical exercises.

Jack Dunham (1992) also provides a thorough analysis of the causes of stress in teachers and offers some solutions. Dunham offers three approaches to understanding the nature of stress in teaching. The first approach deals with the pressures exerted on teachers in schools. The second approach is concerned with the forms taken by teachers' reactions to these pressures. The third approach is concerned with both pressures and reactions and also coping strategies for teachers as they





attempt to cope with these stresses. His coping strategies range from having efficient work strategies, good organizational skills, having good relationships with senior colleagues, meditation, and exercise, to ensuring that staff selection of all personnel (especially senior administration) is done thoroughly and properly.

The research does offer some solutions to help teachers alleviate stress. Boards of education have to help implement these changes. In all fairness, it must be noted that many of the boards cannot go forward with some of the recommendations because of lack of funds. At the same time, some changes can be made and are desperately needed.

### The Present Study

Based on the aforementioned literature and empirical evidence, this study will identify the physical and psychological stress factors that elementary teachers encounter and will propose methods to alleviate such stressors.

### Conclusion

The work of Hans Selye provides a thorough understanding in his General Adaptation Syndrome model of what the body undergoes when it encounters stress.

There are a variety of personal characteristics that can heighten stress in individual teachers. These include locus of control, age, and gender.

For the organizational factors, all literature reviewed pointed to how an unsupportive principal can lead to an increase in teacher stress. Other factors are work load and professional isolation.



Stress can lead to physical diseases. However, it appears that more research is definitely needed to show a direct link between stress and actual physical changes.





## CHAPTER THREE: METHODOLOGY AND PROCEDURES

### Overview

This chapter explains the way in which data were collected, recorded, and analyzed throughout the investigation. A thorough and comprehensive description of the methodology and procedures used during this quantitative study is provided. These include sampling, instrumentation, data collection, data analysis, and the limitations of the study.

### Instrumentation

This investigation was quantitative in nature. Quantitative research, according to Vierra, Pollock, and Golex (1992, p. 22) "is usually highly focused and always involves some kind of enumeration or real-world events." The present investigation used the Teacher Stress Inventory test questionnaire (Fimian, 1989) to attempt to find the prevalence of certain stress factors.

The first part of the questionnaire examined demographic information such as gender, age, and number of years taught. The second part was a self-report, Likert-type test on a 5-point scale. On the scale, number 1 represents no strength, increasing to number 5 which represents major strength. It is meant to assess the teacher's perceived levels of stress in time management, work-related stressors, professional distress, discipline and motivation, professional investment, emotional manifestations, and behavioral manifestations. Some sample questions from the test are: I easily overcommit myself; there is too much work to do; I need more status and respect on my job; and I lack control over decisions made about classroom/school matters.



### Participants

Before beginning the investigation, the researcher was required to meet the ethical considerations of the Brant Haldimand-Norfolk Catholic District School Board. Permission was received from the Superintendent of Human Resources to proceed with the investigation. Also, permission was required from the ethics committee of the Brock University Ethics Board, and this was also received.

The participants were from 10 schools within the board. Two of the schools are considered to be rural schools, and the remaining 8 are city schools. In total, 120 teachers worked at the 10 schools, and 35 teachers answered the questionnaire. The participants ranged in age from early 20s to late 50s, with years of teaching experience from 0 to 28; 75% were female (due to the very nature of the profession). The majority had one university degree, and their teaching qualifications were from mid to high SES; the majority were white Catholics, and their first language was English. Participants were the elementary teachers within the 10 schools surveyed that volunteered to complete the questionnaire. The elementary teachers included as participants taught from junior kindergarten to grade 8.

### Procedure

The principals of the selected schools were inserviced by the researcher regarding the research and how to administer the Teacher Stress Inventory questionnaire to ensure accuracy and completeness. The principals were given a script (see Appendix B) outlining what to say to ensure sameness. At the inservice, each principal received sufficient





questionnaires for all the teachers on his/her staff. At staff meetings, principals advised staff of the questionnaires and how they should be filled out, and advised that the completed questionnaires had to be returned to the researcher (via envelopes in interoffice mail) by a specified date. A cover letter explaining the purpose of the study was sent to participants along with the questionnaire.

Participants were not required to include their names on the questionnaire, thus ensuring anonymity and confidentiality. All completed questionnaires were stored in the researcher's office in a locked filing cabinet. Only the researcher and faculty advisor had access to the completed questionnaires. Following completion of the research, all questionnaires were to be shredded. Also, following completion of the research and approval of the thesis, the researcher will send results of the study to all the participating schools.

Following analysis of the data, the principal of each school involved in the study was sent a letter outlining the results and was asked to share the information with staff at the next staff meeting. They were also asked to display the results on the staff room bulletin board.

### Data Analysis

The Teacher Stress Inventory was hand-scored. "It consists of 10 subscales, each subscale being composed of three to eight items" (Fimian, 1988, p 19). Subscales were scored one at a time. Each subscale had specific scoring directions at the end of each section. Each subscale was scored until one mean item score was derived for each. The total stress score was derived from the sum of mean items divided by the total number of the 10 subscales.





Several statistical analyses were completed using SPSS for each of the 10 subscales: mean, standard deviation, scale intercorrelations, test norms, and interpretations.

### Methodological Assumptions

The foundations of the study required that assumptions be made about the participants and the study itself. The researcher acknowledged that the following assumptions were cogent in the investigation:

1. The principals did a thorough job explaining the intent of the questionnaire.
2. The participants took the questionnaire seriously and tried to be unbiased in their answers.
3. The participants understood the term “stress” and also had some experiences with stress.
4. The participants would not discuss the questionnaire with other participants, which would bias the results.

### Limitations of the Study

The major limitation of the study was the manner in which the questionnaire was presented to the participants. The fact that the researcher could not be there to explain the reason for administering the questionnaire and that an authority figure told them about the questionnaire could have influenced why they chose to complete the questionnaire and how they answered.

Also, the researcher had no control over where the participants chose to complete the questionnaire. Ideally, it should be completed in the work environment. Also, the researcher had no control to ensure



that the participants filled out the questionnaire privately and did not discuss it with other participants. The researcher had no control over the level of participation due to the very nature of the study. Another limitation of the study was that the sample used were all working for a Catholic board. Being of a certain religious denomination may have biased their answers. The fact that all participants worked for such a board may have biased their answers.

### Restatement of the Problem

The primary objectives of this study were to identify the physical and psychological stress factors that elementary teachers experience and identify how these teachers adapt to stress. A secondary objective was to offer boards and individual teachers potential solutions to counteract stress and the effects of stress.

The researcher's intent was to identify the main causes and prevalence of stress that teachers face. In order to find a viable solution, one must be aware of the problem. Once the problem is clearly stated, then plausible recommendations can be made.

### Chapter Summary

This chapter addressed the methodology and the procedures implemented in this quantitative investigation.

The participants were elementary teachers who volunteered to complete the questionnaire. The investigation was voluntary and totally confidential. The test was hand-scored by the researcher. The main intent was to identify the prevalence of stress in the teaching





environment, identify which factors contribute most to teacher stress, and provide some plausible solutions to both the boards and individuals.



## CHAPTER FOUR: FINDINGS

### Introduction

This chapter presents the findings of the Teacher Stress Inventory questionnaire in a number of different ways. First, the mean and standard deviations of each section are tabulated. Also, the intercorrelations between each of the age of the respondents and all 10 subscales are tabulated, as well as the intercorrelations among the 10 subscales.

### Profile of the Respondents

According to the responses, the largest percentage of respondents were females (75%). The mean age of the respondents was 40 years. The mean number of years taught was 12. The mean class size was 25.1 students. All respondents were from the elementary panel (junior kindergarten to grade 8). The largest percentage of respondents (92%) taught in regular classrooms. As well, 92% of the respondents had a Bachelor's degree, with 8% having a Master's degree. All of the respondents felt that they were supported by their colleagues, and 97% felt that they were supported by their supervisors (see Table 1).

### Analysis

Table 2 shows the mean, standard deviation, and variance for each of the headings of the Teacher Stress Inventory. It ranks each category from the factor causing lowest stress to the factor causing highest stress for the respondents in the study.



Table 1

Profile of Respondents (N = 36)

<u>Demographics</u>	
Mean age	40
Mean years taught	12
Mean number of students	25
Level taught	Elementary
	<u>Responses (n)</u>
Type of students taught:	
Handicapped	1
Combination handicapped and nonhandicapped	2
Nonhandicapped	33
Degrees:	
Bachelor	33
Master	3
Doctorate	0
Peer support:	
Yes	36
No	0
Supervisor Support:	
Yes	35
No	1
Gender:	
Male	9
Female	27





**Table 2**  
**Mean, Standard Deviation, and Variance**

Subscale	Mean	Standard Deviation	Variance
Behavioral manifestations	1.6	.73	.53
Professional investment	2.0	.78	.61
Gastronomical manifestations	2.1	1.30	1.30
Professional distress	2.3	.75	.56
Fatigue manifestations	2.4	1.00	1.10
Cardiovascular manifestations	2.8	1.10	1.10
Emotional manifestations	2.9	1.20	1.40
Discipline and motivation	3.4	.90	.82
Time management	3.4	.66	.44
Work-related stressors	3.7	.80	.65



### Behavioral Manifestations

Behavioral manifestations ranked as the lowest, with a mean score of 1.6. Some questions in this section were: I respond to stress by using prescription drugs, by using alcohol, and by calling in sick. The standard deviation is .73, and the variance is .53.

### Professional Investment

The section pertaining to professional investment followed, with a mean score of 2.0. Some questions in this section were: my personal opinions are not sufficiently aired, I am not emotionally/intellectually stimulated on the job, and I lack control over decisions made about classroom/school matters. The standard deviation is .78, and the variance is .61.

### Gastronomical Manifestations

The section pertaining to gastronomical manifestations followed, with a mean score of 2.1. Some of the questions in this section were: I respond to stress with stomach pain of extended duration, with stomach cramps, and with stomach acid. The standard deviation is 1.3, and the variance is 1.3.

### Professional Distress

The section pertaining to professional distress followed, with a mean score of 2.3. Some of the questions in this section were: I lack promotion and/or advancement opportunities, I lack recognition for the extra work and/or good teaching I do, and I receive an inadequate salary





for the work I do. The standard deviation is .75, and the variance is .56.

### Fatigue Manifestations

The section pertaining to fatigue manifestations followed, with a mean score of 2.4. Some of the questions included in this section were: I respond to stress by sleeping more than usual, with physical exhaustion, and with physical weakness. The standard deviation is 1.0, and the variance is 1.1.

### Cardiovascular Manifestations

The section pertaining to cardiovascular manifestations followed, with a mean of 2.8. Some of the questions included in this section were: I respond to stress with feelings of increased blood pressure, with feelings of heart pounding or racing, and with rapid and/or shallow breath. The standard deviation is 1.1, and the variance is also 1.1.

### Emotional Manifestations

The section pertaining to emotional manifestations followed, with a mean score of 2.9. Some of the questions included in this section were: I respond to stress by feeling vulnerable, by feeling unable to cope, and by feeling anxious. The standard deviation is 1.2, and the variance is 1.4.

### Discipline and Motivation

The section on discipline and motivation followed, with a mean score of 3.4. Some of the questions included in this section were: I feel



frustrated because of discipline problems in my classroom, I feel frustrated attempting to teach students who are poorly motivated, and I feel frustrated when my authority is rejected by pupils/administration. The standard deviation is .90, and the variance is .82.

### Time Management

Time management ranked as the second highest stress factor, with a mean score of 3.4. Some of the questions related to this section were: I have little time to relax/enjoy the time of day, I feel uncomfortable wasting time, and there isn't enough time to get things done. The standard deviation is .66, and the variance is .44.

### Work-Related Stressors

Work-related stressors ranked as the highest stress factor, with a mean of 3.7. Some of the questions related to this section were: there is too much work to do, my caseload/class is too big, and there is too much administrative paperwork in my job. The standard deviation is .80, with a variance of .65.

### Intercorrelations

There was no significant correlation between any of the subscales and the age of the respondents, either at  $p < .01$  or at  $p < .05$  (2-tailed), with the exception of number of years taught ( $p < .01$ ). However, there was a significant correlation at  $p < .01$  for the respondents' overall stress level with all of the subscales except gastronomical manifestations, which was significant at  $p < .05$  (see Table 3).



Table 3

Correlations in Subscales

		Age	Years	Students	TM	WRS
Age	Pearson correlation	1.000	.792**	.086	-.126	.103
	Significance (2-tailed)		.000	.624	.470	.555
	N	35	35	35	35	35
Years	Person correlation	.792**	1.000	-.144	-.055	.025
	Significance (2-tailed)	.000		.409	.755	.888
	N	35	35	35	35	35
Students	Pearson correlation	.086	-.144	1.000	-.301	-.224
	Significance (2-tailed)	.624	.409		.079	.195
	N	35	35	35	35	35
TM	Person correlation	-.126	-.055	-.301	1.000	.569**
	Significance (2-tailed)	.470	.755	.079		.000
	N	35	35	35	36	36
WRS	Pearson correlation	.103	.025	-.224	.569**	1.000
	Significance (2-tailed)	.555	.888	.195	.000	
	N	35	35	35	36	36
PD	Pearson correlation	-.112	-.247	-.010	.180	.352*
	Significance (2-tailed)	.522	.152	.953	.292	.035
	N	35	35	35	36	36
DM	Pearson correlation	-.066	-.107	.231	.246	.283
	Significance (2-tailed)	.708	.542	.181	.149	.095
	N	35	35	35	36	36
PI	Pearson correlation	-.067	-.094	-.183	.208	.429**
	Significance (2-tailed)	.701	.592	.294	.223	.009
	N	35	35	35	36	36
EM	Pearson correlation	-.167	-.227	.103	.438**	.266
	Significance (2-tailed)	.336	.190	.556	.008	.123
	N	35	35	35	35	35
CM	Pearson correlation	-.332	-.326	-.247	.407*	.137
	Significance (2-tailed)	.051	.056	.153	.015	.432
	N	35	35	35	35	35
FM	Pearson Correlation	.094	.061	.181	.111	-.172
	Significance (2-tailed)	.590	.729	.297	.526	.323
	N	35	35	35	35	35
GM	Pearson correlation	-.117	-.138	.003	-.016	.186
	Significance (2-tailed)	.504	.431	.987	.926	.284
	N	35	35	35	35	35
BM	Pearson correlation	.140	-.141	.225	.046	.166
	Significance (2-tailed)	.424	.419	.194	.792	.341
	N	35	35	35	35	35
Overall	Pearson correlation	-.137	-.144	.533**	.513**	.471**
	Significance (2-tailed)	.433	.424	.000	.000	.004
	N	35	35	35	35	35







		PD	DM	PI	EM	CM
Age	Pearson correlation	-.112	-.066	-.067	-.167	-.332
	Significance (2-tailed)	.522	.708	.701	.336	.051
	N	35	35	35	35	35
Years	Pearson correlation	-.247	-.107	-.094	-.227	-.326
	Significance (2-tailed)	.152	.542	.592	.190	.056
	N	35	35	35	35	35
Students	Pearson correlation	-.010	.231	-.183	.103	-.247
	Significance (2-tailed)	.953	.181	.294	.556	.153
	N	35	35	35	35	35
TM	Pearson correlation	.180	.246	.208	.438**	.407*
	Significance (2-tailed)	.292	.149	.223	.008	.015
	N	36	36	36	35	35
WRS	Pearson correlation	.352*	.283	.429**	.266	.137
	Significance (2-tailed)	.035	.095	.009	.123	.432
	N	36	36	36	35	35
PD	Pearson correlation	1.000	.320	.460**	.203	.358*
	Significance (2-tailed)		.057	.005	.243	.035
	N	36	36	36	35	35
DM	Pearson correlation	.320	1.000	.467**	.510**	.098
	Significance (2-tailed)	.057		.004	.002	.577
	N	36	36	36	35	35
PI	Pearson correlation	.460**	.467**	1.000	.349*	.286
	Significance (2-tailed)	.005	.004		.040	.095
	N	36	36	36	35	35
EM	Pearson correlation	.203	.510**	.349*	1.000	.301
	Significance (2-tailed)	.243	.002	.040		.079
	N	35	35	35	35	35
CM	Pearson correlation	.358*	.098	.286	.301	1.000
	Significance (2-tailed)	.035	.577	.095	.079	
	N	35	35	35	35	35
FM	Pearson correlation	.033	.108	.249	.112	.391*
	Significance (2-tailed)	.850	.536	.149	.522	.020
	N	35	35	35	35	35
GM	Pearson correlation	.264	-.223	.107	-.041	.235
	Significance (2-tailed)	.126	.197	.541	.813	.174
	N	35	35	35	35	35
BM	Pearson correlation	.401*	.262	.409*	.349*	.239
	Significance	.017	.129	.015	.040	.168
	N	35	35	35	35	35
Overall	Pearson correlation	.591**	.492	.624**	.631**	.636
	Significance (2-tailed)	.000	.002	.000	.000	.000
	N	36	36	35	35	35

(table continues)



		FM	GM	BM
Age	Pearson correlation	.094	-.117	.140
	Significance (2-tailed)	.590	.504	.424
	N	35	35	35
Years	Pearson correlation	.061	-.138	-.141
	Significance (2-tailed)	.729	.431	.419
	N	35	35	35
Students	Pearson correlation	.181	.003	.225
	Significance (2-tailed)	.297	.987	.194
	N	35	35	35
TM	Pearson correlation	.111	-.016	.046
	Significance (2-tailed)	.526	.926	.792
	N	35	35	35
WRS	Pearson correlation	-.172	.186	.166
	Significance (2-tailed)	.323	.284	.341
	N	35	35	35
PD	Pearson correlation	.033	.264	.401*
	Significance (2-tailed)	.850	.126	.017
	N	35	35	35
DM	Pearson correlation	.108	-.223	.262
	Significance (2-tailed)	.536	.197	.129
	N	35	35	35
PI	Pearson correlation	.249	.107	.409*
	Significance (2-tailed)	.149	.541	.015
	N	35	35	35
EM	Pearson correlation	.112	-.041	.349*
	Significance (2-tailed)	.522	.813	.040
	N	35	35	35
CM	Pearson correlation	.391*	.235	.239
	Significance (2-tailed)	.020	.174	.168
	N	35	35	35
FM	Pearson correlation	1.000	.254	.370*
	Significance (2-tailed)		.141	.029
	N	35	35	35
GM	Pearson correlation	.254	1.000	.318
	Significance (2-tailed)	.141		.063
	N	35	35	35
BM	Pearson correlation	.370*	.318	1.000
	Significance (2-tailed)	.029	.063	
	N	35	35	35
Overall	Pearson correlation	.475**	.424**	.618**
	Significance (2-tailed)	.004	.011	.000
	N	35	35	35

(table continues)



**Note.** TM = time management; WRS = work-related stress; PD = professional distress; DM = discipline and motivation; PI = professional investment; EM = emotional manifestations; CM = cardiovascular manifestations; FM = fatigue manifestations; GM = gastronomical manifestations; BM = behavioral manifestations.

\* Correlation is significant at the .05 level (2-tailed). \*\* Correlation is significant at the .01 level (2-tailed).





### Time Management

Analyzing each of the subscales, there was found to be a significant intercorrelation of  $p < .01$  of time management with work-related stressors and emotional manifestations. This would indicate that someone with poor time management skills would have greater work-related stressors and emotional manifestations. At the  $p < .05$  level, time management had a significant intercorrelation with cardiovascular manifestations.

### Professional Distress

There was a significant intercorrelation at the  $p < .01$  level with professional distress and professional investment. This would indicate that for someone who invested a great deal, professional distress would have a higher level of stress with regard to professional investment. There was a significant intercorrelation at the  $p < .05$  level with work-related stressors.

### Work-Related Stressors

There was a significant intercorrelation at the  $p < .01$  level of work-related stressors with time management and professional investment. This would indicate that someone with work-related stressors would also experience higher stress with regard to time management and professional investment. There was a significant intercorrelation at  $p < .05$  with professional distress.

### Discipline and Motivation

There was a significant intercorrelation at  $p < .01$  of discipline



and motivation with professional investment and with emotional manifestations. This would indicate that someone who experienced stress with regard to discipline and motivation would also experience stress for professional investment and emotional manifestations. There was no significant intercorrelation at the  $p < .05$  level with any other subscale.

### Professional Investment

There was a significant intercorrelation at  $p < .01$  of professional investment with professional distress, work-related stressors, and discipline and motivation. This would indicate that someone who experienced stress in relation to professional investment would experience more stress in relation to professional distress, work-related stressors, and discipline and motivation. There was a significant intercorrelation at  $p < .05$  with emotional manifestations and behavioral manifestations.

### Emotional Manifestations

There was a significant intercorrelation at the  $p < .01$  level of emotional manifestations with time management and discipline and motivation. This would indicate that someone with high emotional manifestations would experience greater stress with regard to time management and with discipline and motivation. There was a significant intercorrelation at  $p < .05$  between emotional manifestations and behavioral manifestations.





### Cardiovascular Manifestations

There was not a significant intercorrelation at  $p < .01$  between cardiovascular manifestations and any other subscale (except overall stress). This would indicate that someone with high cardiovascular manifestations would not experience more stress with regard to time management, work-related stressors, emotional manifestations, etc. However, there were significant intercorrelations at the  $p < .05$  level with time management, professional distress, and fatigue manifestations. Although not significant, there was a marginally significant negative correlation between age and cardiovascular manifestations ( $-.332$ ). As age increased, the teachers' scores on the cardiovascular manifestations decreased, or vice versa, as cardiovascular manifestation scores increased age decreased. As teachers get older, they are better able to cope.

### Fatigue Manifestations

There was not a significant intercorrelation at the  $p < .01$  level between fatigue manifestations and any other subscale (except with overall stress). This would indicate that an increase in stress in fatigue manifestations would have no increased stress with regard to time management, work-related stressors, and professional distress, etc. However, there was a significant intercorrelation at the  $p < .05$  level with cardiovascular manifestations and behavioral manifestations.

### Overall Stress

There was not a significant intercorrelation at the  $p < .01$  level with any subscale, including overall stress. However, there was a significant intercorrelation with overall stress at the  $p < .05$  level.





### Behavioral Manifestations

There was a significant intercorrelation at the  $p < .01$  level between behavioral manifestations and professional distress, professional investment, emotional manifestations, and fatigue manifestations. This would indicate that as someone's stress level increased due to behavioral manifestations, so would the stress in relation to the variables mentioned. There was no significant intercorrelation at the  $p < .05$  level with any other subscale (except with overall stress).

### Test Norms and Interpretation

The developer of the Teacher Stress Inventory questionnaire (Michael Fimian, 1988) produced a table for reference group comparisons for regular elementary teachers. This was used as a baseline to compare how the respondents in this study compared. According to the table (see Figure 1), one must find the score within the range that is immediately smaller than the actual TSI (Teacher Stress Inventory) score, and then look at the leftmost column. This column indicates the decile range in which the respondent's score fell. The lower the decile range, the smaller the TSI score; the larger the TSI score, the higher the decile range.

Therefore, for behavioral manifestations, the respondents fell in the 70-79 decile range. For professional investment, the respondents fell in the 20-29 decile range. For gastronomical manifestations, the respondents fell in the 60-69 decile range. For professional distress, the respondents fell in the 20-29 decile range. For fatigue manifestations, the respondents fell in the 40-49 decile range. For cardiovascular manifestations, the respondents fell in the 80-89 decile range. For



Stress Sources					
Decile Range	Time Management	Work-Related Stressors	Professional Distress	Discipline & Motivation	Professional Investment
90 to 100 <sup>a</sup>	4.38*	4.33*	4.60*	4.40*	4.00*
80 to 89	4.00	4.00	4.00	3.83	3.50
70 to 79	3.75	3.67	3.80	3.50	3.25
60 to 69	3.50	3.50	3.40	3.17	3.00
50 to 59	3.38	3.33	3.00	2.83	2.50
40 to 49	3.13	3.00	2.80	2.50	2.25
30 to 39	2.88	2.80	2.40	2.17	2.00
20 to 29	2.50	2.33	2.00	1.83	1.75
10 to 19	2.00	2.00	1.60	1.33	1.25
0 to 9 <sup>b</sup>	2.00**	2.00**	1.60**	1.33**	1.25**

Stress Manifestations					
	Emotional	Fatigue	Cardiovascular	Gastronomic	Behavioral
90 to 100 <sup>a</sup>	4.20*	3.80*	3.33*	3.39*	2.00*
80 to 89	3.60	3.40	2.67	2.33	1.75
70 to 79	3.20	3.00	2.00	2.00	1.50
60 to 69	3.00	2.60	2.00	1.67	1.25
50 to 59	2.60	2.41	1.67	1.33	1.05
40 to 49	2.20	2.00	1.33	1.00	1.10
30 to 39	2.00	1.80	1.00	1.00	1.00
20 to 29	1.80	1.50	1.00	1.00	1.00
10 to 19	1.40	1.20	1.00	1.00	1.00
0 to 9 <sup>b</sup>	1.40**	1.00**	1.00**	1.00**	1.00**

Note. \* or above \*\* or below <sup>a</sup>high stress level, <sup>b</sup>low stress level.

**Figure 1.** TSI subscale/scale decile cut-off points for elementary teachers. ( $n = 791$ )

(Fimian, 1988, p. 24)



emotional manifestations, the respondents fell in the 50-59 decile range. For discipline and motivation, the respondents fell in the 60-69 decile range. For time management, the respondents fell in the 50-59 decile range. For work-related stressors, the respondents fell in the 70-79 decile range.





## CHAPTER FIVE: SUMMARY, CONCLUSIONS, AND IMPLICATIONS

### Summary

This study identified the physical and psychological stress factors that elementary teachers encounter on a daily basis and how they adapt to stress. Further, it provides recommendations to help alleviate stress (see Appendix C).

From the data collected using the Teacher Stress Inventory questionnaire, the sections dealing with psychological stress factors clearly show that work-related stressors provide the greatest amount of psychological stress for teachers. From the data collected using the questionnaire, the sections dealing with physical stress factors and how teachers respond to stress show that emotional manifestations rank the highest. In analyzing the intercorrelations among all the subscales, it was found that work-related stressors and time management are significantly correlated. The researcher found that even though behavioral manifestations ranked low in how teachers responded to stress, it was significantly intercorrelated to professional distress, professional investment, emotional manifestations, and fatigue manifestations. In comparing results for the board investigated with the test norms and baseline results, it can be concluded that the board's results fell within normal ranges.

### Discussion

The objectives of this study were to identify and describe the physical and psychological stress factors that elementary teachers experience and how teachers adapt to stress, and further, to offer boards, as well as individual teachers, some potential solutions. The questions



for which the researcher wanted answers were:

1. What are the physical stress factors that elementary teachers experience?
2. What are the psychological stress factors that elementary teachers experience?
3. How do teachers adapt to stress?
4. What can boards of education do to help alleviate physical and psychological stress factors?
5. What are some techniques that individuals can do to alleviate the physical and psychological stress factors that they encounter?

From the data collected using the Teacher Stress Inventory questionnaire, the sections dealing with psychological stress factors clearly show that work-related stressors provide the greatest amount of psychological stress for elementary school teachers. Some questions that this section includes are: there is little time to prepare for my lessons/responsibilities; my caseload/class is too big; and my personal priorities are being short-changed due to time demands. The ranking order of the other psychological stress factors from lowest to highest stress factor are: professional investment, professional distress, discipline and motivation, and time management.

The sections of the Teacher Stress Inventory questions dealing with physical stress factors and how teachers respond to the stress they experience show that emotional manifestations rank highest. Some of the responses that are included in this section are: I respond to stress by feeling insecure, by feeling unable to cope, by feeling depressed, and by feeling anxious. The ranking order of the other physical stress factors





and how teachers respond to stress from the lowest to highest are behavioral manifestations, gastronomical manifestations, fatigue manifestations, and cardiovascular manifestations.

In analyzing the intercorrelation between the age of the respondents and the level of stress, it was found to be significant. These findings support the findings in the literature reviewed in Chapter Two. Both Gold et al. (1982) and Ayalon (1989) reported that less experienced teachers (0-5 years) experienced more stress than more experienced teachers (20 years plus). However, the small size of the sample of respondents in the present investigation may have been a major limitation in analyzing the correlation between age and stress.

In analyzing the intercorrelations in all of the subscales, it was found that work-related stress was significant, as was time management. Since work-related stressors and time management ranked first and second among all of the subscales with their mean scores and were high and average in the baseline data, both subscales are definitely areas of concern. It appears that teachers feel that they have too much work to do and not enough time to do it.

The researcher found that even though behavioral manifestations ranked low in how teachers responded to stress, it was significantly intercorrelated with professional distress, professional investment, emotional manifestations, and fatigue manifestations, indicating that it may be a greater source of concern than was actually indicated by the respondents. Also, in comparing it with the baseline data, the respondents in our board scored at a high level of stress.

In comparing the results for the board investigated with the test





norms and baseline results supplied by the originator of the Teacher Stress Inventory (Fimian, 1988), the following conclusions can be made. Again, work-related stressors were in a high decile range. Time management fell in an average decile range. Discipline and motivation fell in an average to high decile range. Professional distress fell in a low decile range. Professional investment fell in a low decile range. Emotional manifestations fell in an average decile range. Behavioral manifestations fell in a high decile range. Gastronomical manifestations fell in an average decile range. Fatigue manifestations fell in a low decile range. Cardiovascular manifestations fell in a very high decile range.

Many of the findings in the present investigation support the already existing work in the literature reviewed in Chapter Two. The present study reaffirmed the findings of Dr. Hans Selye. In his book, The Stress of Life (1956), Selye examines the biological effects of stress on the body and how the body adapts to stress, and describes his General Adaptation Syndrome (GAS) model. The final stage of his model, the Stage of Exhaustion, in which, after long exposure to the stressor and having become adapted to stress, the body reaches the stage of exhaustion, applies to this study. Selye describes the sicknesses the body undergoes when subjected to stress. These include emotional, gastronomical, and cardiovascular diseases. The present investigation clearly showed that stress can cause these physical and psychological manifestations.

The present investigation found that workload, pupil-related difficulties, large class size, and lack of professional investment are all causes of teacher stress. This helps substantiate results from the



following studies in the literature: Boyle et al., (1995) dealing with the multidimensional nature of teacher stress; Mazur and Lynch (1989) dealing with work load as a source of teacher stress; Dussault et al. (1999) dealing with student behavior, work load, and parental interference as sources of teacher stress; and Brenner et al. (1985) dealing with pupil-related difficulties as a source of teacher stress.

The present study found that physical problems do result from stress. This can support the work of Kyriacou and Sutcliffe (1977), which used the related checklist of stress-related symptoms. It can also support the work of Kinnunen (1987) on the relationships between self-reported stress and catcholimin levels.

### Implications

This study confirms that teaching is a highly stressful occupation. This researcher was able to rank the stressful factors in order from least to most stressful. A good starting ground would be to examine what teachers report as being the most stressful factor and looking at practical ways to try to alleviate this stress, and then proceed to the next stressful factor and so on and so on. The occupation of teaching is a highly valuable one to society.

The findings of the study supported the theoretical basis of the study: mainly that, according to Selye (1956), if the body is exposed to long-lasting periods of stress, the body will enter into a stage of exhaustion and be susceptible to a variety of mental and physical disorders.

For further research, it would be interesting to be even more





focused and detailed as to the exact causes of teacher stress. By this, the researcher means to actively dissect each section of the Teacher Stress Inventory questionnaire and, under each section, find out which of the subheadings is the greatest source of stress and to further rank each of the subheadings in the sections. This could result in pinpointing the exact causes of stress and help researchers focus on more exact solutions. For instance, more research should be done in the areas of work-related stressors, time management, and behavioral manifestations.

Also, it would be helpful to conduct qualitative research using only one open-ended question, simply asking teachers what improvements they would like to see made to help alleviate some of the stressful factors they experience. Obviously, since they are working day to day with such stressors, they would provide the best answers.

A major limitation of the study was the way in which the questionnaire was distributed. The ideal situation would have been to have a group of randomly selected teachers together in one room, to have the researcher discuss the research and personally give instructions for completing the questionnaire, and to have the respondents complete the questionnaire right there and then. Having the researcher inservice the principals and the principals then inservice the teachers was a limitation. This most likely limited the number of completed surveys returned to the researcher. Also, another limitation of the research was the small sample size used. By using a larger sample, more statistical analysis could be performed, such as looking at how males versus females react to stress, and even looking at the stress levels according to





division (primary, junior, and intermediate).

### Conclusion

This was a study of the physical and psychological stress factors that elementary teachers encounter on a daily basis and how they adapt to stress. Furthermore, this study also provided some plausible recommendations for boards of education to hopefully help eliminate and alleviate these stress factors (Appendix C). The study has made significant contributions to understanding the sources of teacher stress. It ranked the stressful factors from the least to the highest, which resulted in the following order: behavioral manifestations, professional investment, gastronomical manifestations, professional distress, fatigue manifestations, cardiovascular manifestations, emotional manifestations, discipline and motivation, time management, with work-related stressors being the number 1 factor leading to stress among elementary school teachers.

The present study also supplied plausible solutions to be used by boards and individuals (Appendix C). It is hoped that some of these recommendations can be implemented. If not, at least an awareness can start to emerge that will focus on the area of how damaging and real the effects of stress are. The ultimate goal is that people will lead healthier lives, and this will have a ripple effect into the classrooms, leading to more energized and enthusiastic teachers. This in turn will lead to more enriched learning environments, which will ultimately benefit society.

People are being consumed by their jobs, and the teaching profession is no exception. There is a great deal of existing literature



that indicates that in order for a person to be healthy there must be a balance of the mind, body, and spirit. The researcher wishes to expand this by adding that there must be a balance of the mind, body, spirit, and workplace. It is time for boards of education to take notice of this and act accordingly and for individuals to honor their physical and psychological beings.





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## Appendix A

## The General Adaptation Syndrome

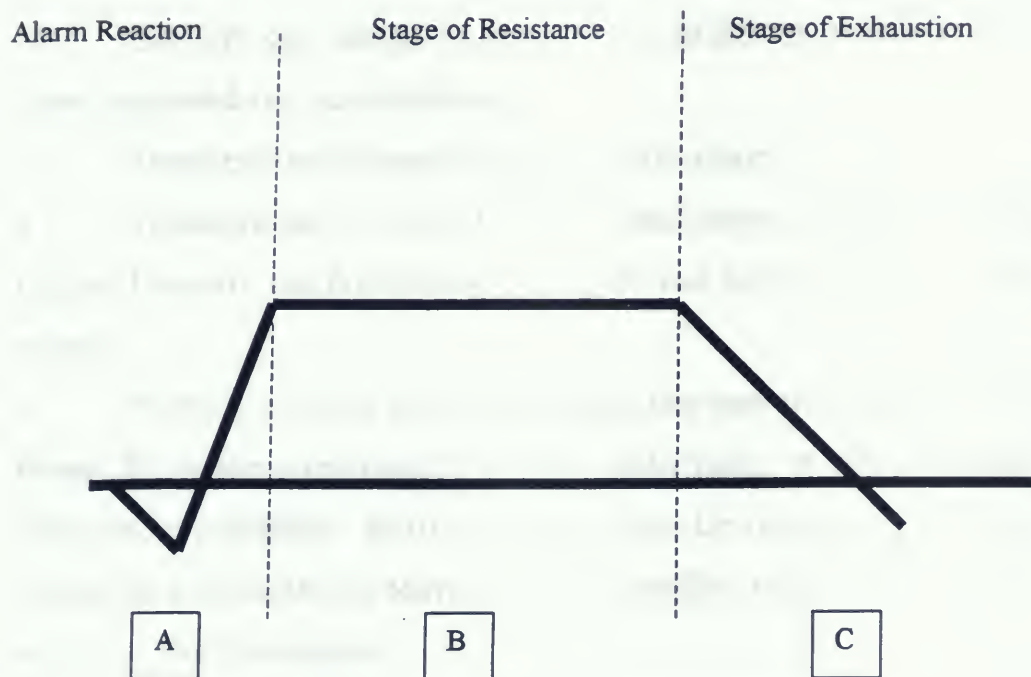


Figure 1. The three phases of the general adaptation syndrome. (G.A.S).

(Selye, 1956, p. 40)





## Appendix B

### Questionnaire

#### **Items to be mentioned by Principals**

- > This is research on the physical and psychological stress factors that elementary teachers experience. It is a thesis done by a teacher in our board who is completing her Master of Education degree. It will also provide recommendations to the board and to teachers on how to alleviate stress.
- > OECTA, our board, and the Board of Ethics at Brock University have approved the questionnaire.
- > Teachers' involvement is purely voluntary.
- > Teachers do not have to fill in their name or their school's name; this will ensure confidentiality. They do not have to tabulate their scores.
- > There is a cover letter explaining the research in more detail. Please fill in the questionnaire in your classroom. It will take about 15 minutes to complete. Return them to Lisa De Angelis at St. Patrick's School in Caledonia by March 9 via interoffice mail. (Do not put your name on the envelopes.)
- > If you have any questions, you may contact Lisa at St. Pat's at 765-4626.
- > Once the thesis is complete, all results will be shared with the board and the schools involved.
- > Thank you!



February, 2001

Dear Participant,

The following research project has been approved by the Brock University Ethics Board on February 12, 2001. The title of the research is "An Investigation into the Physical and Psychological Stress Factors that Elementary Teachers Experience."

This is a research project, and all participants are invited to participate on a strictly voluntary and confidential basis. The research is being conducted by Lisa De Angelis. I am a grade 7 teacher at St. Patrick's School in Caledonia, (905) 765-4626. I am conducting this research to complete my Master of Education degree at Brock University. My faculty advisor is Dr. Richard Bond, Professor of Education at Brock University, (905) 688-5550, ext. 4295.

The primary objective of this study is to identify the physical and psychological stress factors that elementary teachers experience and how teachers adapt to stress. A secondary objective is to offer boazrds, as well as individual teachers, potential solutions to counteract stress and the effects of stress.

You are required to fill out the questionnaire in your classroom. It should take no longer than 15 minutes of your time. At the end of each section there is a statement asking you to tabulate your score. **There is no need for you to tabulate the scores.** Please fill out the questionnaire by yourself and do not discuss it with co-workers. Once you have completed the questionnaire, please put it into an envelope and sent it to Lisa De Angelis, St. Patrick's School, Caledonia, by March 9, 2001. Some examples of the questions are on a scale of 1 to 5, with 1 being not noticeable and 5 being extremely noticeable how strongly you feel about: I feel uncomfortable wasting time; there is too much work to do; I lack promotion and/or advancement opportunities; I feel frustrated because of attempting to teach students who are poorly motivated. You may decline answering any or all questions.

Questionnaires do not require you to identify your name or school, so you will be kept anonymous and all questionnaires will be kept confidential. Only I and my faculty advisor will have access to the research data, and all data will be kept in a private office. After the research is complete, all questionnaires will be shredded. The results will be published in my thesis. Once it is complete, I will inform all the schools that participated and distribute the overall results of the research.

This study have been reviewed and received approval from the Brock



University Research Ethics Board, and participants who have concerns or questions about their involvement in the study may contact the Director of the Office of Research Services (905-688-5550, ext. 4315).

There are no potential harms or direct benefits to the participants of this study. The research participant has read and understood the relevant information, understands that he or she may ask questions in the future, and indicates free consent to research participation.

Regards,

Lisa De Angelis.





## Teacher Concerns Inventory

### Demographic Variables

Your sex: \_\_\_\_\_

Number of years you have taught? \_\_\_\_\_

Your age: \_\_\_\_\_

How many students do you teach each day? \_\_\_\_\_

What level students do you teach? (circle the rest of your answers)

Elementary

Middle School

Secondary

With what type of students do you work?

Nonhandicapped

Handicapped

Which is the most advanced degree you have?

Bachelor

Master

Doctorate

Do you and your peers support one another when needed?

Yes    No

Do you and your supervisors support one another when needed?

Yes    No

The following are a number of teacher concerns. Please identify those factors which cause you stress in your present position. Read each statement carefully and decide if you ever feel this way about your job. Then, indicate how strong the feeling is when you experience it by circling the appropriate rating on the 5-point scale. If you have not experienced this feeling, or if the item is inappropriate for your position, circle number 1 (no strength; not noticeable).

### Examples:

I feel insufficiently prepared for my job.

1   2   3   4   5

*If you feel very strongly that you are insufficiently prepared for your job, you would circle number 5.*



I feel that if I step back in either effort or commitment,  
I may be seen as less competent.

1 2 3 4 5

*If you never feel this way, and the feeling does not have noticeable strength, you would circle number 1.*

	1	2	3	4	5
HOW	no	mild	medium	great	major
STRONG	strength;	strength;	strength;	strength;	strength
?	not	barely	moderately	very	extremely
	noticeable	noticeable	noticeable	noticeable	noticeable

### Time management

1. I easily overcommit myself. 1 2 3 4 5
2. I become impatient if others do things too slowly. 1 2 3 4 5
3. I have to try doing more than one thing at a time. 1 2 3 4 5
4. I have little time to relax/enjoy the time of day. 1 2 3 4 5
5. I think about unrelated matters during conversations. 1 2 3 4 5
6. I feel uncomfortable wasting time. 1 2 3 4 5
7. There isn't enough time to get things done. 1 2 3 4 5
8. I rush in my speech. 1 2 3 4 5

Add items 1 through 8; divide by 8; place your score here:

### Work-related stressors:

9. There is little time to prepare for my lessons/  
responsibilities. 1 2 3 4 5
10. There is too much work to do. 1 2 3 4 5
11. The pace of the school day is too fast. 1 2 3 4 5
12. My caseload/class is too big. 1 2 3 4 5
13. My personal priorities are being shortchanged due  
to time demands. 1 2 3 4 5



14. There is too much administrative paperwork in my job. 1 2 3 4 5

Add items 9 through 14; divide by 6; place your score here:

### **Professional Distress**

15. I lack promotion and/or advancement opportunities. 1 2 3 4 5

16. I am not progressing in my job as rapidly as I would

like.

1 2 3 4 5

17. I need more status and respect on my job.

1 2 3 4 5

18. I receive an inadequate salary for the work I do.

1 2 3 4 5

19. I lack recognition for the extra work and/or good

teaching I do.

1 2 3 4 5

Add items 15 through 19; divide by 5; place your score here:

### **Discipline and motivation**

I feel frustrated . . .

20. because of discipline problems in my classroom.

1 2 3 4 5

21. having to monitor pupil behavior.

1 2 3 4 5

22. because some students would do better if they tried.

1 2 3 4 5

23. attempting to teach students who are poorly

motivated.

1 2 3 4 5

24. because of inadequate/poorly defined discipline

problems.

1 2 3 4 5

25. when my authority is rejected by pupils/

administration.

1 2 3 4 5

Add items 20 through 25; divide by 6; place your score here:





**Professional investment**

26. My personal opinions are not sufficiently aired. 1 2 3 4 5
27. I lack control over decisions made about classroom/  
school matters. 1 2 3 4 5
28. I am not emotionally/intellectually stimulated on  
the job. 1 2 3 4 5
29. I lack opportunities for professional improvement. 1 2 3 4 5

Add items 26 through 29; divide by 4; place your score here:

**Emotional manifestations**

I respond to stress . . .

30. by feeling insecure. 1 2 3 4 5
31. by feeling vulnerable. 1 2 3 4 5
32. by feeling unable to cope. 1 2 3 4 5
33. by feeling depressed. 1 2 3 4 5
34. by feeling anxious. 1 2 3 4 5

Add items 30 through 34; divide by 5; place your score here:

**Fatigue manifestations**

I respond to stress . . .

35. by sleeping more than usual. 1 2 3 4 5
36. by procrastinating. 1 2 3 4 5
37. by becoming fatigued in a very short time. 1 2 3 4 5
38. with physical exhaustion. 1 2 3 4 5
39. with physical weakness. 1 2 3 4 5

Add items 35 through 39; divide by 5; place your score here:



**Cardiovascular manifestations**

I respond to stress . . .

- |  |   |   |   |   |   |
|--|---|---|---|---|---|
| 40. with feelings of increased blood pressure. | 1 | 2 | 3 | 4 | 5 |
| 41. with feelings of heart pounding or racing. | 1 | 2 | 3 | 4 | 5 |
| 42. with rapid and/or shallow breath.          | 1 | 2 | 3 | 4 | 5 |

Add items 40 through 42; divide by 3; place your score here:

**Gastronomical manifestations**

I respond to stress . . .

- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 43. with stomach pain of extended duration. | 1 | 2 | 3 | 4 | 5 |
| 44. with stomach cramps.                    | 1 | 2 | 3 | 4 | 5 |
| 45. with stomach acid.                      | 1 | 2 | 3 | 4 | 5 |

Add items 43 through 45; divide by 3; place your score here:

**Behavioral manifestations**

I respond to stress . . .

- |                                      |   |   |   |   |   |
|--------------------------------------|---|---|---|---|---|
| 46. by using over-the-counter drugs. | 1 | 2 | 3 | 4 | 5 |
| 47. by using prescription drugs.     | 1 | 2 | 3 | 4 | 5 |
| 48. by using alcohol.                | 1 | 2 | 3 | 4 | 5 |
| 49. by calling in sick.              | 1 | 2 | 3 | 4 | 5 |

Add items 46 through 49; divide by 4; place your score here:

**Total score**

Add all calculated scores; enter the value here: \_\_\_\_\_

Then, divide by 10; enter the total score here: \_\_\_\_\_

(Fimian, 1988).



## Appendix C

### Recommendations from the Study

According to the present study, work-related stressors were the main cause of stress. In light of this, the following recommendations are being offered to boards of education to provide some possible solutions to help alleviate stress at both professional and personal levels.

Boards of education must seriously consider reducing class size, student misbehavior, and unnecessary parental involvement. These problems are embedded in public education. The following are strategies that boards should incorporate into their schools to help teachers cope better.

- Counselling among staff and more support offered for staff who are showing reactions to stress. This can start by getting staff together to talk about any stress they may be experiencing and sharing fears/problems, etc., with colleagues who are sympathetic to the situation. This can be accomplished by hiring experts in the field to come in regularly to conduct information sessions and also by hiring trained personnel to be on staff to deal with these problems. Boards should supply far more inservicing to provide a greater understanding of why stress occurs, and also help staff rationalize their work patterns and allow them to realize that they can do only so much.

Teachers need to know exactly what is expected from them by superiors, and they need to receive positive feedback about their work. It is also important to ensure that they do not work in isolation. It is very easy to spend the entire day in the classroom, surrounded by children and receiving no feedback about their work. School administrators need





to ensure that some socialization is occurring throughout day and that teachers are receiving some positive reinforcement.

Boards should offer regular workshops concerning stress management by professionals to help teachers cope with stress. Teachers should be made to feel valued by receiving recognition for effort as well as achievement (Dunham, 1992).

It also seems that teachers need more preparation time, and boards must look at cutting down on the amount of paperwork that teachers must deal with on a regular basis (i.e., improve the current standardized report card) and helping teachers easily maintain their day plans.

### Personal Calming Strategies

As well as using the recommendations to boards, teachers need to start taking a personal responsibility for maintaining their mental and physical health. The following are some personal calming strategies that can be used. Many of these strategies take only a few seconds. However, if done correctly they can be quite helpful in alleviating some of the effects of stress.

#### Breathing

One of the things observed about a stressed person is their breathing pattern. Their breath is shallow and rapid (Wilson, 1995). According to Wilson, "by being able to control your breathing, by harnessing this incredibly powerful life force, you can control the way you feel. You can find calm in moments of stress. You can easily cope



with almost any pressure” (p. 56). The following is a breathing exercise that can be used to help alleviate stress.

Step 1. Mentally reassure yourself that good breathing is the most effective way ever conceived to control feelings of stress and anxiety.

Step 2. Go somewhere quite—even the bathroom will do in a pinch—and take 30 seconds to gather your thoughts and think about what you’re going to do.

Step 3. Stand as erect as you can: feet flat, shoulders square, chin high.

Step 4. Try to clear your mind—completely blank out all thoughts—for a few moments.

Step 5. If you feel comfortable doing so, assure yourself out loud that you are feeling calm, you are feeling relaxed, you are a person at peace.

Step 6. Remembering not to raise your shoulders or to puff out your chest while you do so, commence the power breathing technique (Wilson, 1995, p. 56).

Power breathing technique.

- Take in a deep breath through your nostrils. Do this without exertion—neither raising your shoulders nor puffing out your chest.
- Hold it for a second. Force the oxygen into the extremities of your body: your hands, feet, and skull.
- Slowly breathe out, noisily, through your lips.
- Repeat a few times, smoothing out the inhalation and exhalation so there is one apparently seamless inflow and outflow of air.



- As you breathe out, feel the tension melting from your body into the floor. As the breathing becomes more automatic, concentrate on the tensions passing from your body through the soles of your feet (if you're standing) or through the skin of your back (if you're reclining) into the floor (Wilson, 1995, pp. 69-71).

### Calm Suggestion

According to Wilson (1995, p. 83), "most stress-related problems are the result of activities of the subconscious. If you are to overcome such problems—if you are to become calm and relaxed at all times—you need to harness your subconscious." The following is a technique that Wilson recommends:

- Commence slow power breathing. Continue for at least a minute.
- Choose positive words/phrases that: reflect how you would ideally like to be; are simple, active, positive, and to the point; are in the present.
- Keep repeating these words to yourself. Repeat, repeat, repeat.

### Calm Visualization

"Visualization is the most powerful technique you can employ for influencing the subconscious and for effecting change—because of its unsurpassed appeal to the imagination (which is, after all, the picture-forming faculty of the mind)" (Wilson, 1995, p. 92). The following is a visualization technique that can be used.

- Commence slow power breathing. Continue for at least a minute.







- Close your eyes.
- Think of the most relaxed environment you can imagine. See that image on a big screen set inside your mind. Examine it in detail.
- Now step inside that image. See yourself up there, totally involved in it. Note how you react to the environment or the elements.
- Then see all the scenery surrounding you.
- Hear all the sounds about you.
- Feel the physical aspect of the place you're in.
- When the image is firmly implanted in your mind, turn up the picture and the sound.
- Relax, keeping that sense of calm with you.

### Orgasm

Many of the pressures of everyday life are sexually oriented. One good way of relieving the tension is by having an orgasm or two (Wilson, 1995).

### Yoga

Yoga has been noted to be an effective technique to help achieve calm. According to Wilson (1995, p. 142), Hatha yoga is a good way of controlling emotions and achieving deep levels of relaxation.

### The Rocker

Whatever the reasoning, a great many people find a great deal of relief in rocking (Wilson, 1995). Parents do it when their babies are upset; people suffering from great trauma do it as well.



- Sit in a straight-backed chair, power breathing.
- Wrap your arms about yourself. Wrap them, don't fold them.
- Start rocking backwards and forwards, slowly, from the waist up

(Wilson, 1995, p. 143).

### Diet

Your diet is a major component that affects your health. Certain foods can be described as having a soothing effect on stress levels.

- Concentrate on maintaining an 80:20 balance between the acid-forming foods (whole-grain flour and cereals, fruits, vegetables, especially uncooked) and alkaline-forming foods (coffee, meat, sugar, processed foods, white flour, nuts, preservatives).

- Eat less (for most people).
- Eat more vegetables, fruits, complex carbohydrates, and whole grains.
- Eat less fats.
- Ensure that your diet is high in vitamins A, C, E, and B.
- Drink more water.
- Whenever possible, start your day with fresh fruit or fruit juice and begin each meal with raw vegetables or a salad. Use fruit or whole-grain bread as snack foods.
- Limit or avoid altogether coffee, soft drinks, sugar, refined foods, preserved food, and fat-laden snack foods (Wilson, 1995, p. 145).

### Exercise

Exercise is beneficial not only to the body, but also to your state of mind.



- Regular exercise diminishes the effects of stress on the body.
- Regular exercise helps you to cope better.
- Regular exercise will make you feel more calm and contented

(Wilson, 1995, p. 280).

- Walking performed while power breathing is one of the best ways to stay in shape.

Wilson (1995, p. 284) offers some strategies for a stress-free workplace.

### Time

- Take on only what you know you can do.

Put aside 20 minutes a day for decision-making and organization.

- Work only one day at a time.

### Expectation

- Attempt to control only what's possible for you to control

(Wilson, 1995, p. 286).

### Situation

- Appreciate the routine.

- Spend more time not being a cog. That is, spend up to half an hour a day not being a cog in the machine. Take a walk around the block (Wilson, 1995, p. 290).

### Social

- Do something for someone each day.





- Mix with winners.
- Avoid Type A people.
- Enjoy yourself (Wilson, 1995, p. 296).

### Spirituality

A growing number of psychologists, social workers, psychiatrists and clergy are combining the spiritual tools of prayer, meditation, retreats, and guided imagery (Rogers, 2000). According to June Rogers (p. 74), psychologists “are starting to acknowledge the transformation that takes place when someone seeks help with a problem and uncovers a desire for spiritual growth.”

Scientists are opening their minds to the power of spiritual healing. “In hospitals, medical studies show that patients who pray before and after surgery recover faster than their non-praying peers” p. 74). There has also been an amendment to the 4th and latest editions of the Diagnostic and Statistical Manual of Mental Disorders (DSM). For the first time, it states “that religious or spiritual issues may be relevant to therapy” (Rogers, p. 75).

Dr. Raju Hajela, president of the Canadian Society of Addiction Medicine and an assistant professor at Queen’s University in Kingston, Ont., has been hammering home to his medical colleagues that spirituality is crucial to complete recovery. Addiction, whether it be alcohol, drugs, eating disorders or destructive relationships with other people, is a complex disease, he says. It needs to be addressed on a variety of levels – biological, social, psychological and spiritual – before patients



can truly get better. In his therapy sessions, he will ask his patients what gives meaning to their lives and what values are important to them. Beliefs are very powerful, says Dr. Hajela, regardless of whether someone is religious or not. When a person has a sense of meaning in her life, he adds, she has less need to fill her life with alcohol and drugs. (Rogers, 2000, p. 76)

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