COGNITIVE DIFFERENCES BETWEEN HIGH- AND LOW-STRESS TEACHERS

By

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ABSTRACT

The purpose of this study was to explore the nature of the influential factors of teacher stress in the special education settings: specifically, some cognitive aspects of the coping process. The importance of the study was summarized in terms of the reported incidence of teacher stress and the need to develop more effective stress intervention and prevention programs. A two-part study was designed to determine the differences in the coping processes of high- and low-stressed teachers in terms of particular cognitive variables. In the first part, high- and low-stressed teachers were differentiated on the basis of the responses of approximately 150 teachers to the Teacher Stress Inventory. In the second part, eleven subjects from each of the low- and high-stressed groups were interviewed. The interviews involved the recollection and report of stressful teaching-related incidents. Teachers were asked to rate each of their incidents in terms of self-evaluation, self-efficacy, outcome evaluation, and incident resolution. As well, they were asked to describe their coping behaviours and to explain what the consequences of the situations meant to them. Statistical and descriptive comparisons were made to determine if there were differences in the responses of the high- and low-stressed teachers. The most significant results of the study were that low-stressed teachers attributed more positive meaning to the consequences of stressful incidents, and that the responses of the low-stressed teachers reflected established philosophies and attitudes. These results have implications for counsellors who are interested in developing intervention and prevention programs and for individuals who conduct teacher-training programs. As well, teachers who feel ineffective at coping with stress are encouraged to seek guidance and to gain awareness of how they contribute to their experience of stress.

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CHAPTER I
INTRODUCTION

Background to the Problem

Stress is a fundamental yet challenging topic for those concerned with people's well-being and functioning. Many serious psychological and physiological problems found in society are believed to be stress related. Researchers have explored the complex nature of stress for several main purposes. For example, they have been concerned with the influence of stress on health and performance. They have attempted to understand how common life events, work or environmental conditions, and uncommon or difficult types of circumstances relate to stress. As well, psychological researchers have been interested in how particular aspects of an individual influence stress. The cumulative result is a multitude of diverse studies, increasingly elaborate but inconclusive stress models, and the need for more research. As progress is made, however, counsellors and other professionals continue to translate the knowledge into improved intervention or prevention programs to promote well-being and effective functioning.

In part one of this introduction, a general description of the development of stress research is presented. The discussion progresses from a summary of the broad fundamental views of stress to specific concepts and variables that underlie psychological models. In part two of this introduction, the problem is described in terms of the occupation of teaching.

Background: General Stress Research

The physiological conception of stress was initiated by Hans Selye who has worked in the field of stress for over forty years. Selye (1974) explained that different conditions, environmental elements, or events instigate the same biochemical responses, which require some type of regulation in order for the individual to regain a normal state. Researchers who advocate this position have used common, environmental conditions or events to demonstrate global, physiological responses. From this view, various emotions or other psychological phenomena are believed to be associated with identical physiological patterns; consequently, they are not considered influential to the stress response. Others,
such as Holmes and Rahe (1967) and Dohrenwend and Dohrenwend (1974), have held this perspective.

On the other hand, researchers who have used the psychological model, have viewed particular environmental elements, conditions, and events as neutral; they have viewed the stress responses as products of individual interpretation and appraisal. Those who advocate this position have attempted to show individual differences in psychological responses to similar environmental conditions and situations. Researchers such as Leventhal and Nerenz (1983), Lazarus, Kanner, and Folkman (1980), Fimian (1983), D'Arienzo, Moracco, and Krajewski (1982) have held this perspective.

Prior to the last decade, two basic views of stress phenomena, the physiological and the psychological, were thought to oppose each other. In the past decade, however, researchers have hypothesized relationships between these fundamental views to form the psychophysiological view. For example, Pelletier (1982) and Mason (cited in Averill, 1979 and in Lunberg, 1982) have given evidence for the interrelationship of the psychological and physiological (biochemical and neurophysiological) systems that are involved in the stress response. Supporting a psychophysiological view, Pelletier described how parts of the brain function in either the psychological or physiological systems. General knowledge of the brain's functioning provides a context for exploring the two systems. Focusing on just one of the systems leads to an incomplete description of the stress response. The psychophysiological perspective is more accurate because it acknowledges reciprocal relationships among physiological systems, emotion, cognition, behaviour, and situational consequences. Nonetheless, this study explores specific components of the stress process from a psychological view. Such a restriction is quite often necessary when studying complex phenomena, especially with limited manpower, finances, equipment, and time.

Researchers have ambiguously used the term stress to refer to the stimuli for a response, the actual response process, and the impact the response has on an individual (Leventhal & Nerenz, 1983). Although the stimuli, the response, and the impact are stress phenomena, for clarity in this paper, the stimuli are defined as stressors (or potential stressors), part of the response process is defined as coping, and the resulting effects of the response are defined as stress. Each of these aspects of the stress process has been
the focus of studies. For example, there are numerous studies (e.g., Coates & Thoresen, 1976; D'Arienzo, Moracco & Krajewski, 1982; Johnson, Gold, Williams, & Fiscus, 1981; Kyriacou & Sutcliffe, 1979b) mainly aimed at accounting for the stressors or potential stressors within particular environments. The goal of other research (Dewe et al., 1978; Folkman & Lazarus, 1980; Folkman, Schaefer, & Lazarus 1979; Gmelch, 1984; Hammen & de Mayo, 1982) has been to explore some of the many potential variables that are involved in the response process or in the mediating, coping process. Finally, questions and concerns about the consequences or impact of stress on health and functioning have been another focus of research (Dohrenwend & Dohrenwend, 1974; Foster, 1980; Meadow, 1981; Weiskopf, 1980).

The general purpose of this stress study is to examine some variables or components of the response process, which influence the stress outcome. Examples of variables that have been studied or suggested for study are: demographic variables (e.g., age, gender, experience, training); cognitive variables (e.g., beliefs, thought patterns, attitudes, ability, expectations, attribution processes); or variables based on abstract concepts (e.g., role definition, role ambiguity, commitment). Typically these particular variables have been examined through correlational studies in which both stress and the variable are measured from a psychometric perspective. Recently, however, some researchers have approached stress studies differently; rather than attempting to measure stress as just an outcome, they have used descriptions of components of the stress response process. The key terms here are: descriptions and process. Developments in the area of cognitive assessment have provided alternate approaches for collection and assessment of data.

In an overview of cognitive assessment issues, Meichenbaum and Butler (1980) used the term cognitive ethology to refer to techniques that describe content, frequency, and patterns of cognitions. They summarized a number of techniques including interviews, thought listing, questionnaires and situation reconstruction. These techniques are used either preceding, during or after an event, to gather information. Besides discussing the limitations of such techniques, which are only in the developmental stages, Meichenbaum and Butler (1980) reviewed studies that have successfully employed the techniques. Although the studies mainly centered on relating cognitions to measures of social anxiety
or assertiveness, rather than to measures of stress, both the techniques and the variables are compatible with psychological models of stress processes.

Folkman, Schaefer, and Lazarus (1979), Folkman and Lazarus (1980), Lazarus, Kanner, and Folkman (1980), and Leventhal and Nerenz (1983) are among those who have used models of internal processes to help understand differences and similarities between individuals' responses to stress. Their models have provided a structure for viewing the variables in terms of patterns involved in an overall process. They have attributed patterns of cognitive variation in appraising and coping with the stressors as influencing stress levels. In support of such models, McGrath (1982) proposed that each defined stage of a process may have a unique influence on the experienced stress. More specifically, each stage may have a number of variables that influence coping effectiveness. As stated before, the key in developing a complete picture of stress lies in placing each variable in the context of a process.

Leventhal and Nerenz (1983), and Folkman et al. (1979) differ only slightly in their approach and their emphasis, but the works of both are worth reviewing because together they offer a more comprehensive explanation of very complex processes. Leventhal and Nerenz have detailed a three stage coping model. Although they have focused most of their research on stress and coping with illness, their model holds potential for the study of stress in the teaching domain. Folkman et al. (1979) have included concepts and theories that parallel and support those used by Leventhal and Nerenz (1983), but they have offered additional information on variables that are explored in this study. Also of great value is a study by Folkman and Lazarus (1980) in which they explored day-to-day stressful situations; it is an excellent example of how their model of stress can be applied to examine and describe patterns of cognitive components that are used to cope in real situations. The literature review contains details of these stress models and studies.

Although a number of researchers have acknowledged models of stress, such as the one used by Folkman and Lazarus (1980), few studies have been conducted using a similar approach. There are many contexts that researchers could use to help explain similarities and differences in terms stressors, responses, and consequences. Examples of settings that have been used are: those centered on illnesses, accidents, or health events (e.g., cancer,
burn injuries, spinal injuries, operations, immunizations, childbirth); those centered on
difficult tasks (e.g., exams, social interactions); natural disasters (e.g., earthquakes, floods);
and those centered on particular occupations, especially on people oriented professions
(e.g., teaching, social work, counselling, day care workers, surgery, nursing, law); as well
as, studies that are centered on factory-type jobs and managerial positions. Teaching has
been selected for the context of this stress study, approached with Folkman and Lazarus's
study in mind.

Background: Teacher Stress

The context of this study is limited to the occupational domain of teaching,
specifically, a special education setting. Teaching has typified those professions that are
potentially conducive to stress; it is a profession from which psychological and physiological
consequences of stress have frequently been reported. As well, other detrimental trends
have been presented as further indication of the existing problem. In fact, most of the
research and literature on teacher stress has centered on determining or describing the
prevalence, symptoms, or consequences.

Prevalence of Teacher Stress

This section, which reviews the prevalence of teacher stress, serves two purposes.
The first, is to give evidence that a problem does exist. Studies have typically shown
the significant incidence of teacher stress. Despite the existence of intervention programs
and stress workshops, the reported prevalence still tends to be increasing. The second,
is to emphasize that there are teachers who experience low job-stress, besides those who
experience high job-stress. The aim of most teacher stress research has been to prove that
a problem exists. Therefore, individuals who experience low-stress have seldom been the
focus of the studies. Comparisons between high- and low-stressed teachers have also been
rare.

Although researchers have reported data on teacher stress for at least seventy years,
concisely summarizing the prevalence and the severity of teacher stress is a difficult task.
The comparison of data is hampered by the lack of uniform definitions, indicators, and
measuring instruments. As well, few instruments, designed for describing or measuring
teacher stress, have been derived by sound experimental procedures. In a review of 71 articles on teacher stress, Heibert and Farber (1984), commented that 70% was an underestimate of the number of articles that contained no data base. Under 6% were review articles and 21% contained statistics from surveys administered to teachers. Nonetheless, significant findings from major surveys that reflect general trends, represent adequate samples, and use reasonable instruments have been found (e.g., Coates & Thoresen, 1976; Fimian & Santoro, 1983). These surveys are summarized next.

Statistics on the incidence of teacher stress have varied. In an overview of studies reporting statistics of teacher anxiety, Coates and Thoresen (1976) reported that as early as 1933, Hicks found 17% of 600 teachers questioned were nervous to a significant extent and that 11% had experienced nervous breakdowns. Coates and Thoresen also summarized statistics from a 1967 survey given by the National Education Association to over 2000 teachers in American schools: 78% of the teachers considered themselves as at least moderately stressed. This percentage showed a significant increase from the NEA's figures of 37.5% in 1938 and 43% in 1951 (cited in Johnson & Richards, 1983).

Using a questionnaire survey of 257 teachers, Kyriacou and Sutcliffe (1978b) found that 20% of their sample rated themselves as very stressful or extremely stressful. Statistics have also been given for specific teacher settings. For example, Fimian and Santoro (1982) found that about 46% of the 365 special education teachers surveyed considered their jobs to be a great to very great source of stress and about 87% considered their jobs to be at least moderately stressful. Less than 9% of the teachers considered their jobs to be a low source of stress.

Manifestations and Consequences

The consequences and manifestations of teacher stress have been presented in terms of the teachers' personal and professional well-being, and in terms of the effects on the teachers' functioning in the teaching profession. For example, Instructor (cited in British Columbia Teacher's Federation [BCTF], 1981) reported teaching to be the third most stressful profession; only surgery and air traffic control were said to be more stressful. As well, the life expectancy of a teacher has been reported to be four years less than other professionals (Truch, 1980). Job satisfaction, turn-over rate, incidence of negative
health symptoms, and negative job performance have also been presented as evidence of
an existing problem.

Both job satisfaction and turn-over rate have been used to indicate that stress is an
eexisting problem. The National Education Association (cited in Moracco, 1981) found a
significant decline in the number of teachers with ten or more years of teaching experience
from 1961 to 1976. In fact, in 1976, 14% of the teachers had ten or more years experience,
as compared to the 1961 figures, when 28% of teachers had twenty or more years experience.
Other researchers have mentioned turn-over rate as a consequence of teacher stress (e.g.,
another study that was conducted by the National Education Association in 1982. The
NEA used a population representative of teachers from all grades and from all parts of
the United States. They found that 9% of the teachers wanted to leave the profession
immediately, 43% aimed to teach until their retirement, and 41% preferred a job change
if they were to make career choices again.

The evidence that there is a relationship among stress, health, and functioning
variables is further justification for carrying out this study on teacher stress. Stress
researchers (e.g., D’Arienzo, Moracco, & Krajewski, 1982; Fimian, 1982, 1983; Hammen
& de Mayo, 1982; Maslach, 1978; Pelletier, 1982) have presented thorough summaries
of a wide range of negative physiological and psychological health symptoms that they
have considered to be manifestations of stress. Muscle tension, migraine headache, high
blood pressure, ulcers, asthma, arthritis, hormonal fluctuations, heart attacks, cancer,
and early death are some of the physical symptoms or conditions which are influenced by
stress. General anxiety, sleep disturbance, irritability, depression, mental fatigue, general
sexual dysfunctions, phobias, and poor self esteem are some of the psychological symptoms.
Behavioural symptoms have included: decreased job performance, negative interactions
between colleagues, chronic absences from work, job-turnover, and excess use of alcohol or
drugs.

Cichon and Koff (1980) surveyed a large population of Chicago teachers. Of the
78% return of 22,448 surveys, over 50% of the teachers reported physical illness and 25%
reported mental problems attributed to stress. Similarly, Bloch’s (1978) study of inner-city
teachers revealed that 50% of the 253 teachers reported having had significant psychological or physiological problems, which were attributed to stress.

**Burnout** is another reported consequence for those teachers who are cumulatively ineffective at coping with the amount of stress that is in their environment or that they perceive in their environment. Although it is not a main term used in this study, literature on teacher burnout provides strong evidence that teacher stress is a serious problem. In an ERIC search (October, 1984), *Teacher Burnout* was a descriptor for almost five-hundred articles. As well, authors and researchers of stress have frequently mentioned burnout as a secondary topic. Maslach (1978) has employed the term to mean, “emotional exhaustion resulting from interpersonal stress” (p. 56). Burnout has been used to describe a syndrome characterized by distinct detrimental attitudes which contradict the underlying philosophies of the occupation, for example, losing sensitivity, becoming distant, and developing negative attitudes towards clients, students or patients.

A good example of a stress study concerned with performance in terms of teaching is Fuller’s study (cited in Coates & Thoresen, 1976). Fuller emphasized the socially noxious nature of stress, saying that ineffective coping has consequences for students and teachers. Teachers in stressful situations have occupied themselves with actions oriented at managing the stressful encounter and then with managing the learning situation. Fuller found an inverse relationship between the two types of actions. Carranza (cited in Sarason, Johnson & Siegal, 1978) also found a similar relation between stress and teaching performance of high school teachers.

**The Problem**

Stress and coping are of concern and interest to many teachers. Although most teachers and researchers would assume that the special education setting holds inherent stressors, it is of question how teachers influence the stress they experience. Both experience as a teacher and a review of literature help in the realization that potential is an important modifier for the term stressor; individuals within similar environments vary in their experience of stress (Fimian, 1983). How does an individual influence the experienced job stress?

The main problem of this study is to explore some variables that are used in the
coping process and to relate them to the level of teacher stress. More specifically, it is to
determine whether there are differences, in terms of cognitive variables, between teachers
who experience high-stress and those who experience low-stress.

This study centers on the exploration of the relationship of stress to the following
cognitive concepts, which are the independent variables.

1) **Self-evaluation** — An individual’s view of his/her performance in a situation relative
to the hypothesized performance of others in the same situation.

2) **Self-efficacy** — (e.g., universal or personal uncontrollability, universal or personal
controllability).

3) **Evaluation of outcome** — How the individual views the outcome in terms his/her goals
(e.g., successful, unsuccessful, ambiguous; negative, neutral, positive) and whether
he/she views the situation as having closure (e.g., unresolved, partly resolved, totally
resolved).

4) **Coping behaviour** — How the individual handles what he/she perceives to be stressful
(e.g., confrontation, avoidance, passive acceptance).

As well, the meaning of the consequences (e.g., positive, ambiguous, negative) and
**focus of attention** or the aspect of the situation on which an individual focuses (e.g., self-
focused, task-focused) are incidentally explored.

**Purpose of the Study**

The purpose of this study is to further the understanding of the influential factors
of teacher stress, particularly some of the cognitive variables used in the coping process.
Differences found between high- and low-stressed individuals, which are described in terms
of cognitive patterns, could be useful to counsellors and other professionals who are
interested in developing or improving stress intervention and prevention programs. The
findings of this study could also be interpreted for the enhancement of existing teacher-
training programs. As well, results could encourage teachers who feel ineffective at coping
with stress to seek guidance and take an active role in doing what they can to alleviate
stress.
Importance of the Study

The importance of this study, as substantiated in the statement of the problem and the section on the background of the problem, can be summarized in terms of the need to develop more effective stress intervention and prevention programs. As well, the importance can be viewed in terms of the opportunity to answer these needs through new directions in stress research. The section on the background of teacher stress contained data indicating that a significant percentage of teachers experience stress as being detrimental to their health or to their functioning in their teaching role. Therefore, counsellors, teacher educators, and administrators need more information to develop effective stress intervention and stress prevention programs. Second, researchers now have more comprehensive perspectives on stress. Corresponding to this development, they have outlined new approaches for studying and measuring stress. For example, now researchers (e.g., Folkman, Schaefer, & Lazarus, 1979; Leventhal & Nerenz, 1983) view stress as a process. The process includes both internal and external variables that have been hypothesized to account for individual stress differences. The development of new measurement approaches for stress have included scales designed for specific settings, (e.g., the Teacher Stress Survey, Fimian, 1983, 1984a, 1984b; the Teacher Occupational Stress Factors Questionnaire, Clark, (cited in D'Arienzo, Moracco, & Krajewski, 1982). As well researchers have started to develop and use descriptive techniques for their analysis of coping (e.g., Folkman & Lazarus, 1980; Gmelch, 1984). This combination of advances has only started to be applied to teacher stress research.

Definitions

Dependent Variable

*Teacher stress:* This term has been defined as the cumulative impact of the responses to perceived stressors in teaching situations made by individuals with "distinctive agendas, beliefs, way of thinking and abilities" (Folkman, Schaefer, & Lazarus, 1979, p. 276). The responses typically include emotional, behavioural, physical, physiological, and biochemical components. As well, the response process and the resultant stress is mediated by coping
processes. (This is a blend of Folkman et al.'s, 1979, and Kyriacou & Sutcliffe's, 1978a) definitions.)

This term, as well as the terms high- and low-stressed teachers has been made operational through the use of Fimian's Teacher Stress Inventory, TSI, (1983, 1984), which is included in Appendix B. The TSI is discussed in the literature section on measuring instruments and in the methodology section.

Independent Variables

Lazarus and Launier (cited in Folkman, Schaefer, & Lazarus, 1979), define coping as a mediating process consisting of "efforts, both action-oriented and intrapsychic to manage (i.e., master, tolerate, reduce, minimize) environmental and internal demands and conflicts among them, which tax or exceed a person's resources" (pp. 282–283). Four cognitive coping variables have been operationalized as follows:

1) **Self-evaluation:** This term has been made operational by using a five-point semantic differential scale (Appendix G) on which a teacher rates his/her perceived performance in a situation, relative to how well he/she believes other teachers could have performed in the same situation.

2) **Self-efficacy:** This term was made operational by use of a five-point semantic differential scale (Appendix F) to gather an individual's ratings of the controllability of his/her stressful situations.

3) **Evaluation of situation outcome:** This term was made operational by use of two five-point semantic differential scales (Appendix H) to gather an individual's ratings of the nature and resolution of his/her stressful situations.

4) **Coping behaviours:** This term was made operational by use of a data based, taxonomy of teacher coping behaviours that was used for frequency counts (Appendix I).

Other Terms

**Special Education:** This term refers to classroom services and programs provided for mentally, physically, or emotionally handicapped students.

**Teacher of the learning handicapped:** This term refers the teacher in charge of a class for students who are learning handicapped. In this study teachers of contained classes
of learning handicapped students and resource room teachers of learning handicapped students have been sampled. Students are placed in such a class after testing has been done by district specialists.

Hypotheses

Five main questions are outlined as the basis for generating the hypotheses. What are the cognitive differences between a group of high-stressed teachers and a group of low-stressed teachers in terms of the following independent variables:

1) *Self-evaluation* or perceived ability relative to other individuals' ability in a stressful situation?

2) Perception of the controllability of the stressful situation: *self-efficacy*?

3) *Evaluation of the outcome* in terms of the intended goal and the resulting tone of the incident?

4) *Evaluation of the outcome* in terms resolution?

5) *Coping behaviours* used to manage stressful incidents?

Although other patterns of cognitions (e.g., focus of attention, meaning of the consequences) could become apparent upon the examination of the reported incidents, these five independent variables are of particular interest. The first four questions can be written as follows: The differences between the group of low-stressed teachers and the group of high-stressed teachers, in terms of the following items, are greater than or equal to zero:

1) the mean of the ratings of relative ability in stressful teaching situations;

2) the mean of the ratings of self-efficacy;

3) the mean of the ratings of the resulting tone of the stressful incidents and the measured frequency of reported success in terms of initial goals;

4) the mean of the ratings of the closures of the stressful situations.

The final question can be written in the following null form: There is no difference between the group of high-stressed teachers and the group of low-stressed teachers in terms of:

5) the measured frequency of types of coping behaviour used to manage the stressful incidents (according to Blase's, 1984, Teacher Stress Coping Taxonomy).
As well, focus of attention and the meaning of the consequences are explored; data are presented descriptively.

Assumptions

There are a number of assumptions, about the nature and measurement of stress, underlying this study. Most assumptions are centered on controversial issues that are mentioned again in the literature review section. First, it is assumed that in occupational settings there are demands inherent to the job role, demands which naturally require expenditure of mental, emotional, and physical energy. Nonetheless, individuals working within the same job setting vary in their coping effectiveness. Variation in coping effectiveness can, in part, be attributed to mediating cognitions involved in the interpretation of incidents; besides unrealistic demands there are unrealistic interpretations that contribute to ineffective coping.

Another assumption is that although stress scales are not sufficient tools for accounting for all the stress an individual experiences, the scales that are designed for specific settings are more appropriate than general stress scales for measuring job related stress. Similarly, although life areas other than occupation contribute to an individual’s experience of stress, it is assumed that the use of a stress scale specific to teaching, accompanied by a focused interview on teaching situations, will reveal significant connections between teacher-stress levels and patterns of cognitions. Some questions designed to check the general stress experienced in areas such as home life and social life will be included in the interviews.

In regard to stress scales, it is also assumed the subjective ratings of stressors are representative of both psychological and physiological stress an individual experiences. In their studies of adrenaline production, Frankenhaeuser and Johansson (cited in Lunberg, 1982) supported this idea (adrenaline is one of a number of physiological indicators of stress). Even without such physiological evidence of stress, it is assumed that an individual who perceives teaching as stressful and feels unable to cope effectively with incidents, has a significant problem.

Although there is some evidence that people vary in the way they cope at different times and across stressful situations (Folkman & Lazarus, 1980), it is assumed that by
comparing the data collected from these two groups, there will be some indication of
differences in the patterns of cognitions, which lead to ineffective or less effective coping. A
related assumption is that the data gathered through use of the chosen stress measurement
instrument can be used to distinguish high-stressed teachers from low-stressed teachers.
This assumption is supported by Fimian and Santoro's (1983) application of the same
instrument to distinguish three groups of teachers.

In terms of the variables labelled self-evaluation, self-efficacy, the tone of the outcome,
and resolution of the stressful incidents, it is assumed that low-stress individuals give higher
ratings than high-stress individuals on each dimension. This assumption is supported in
Chapter II.

Finally, it is assumed that individuals have accurate recall of their cognitions about an
incident and can accurately report their cognitions. This assumption has mixed support;
it is a controversial issue in the literature (e.g., Nisbett, 1977). An attempt is made to
utilize recommendations of research to encourage accurate recall. This issue and other
issues associated with the assumptions are discussed in more detail, later in the literature
review.

Delimitation and Scope of the Study

The focus of this study is on the differences between high- and low-stressed teachers,
in terms of cognitive variables used to cope with stressors. After the teachers recall and
describe how they coped with specific teaching incidents, a semistructured questionnaire
is used in a post-discussion of the incident to limit information and to focus information
on certain cognitive factors. Specifically, the questionnaire is used to elicit an individual's
perception of his/her relative ability to deal with the situation, self-efficacy, situation's,
outcome, and coping behaviours used to manage the stressful situation. As well, the
analyses of the verbal report of data is limited to the examination of patterns in terms of
focus of attention and types of meaning of consequences.

Although stressful situations occur outside the teaching context, this study is focused
only on teaching situations. As well, descriptions of incidents are gathered only from a
month time period, therefore, possibly limiting the quantity, type, and the evidence of
variability of an individual's coping approaches.

The study is restricted to a population of special education teachers who work with learning handicapped students. (Although the results could be valuable to other populations, they are discussed only in terms of similar populations.) All teachers work within contained classrooms or resource rooms for learning handicapped children in regular elementary schools or in a segregated school. This research is also limited to six school districts in a large metropolitan centre in Northern California. The teachers are qualified special education teachers as accepted by the State Commission on Teacher Credentialing. Their biographical characteristics vary (e.g., age, experience, training) but are controlled variables.

Study Organization

This introductory chapter began with a presentation of the fundamental views on stress in a general context, the focus was then shifted to the concepts and variables that underlie some psychological models of stress. Next, teaching was presented as a context for studying cognitive differences between a group of high-stressed individuals and a group of low-stressed individuals, and hypotheses were provided for possible cognitive pattern differences between the two groups. The section on assumptions, revealed several of the controversial issues related to the nature and measurement of stress, which are basic topics in the next chapter.

Chapter Two begins with summaries of two complementary models of stress, which incorporate the concept of coping. The topics of the second, third, and fourth sections center specifically on teacher stress literature: first, the body of literature that focuses on the sources of teacher stress is reviewed; next, the development of stress measurement instruments is discussed, giving major consideration to the Teaching Stress Inventory (Fimian, 1983, 1984a, 1984b), and then the research in which the instruments have been used is presented. After reviewing these studies, the variables that have been examined are summarized indicating what researchers of teacher stress have accomplished. In a fifth section, information from outside the teacher stress literature that is relevant to the variables of this study is presented. Next, coping concepts and measurement, a topic which
is new in the teacher stress literature, is discussed. Chapter Two concludes with a section on verbal reports, in which particular conditions for eliciting accuracy in interviews is emphasized.

In Chapter Three, the methodology for conducting the study is outlined. The specification of the design of the study in terms of various components: the setting, population, variables, collection of data, measuring instruments, and analysis techniques are discussed. As well, methodological assumptions and limitations are presented.

Chapter Four contains the analysis of data from the interview portion of the study. The analysis is presented in four sections. The first centers on the cognitive variables, which were measured using semantic differential scales (see Appendices F, G, & H). The second centers on coping behaviours, which were reportedly used by the interviewed teachers during their stressful incidents. The third centers on consequences and focus of attention, two incidental variables in this study. The final section is descriptive; it contains a discussion and interpretation of the verbal data.

Chapter Five is the summary chapter. First, an overview of the first three chapters and the findings of Chapter Four are given. Next, the conclusions to the findings are presented. Finally, recommendations are given for implementing the findings and suggestions are made for future research in the area of teacher stress.
CHAPTER II

LITERATURE REVIEW

Models for Stress Research

The literature review begins with an integration and description of two stress response models, which serve as a foundation for each of the following sections. The stress response models are useful for clarifying definitions of stress phenomena, for gaining perspective of the interrelationship among the variables that have been discussed in the stress literature, and for understanding the limitations of most stress studies. As well, such models can be used as tools for analysis of response data; researchers have used models of internal processes as frameworks for comparing responses made by individuals within similar settings or under similar circumstances (e.g., Folkman, & Lazarus, 1980; Leventhal & Nerenz, 1983). Through the use of descriptions and comparisons, researchers can begin to categorize factors that are correlated with either effective or ineffective responses; usually researchers have described the effectiveness of a response in terms of the positive or negative impact on an individual's health or functioning.

Leventhal and Nerenz (1983) have provided a psychological model of how people respond in stressful incidents; they summarized their work saying, “Throughout, we have attempted to describe how people, as active agents, interpret and represent the information they receive about health threats from outside sources and from their bodies, and how their subsequent actions depend on their understanding of that information” (p. 5). Although their emphasis was on the interpretation of health symptoms, their general framework can be used to explain responses to stress in occupational environments such as teaching.

Disagreeing with Selye’s theory that the same physiological response pattern exists for all stressors, Leventhal and Nerenez (1983) believed that the effects of stress can be manifested in a number of forms; for example, in patterns of various psychological, behavioural, and physiological responses or symptoms. Although they believed that types of manifestations are correlated with each other, they found that the actual relationships were difficult to explain. These researchers recommended that separate descriptions of the motor, psychological, and physiological types of responses be developed in order to form
accurate descriptions of the interrelationships. The differential emotions theory is a key theory of their model of adaptation to stressful events. They based the theory on their hypothesis that emotional responses, physiological responses, and behavioural responses to stressors could be differentiated; as well, they believed that connections between types of situations and certain emotions could be made.

The concepts and theories that Leventhal and Nerenz (1983) presented in their information processing model are similar to those presented by Folkman et al. (1979) and by Lazarus, Kanner, and Folkman (1980). Folkman et al.'s (1979) and Lazarus et al.'s (1980) perspective of a stress response model, however, differs from Leventhal and Nerenz's (1983) in several ways. They also elaborated variables and concepts, which are pertinent to this study of teacher stress, that were not given attention by Leventhal and Nerenz. They pointed out the inadequacies of an information processing model of stress and coping. Rather than describing one process, Folkman et al. (1979) described several cognitive processes, three which were appraisal oriented processes and others which were coping processes. The relationship of emotions and cognitions was a key component to all the processes. Although Folkman et al. (1979) and Lazarus, Kanner, and Folkman (1980) acknowledged the mutual influence and the close operation of emotion and thought throughout an entire stressful situation, their main interest was in the cognitive mediation that influences the emotional response pattern. Folkman et al. (1979) did not consider the appraisal processes and the coping processes analogous, but they did recognize that all processes influence an individual's experience of a situation, their reactions to the situation, and the subsequent outcomes.

Leventhal and Nerenz's (1983) model of the response to stressful events has an input stage, a response stage, and a monitoring stage. Operating throughout all stages are two systems; one is based cognitively (on knowledge of the stimuli) and the other is based emotionally (on feelings about the stimuli). Memory influences both systems. The operation of the stages of the model involves a number of concepts based on the interaction of the cognitive, the emotional and the memory systems. Numerous variables influence the interactions among the systems and ultimately affect the response. The following summary is not an exhaustive description of the concepts and associated variables but it does show
Leventhal and Nerenz (1983) began their discussion of a sequence of concepts and variables that operate in the input stage with the general concept of perceptual representation. They used this concept to refer to the emotional and cognitive perception of the stimuli. Subjective, past experiences and present goals influence both conscious and unconscious evaluations of stimuli. They used the concept of sensory registration to refer to the transmission of sensations to the central nervous system and attention and elaboration to refer to the mutual influence of the memory systems and the sensory stimuli on each other. In their discussion of this concept, Nerenz and Leventhal (1983) emphasized that perceptual and conceptual memory systems have different influences on the coping response. They used the term schemata and interpretation to refer to the linkage of symptoms to both concrete characteristics and abstract labels. They believed that such variables as an individual's prediction of long-term and short-term outcomes, goals, cultural beliefs, values, and education influence the meaning of the symptoms of problems. Folkman et al. (1979) used the term primary appraisal to describe a similar stage of their model. They summarized the primary appraisal as being an individual's evaluation of the meaning or of the importance of the situation in regard to "well-being".

Leventhal and Nerenz's (1983) response stage involved the planning and the carrying out of a response. Besides the concepts and variables already described for the input stage, they mentioned other influential factors such as resources. Their concept of resources included: personal knowledge, experience and skill. In relation to the concept of resources, Leventhal and Nerenz mentioned such individual differences as the ability to balance and prioritize emotional and objective goals, to originate ways of approaching problem situations, to differentiate present situations from previous situations, and to carry out a plan. Another resource factor was described as the access to another individual who can effectively model or advise coping behaviour. Folkman et al. (1979) presented the following useful description of coping resources: "Coping resources can be drawn from within the person or from within the environment and include at least five categories: health/energy/morale, problem solving skills, social networks, utilitarian resources (e.g., money, social agencies), and both general and specific beliefs" (p. 283). They summarized
research on each type of coping resource.

The third and final stage of Leventhal and Nerenz's stress model was the appraisal of the outcome in terms of the initial objectives. The corresponding stage of Lazarus, Kanner, and Folkman's (1980) model was labelled reappraisal; reappraisal is based on additional information, which an individual has perceived about environmental, or psychological alterations resulting from the beginning appraisals and corresponding interactions. Leventhal and Nerenz described some variables of their appraisal stage as: the standard for the judgement (e.g., unrealistic expectations, ambiguous goals), aspects of feedback (e.g., objective, subjective), and the ascribed cause of the outcome (e.g., skill, coping ability, availability of resources, nature of the stimuli).

Lazarus, Kanner, and Folkman (1980) began their description of the inadequacies of information processing models by explaining that researchers or theorists had seldom acknowledged the influence of cognitions on emotion, but had focused instead on the function of emotions in cognitive processes. As well, they emphasized that a complete model should include the processing of altered and ambiguous information besides the processing of accurate information. They emphasized that defense mechanisms can be healthy coping processes and that ambiguity is a frequent characteristic of stressful situations; they believed that both were worthy of attention. Their concept of coping is summarized in a following section.

Although every concept and variable that has been presented by these groups of researchers has not been included, this summary is an adequate foundation for the following sections. As mentioned at the beginning of this section, the stress response models are useful for clarifying definitions of stress phenomenon, for gaining perspective of the interrelationship among the variables that have been discussed in the stress literature, and for understanding the limitation of most stress studies.

Teacher Stress Studies: Sources

The most common content of teacher stress literature is information on the prevalence, sources, symptoms, measurement, and the causes of stress. There are also studies that are centered on exploring the relationship of teacher stress to the well-being of both the
teacher and the students. A third category of studies involves intervention techniques for alleviating stress. As well, coping is a new but limited dimension in the teacher stress literature. The introductory section of Chapter I contains data on both the prevalence and manifestations; these topics are not reviewed again. This chapter begins with a review and discussion the teacher stress literature that contains summaries of the sources. Next, the development of stress measurement instruments is discussed and the research that has been done with these instruments is reviewed, indicating the aspects of stress that have been studied and what has been accomplished. In a fourth major section, coping measurement is discussed. Focusing on specific cognitive variables of the models, the research from outside the teacher stress literature is then reviewed to give examples of findings that are relevant to the variables of this study.

Although, many studies refer to the potential stressors as sources, pinpointing the potential stressors is not the same as determining the cause of teacher stress. Lists of stressors do not adequately describe the meaning of the interaction between an individual and the environmental elements; they do not usually encompass intrapersonal factors, such as Leventhal and Nerenz (1983) defined in their model (e.g., past experiences, present goals). Pelletier (1982) used the term stress triggers to refer to sources of stress in living and working environments. Although he placed importance on the ability to resolve or cope with these triggers, he acknowledged that there are conditions from which stress is more likely to be experienced. At times there is a fine line between the source and the cause, however, the distinction is important. The following paragraphs deal only with the triggers or stressors that have been reported from teaching environments; the causes of teacher stress are discussed in a separate section following the discussion of measuring instruments.

Coates and Thoresen (1976) reviewed and contrasted 15 studies of student teachers and seven studies of experienced teachers. After summarizing and contrasting the stressors reported in studies by each of the two groups of teachers, they observed distinct categories for both groups. Their data support the idea that although there are stressors common to all groups of teachers, there may be stressors that are unique to particular groups of teachers. One contributing source of stressor variation is role definition. Their summary of
stressors for student teachers is not as relevant to this study as their following summary of stressors for experienced teachers: "(a) time demands, (b) difficulties with pupils, (c) large class enrollments, (d) financial constraints, and (e) lack of educational resources" (p. 165).

Kyriacou and Sutcliffe (1978b) presented a list of 51 potential sources and used a principal components analysis to determine the following four factors of stress: pupil behaviour, unfavourable working conditions, time pressures, and unfavourable school ethos. After having 257 teachers, from 16 schools in England, subjectively rate each of the 51 items, they found the stressors with the highest mean ratings were: unfavourable student work attitudes, maintaining values and standards, and filling in for other teachers. Although they found that each of the 51 sources of stress correlated with the self-reported measure of stress, not every item was relevant to each teacher. Upon examining their list, a number of ambiguous or overlapping items was found. For example, too much work to do, lack of time to spend with individual pupils, and large classes could each represent the same stressor. Kyriacou and Sutcliffe did not mention their use of any validation procedures, therefore their items are a questionable basis for developing a measurement instrument.

Pratt (1978) interviewed teachers to gather descriptions of stressful teaching events. From their descriptions he derived four categories "student behaviour, staff relations, inadequate teaching, and concern for student progress". A fifth cluster was labelled "extra work". Although he did not elaborate his procedure for deriving the items, it is assumed from the few items that he mentioned, that his final list of sources could have been improved if appropriate classification techniques had been used.

A number of researchers have focused on special education settings (e.g., Fimian, 1983; Meadow, 1981; D'Arienzo, Moracco, & Krajewski, 1982). It should be noted, however, that the term special education can refer to many types of classes. Understanding the author's definition is important for evaluating the results of the study. In 1980, Fimian began developing an instrument called the Teacher Stress Inventory (TSI) to measure occupational stress in teachers. The TSI has been revised to account for occupational stressors of a special education setting (Fimian, 1983, 1984a, 1984b). Fimian has based his scales on the perspective that both stressors and predispositional variables are precursors to stress. He moved beyond listing concrete environmental factors, including interpersonal
and intrapersonal factors; some factors could be classed as causes. He summarized the basic sources of teacher stress and arranged them in 12 categories (Fimian, 1982). His revision of the categories resulted in the following list: “(a) personal competence; (b) self-relationship; (c) conflicting values; (d) social approval; (e) isolation; (f) expectations; (g) self-fulfillment; (h) deficiencies in the work environment; (i) unmet professional needs; (j) self-inflicted stress; (k) professional constraints; (l) student-teacher relationship, and (m) the miscellaneous demands of teaching” (Fimian, 1984a). The 135 items were found in teacher stress studies and literature, which were written before the summer of 1980. After further analysis, these items were represented by 30 items; another 12 items complemented this reduced list (Fimian, 1984a). These items compose the following six factors of the TSI: “Personal Professional Stressors; Professional Distress; Discipline and Motivation; Emotional Manifestations; Biobehavioural Manifestations” (Fimian, 1984a). Fimian has applied appropriate research procedures rather than intuitively deriving categories.

Bensky et al. (1980) examined the differences between stress-rankings of job characteristics by three groups of teachers, regular, resource room, and special education teachers. Their main emphasis was on the external structure as defined by the American public law 94-142 and the law’s impact. The special education teachers ranked “(a) pupil load; (b) teaching (implementation and preparation); (c) job related work after hours; (d) interaction with parents regarding placement decisions; and (e) parent conferences” as the top five stressors.

Weiskopf (1980) applied Cooper and Marshall’s description of environmental stress sources to the special education setting. Stressors such as work overload, lack of perceived success, amount of contact, staff-child ratio, program structure, and responsibility for others were presented in terms of the teaching role of a special educator. As well, Weikopf listed inadequately trained aides, unsupportive administration, and parent conflict, as other possible stressors.

In the reviewed literature there are a number of categories of conditions and situations that have been reported as likely sources of teacher stress. However, researchers have not reached consensus about the items and the categorization of the items. Often, even similarly labelled items have quite different definitions and interpretations. One factor,
which has contributed to the lack of agreement, has been the variations in the procedures used to derive and classify the stressors. In order to establish thorough and representative accounts of stressors, the data collection and analysis procedures need to be experimentally sound. A second factor has been the differences in the scope of the factors sampled. For example, some researchers have included interpersonal and intrapersonal factors besides external factors. As well, some researchers have looked at just the teaching tasks, while others have looked at the whole school system and the governing structure (e.g., Bensky et al., 1980). Finally, there have been differences in the type of teaching environments sampled for stressors. Specific teaching environments, such as those determined by geographic location (e.g., different countries or states), those determined by age or level of student (e.g., elementary vs. high school), and those determined by area of specialized teaching (e.g., teaching mentally or learning handicapped students vs. teaching regular students), may each have unique stressors. These diverse lists have been the foundation of the measuring instruments that are discussed in the next section.

Measures of Teacher Stress

The designs of stress measurement instruments have varied depending on the researcher's conceptualization of stress and on the purpose for using the instrument. The main, controversial features of teacher stress instruments have been the indicator items, the factor groupings of the items or the central concepts for the subscales, and the method of rating the items.

Instrument Subscales

Typically subscale themes have centered on concepts that define a particular stress process. For example, the most common themes for subscales have been sources (environmental, psychological, or interpersonal sources) and manifestations (physiological, psychological, or behavioural manifestations). The factor analyses of such scales have resulted in the formulation of many concepts (e.g., work overload, student behaviour), which researchers have hypothesized to be components of total stress measures. Although similar factor groupings have been components on a number of the scales, the factors and their meanings vary on most scales. The subscales of another instrument (the Maslach
Burnout Inventory, Maslach & Jackson, 1981) have been based on the concepts of a hypothesized, stress-related syndrome. The subscales of the MBI are centered on the concepts of the defined syndrome.

**Stress Source Items**

Sources of stress have commonly been referred to as stressors. They are items representing particular environmental elements, conditions, or events. Researchers, such as Holmes and Rahe (1967) and Sarason, Johnson, and Siegel (1978), have used lists of common life events. Other researchers have applied a similar approach to develop lists of events common to limited contexts, such as teaching (e.g., Cichon & Koff, 1978). A more typical procedure has been to derive lists that are representative of the potentially stressful items, tasks, conditions, and situations. Examples of such lists have been provided in the previous section on sources.

Even in limited settings, accounting for representative stress sources has been a difficult procedure. The derivation of lists, representative of teaching stressors, has depended on both objective and subjective (or intuitive) evaluation of items from teacher reports and literature. There is little doubt about the value and the need for sound procedures for deriving such lists; the reliability and validity of the final stress instruments are greatly influenced by this first step.

**Manifestations Items**

Manifestations are items representing physiological, psychological, and behavioural symptoms. Although some researchers have chosen not to include manifestations as part of their measure, those who have used manifestation items, have encountered problems concerned with the content validity and reliability. The diversity of possible manifestations is substantiated in most stress literature. In fact, Pelletier (1982) noted that many medical books have acknowledged that stress influences 50 to 80% of illnesses. Therefore, the problem of using manifestations for stress measurement, centers on selecting representative symptoms and interpreting how such items relate to stress levels. Similar to the determination of sources, the determination of manifestations has resulted in lists of numerous items but has not yielded conclusive summaries. References to lists of
physiological, psychological, and behavioural symptoms appear in the introductory section.

**Rating or Scoring Systems**

Some researchers have designed scales with standardized ratings for their items. Others have designed scales for subjective ratings for the strength, the frequency, or for both the strength and frequency of their items. There are studies supporting both the use of standardized ratings (e.g., Cichon & Koff, 1980; Holmes & Rahe, 1967) and subjective ratings (e.g., D'Arienzo, Moracco, & Krajewski, 1982; Fimian, 1984a, 1984b; Sarason, Johnson, & Siegel, 1978). Those researchers who have used standardized ratings have selected data to show that the mean ratings of items are representative of the individual ratings. Therefore, they have concluded that set values can be attributed to each item. On the other hand, those researchers who have used subjective ratings for their items have presented data to show that the mean ratings of items do not adequately represent individual differences. Also, as mentioned in the introduction, there is some evidence that subjective ratings of stress manifestations are representative of objective measures of some physiological symptoms (e.g., Frankenhauser & Johansson, cited in Lunberg, 1982). Thorough measures of the entire stress process could include both subjective and objective data on stressors and on physiological, psychological, and behavioural changes, which occur in response to the stressors. In most teacher stress research, measures have been limited to either subjective or objective ratings of one or two components of the stress process. Teacher stress researchers have not directly measured stress in actual situations as they could do by taking data on physiological symptoms, cognitions, physical conditions, or behavioural patterns (Coates & Thoresen, 1976).

More research is needed to answer the following questions:

1) What constitutes a thorough or representative measure of the stress a person experiences?
2) How are ratings of stressors related to ratings of stress manifestations?
3) How do objective ratings compare to subjective ratings of physiological symptoms, which have been associated with stress?
Teaching Stress Scales

One of the first scales developed to explore the relationship of the frequency of common life events to the onset of negative health symptoms was the Schedule of Recent Events (SRE), by Holmes and Rahe (1967). They attempted to compile lists of stressful life events, both positive and negative, which were common to people in general. The ratings of the events were predetermined, based on the assumption that all individuals respond similarly to stressful events. Sarason, Johnson, and Siegel's (1978) view of stress differed from the view held by Holmes and Rae. They believed that stressful events are experienced differently; therefore their Life Events Survey (LES) involved subjective rating.

General life scales have seldom been used as the primary measure in teacher stress studies (e.g., Carranza (cited in Kyriacou & Sutcliffe, 1977)). They have been employed, however, in some teacher stress studies as a control or as a measure of an independent variable that has been correlated to a measure of teacher stress (e.g., Pratt, 1978). The main reason for mentioning general stress surveys is that they have been precursors to other stress instruments (e.g., Cichon & Koff, 1980). Although the relationship between teacher stress and life stress has not been fully explored, most researchers have proposed that general scales are insufficient tools for studies conducted in more specific occupational environments. Therefore, they have developed environment-specific stress scales. Stress measures that have been designed specifically for teaching include the following instruments: the Teaching Stress Events Inventory (TSEI), Cichon and Koff (1978); the Teaching Stress Inventory (TSI), Fimian (1983, 1984a); the Teacher Occupational Stress Factor Questionnaire (TOSFQ), Clark, (cited in D'Arienzo, Moracco, & Krajewski, 1982); the STRESS, Johnson and Gold (cited in Johnson, Gold, Williams, & Fiscus, 1981); the Teaching Event/Stress Inventory (TESI), Pratt (1978); and the Stress Profile for Teachers, Wilson (cited in Truch, 1980). Besides these scales, a number of teacher stress studies have employed the Maslach Burnout Inventory, Maslach and Jackson (1981). In the following pages these scales are reviewed and summarized in terms of their development, their structure and content, their reliability and validity information, and examples of their research applications.
Teaching Stress Events Inventory

Cichon and Koff's (1980) main purpose for developing the Teaching Stress Events Inventory (TSEI) was to provide a quantitative method for evaluating the stressfulness of common teaching events, to explore differences in responses to such events, and to provide some input for policy making. Their goal was to develop a scale, based on the format of the SRE by Holmes and Rae, for specific use with the teaching population. They derived their list of teaching events from some previous research by Lortie, on classroom behaviour. After piloting the items, a representative sample of the total Chicago teaching population (except in terms of racial components) rated 34 items. The first week of the school year was designated as the reference event for relative rating of the other 34 items. Cichon and Koff reported that the individual ratings for their items were very comparable and that prerating items would be possible.

Cichon and Koff derived four main categories for their items, based on the rank order analysis, priority concern (events centered on personal safety and student behaviour), management tension (events centered on constraints of the system or demands by superiors), doing a good job (events centered on effective teaching), and the lowest ranked items formed the pedagogical functions category (events centered on tasks of teaching). A later factor analytic study of the TSEI (Alexander, Martray, & Adams, 1984), did not confirm these categories. After gathering Likert-type ratings of the TSEI items, Alexander et al. (1984) used a varimax rotation to derive the following 5 factors, which they found to be stable and independent: personnel/professional threat, personal threat, racial issues, non-contact teaching tasks, and change in routine. Nonetheless, Alexander et al. did support Cichon and Koff's data on the mean ratings of the events by citing several studies that had shown similar mean ratings for the events.

Teacher Stress Inventory

Fimian's motivation for developing the Teacher Stress Inventory (TSI) was his perceived need for valid and reliable instruments for measuring stress levels rather than the product of stress. He was particularly interested in developing an instrument that was appropriate for measuring stress of special educators, as well as, the stress of teachers.
of regular students. Fimian's development of the TSI began with a thorough search for stressors, which had been mentioned in teacher stress literature. His review resulted in a summary of 135 items. Upon initial analysis of these items, Fimian (1982) derived 13 categories. Further analysis, of data gathered from both special education and regular education professionals and from professionals who were knowledgeable about stress, indicated six factors for both the frequency and strength of stress. Fimian labelled these factors: personal professional stressors; professional distress; discipline and motivation; emotional manifestations; biobehavioural manifestations; and physiological-fatigue manifestations. This construction has been thoroughly described by Fimian (1984a, 1984b). As well, because the TSI is the instrument used for this study, it is discussed in more detail in the section on measuring instruments, which is part of the next chapter on methodology.

Teacher Occupational Stress Factor Questionnaire

The Teacher Occupational Stress Factor Questionnaire (TOSFQ) developed by Clark (cited in D'Arienzo, Moracco & Krajewski, 1982) is composed of 30 Likert-type items. D'Arienzo et al. reviewed Clark's report on the construction of the TOSFQ. Clark used teachers from Alabama and Georgia to pilot rate the 30 items. From these ratings, Clark derived the following five categories: professional inadequacies, principal/teacher relationship, collegial relationship, group instruction, and job overload. Ratings of internal consistency (using Cronbach's alpha estimates) ranged from .933 for job overload to .982 for principal/teacher professional relationship. Later, Moracco, Danford, and D'Arienzo (1982) reanalyzed Clark's 30 items by distributing the scale to 1,335 regular and special education teachers. Using the 691 returned ratings, Moracco et al. derived variations of Clark's original factors, which they labelled: administrative support, working with students, financial security, relationships with teachers, and task overload. The internal-consistency estimates of these five factors ranged from .80 to .91. Moracco, Gray, and D'Arienzo (1981) and Harris, Halpin, and Halpin (1984) are researchers who have used the TOSFQ in their studies.
Special Teachers Response to Stressors

Based on their review of the literature and on their analysis of aspects of teacher roles, Johnson and Gold (cited in Johnson, Gold, Williams, & Fiscus, 1981) developed the Special Teachers Response to Stressors (STRESS), in 1980. Similar to other teacher stress scales, the STRESS's format involves Likert-type ratings for intensity and frequency of stressors. They reported the split-half reliability as .74 for frequency ratings and .81 for intensity ratings. The whole scale reliability was reported to be .75 for frequency and .89 for intensity.

Teacher Event/Stress Inventory

Pratt (1978) developed a 43 item Teacher Event/Stress Inventory by interviewing 10 teachers, representing each level of the English school system, about stressful teaching experiences. The instrument required subjectively rating only those particular items that had occurred. This procedure was repeated on 5 separate days.

The Wilson Stress Profile for Teachers

The Wilson Stress Profile for Teachers (cited in Truch, 1980) involves only a frequency rating for 36 items, which were categorized into the following eight subscales: student behaviour, employee/administrator relations, teacher/teacher relations, parent/teacher relations, time management, intrapersonal conflicts, physical symptoms of stress, physiological symptoms of stress, and use of management techniques. The rating instructions for the scale indicates that Wilson designed the scale to help teachers identify their vulnerability regarding each of stress related areas. The scale was not designed for research.

Maslach Burnout Inventory.

The Maslach Burnout Inventory (MBI) (Maslach & Jackson, 1981) was developed after data from exploratory research reflected common symptomatic patterns. Maslach and Jackson's hypothesized burnout syndrome is based on symptoms of emotional exhaustion, derogatory client-oriented attitudes, and derogatory self-oriented attitudes. The initial form of the MBI included 47 items derived from their surveys, observations, and from their study of previously developed scales. Maslach and Jackson (1981) referred to Lazarus and Cohen's rating method on the Hassles Scale as the example they followed for establishing
subjective intensity and frequency ratings. Teacher's were among the 605 health and service professionals who participated in the pilot rating of their 47 items. After a factor analysis and application of their designated selection criteria, Maslach and Jackson (1981) retained 25 items. The 25 items were then rated by another sample, which was similar to the first sample. The analysis of the combined ratings by both groups yielded four factors. Three were previously mentioned and the fourth, which was labelled involvement, was deleted after it failed to meet certain criteria.

The internal consistency reliability for intensity and frequency ratings was established using data from the second sample. It ranged from .57 and .59 for the involvement items to .86 and .89 for the emotional exhaustion items. As well, Maslach and Jackson (1981) established coefficients for test-retest reliability ($p < .01$) using a smaller sample. Their reported coefficients ranged from .53 to .82. To establish validity data, Maslach and Jackson (1981) used behavioural ratings, correlational data of MBI scores with measures of job characteristics, correlational data of MBI scores with measures of hypothesized outcomes, and correlational data of MBI scores with measures of potentially overlapping concepts.

The correlational patterns between frequency and intensity scores for each of the MBI scales and the demographic variables of gender, age, marital status, ethnic background, and educational background indicate complex relationships. Such patterns indicate the importance of exploring the interrelationship among variables as well as the importance of exploring the meaning of the variables.

The term burnout has been used to refer to an experience of high stress (e.g., Meadow, 1981). Although there seems to be a connection between stress level and burnout, teacher stress studies have seldom experimentally given evidence of the relationship between burnout and stress. Johnson, Gold, Williams, and Fiscus (1981) used both the MBI and a measure of teacher stress in their study, which is reported in the next section.

Causes or Correlates of Teacher Stress

The last section contained an overview of a number of teacher stress scales. Although researchers have started to refine instruments for teacher stress measurement (e.g., the TSI,
more research is needed before the data from these instruments can be usefully interpreted. As well, new research designs could be of benefit. Most research on teacher stress causality has been correlational. Correlational studies can indicate potential causes; however, conclusive statements about causation cannot be made from such studies.

Demographic variables have been explored in relation to teacher stress (e.g., D'Arienzo, et al., 1982; Fimian, 1983; Johnson, Gold, Williams, & Fiscus, 1981; Kyriacou & Sutcliffe, 1979b; Moracco, Gray, & D'Arienzo, 1981; Pratt, 1978) or to teacher burnout (e.g., Johnson, Gold, Williams, & Fiscus, 1981; Meadow, 1981). Another category of variables that has been explored in relation to teacher stress measures include concepts concerning an individual's psychological condition, such as, general health, general life stress, belief systems, obsessive-compulsive tendencies and neuroticism (e.g., Harris, Halpin, & Halpin, 1984; Moracco, Gray, & D'Arienzo, 1981; Pratt, 1978). Also job characteristics, such as type of student, job setting, or type of position have been explored (e.g., Bensky, et al., 1980; Fimian, 1983; Johnson, et al., 1981; Meadow, 1981; Moracco Gray, & D'Arienzo, 1981; Pratt, 1978). Among the studies, there are not many conclusive findings or noticeable trends. On first comparison, several of the studies even appear contradictory. After further analysis, the mixed results can be attributed to the differences among the instruments and among the operational definitions of the variables. Methods of interpretation of the data also contribute to some of the differences. Despite the limited conclusions that can be based on this overview, statements can be made about the parameters of the most practical studies and recommendations can be made for the direction of future research.

Kyriacou and Sutcliffe (1978b) designed their own questionnaire to explore the relationship between stress ratings, stressor items, manifestation items, and biographical information. Using the subjective rating of the question, "In general, how stressful do you find being a teacher?" (p. 160) as their dependent measure of stress, they used t-tests to compare stress differences in relation to gender, age category, type of teaching position, qualifications, and experience. In contrast to the different ratings of stressor items they found between the groups (determined by each of the five variables), they found no
significant differences in terms of the global stress ratings. Each of their 51 stressor items and their 17 manifestation items, however, correlated positively with the global rating.

Using the TESI to measure perceived stress, Pratt (1978) studied the relationship of stress to biographical variables (gender, age, and years of teaching) and to variables concerning the students (age and financial deprivation). As well, he explored the relationship of the stress measures to the measures on Holmes and Rahe's Social Readjustment Rating Scale, Goldberg's General Health Questionnaire, and Eysenck's Personality Inventory. Pratt concluded that the biographical variables did not significantly influence any of the categories comprising the total stress scores. He concluded, however, that teaching stress is associated with measures of general health, neuroticism, and with life happenings outside of teaching. The correlations among the measures of stress, neuroticism, general mental health and life events were all significant. The correlation between measures of stress and neuroticism was the only correlation that was not significant ($p < .01$). Measures for neuroticism increased simultaneously with measures of stress until the top one-quarter of the scale for neuroticism; at this point, mean stress scores dropped. Pratt's results showed a significant relationship between perceived stress and the interaction of the two student variables of age and the amount of financial deprivation. Finally, Pratt raised some important questions about such correlational data and emphasized that the correlation did not imply cause. Pratt's data support the need to look at factors, such as cognitions and other teacher characteristics, which might simultaneously influence each of the psychometric measures.

Bensky et al. (1980) expressed an interest in organizational factors such as job expansion, which influence teacher stress. They focused on the influence of the 1975 Public Law 94-142, the Education for All Handicapped Children Act of 1975, which they viewed as potentially placing more demands (e.g., diverse and unaccustomed responsibilities) on educators. They hypothesized that the interaction of role expectation and degree of adherence to Public Law 94-142 could influence stress. Using their own questionnaire, they surveyed 114 teachers to find information on demographic variables (e.g., training, type of teaching position), adherence to P. L. 94-124, self-rated stress, and stress-ranking of various job characteristics. They speculated that the global-stress rating given by regular
and resource room teachers were higher than the stress ratings given by special education teachers because of the differences in the degree of job change influenced by the P. L. 94-124.

Bensky et al. (1980) found that their two role clarity variables, termed role expectation and discrepancy in expectation, had the highest correlation with global stress ratings. Stress measures, in regard to role clarity, was high when there was either high or low adherence to P. L. 94-142; however, stress, in regard to specific tasks increased simultaneously with adherence to the P. L. 94-142. The most important implication of Bensky et al.'s study is the interrelationship of variables and their complex impact on aspects of measured stress. As well, their descriptive interpretation of the variables greatly improved the practicality of their correlational data.

Fimian (1983) administered the TSI to 365 full-time special education teachers, including teachers of emotionally disturbed, learning disabled, deaf, blind, and mentally handicapped students. His purpose was to find whether teachers of mentally handicapped students experienced different sources or symptoms of stress, and whether they experienced common stressors with different frequency or intensity in comparison to a group of the other special educators. The two groups were comparable in terms of gender, education, and other background variables.

Fimian (1983) did not find significant differences between the groups in terms of ratings of overall stress and job satisfaction; all subjects fell within the moderate range. By using a one-way analysis of variance of group means on the TSI items, however, significant differences were found between the two groups in terms of some sources and emotional symptoms. For the total sample, Fimian found the stressors which were ranked as the strongest sources were the ones labelled receiving an inadequate salary, receiving little professional recognition, feeling the need for more enhanced job related status, feeling one's personal priorities are being short changed, and having to continually monitor pupil behaviour. The teachers of the non-mentally handicapped students reported experiencing the sources of stress, labelled as follows, with significantly greater frequency and strength than the teachers of mentally handicapped students reported: teaching poorly motivated students, lacking preparation time, too fast-paced work days, and large caseload. The
teachers of mentally handicapped students, however, reported experiencing two emotional manifestations, feeling unable to cope and resenting certain members of administration with significantly more frequency than the other group of teachers. As well, they experienced feeling depressed with significantly more strength. In terms of behavioural manifestations, the one significant difference found was the excessive use of alcohol by teachers of mentally handicapped students.

In another study, Fimian and Santoro (1983) used the TSI to explore whether high-stressed teachers experienced different sources or manifestations of stress than low- or moderately-stressed teachers. Of the 365 teachers surveyed, 58 were classed as low-stressed, 57 as high-stressed, and 250 as moderately-stressed teachers. Fimian and Santoro (1983) found there were no particular sources that distinguished the three groups; the differences were found in the strength and frequency with which each stressor was experienced. Similarly, their analysis of the variance of the manifestations (physiological, emotional, and behavioural) showed no particular manifestations that distinguished the three groups; the only differences were found in the strength and frequency with which each manifestation was experienced. Fimian and Santoro (1983) concluded that their data supported the idea of individual differences. Stronger evidence for individual differences could perhaps be derived by using separate measures for the independent variables (e.g., interviews, observations, other psychometric measures) and the variable of stress. Evidence could also be strengthened by controlling for context variables (e.g., focusing on individuals in very similar settings).

Moracco, Gray, and D’Arienzo (1981) used the TOSFQ to determine whether teachers of special education experienced different stress levels than teachers of regular education. Variables of gender, teaching experience, and years of experience were a secondary focus of their study. As well, Moracco et al. (1981) examined the predictability of stress levels by a teacher belief measure and an obsessive-compulsive thought measure. Using a sample of over 1000 teachers from a Middle-Atlantic state, they obtained 675 adequately completed questionnaires.

Their regression analysis results, indicated that two factors, teacher belief and obsessive-compulsive thoughts were significant ($p < .01$). They particularly noted the
relationship of perfectionistic attitudes to stress levels. Differences in stress levels were not found between teachers of special education and teachers of regular education. Moracco et al. (1981) concluded that further exploration of psychological factors could be of greater value than the study of demographic variables. This seems possible; however, thorough interpretation of demographic variables could also reflect both underlying, concrete variables and underlying, psychological variables.

D'Arienzo, Moracco, and Krajewski's (1982) primary purpose was also to study the differences between the perceived stress levels of special education teachers and regular educators. Another purpose of their study concerned the following demographic variables: gender, teaching experience, marital status, type of school (e.g., urban, rural, suburban schools), school setting (e.g., grade, specialization), gender of principal, obsessive-compulsive thoughts, and beliefs about teaching. D'Arienzo et al. (1982) used the original TOSFQ to gather their data. Their analysis and interpretation of the 691 completed questionnaires, however, was based on their revised factor analysis of the TOSFQ, which was described in the measurement section. A multiple regression analysis of the eight variables and each of the factors of the TOSFQ indicated the following relationships:

1. **Years of teaching experience** had a significant negative correlation with stress factors labelled *administrative support* and *financial security*.

2. The **type of school** had a significant relationship with the stress factors labelled *administrative support*, *task overload*, and *working with students*: Urban teachers reported experiencing more stress.

3. The **principal's gender** had a significant relationship with the stress factors labelled *administrative support* and *relationship with teachers*: Teachers with female principals rated these factors as greater sources of stress.

4. The **school setting** had a significant relationship with the stress factor labelled *working with students*. For example, special educators reported lower stress levels.

5. **Obsessive-compulsive thoughts** had a significant positive correlation with the stress factor labelled *relationship with teachers*

   No significant relationships were found between the factors of stress and the variables
of marital status and beliefs about teaching. The overall analysis provided by D'Arienzo et al. (1982) indicated that a number of variables have a varying relationship with the different factors of stress. D'Arienzo et al.'s (1982) method of interpreting both the variables and the stress factors in terms of their sample enhanced the value of their study. With a smaller sample, an even more detailed interpretation of the variables would have been possible.

Harris, Halpin, and Halpin (1984) conducted a similar study to the one done by D'Arienzo et al. (1982). They used the original TOSFQ to examine the relationship of the variables of gender, age, teacher belief, management methods, locus of control, and personality factors to Clark's five stress factors. The variable of teacher locus of control was made operational by using the Teacher Locus of Control scale (TLC, Hall, 1980). The variable management methods was made operational by using the Pupil Control Ideology form (PCI, Willower, Eidell, & Hoy, 1973).

Harris et al. (1984) found the Pearson moment correlation between the PCI and four of the five stress factors was significant; only the correlation with the stress factor collegial relationships was insignificant. The analysis of the interrelationship of age and gender variables with stress factors was found to be insignificant. There were significant correlations between TLC scores and the three stress factors group instruction, professional inadequacies, and principal/teacher relationships. Harris et al. (1984) provided a detailed analysis of the correlation data of each stress factor to single variables and to multiple variables; they concluded that the determination of the specific interrelationships between variables and stress factors that result in the experience of high stress is difficult.

Johnson, Gold, Williams, and Fiscus (1981) are another group of researchers who have studied the differences in stress levels in relation to various groups of special educators (teachers of mentally handicapped, learning disabled, and emotionally disturbed students) and in relation to particular demographic variables (age, years of experience, educational background, and student variables of category and age). They used the Maslach Burnout Inventory (MBI) and the Special Teacher Response to Stressors (STRESS) to survey 135 teachers.

Johnson et al.'s (1981) data from the STRESS showed no significant differences in frequency and intensity of perceived burnout among the groups of special educators. They
reported, however, that there are different categories of stressors for different groups of teachers. This finding is similar to Fimian's (1983) findings. As well, Johnson et al. (1983), reported the following significant differences:

1. According to their results on the MBI, males experienced more depersonalization.
2. Teachers with four or five years of experience perceived more stress in contrast to teachers with one to three years of teaching experience.
3. Teachers with Bachelor degrees in contrast to those with specialist or M.A. degrees, reported greater concern for their students. The term concern was not explicitly interpreted.
4. Teachers of 26-30 years of age perceived more depersonalization than older teachers.

Using 240 professionals of deaf education (teachers, assistants, administrators, and support personnel), Meadow (1981) used the MBI to gather information on their well-being and to determine whether certain demographic variables (e.g., gender, age, job experience, marital status, job role, personal experience with deafness) correlated differently with the MBI scores. As well, Meadow compared the data from the professionals of deaf education with data from the regular teachers in Maslach and Jackson’s sample. Following is a summary of Meadow’s results:

1. Job role descriptions involved scope of expected duties and the associated observability of student progress. The jobs involving activities associated with low observability of student progress were thought to be related to higher scores on the emotional exhaustion and the personal involvement subscales. The jobs involving the greatest amount of personal contact were thought to be related to higher scores on both the personal involvement and the personal accomplishment scales.
2. Analysis of rating differences given by age groups yielded findings similar to those reported by Johnson et al. (1981) whose study using the MBI was previously reported. The age factor was represented by four groups. The oldest age group (greater than 35 years old) gave the lowest rating for emotional exhaustion, followed by the youngest group (21-26 years old). Teachers aged 27-30 years old gave the highest ratings for emotional exhaustion, followed by those teachers aged 31-35. Similarly, teachers with seven to ten years of teaching experience, reported higher emotional exhaustion than
3. Personal experience with deafness correlated with only the personal accomplishment ratings. Other variables, such as marital status, religious beliefs, reason for teaching, and parenthood status were not significantly correlated with any of the subscale measures.

4. Meadow found a significant difference between the mean ratings given by educators of deaf students and those given by educators of regular students: Personnel in deaf education scored higher only on the emotional exhaustion subscale items.

5. Finally, Meadow questioned individuals about their sense of power in their job situation, and reported that individuals who sensed the greatest influence over their job scored the lowest on measures of burnout and measures of depersonalization. The same individuals scored highest on personal achievement and reflected moderate scores on personal involvement.

Meadow provided a brief but useful example of a job analysis approach, which could uncover worthwhile information if applied to other occupational settings. Without interpretation, correlational data can be superficial. The descriptive interpretation of the variables is an important research step, which has seldom been presented in the teacher stress literature. Such interpretations are valuable for formulating additional hypotheses.

Summary of Accomplishments Using Specific Teacher Stress Scales

After examining the design and the cumulative results of the studies reviewed in this section, several trends can be noted. All studies were conducted within the past nine years. Previous to this time, studies and literature centered mainly on determining the prevalence of stress, and specifying the stressors and the manifestations of stress in order to develop instruments. Studies now, have centered on validating stress instruments and exploring more complex relationships among potential predictors of stress levels. The most frequently explored variables have been gender, age, qualifications, years of teaching experience, and type of job. In relation to most overall measures of stress (including the TESI, the STRESS, the TSI, and global subjective ratings), perceived stress has not been distinguished by the five variables. However, as previously discussed in this
section on causes and correlates of teacher stress, when overall stress ratings have been broken down into component factors (e.g., factors of the TOSFQ, subscales of the TSI), significant relationships have been found. As well, when multivariate analyses have been done on component stress factors additional relationships have been indicated. Several of the many examples of such relationships already presented are: D'Arienzo, Moracco, and Krajewski's (1982) conclusions that an obsessive-compulsive thought pattern has a positive correlation with a stress factor on the TOSFQ, labelled relationship with teachers and that the number of years of teaching experience has a negative correlation with two other stress factors, administrative support and financial security. Harris, Halpin, and Halpin (1984) found that teacher locus of control was correlated with the stress factors of group instruction, professional inadequacies, and principal/teacher relationships. Fimian (1983) found that types of special education positions were correlated with particular items on the TSI subscales but were not correlated with overall stress scores. Although overall stress scores are at times useful (e.g., Fimian & Santoro, 1983), more sophisticated analyses of stress components, such as the ones just mentioned, have yielded more tangible results.

Further, the interpretation of variables, until now, has been largely ignored, limiting the value of correlational studies. Seldom have researchers of teacher stress even hypothesized what factors underlie such variables as age, qualifications, or years of experience. Each of these variables could be translated into factors that relate more directly to stress intervention and prevention procedures (e.g., thoughts, skills, attitudes). Now, more frequently, both the variables and components of the instruments are being explicitly interpreted in terms of the specific samples of the studies; descriptive information has been presented with the correlational data of some studies (e.g., Meadow, 1981).

There have been frequent recommendations to do more exploration of psychological factors (e.g., Coates & Thoresen, 1976; Moracco, Gray, and D'Arienzo, 1981). Now variables, such as locus of control, belief systems, irrational thoughts, and management orientation are becoming the focus of studies. The common data gathering approach is still to use psychometric measures and questionnaires. Coates and Thoresen (1976) commented that measuring techniques have not enabled researchers to directly relate stress levels to particular situations; they suggested using direct assessment of certain responses
to obtain more practical information. Although their criticism and recommendation are still pertinent, there are a number of approaches, including blends of qualitative and quantitative techniques, that could prove worthwhile.

Coping and its Measurement

Concepts of stress, teacher stress, and stress measurement have already been discussed. The problem of this study involves several more bodies of literature. This section begins with a review and discussion of the literature that centers on coping. In a way similar to the sections on stress, this review and discussion of coping reveals several conceptualizations of coping and contains summaries of the techniques that have been used for its measurement and description. The reviewed articles and studies are analyzed, emphasizing their implications for this study on teacher stress.

Often, coping has been presented as the typical ways individuals make adjustments after a stressful event has occurred. Now, more researchers have started presenting coping as the varying patterns of thought and behaviours that individuals use during stressful events to manage the demands (e.g., Dewe, Guest, & Williams, 1978; Folkman & Lazarus, 1980; Folkman, Schaefer, & Lazarus 1979). In regard to this study, the latter presentation of coping is of interest; however, the importance of the influence of coping mechanisms that are used after the stressful situations (e.g., recreation, meditation) are not to be disregarded.

To categorize coping measurement techniques, Folkman and Lazarus (1980) determined the following concepts as the basis of the scales that have been used: ego processes, personality characteristics, and needs of unique circumstances. After they criticized the measurement techniques that researchers have used, they proposed an alternate approach. Their criticism of the use of these approaches is warranted if the other researchers have had the same purpose as they had: If the aim researchers' have is to describe types of coping, then the use of techniques that involve the correlation of concepts such as ego processes or personality traits with measures of well-being are less direct than the method that Folkman and Lazarus (1980) advocated. The main inadequacy of using psychometric measures lies in the abstractness and the indirectness of the data. The strength of Folkman,
and Lazarus' descriptive approach for the measuring of such a complex process seems to be that it is more concrete and therefore, somewhat easier to interpret and use for intervention. Describing an individual's particular pattern of thought seems more amenable and functional than saying, for example, that someone is a type A individual. Even with a more concrete and descriptive type of measurement, patterns cannot easily be categorized as appropriate or inappropriate. For example, coping techniques such as, taking direct action or using defense mechanisms might vary in appropriateness. Therefore, although Folkman and Lazarus's (1980) approach for analyzing coping is an improvement in regard to their criticisms, their approach is still limited by the method a researcher chooses to sample peoples' coping and by their ability to interpret the data from their samples. In the following paragraphs, the limitations of commonly used measures of coping, which were mentioned by Folkman and Lazarus (1980), are summarized and the implications for this study are stated. Their criticisms serve as cautionary statements that help to clarify an approach to this study.

Folkman and Lazarus (1980) were critical of using ego processes to define and measure coping. They viewed such methods as incomplete representations of coping, saying that direct problem-solving cognitions and actions are also part of coping. As well, they believed that cognitions and actions that are centered on defense mechanisms are unnecessarily assumed to be unhealthy. These cautionary statements provide encouragement to consider all coping-cognitions and actions in context, prior to making an evaluation of their effectiveness.

Descriptions of personality characteristics and dispositions categories have been used mainly during the 1960's and 1970's. For example, Coates and Thoresen (1976) cited a number of studies that centered on the correlation of teacher stress levels or anxiety levels with measures of teachers' personal aspects. The studies, which they reviewed, used scales such as Cattell's Anxiety Scale Questionnaire (IPAT) or Spielberger, Gorsuch, and Lushens' State-Trait Anxiety Scale. As well, Wolfe and Snoek (cited in Dewe, Guest, & Williams, 1978) used characteristics of extraversion versus introversion and flexibility versus inflexibility to describe individual differences in coping. Again, Folkman and Lazarus (1980) focused on the inadequacy of trait measures to represent the complexity
of coping processes. They believed that researchers who use trait measures have assumed consistency of coping over time and consistency of coping within diverse contexts. Our understanding of coping patterns could be limited if we prematurely or conveniently apply stereotypic labels. The sampling procedure, in regard to time and type of incident, also becomes an important factor in developing an accurate representation of the coping process.

The third approach to coping measurement that Folkman and Lazarus (1980) discussed was termed situation-oriented. This type of approach focuses on needs evoked by special circumstances. They cited Moos' study of coping with physical illness and Parks' study of bereavement as examples of this approach. Folkman and Lazarus (1980) believed this approach to be more comprehensive than the other two approaches but still judged it to be limited because they found that the data from specific situations were not generalizable to day-to-day coping. Nevertheless, the inverse of this may be true: Descriptions of day-to-day stress may not be generalizable to special situations. A study's purpose and problem, therefore, become the crucial factors in determining the appropriateness of the approach. A situation-oriented approach is an appropriate component for this study.

Besides Folkman and Lazarus (1980), who used their cognitive-phenomenological approach to analyze coping, other researchers have used descriptive approaches to analyze coping (e.g., Dewe, Guest, & Williams, 1978; Gmelch, 1984; Hoover-Dempsy & Kendall, 1982). Following is an overview of some studies that were conducted to develop categories of coping; Folkman and Lazarus's (1980) study has been included as the main example.

In a study aimed at exploring the ways that coping influences the relationship between daily stresses and psychological, physical, and social functioning, Folkman and Lazarus (1980) exemplified their cognitive-phenomenological approach. They suggested that coping patterns could be described in terms of coping functions such as the two they chose for their study. They categorized the function of 68 listed behaviours and cognitions as either problem- or emotion-centered. Folkman and Lazarus (1980) then used the list with open-ended interviews to facilitate the report of coping thoughts or actions and to aid the 100 subjects in describing their stressful daily incidents. As well, the researchers sought information on five hypothesized variables, which were labelled as: age, sex, other individuals involved, type of situation (e.g., health-oriented, family-oriented,
work-oriented), and how the situation was evaluated (e.g., not enough information, could do something about it, had to accept it). They continued the aforementioned procedure throughout a year and yielded descriptions of 1,332 stressful situations.

Folkman and Lazarus (1980) hypothesized that they would find different patterns of problem- and emotion-centered coping in relation to the five variables. Second, they hypothesized that the relationship between an individual and the environment would be more influential than situational or personal characteristics. They believed that consistency in coping patterns, which they defined as the repetition of the proportion of problem- and emotion-centered coping, would indicate the significant influence of situational factors or personal traits. When Folkman and Lazarus (1980) applied their study to validate their function-based description of coping, they concluded the following:

1. The appraisal and the context of the events were the most influential variables.
2. The age variable showed no effect.
3. The only gender effect was that in work situations men more frequently used problem-centered coping.
4. In terms of their limited categorization, they found only a few individuals were consistent; in general, individuals were inconsistent in their coping patterns.

Therefore their data supported their hypothesis. Folkman and Lazarus (1980) hypothesized further that if they had based their analysis on other specific behaviours or cognitions, rather than two broad categories, they might have yielded different results. Using the frequency data of the two types of coping in relation to the type of situation, they found that although work situations involved more problem focused material than the health situations did, both types of coping were used in 98% of the 1,332 described situations they collected. They concluded that although their conceptualization of coping, in terms of the two mentioned functions, was not comprehensive, it was valid. They suggested that patterns could be examined in terms of other functions, in addition to the two they used.

Dewe, Guest, and Williams (1978) conducted three studies to explore “the link between the perceived sources of stress, the nature of the feelings of discomfort, coping behaviours and their effectiveness” (p. 174). In their first study, they asked their subjects, who were transport managers and white-collar supervisors, to recall a time when they felt
under stress, to describe the incident, and to explain how they coped with it. From the
content analysis of their data, Dewe et al. (1978) found 11 categories of coping. They then
asked their subjects a more general question about how they coped with feeling tense and
frustrated. From the content analysis of this data, Dewe et al. (1978) found 18 categories of
coping. By applying Folkman & Lazarus’ (1980) categorization idea of direct-action versus
palliatives, they found that when subjects related stress to specific incidents, 78% of their
recalled coping mechanisms involved direct-action. In contrast, when subjects responded
to the more general question only 33% of the recalled coping mechanisms involved direct-
action.

Dewe et al. (1978) produced similar results with their second study. As well,
they isolated four direct-action and two palliative coping mechanisms, which were used
by groups in both studies to cope with stressful situations. The direct-action coping
mechanisms were confronting the situation, working harder, establishing priorities, and
discussion with management and the palliatives were avoiding the subject of contention
and forgetting work when finished. They did not find that common palliatives were elicited
by the general coping question.

Dewe et al. (1978) centered their third study on the development of a 47 item checklist
of types of coping mechanisms, which they used in their frequency and pattern analysis
of their data. They concluded that although palliatives might be used as frequently as
direct-action coping, palliatives tended to be more person specific. Their factor analysis of
coping mechanisms yielded the four factors based of the following behaviour: task-oriented
behaviour, emotional expression accompanied by appeals for social support, outside work
and involvement, and passive tolerance of the situation.

From Dewe et al.’s (1978) review and criticism other research (e.g., Burke & Belcourt’s
study of how managers cope with work stress, Hall’s study of college-educated women and
their coping with role conflict, and Kahn & Quinn’s study of role conflict and ambiguity)
and from the examples of their own studies, several implications for this study on teaching
stress can be noted. First, Dewe et al. (1978) mention the limitation imposed by the minor
nature of the stressors in the setting of their study; in contrast to the setting of their study,
the teaching setting holds a wide range of significant stressors. Second, their study serves
as an example of a study that uses verbal reports of specific stressful incidents (as proposed in this study) to gather information about coping. As well, by contrasting the data they gathered from the verbal reports of specific incidents with the data they gathered from a question about general stress, Dewe et al. (1978) showed the influence that questioning techniques have on the data; they supported relating questions about stress to specific incidents. Finally, they emphasized the importance of empirically deriving categories for analyzing coping patterns.

The purpose of Gmelch’s (1984) study was to develop a classification for coping techniques used by teachers and to develop a descriptive outline of effective coping responses. Gmelch isolated 156 coping techniques by surveying 1156 teachers. These techniques formed the content of seven coping categories that Gmelch labelled *attitudinal*, *physical*, *intellectual*, *personal*, *managerial*, *social*, and *entertainment*. Data indicating the effectiveness of the coping techniques were not presented.

Blase (1984) used an instrument called the Teacher Stress Inventory (different from Fimian’s TSI) to develop a teacher stress coping taxonomy. After he found no models of teacher coping, he developed the Teacher Stress Coping (TSC) Taxonomy using data from 392 American teachers. Blase criticized other teacher stress researchers for using models that were developed on nonteaching populations. Although he used an interactional model of stress, which defines stress in the eyes of the beholder, he acknowledged that external conditions can promote stress and ineffective coping. This is the perspective commonly found in the current literature.

Blase (1984) viewed teacher *responses to external work stressors* and *responses to internal feelings of stress* as the foundation of his coping model. He defined *confrontation* and *adaption* as the two main categories for both types of reactions and then divided adaption into four subcategories: *proactive positive responses*, *proactive negative responses*, *disengagement* and *acquiescent responses*. Blase did not assume any relationship between responses to stressors and responses to feelings. Blase’s coping taxonomy is discussed later in the analysis section of Chapter III.

**Variables of the Coping Process**

In the previous section, the literature containing descriptions of coping patterns was
reviewed. Now, variables of the coping process are reviewed. Ideas from the two bodies of literature can be integrated; descriptive approaches can be applied to explore patterns in terms of the coping-process variables. Further, patterns described in terms of coping-process variables and in terms of the other coping categories, which have been mentioned in the literature (e.g., task-oriented vs. palliative), could be more practical if their relationship to stress could be explained. In the beginning section of this chapter a summary of Leventhal and Nerenz's model of stress and coping was provided. Their model now serves as a structure for delineating variables of the coping process. In this section, some of these variables are discussed in more detail and reference is made to the research findings from outside the teacher stress literature. The potential of each of these variables to be part of an overall pattern of effective coping warrants their discussion. The review of the research, however, primarily reveals inconclusive findings. Although researchers have discussed potential variables of the coping processes, the relationships between effective coping and the suggested variables has not been well established. The diverse nature of the research, the varied conceptualization of the variables, and the interrelatedness of the variables confound the task of summarizing the material. The literature is evaluated in terms of its implications for research in real life situations. Different or conflicting conceptualizations of the variables are acknowledged and the findings about the variables in terms of their influence on effective or ineffective coping are summarized.

Leventhal and Nerenz (1983) believed one of the most stable variables of the coping process to be what they termed the individual's underlying schemata or the underlying representation of the stressors. They categorized individuals' representations of stressors in terms of concrete components (e.g., description of images) and abstract components (e.g., concepts of failure and inadequacy). Other researchers have conceptualized this variable differently. For example, Hammen and de Mayo (1982) studied teachers' representations of stressors in terms of several dichotomies; they categorized perceptions of stressors as either constant or changeable and as being caused internally or caused externally. Their findings did not substantiate their hypothesis that individuals who rated outcomes as internally and stably caused would rate their experience of depression and school stress as high. They found that teachers who viewed stressors as constants were more likely to have low personal
In their discussion of the representation of the stressor, Lazarus, Kanner, and Folkman (1980) spoke about the role of cognitions and emotions in reflecting the meaning of the stressor. They used variables such as: beliefs, commitment, values, and goals to identify the specific meaning, adding that emotions serve to emphasize the meaning. The categories they used for the general meanings of stressful situations were called challenge, harm-loss, or threat. The review of the literature did not include the research that has tested this categorization, but the literature does support these categories in terms of informal descriptions (e.g., the idea of combat neurosis, Bloch, 1978). This categorization could be statistically tested using descriptions of stressful teaching situations.

A second variable, which Leventhal and Nerenz (1983) considered to be one of the most stable in effective coping, was the individual's perception of self-efficacy. Self-efficance implies an ability to control some factor, but there are two main problems in evaluating the research on this variable. First as Garber, Miller, and Seaman (1979) pointed out, researchers have defined control in different ways. In terms of the second stage of Leventhal and Nerenz's model, self-efficance or control could mean either the ability or the perceived ability to influence or manage the stressors; it could also mean either the ability of individuals or their perceived ability to influence or manage emotional, behavioural or other components of their own responses. As Bandura (cited in Folkman, Schaefer, & Lazarus, 1979) pointed out, the second problem in evaluating self-efficacy is that researchers have not always made the distinction between efficacy perceptions and expected outcome. The distinction is made in this study.

One approach to assessing self-efficacy has been the use of negative and positive self-statements. Kendall and Hollon (1981) discussed this technique but none of their examples involved stress. Schwartz and Gottman, and Halford (cited in Meichenbaum & Butler, 1980), also applied this technique for assessing self-statements or self-evaluation. They examined the differences in the proportion of negative and positive self-statements between groups distinguished by measures of assertiveness of social anxiety. Both researchers found that the low functioning groups reported a greater proportion of negative self-statements; their findings reflected the general trend in the research on self-statements. Although
such an approach could be used as part of the content analysis of the stressful incidents reported in this study, a scale rating of self-efficacy is a more feasible measure in terms of time and in terms of the methodology needed to appropriately collect and measure the data. Frequency of types of statements could be used to analyze focus of attention.

After examining the role of stress in the development of learned helplessness and depression, Garber et al. (1979) concluded that some individuals operate on the generalized idea that their responses to stressful factors are futile; they do not expect to control the events or the outcomes. Garber et al. (1979) reviewed Seligmen, Maier and Solomon's work on learned helplessness, and attempted to clarify the concept of controllability. From Garber et al.'s perspective, an outcome is considered uncontrollable if its probability of happening without a response is equal to its probability of happening with the response. They suggested two types of uncontrollable events, the first is universal helplessness, in which "no individual possesses the controlling response" and the second is personal helplessness in which "the individual lacks the requisite controlling responses which are available to other people" (p. 337). As well, they emphasized that past experience with uncontrollable situations is necessary but not sufficient for predicting psychological deficits or problems. They suggested that the belief of future uncontrollability is a very important variable in learned helplessness. Experience, as well as, observations and knowledge are influential factors in the development of such response deficits.

Leventhal and Nerenz (1983) mentioned that individuals' expectations regarding their vulnerability and resistance to the stressors and individuals' past ability in controlling emotional and internal states influence effectiveness of present responses. Wortman, Panciera, Shusterman, and Hibsher (cited in Garber et al., 1979) tested the hypothesis that individuals who perceive personal helplessness exhibit more pathological behaviour and emotion than those perceiving universal helplessness; their findings supported their hypothesis. As well, they showed that motivation and actual performance did not parallel the evaluation of inadequacy. The findings of another study by Roth and Kubel (cited in Garber et al., 1979) were similar, indicating that subjects given uncontrollable tasks, who perceived themselves as lacking ability, reported experiencing more stress (among other consequences) than other subjects. Weiskopf (1980) and Daley (1979) stated that
perceived ability could be a pertinent variable in special education settings, where success is difficult to determine or where unrealistic goals are likely to be established. Greer and Wethered (1984) also discussed the relationship of learned helplessness and the experience of special educators. They outlined steps, which were based on three factors of Abramson, Segilman, and Teasdale's (1978) learned helplessness theory, to prevent learned helplessness and recommended trying the prevention procedure with a population of special education teachers. The first steps they presented were based on the need to set realistic and reachable goals (e.g., receiving practical information about teaching difficulties at the training level, establishing role consensus and clarification). The second steps were based on the need to recognize existing control (e.g., administrative staff giving teachers credit for their achievements, teachers being involved in the development of policies). The third steps were based on the need to recognize realistic reasons for failure (e.g., developing support systems with colleagues, creating opportunities for staff discussions regarding such failures). Before such procedures for prevention are actually applied, the relationship between the learned helplessness concept and stress levels should be explored.

One difficulty in real life-events is that controllability is not as easily determined as it is in laboratory studies; the perception of controllability rather than actual controllability seems to be an accurate description of the variable when studying people's responses in natural settings. In regard to the teaching environment, objectively evaluating the controllability of the situations or the stressors could be a complicated task. For example, behaviour of a handicapped child has frequently been considered a stressor, but feedback about the effect of a response in managing the behaviour is often not immediate because change can be very gradual. As well, connections between a response and an outcome are not always obvious because there are other factors which potentially contribute to changes. In the teaching environment, this variable is limited to the exploration of an individual's perceptions of his/her performance and the outcome of a stressful event. This variable could be useful despite the difficulty in determining the accuracy of such perceptions. In research, if universal-uncontrollable events could be effectively differentiated from personal-uncontrollable events then subsequent exploration in terms of the effects of accurate versus inaccurate perception of both types of events would also be worthwhile.
Folkman, Schaefer and, Lazarus (1979) mentioned ambiguity as a main variable of coping and appraisal, as well as, being a common characteristic of most stressful situations. For a situation to be accurately appraised, Folkman et al. (1979) stated that adequate information is important in regard to several aspects of the situation (e.g., the probability of occurrence, the importance in terms of goals, possible approaches to influencing the outcomes, the expected outcome) (p. 278). They conceptualized different forms of ambiguity in terms of the particular information needed for appraisal. They stated, however, that healthy adaptation should not always be viewed in terms of the ability to reduce ambiguity because ambiguity sometimes promotes positive attitudes such as hope and motivation. Therefore, perceived ambiguity might be an appropriate evaluation of some stressful situations.

In regard to the output stage, Leventhal and Nerenz (1983) mentioned an individuals' predictions of long-term and short-term outcomes as a variable influencing the coping process. Hammen and de Mayo (1982) found in their study of cognitive correlates of teacher stress and depressive symptoms that both the reported stress and the reported depressive behaviour had a significant relationship with cognitions about the consequences of the stressful situations rather than with the causal attributions about the situations (p. 96). They did not specify the types of cognitions but mentioned that individuals' cognitions about coping and their expectations or opinions of their ability to manage the outcome are correlated with symptoms of depression. Hammen and de Mayo (1982) viewed depression as part of teacher stress.

Summary of Reviewed Literature

Integrating the descriptions of two stress response models, Leventhal and Nerenz’s (1983) and Lazarus, Kanner, and Folkman’s (1980), helped to clarify definitions of stress phenomena that appear in the stress literature. More importantly, the models served as a foundation for developing a clear perspective on the whole process and for presenting hypothesized relationships among the variables of the stress process. For example, personal characteristics, behaviours, attitudes, and cognitions are only part of a very complex process. Previous discussion, in Chapter I, of variables of the stress process included
the designation of the variables chosen for this study. Although both frameworks were developed on nonteaching populations, specific teacher stress and coping literature was easily put in the context of the whole stress process.

The focus of teacher stress literature has evolved from the evaluation of external sources of stress to the development of stress measurement instruments. The following instruments were reviewed: the Teaching Stress Events Inventory (TSEI), Cichon and Koff (1978); the Teaching Stress Inventory (TSI), Fimian (1983, 1984a, 1984b); the Teacher Occupational Stress Factor Questionnaire (TOSFQ), Clark, (cited in D’Arienzo, Moracco, & Krajewski, 1982); the STRESS, Johnson and Gold (cited in Johnson, Gold, Williams, & Fiscus, 1981); the Teaching Event/Stress Inventory (TESI), Pratt (1978); the Stress Profile for Teachers, Wilson (cited in Truch, 1980) and the Maslach Burnout Inventory, Maslach and Jackson (1981). Most instruments employ intrapersonal factors, as well as, the environmental factors; however, total consensus has not been reached about items and the categorizations of items that are likely sources of teacher stress nor has consensus been reached about what encompasses a complete measure of stress. For example, there is no agreement in the research about how accurately individuals’ reported experiences of potential stressors, or their reported experience of psychological, physiological, and behavioural manifestations reflect stress. As well, the relative effectiveness of these scales has not been established.

Further, in terms of stress measurement, although the general trend reflected in the literature has been to improve the research procedures that are used to develop stress instruments, the main scales that are used in teacher stress research need to be refined. The refinement could occur, first, through further stress research; second, through thorough representation of improved stress theories; and then, through their application to more teacher populations. From the review of teacher stress instruments, however, the TSI (Fimian, 1984a, 1984b), was chosen to measure teacher stress in this study because of the research procedures used in its development and because of its development on the special education teacher population, which is of interest in this study.

The main application of the stress instruments has been to determine causes or correlates of teacher stress. Although gender, age, qualifications, years of experience,
and type of teaching environment have been the most frequently explored variables, they have not been consistently related to overall levels of stress. Attempts to discover the relationship of these variables to measures of stress have led first, to the analyses in terms of components of the overall stress measures and second, to the suggestion to explore variables that are more intrapersonal in nature (e.g., locus of control, beliefs). The results from analyses in terms of components of the stress measures are varied; conclusive patterns were not noted.

The description of coping processes has been a recent and important inclusion to the teacher stress literature. The presentation of coping that was chosen for this study is that coping is the varying patterns of thought and behaviours that individuals use during stressful events to manage the demands (e.g., Dewe, Guest, & Williams, 1978; Folkman & Lazarus, 1980; Folkman, Schaefer, & Lazarus 1979). Several ideas pertinent to this study were established from the coping literature. First, there have been suggestions and attempts by researchers to empirically develop coping taxonomies (e.g., Blase, 1984; Dewe et al., 1978; Folkman & Lazarus, 1980; Gmelch, 1984) for analyzing coping patterns. Second, from those studies that focused on developing taxonomies, there were suggestions or results that substantiated the approach, used in this study, to explore coping by eliciting verbal descriptions of stressful real-life incidents. Although Blase’s (1984) and Gmelch’s, (1984) taxonomies were developed on populations of teachers, the idea of effective coping was not developed in either study. Blase’s taxonomy appears to be more detailed and has been chosen to make the variable or coping behaviours operational. Finally, other variables from the coping literature, such as self-efficacy and expected outcome were discussed. Results from some studies (e.g., Garber et al., 1979; Seligmen, Maier, & Solomon, 1971) indicate that the variable of self-efficacy (the perceived ability to control) and related concept of helplessness are important variables to explore in relation to stress. Other coping variables that were reviewed and found to have a negative influence on individuals’ experiences of stress were: expectations of vulnerability (Leventhal & Nerenz, 1983), ambiguity in terms of goals and outcomes (Folkman, Shaefer, & Lazarus, 1979), negative cognitions about the consequences of stressful incidents (Hammen & de Mayo, 1982), and low expectations about outcomes (Leventhal & Nerenz, 1983).
CHAPTER III

METHODOLOGY

In Chapter I, the problem of this study is presented in the form of five questions that pertain to five cognitive variables of the stress and coping processes. The variables are among many other variables that have been mentioned in the stress or cognitive literature. Chapter II contains a review of such literature. This chapter describes the design for this study, the procedures for carrying out the design, the instruments that were used for the data collection, and the methods of analyses.

Design

All five questions that represent the problem, are translated into hypotheses. As well, in the hypotheses section, two other variables that could be discussed descriptively were presented. The approach used in this study has been called the causal-comparative method. Borg and Gall (1971) stated that “The causal-comparative method is aimed at the discovery of possible causes for a behaviour pattern by comparing subjects in whom this pattern is present with similar subjects in whom it is absent” (p. 297). Further, they noted that the causal-comparative method was appropriate for both descriptive and experimental studies. This description fits the problem described in Chapter I.

Population and Sampling Procedures

This study's sample group of teachers was taken from a highly populated metropolitan area of Northern California. The area contains many school districts; permission was sought to conduct this study in eight of the school districts. The eight school districts were in close vicinity of each other. Although the districts varied in terms of size, district funding, teacher salary, and somewhat in terms of ethnic background of the students, they were basically comparable in terms of job description and educational categorization of students.

The population was narrowed to special day-class teachers and resource room teachers of learning handicapped students. Job descriptions for special day-class teachers differed from job descriptions for resource specialists in terms of the total number of students taught.
and in some cases the severity of the students. Of the 124 teachers surveyed, 79 completed and returned the survey. Fifty of the 79 consented to participate in the interview part of the study. The homogeneity of the population could have been improved by surveying only special day-class teachers or resource specialists but the population size would have been reduced by approximately one-half. Further, as mentioned in Chapter II, Fimian (1983) did not find significant differences in terms of overall stress between teachers of different categories of students; the population in this study is more homogenous than the one used in Fimian's study.

Of the eight districts approached, consent was received from six of the districts. The total number of teachers of learning handicapped students in the six districts was 124. The initial plan for data collection was to attend each district's meeting of learning handicapped teachers to distribute an introductory letter (Appendix A), the Teacher Stress Inventory (Appendix B), and a form asking for volunteers for the interview part of this study (Appendix C). Five of the six districts were able to arrange such a meeting. The other district arranged to send the survey by internal mail because of irregular meetings; however, it yielded the lowest percent of returns.

Three groups of teachers were determined from the 50 individuals who consented to participate in the interview: TSI scores indicated low-, moderate-, and high-stressed teachers. Eleven individuals from each of the low- and high-stress groups were selected to participate in the main interview (a proposed sample of 15 was not obtained). The initial intention was to choose the samples using a stratified sampling technique to ensure the representation of subgroups (e.g., gender, age, years of teaching experience) in each stress level group (Borg & Gall, 1971, p. 121). Although, the research reviewed in Chapter II did not show age, gender, and years of experience to be significantly correlated with the measures of overall stress level, some evidence was shown for the possible interrelationship of variables. The stress scores and the number of volunteers, however, limited the sampling technique. Consequently, the volunteers with the highest and the lowest TSI scores were chosen for interviews: Rather than being a random sample of the high and low stressed groups, the subjects were the total of the high- and low-stressed individuals who volunteered to be interviewed.
As well, subgroups were not exact in terms of proportional representation. First, in terms of the gender of the 79 teachers completing the TSI, 8 were males and 71 were females. Three of the eight males volunteered to be interviewed; 2 of the 3 had appropriate stress scores but were not available for interview. Second, the ages of the teachers completing the TSI were grouped as follows: approximately 7% were in their 20's, 32% were in their 30's, 34% were in their 40's, and 27% were in their 50's. In comparison, the ages of the teachers chosen to participate in the interview were grouped as follows: approximately 5% were in their 20's, 32% were in their 30's, 27% were in their 40's, and 36% were in their 50's. Finally, the educational level of the teachers completing the TSI was similar to the educational level of the interviewed teachers; in both samples, approximately 35% had BA degrees and the remaining 65% had at least MA degrees. As well, the two stress groups contained a close match of resource specialists and day-class teachers for learning handicapped students. In the low-stressed group, six were resource specialists and five were special day-class teachers. In the high stress group, seven were resource specialists and four were special day-class teachers.

Data Collection Procedure

In five of the six districts, a written and a verbal introduction to the study was given by the author stating the information that appears in Appendix A. In the other district the letter was the only explanation that was given to the prospective respondents. An explanation was given stating that the Teacher Stress Inventory (Appendix B) was the first part of a study that would focus on exploring the nature of teacher stress in the special education setting. It would take approximately 30 minutes to complete and could be filled out at their convenience and returned in the attached stamped and addressed envelope to the graduate researcher, who would ensure all the respondents of confidentiality. A form explaining the second part of the study and asking for volunteers (Appendix C) was attached to the Teacher Stress Inventory. The form requested at least a first name and a means of contacting those who were willing to participate in the interview (e.g., school phone, school room number, home phone number). Rating instructions were then given for the TSI.
The initial intention was to collect the TSI on the same day that it was administered. All districts, however, had time restraints for their meetings and most teachers preferred to complete the form privately and at their convenience; consequently, a stamped and addressed envelope was given out with the inventory.

Each TSI form was scored when received. On the basis of the scoring procedure, which is outlined in the instrument section, it was determined which respondents were appropriate for the main interview. To schedule individual interviews, the sample population of teachers from each of the two stress groups were contacted in the way they designated on the form that was attached to their Teacher Stress Inventory.

Hour long, taped interviews were used to gather information about teachers' perceptions of their stressful teaching experiences. The interviews were conducted by two randomly assigned interviewers, who were blind to the subjects' stress scores. The interview included semi-structured reports of stressful teaching incidents and a post-report questionnaire: During the interview teachers were asked to report at least four teaching incidents that they considered to have been stressful. About 15 minutes were allotted for each description. The ratings and evaluations of particular aspects of the situation were collected after each description; the evaluation of other aspects were based on content analyses of the descriptions.

The outline of the interview appears in the Appendix E. As well, the procedure that was used to elicit the report of stressful incidents and the post-report questionnaire can be described as follows:

1) The interview began with the clarification of the concepts of stress and coping. Respondents were asked to recall an incident that they considered to have been stressful.

2) The respondents were then asked to describe the basic circumstances of their incidents and to make clear what was stressful for them.

3) At this point, the interviewer probed to get clarification of the situation's stressful aspects and to itemize what was stressful.

4) The respondents were next asked to describe their recall of how they coped with what was stressful in each incident.
5) Again, the interviewer probed to get a thorough idea of the coping behaviours and to clarify the situation.

6) After each description teachers were asked to complete four scales, which were presented in a semantic differential format. The scales gathered information on the respondents’ perceptions of the controllability of their situations, their ability to handle their situations and the resolution and tone of the outcomes to their situations. These rating scales appear as Appendices F, G, and H.

7) Finally, the respondents were asked to describe further any personal consequences from their incidents.

Measuring Instruments

Teacher Stress Inventory

A review of the literature showed that there are few experimentally derived instruments with which teacher stress can be measured. Nonetheless, the Teacher Stress Inventory was designed specifically to measure the stress levels experienced by special education teachers and has been used to distinguish low-, moderate-, and high-stressed teachers (Fimian & Santoro, 1983). Although improved versions are in process, the instrument’s reported validity and reliability indicated that it could be used to determine the two groups needed to conduct this study.

Fimian (1984a, 1984b) developed the TSI over a period of about four years and has continued to refine the scale’s validity and reliability. As mentioned in the literature review, he began the TSI with a review of the teacher stress literature, from which he summarized 135 sources and manifestations of stress. Although initially Fimian summarized 12 categories of stressors as: “(a) personal competence; (b) self-relationship; (c) conflicting values; (d) social approval; (e) isolation; (f) expectations; (g) self-fulfillment; (h) deficiencies in the work environment; (i) ego needs; (j) self-inflicted stress; (k) professional constraints; and (l) student-teacher relationship” (Fimian, 1982, p. 101), he later proposed a more rigorous approach to reduce the summarized items to a number of core categories (Fimian, 1984a, 1984b). By specifying a desired level of internal consistency
reliability and by applying procedures for content validation to the data that he gathered from three sample populations, Fimian developed the present form of the TSI.

First, Fimian (1984a, 1984b) eliminated or merged any items that approximated one another, reducing the 135 items to 79 items. He next established a preliminary content validity by ensuring appropriate sampling and design procedures. The 79 items were rated, in terms of perceived relevancy on a four point Likert-type scale, by teaching professionals and graduate students who were involved in special education. After the analyses, 63 items were designated to be most relevant.

Fimian determined the formal content validity of the 63 items by using both a sample of 155 special education teachers or professionals, who were knowledgeable about teacher stress, to again rate the items on a four point Likert-type scale for relevancy. Fifty-seven items were retained (Fimian, 1984a).

Using a sample of 365 Special Education teachers to gather strength and frequency ratings of each item, Fimian analyzed the factorial validity and the internal consistency. Fimian reported using a preliminary principal components factor analyses and varimax rotations for both strength and frequency information. If the factor loadings from these analyses were less than Fimian's .3 criterion, the resulting factors were deleted from the TSI. Thirty of the 57 items met the criteria. After further component analyses and conceptual regrouping, Fimian kept the following six subscales for both strength and frequency (see Appendix B): "Personal Professional Stressors; Professional Distress; Discipline and Motivation; Emotional Manifestations; Biobehavioural Manifestations; and Physiological- Fatigue Manifestations." (Fimian, 1984a)

Fimian used Cronbach's coefficient alpha to analyze the internal consistency estimate for each subscale, both groups of strength and frequency items, and the total group of items on the TSI. Fimian reported that the internal reliability estimates of the subscales ranged from .68 to .89 and that the reliability estimates for the total scores ranged from .91 to .95. After adding a total of 10 items, he judged the scales' reliabilities to be adequate in terms of his designated criterion of .70 to .80.

In order to derive a measure of the relevancy of the TSI items to the concept of teacher stress, the individual items were rated, and then the relevancy means that were
calculated for each item were used to determine a relevancy rating for each scale. The individual items and the subscales were judged to be, at least, moderately relevant. The personal/professional stressors and the discipline and motivation subscales had the lowest ratings. Fimian found that the intercorrelation of the subscales and the total scores showed a moderately strong interrelationship. The subscales with the strongest and the weakest indicated relationship with the Total Frequency, Total Strength, and the Total Composite Score were, respectively, the emotional manifestations subscale, and the behavioural manifestations subscale.

Interpretation of TSI scores

Fimian operationally defined stress as "the relative strength or frequency with which all 30 events occur or are experienced..." (Fimian, 1984a, 1984b). He gave two alternate methods for deriving a stress score. After subscale frequency and strength scores are derived by summing the item ratings and dividing by the number of items in that particular scale, total scores can be obtained by either a) summing the 6 frequency and the 6 strength subscale scores for a total frequency score and a total strength score, or b) summing strength X frequency scores for each scale. The possible range of scores for the first method is 6-30 for the strength scales, 6-42 for the frequency scales, and 12-72 for a combined total of both scales. For the second method, the possible range of scores is 1-210. In this study the stress scores were calculated using the second method: They were calculated by summing the strength X frequency scores for each scale and then summing all scale scores.

Fimian and Santoro (1983) are the only example of researchers in the literature that was reviewed for this study who have applied their scale to distinguish groups of low- and high-stressed teachers. They categorized low-stress as being indicated by a rating of 32.5 or less, high-stress as being indicated by a rating of 101.7 or more, and moderate-stress as the in-between scores.

Initially, three groups were to be statistically differentiated using one standard deviation above and below the mean to determine the low- and high-stress limits. Fimian and Santoro's limits were altered for this study because of the few volunteers yielded when their limits were applied: Only six volunteers scored under Fimian and Santoro's low limit
Figure 1. Frequency distribution of Teacher Stress Inventory

of 32.5 and five volunteers scored above Fimian and Santoro's high limit of 101.7. To increase the sample size three groups of approximately equal proportions were established; 26 individuals were in each group. Low-stress was indicated by a rating of 49 or below, high-stress was indicated by a score of 76 or above, and moderate-stress indicated by the in-between scores. This categorization differs from Fimian and Santoro's: There was only a 27 point difference between the limits of the low- and high-stress groups in contrast to the 67 point difference between the limits that Fimian and Santoro used. Implications of this difference are discussed further in the conclusion and recommendation sections of the final chapter.

Overall, the distribution of the stress scores, which is presented in Figure 1, was positively skewed; the moderate and low scores were distributed over a narrower range. Teachers' stress scores had a range of 120 points; the low score was 16.41 and the high score was 136.14. The mean of the stress scores was 64.55 and the standard deviation was 26.94. In terms of all the returned surveys, the means of the low-, moderate-, and high-stressed groups were 35.427, 63.275, and 94.210, respectively. In terms of the teachers who were interviewed, the means were very comparable to the larger sample; the mean of the low-stressed group was 34.794 and the mean of the high-stressed group was 96.017.
The Interview: Verbal Report of Incidents and Post-Report Questionnaire

The search for factors that influence the stress and coping processes and the possible methods for evaluating both stress and coping were discussed in Chapter II. The chapter ended with emphasis on the need for explanations of the relationship between stress levels and coping patterns. This section is a brief discussion on the scales that were used to evaluate several of the variables targeted in this study on cognitive aspects of coping.

Rating Scales

After reviewing the coping literature, several concepts that were likely to be variables of the coping process, were selected to form the scales for the post-report questionnaire. One tool for exploring a variable that can be represented in dichotomies is to develop a scale using the semantic differential format. The semantic differential and the Likert formats have a greater structure and rigor than other questioning styles (Babbie, 1983, p. 381).

First, the concept of controllability was chosen. Leventhal and Nerenz (1983) mentioned that individuals' ideas about their vulnerabilities and their past abilities to control their internal states are important factors in present functioning. As well, the topic of helplessness is mentioned by a number of stress researchers (e.g., Wortman et al. (cited in Garber et al., 1979)). The concept of controllability was presented as a continuum with the extremes representing universal uncontrollability and universal controllability (Appendix F).

The second scale was related to the first concept but focused on an individual's perception of how well the situation was handled relative to how well they thought others in a similar position would have done. As summarized in Chapter II, Roth and Kubel (cited in Garber et al., 1979) found that subjects who perceived themselves as lacking ability and who were given uncontrollable tasks experienced more stress than those who perceived themselves as having ability. Perceived ability was considered to be, by other researchers (e.g., Daley, 1979; Weiskopf, 1980), a salient variable in the special education setting. The concept of self-efficacy was presented as a continuum with the extremes representing better performance than other teachers and worse performance than other teachers (Appendix G).
The third and fourth scales were focused on an individual's perceptions of the outcome in terms of tone and resolution. In Chapter II, the final stage of Leventhal and Nerenz's (1983) coping model was based on the appraisal of the outcome in terms of the initial objectives. The concept of tone was presented as a continuum with the extremes representing positive and negative. The concept of resolution was presented as a continuum with the extremes representing totally resolved and totally unresloved (Appendix H).

Verbal Data

Besides the descriptions of stressful incidents, the interviews yielded other verbal data. One body of data were responses to the open-ended question about coping; another body of data were responses about the meaning of consequences to the reported incidents. The following section describes the tools used to work with the verbal data.

To analyze the responses about coping, Blase's (1984) Teacher Stress Coping (TSC) Taxonomy of how teachers cope with work stress was used. After he found no models of coping specifically related to teachers' behaviours, Blase used an open-ended instrument called the Teacher Stress Inventory (different from Fimian's TSI) to develop a teacher stress coping taxonomy. The 392 teachers represented a wide range of variables (e.g., age, grade, teaching area, gender). They responded to open-ended items by detailed, written responses, which were qualitatively analyzed. Blase used grounded theory research and constant comparative analysis. He used two procedures to evaluate the thoroughness and clarity of his taxonomy. First, categories that were generated by 14 professors and doctoral students in education were compared with the items in the TSC; he reported a 98% agreement. As well, two judges obtained 94% agreement about categorization of behaviours using the TSC.

As summarized in Chapter II, Blase (1984) viewed teacher responses to external work stressors and responses to internal feelings of stress as the foundation of his coping model. He defined confrontation and adaptation as the two main categories for both types of reactions and then divided adaptation into four subcategories: proactive-positive responses, proactive-negative responses, disengagement and acquiescent responses. Blase did not assume any relationship between responses to external stressors and responses to feelings. Appendix I contains an outline of Blase's taxonomy and brief descriptions of the categories.
In the problem section of Chapter I the meaning of the consequences and focus of attention were presented as other variables to be explored using verbal data. Similarly to the measurement of coping behaviours, the analyses of these variables, in part, involved categorizations and frequency counts. Although possible categorizations were suggested in the literature review section of this study, no qualitative taxonomies were found. The responses about consequences were classified by adapting the categories used by Lazarus, Kanner, and Folkman (1980). Their categories for the general meanings of stressful situations were called challenge, harm-loss, or threat. For this study the more general terms of positive or gain, ambiguous, and negative or loss were used for the categories. The concept of focus of attention was framed using only statements about coping and Blase's two main categories of external work conditions and internal feelings associated with job related stress.

Method of Data Analyses

The primary analyses of the responses to five of the questions that represent this study's problem were done statistically. The first four variables, self-evaluation, self-efficacy, and the evaluation of the outcome (tone and resolution), were analyzed by first obtaining ratings on scales that used the semantic differential format (Appendices F, G, and H). During the interviews, ratings of zero to six were obtained for each of the four questions. The ratings from the low- and the high-stressed groups were summed separately. Mean scores and standard deviations were derived for each variable in both groups. Also, for each variable, an unbiased estimate of the population variance and the standard error of the difference between the two means were calculated. These statistics were used for one-tailed, t tests (Ferguson, 1976, p. 164), to calculate the significance of the differences between the means of the two groups, for each of the four variables.

For the fifth variable, statements from the reported stressful incidents that represented coping behaviours were listed and then analyzed using a data-based teacher stress coping taxonomy (Blase, 1984); a frequency count was taken for each group. Comparisons using χ² (Ferguson, 1976, p. 195) were then made to determine the significance of the independence between teacher stress level and coping behaviour. After examining the verbal data and

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the statistical analysis, a descriptive analysis was also presented for coping behaviours.

As discussed in Chapter II, frequencies of various categories of statements can be used as part of the content analysis of the stressful incidents reported in this study. Although, in terms of time and the methodology needed to collect and analyze the data, a rating scale is a more feasible measure for many variables, a semantic differential rating scale is not easily amenable for variables that are represented by multiple categories or variables that are evaluated by the researchers. For example, focus of attention is not easily represented by a dichotomy and it is a pattern of behaviour that could be observed in verbal data. Specific categories were not proposed for this incidental variable, but mention was made that patterns could become apparent upon examination of verbal data. After examining the verbal data, focus of attention was defined in terms of focus on internal and external coping behaviour, which is similar to the suggestion of using the categories of self-focused and task-focused given in Chapter I.

Although statistical analyses were not initially intended for two incidental variables, comparisons using $\chi^2$ (Ferguson, 1976, p. 195) were made to determine the significance of independence between teacher stress level and focus of attention, and between teacher stress level and the meaning of the consequences from the situations. Brief descriptive analyses of the responses to the questions regarding the meaning of the consequences and the focus of attention are also included in Chapter IV.

Methodological Assumptions and Limitations

First, although the Teacher Stress Inventory is still in the process of being refined it was found to be the most sound instrument for determining the two stress-level groups for the population in question. It was assumed that an appropriate sample size could be determined from the six school districts. As discussed in the population and sampling section of this chapter, although there was a good return of the TSI and although 50 individuals volunteered for the interview portion of this study, there were limited numbers of individuals whose scores fell within the range designated for the high- and low-stress categories. Ultimately, it was assumed that the altered range of scores used to categorize the two groups would yield appropriate samples of high- and low-stress teachers and that
these groups would be distinguishable from each other, in terms of the variables of this study. In retrospect, the size of the surveyed sample and the altered range of scores limited the distinguishability of the two groups.

Next, it was assumed that the TSI reflects actual stress levels. After reviewing the personal data page of the TSI (Appendix B, page 1) and briefly examining how item 18 (personal rating of degree of stress) relates to the calculated stress score, a question can be posed. Why is it that the stress scores of some individuals are contradicted by their personal evaluation of their degree of stress? This study assumed that the TSI score more accurately represented the stress level of the individual than their single rating of how stressed they felt.

Further, in terms of selection of the sample groups, it was assumed that the individuals who returned the Teacher Stress Inventory were representative of the teacher population. Although high-stressed teachers who participated in the study reflected time pressure, they also expressed their recognition of the importance of the study. The assumption was made that these two influences balance each other. Similarly, low-stressed teachers might have not recognized the significance of their contributions and thus failed to volunteer; however, the assumption was made that both groups were proportionally represented.

Similarly, the assumption was made that the sample chosen for the interview was representative of the larger sample. This assumption is supported by the comparibility of the means of the low- and high-stress groups used in the interview portion of the study and the low- and high-stress groups in the total sample. These statistics are reported in the section on the interpretation of TSI scores.

Regarding the interview portion of this study, the assumption was made that subjects would not give answers that were influenced by concerns of repercussion, concerns about evaluation by the interviewer, or assumptions about the study’s purpose. For example, all the teachers were assured of their anonymity; however, several teachers needed further reassurance when they reported incidents concerning administrators or colleagues. As well, several teachers needed reassurance that stress was a common concern among teachers. Finally, several teachers were curious about the purpose despite the explanation given to them. For example, one teacher made comments pertaining to the researcher’s thesis area,
indicating that she thought teachers were being evaluated on their communication skills. Care was given to reassure each subject and to encourage the subjects to be as candid as possible.

There are two final assumptions. First, the assumption was made that the incidents reported were representative of the ones typically experienced. The interviewers directly requested descriptions of typical stressful incidents. The second, related assumption centered on the recollection and report of information by the teachers. The reliability of the results rested on the accuracy and the completeness of the verbal reports. Any conclusions drawn from the data were based on the assumption that the descriptions made by the teachers represent how the individual typically perceives or behaves in a similar incident.

Hypotheses: Incidental Variables

This section is simply a statement of the hypotheses for the incidental variables in terms of the instrumentation that has been presented in this chapter. These hypotheses were not presented earlier.

1) There are no differences between the group of high-stressed teachers and the group of low-stressed teachers as indicated by the differences between the expected frequencies and the observed frequencies of the meaning of the consequences as categorized by using the basic divisions of positive, neutral, and negative.

2) There are no differences between the group of high-stressed teachers and the group of low-stressed teachers as indicated by the differences between the expected frequencies and the observed frequencies for the categories used to describe focus of attention (viz., external, internal).
CHAPTER IV

RESULTS AND DATA ANALYSIS

In this Chapter the results of the questions, which were stated in Chapter I, are presented. In the first section, the outcomes of the four questions, which were presented in the interview in a semantic differential format, are reported. In the second section, the analysis of the reported coping behavior is presented and in the third section, a brief analyses of the incidental variables, which were mentioned in Chapter I, are presented. The final sections are descriptive evaluations and discussions of some of the variables.

Analysis of Cognitive Variables: Perceptions of Controllability, Self-Evaluation, Tone, and Resolution

The data for exploring and answering the first four questions, which were asked in the problem section of Chapter I of this study, were gathered using ratings from semantic differential scales. The questions were as follows: What are the cognitive differences between high-stressed teachers and low-stressed teachers in terms of the following independent variables:

1) Self-evaluation or perceived ability relative to other individuals' ability in a stressful situation?
2) Perception of the controllability of the stressful situation: self-efficacy?
3) Evaluation of the outcome in terms of the intended goal and the resulting tone of the incident?
4) Evaluation of the outcome in terms resolution?

The means were calculated for the high- and low-stress groups using an averaged rating of each subject's four incidents. There were a total of 11 individuals in each sample. These statistics appear in Table 1. Next, the significance of the differences between the means of the low- and high-stress sample groups were calculated using one-tailed t tests for the means of the averaged incident ratings. There were no significant differences between the two groups ($t(20) = 1.725, \alpha < .05$).

1) The low-stress group did not report experiencing significantly greater controllability ($M = 3.106$) than the high-stress group ($M = 2.598$), $t = 1.146, p < .05$. 

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Table 1.
Mean Ratings of Cognitive Variables by Low- and High-stress Teachers

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>Controllability (Self-efficacy)</th>
<th>Self-evaluation</th>
<th>Tone</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low-stress</td>
<td>11</td>
<td>3.106</td>
<td>4.280</td>
<td>3.447</td>
<td>3.196</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SD 1.062</td>
<td>0.755</td>
<td>1.085</td>
<td>1.002</td>
</tr>
<tr>
<td>High-stress</td>
<td>11</td>
<td>2.598</td>
<td>3.947</td>
<td>3.636</td>
<td>3.606</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SD 0.926</td>
<td>0.592</td>
<td>1.007</td>
<td>0.732</td>
</tr>
</tbody>
</table>

2) The low-stress group's ratings of self-evaluation were not significantly greater \( (M = 4.280) \) than the high-stress group's ratings \( (M = 3.947) \), \( t = .936, \ p < .05 \).

3) The low-stress group did not report experiencing significantly more positive outcomes \( (M = 3.447) \) than the high-stress group \( (M = 3.636) \), \( t = .385, \ p < .05 \).

4) The low-stress group did not report experiencing significantly greater resolution to their stressful incidents \( (M = 3.196) \) than the high-stress group \( (M = 3.606) \), \( t = .987, \ p < .05 \).

The observed, absolute values of \( t \) for each of the variables are all below the required value \( (t(20) = 1.725, \ \alpha < .05) \), one-tailed. The differences between the means, therefore, are not significant; rejection of the hypotheses is warranted. Specifically, there are no differences between the group of high-stressed teachers and the group of low-stressed teachers in terms of,

1) the mean of the ratings of relative ability in stressful teaching situations.

2) the mean of the ratings of self-efficacy.

3) the mean of the ratings of the resulting tone of the stressful incidents and the measured
frequency of reported success in terms of initial goals.

4) the mean of the ratings of the closures of the stressful situations.

Analysis of Reported Coping Behaviours

The fifth main question of this study was stated as: What are the cognitive differences between a group of high-stressed teachers and a group of low-stressed teachers in terms of the types of coping behaviours used to manage stressful incidents? The data for exploring and answering the fifth main question of this study were interview statements about recalled coping behaviours. After applying the Teacher Stress Coping (TSC) Taxonomy to the reported behaviours, frequencies for each category of the taxonomy were tallied and then a chi-square test of independence was calculated to determine whether stress level was independent of reported coping behaviour. The contingency table for the two stress groups and the coping taxonomy is Table 2.

The obtained value was $\chi^2(9) = 8.11$ (see Table 2); the critical value of $\chi^2(9) = 16.92$, $\alpha < .05$. There is, therefore, no grounds for rejecting the null hypothesis of independence between stress level and coping behaviour. Specifically, there are no differences between the group of high-stressed teachers and the group of low-stressed teachers in terms of the measured frequency of types of coping behaviour (according to Blase's (1984) Teacher Stress Coping Taxonomy) used to manage the stressful teaching incidents.

Analysis of Reported Consequences and the Focus of Attention

In the problem section of Chapter I the meaning of the consequences (e.g., positive, ambiguous, negative) and focus of attention or the aspect of the situation on which an individual focuses (e.g., self-focused, task-focused) were proposed as secondary variables, which were to be explored and then described in, primarily, a descriptive manner. Simple statistical analyses were done for both variables.

The calculated value of $\chi^2(1) = 2.81$ (see Table 4), this value is not significant ($p < .05$). The focus of attention, is not a significant variable: There were no differences between the low- and high-stress groups in terms of external and internal focus used in coping behaviours.
Table 2.
Contingency Table for Coping Behaviours of High- and Low-stress Teachers

<table>
<thead>
<tr>
<th>Coping Behaviours</th>
<th>High Stress</th>
<th>Low Stress</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>External Stressors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confrontation</td>
<td>25</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>(29.27)</td>
<td>(28.73)</td>
</tr>
<tr>
<td>Proactive-positive</td>
<td>12</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>(11.10)</td>
<td>(10.90)</td>
</tr>
<tr>
<td>Proactive-negative</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>(0.50)</td>
<td>(0.50)</td>
</tr>
<tr>
<td>Disengagement</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>(12.61)</td>
<td>(12.39)</td>
</tr>
<tr>
<td>Acquiescence</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>(5.55)</td>
<td>(5.45)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>110</td>
<td>109</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Internal Feelings/Emotions</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Confrontation</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>(7.06)</td>
</tr>
<tr>
<td>Proactive-positive</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>(21.70)</td>
</tr>
<tr>
<td>Proactive-negative</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>(1.01)</td>
</tr>
<tr>
<td>Disengagement</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>(13.62)</td>
</tr>
<tr>
<td>Acquiescence</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>(7.54)</td>
</tr>
</tbody>
</table>

**Notes.**
Expected frequencies are bracketed.

\[ \chi^2(9) = 16.92, \alpha < .05 \]
\[ \chi^2 = 8.11, p < .05 \]
Table 3.

Contingency Table for the Meaning of Consequences of Stressful Incidents for High- and Low-stress Teachers

<table>
<thead>
<tr>
<th></th>
<th>Loss/Negative</th>
<th>Ambiguous</th>
<th>Gain/Positive</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>26</td>
<td>15</td>
<td>17</td>
<td>58</td>
</tr>
<tr>
<td></td>
<td>(18.56)</td>
<td>(13.34)</td>
<td>(26.10)</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>6</td>
<td>8</td>
<td>28</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>(13.44)</td>
<td>(9.66)</td>
<td>(18.90)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>23</td>
<td>45</td>
<td>100</td>
</tr>
</tbody>
</table>

Notes. Expected values are bracketed.

\[ \chi^2(2) = 13.82, \alpha < .001 \]

\[ \chi^2 = 15.147, \ p < .001 \]

The data for exploring and answering the question about the meaning of the consequences were direct responses, made in the interview, to a question about perceived consequences. Statements were sorted into three basic categories: negative statements or ones reflecting loss, ambiguous statements or ones reflecting neither loss nor gain, and positive statements or ones reflecting gain (see Table 3).

The calculated value of \( \chi^2(2) = 15.147, \ p < .001 \) (see Table 3). The critical value is below this value; therefore, there is grounds for rejecting the null hypothesis of independence between stress level and coping behaviour. Specifically, there are significant differences between the group of high-stressed teachers and the group of low-stressed teachers in terms of the meaning of the consequences of their stressful teaching incidents.

The data for exploring and answering the question about the focus of attention was taken from the interview statements about coping behaviours. The Teacher Stress Coping (TSC) Taxonomy was again applied to the reported behaviours; however, frequencies were tallied for only the main categories, which represented coping behaviours directed at external stressors versus coping behaviours directed at internal emotions. A chi-square
Table 4.

Contingency Table for Focus of Attention of High- and Low-stress Teachers

<table>
<thead>
<tr>
<th></th>
<th>Externally Focused Coping</th>
<th>Internally Focused Coping</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Stress</td>
<td>54.00</td>
<td>56.00</td>
<td>110.00</td>
</tr>
<tr>
<td></td>
<td>(59.04)</td>
<td>(50.96)</td>
<td></td>
</tr>
<tr>
<td>Low Stress</td>
<td>63.00</td>
<td>45.00</td>
<td>108.00</td>
</tr>
<tr>
<td></td>
<td>(57.96)</td>
<td>(50.04)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>117.00</td>
<td>101.00</td>
<td>218.00</td>
</tr>
</tbody>
</table>

Notes. Expected values are bracketed.

\[ \chi^2(1) = 3.84, \quad \alpha < .05 \]
\[ \chi^2 = 2.81, \quad p < .05 \]

test of independence was calculated to determine whether stress level was independent of this categorization of focus of attention. The contingency table for the two stress groups and the focus of attention is Table 4.

Discussion and Interpretation

In this section, discussion is focused on the variable that yielded the most significant results and an attempt is made to enhance the meaning of the statistical findings by giving examples and summarizations of the verbal data collected in the interviews. An attempt is made to relate the findings to significant theories and literature. As mentioned in Chapter II, however, the review of research primarily yielded inconclusive findings; the relationship between stress and cognitive variables has not been well established.

The Meaning of Consequences

The cognitive variable which yielded the most interesting result is meaning of the consequences. As well as being the variable with the greatest statistical significance \( p < .001 \), the verbal data regarding the variable provides direction for further research.
By summarizing and contrasting the verbal data for the meaning of consequences for both stress groups the significant differences are reflected.

In terms of negative consequences, the low-stress group reported far fewer negative emotions, a total of 6 in 41 incidents. The reported emotions were discomfort, sadness, and resentment. In contrast, the high-stress group reported a total of 26 negative consequences, which included the following: fear, hostility, mental and physical exhaustion, anger, ineffectiveness, tension, worry, paranoia, defensiveness, and feeling out-of-control. As well, the low-stress group reported only two cases of having to work longer hours; in contrast, the high-stress group reported eight cases.

In terms of ambiguous consequences, the low-stress group reported several cases in which they were left wondering and several in which they experienced no apparent consequences. Although the high-stress group reported similar, ambiguous consequences, in contrast, they also reported another type of ambiguous consequence; they reported attempting or considering change rather than accomplishing change in about one-fourth of their incidents.

Finally, in terms of positive consequences, the low-stress group reported 28 incidents with positive consequences, in contrast, the high-stress group reported 17 such incidents. The low-stress group reported learning or changing something even when the incidents were not resolved. The word challenge was used by a number of individuals and three of the low-stressed teachers had difficulty responding to the word stressful; this was not so with the high-stressed teachers. Two of the low-stress teachers could not recall four incidents; two of the high-stressed teachers did not have time to report a fourth incident. In terms of positive feelings, the low-stress group reported the following: power, confirmation, enlightenment, challenge, and satisfaction. The high-stress group reported catharsis, excitement, confirmation and satisfaction, but with less frequency than the low-stress group.

In general, the findings reported in this section support Hammen and de Mayo's (1982) findings that reported stress and depression is significantly correlated with cognitions of the consequences of incidents. Further research directed at the meaning of stressful incidents and of the consequences is warranted.
Focus of Attention and Coping Behaviours

Although the variables of focus of attention and coping behaviours could be defined in several ways, for this study, application was made of suggestions from the reviewed literature. In these paragraphs, discussion centers on nonstatistical observations of trends in the verbal data collected for this study; interpretations are made accordingly, about the differences between the two stress groups. Suggestions for future research are presented in the final chapter.

Focus of attention, defined in terms of focus on internal and external coping behaviours was not found to be significant. Other categories could prove to be significant. Upon examination, however, trends were not apparent. A further search of literature or a more direct method for eliciting statements could provide new categories.

Although coping behaviours did not test to be a significant variable, the elicited, verbal data provided insight into possible refinements of definitions for determining differences between the two stress groups. These refinements have been suggested in the literature, but have not been clearly delineated. For example, as mentioned in the section on coping and its measurement, Folkman and Lazarus (1980) hypothesized that if they had based their analyses on other specific behaviours or cognitions rather than on two broad categories, they might have yielded different results. Their suggestion was applied to this study; however, the coping taxonomy used in this study (Blase, 1984) is still not comprehensive nor detailed enough to be meaningful or to yield differences.

After listing statements made in response to the interview question about coping, several general patterns of behaviour or cognitions emerged. For example, when individuals in the low stress group talked about coping behaviours, their responses generally reflected the use of goals and limits (e.g., “I look at my expectations and form realistic ones”, “I work on the student’s behaviour at school ... but I can’t change her and I can’t change her home”). Their responses also reflected a general effectiveness in coping regardless of the corresponding evaluation of the the stressful incident in terms of resolution. As well, responses tended to be more explicit. This relates to findings by Wortman, Panciera, Shusterman, and Hibsher (cited in Garber et al., 1979) that those who perceive personal helplessness exhibit more pathological behaviour and emotion than those perceiving

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universal helplessness. Finally, the low stress group generally made reference to their philosophies, beliefs, or attitudes (e.g., "I’m a survivor; I deal with stress.", "I allow myself to have a good attitude.", "I run my classroom with the same philosophy with which I run my life."). There was an absence of such behaviours reported by the high-stress group. In Folkman et al.’s (1979) discussion of the response stage of their coping model, general and specific beliefs were classed as one of the five categories of coping resources.

Any type of behaviour that was intended to affect the stressor was classed as confrontational (refer to Appendix I for the definitions of coping behaviours). After examining the reported behaviours that were classed as confrontational, a difference in quality was noticed; factors such as comprehensiveness, appropriateness, and effectiveness were not brought into consideration. Similarly, after examining behaviours that were classed as adaptation: proactive positive, a difference in quality was noticed (e.g., well defined behaviour programs for students vs. inconsistent responses). In Leventhal and Nerenz’s (1983) discussion of the response stage of their coping model, personal knowledge, experience and skill were classed as coping resources.

Differences were not as apparent for the reported behaviours that were categorized as adaptation: disengagement; however, the definition made no distinction between disengagement used with resignation or helplessness and disengagement used with decided or realistic limits. The low-stress group used predominantly limit-setting type disengagement; they used disengagement behaviours after doing what they could (e.g., “I don’t carry on.”, “I don’t hang on to it.”, “I don’t take it home with me.”). In the cases when the high-stress group used disengagement, few other alternatives were mentioned; they used avoidance and withdrawal in the true senses of the words (e.g., “I just ignore what’s happening.”). Similarly, acquiescent behaviours that were reported by the high-stress group (who also reported numerous negative emotions) were supported by their verbal data: The report of passive acceptance or not being able to cope with the incident was not contradicted. This observation supports the theory of learned helplessness as discussed by Garber et al. (1979). They reported that individuals who are depressed have the perspective that their responses are futile. In contrast, the report of acquiescent behaviours by the low-stress group was not often supported; in most cases, even though
some individuals made statements about not coping well or not knowing what to do, their responses reflected that they actually did attempt some sort of coping behaviour.

In conclusion, although the data collected was limited, it reflects important differences between the groups. The differences provide direction for developing a more useful and comprehensive coping taxonomy. Coping behaviour could be proven to be an important variable by using an improved sample and a more comprehensive taxonomy of behaviour.

**Discussion of Other Variables**

The variables of *self-efficacy, self-evaluation and the perception of outcome* did not yield significant statistical results. The following paragraphs discuss the brief observations from the data of this study and relate them to findings previously reported in Chapter II.

Leventhal and Nerenz (1983) claimed that *self-efficacy* or the perception of controllability was one of the most stable variables in effective coping; however, *self-efficacy* has been used in varying ways in the stress literature. In this study, the variable was defined in terms of the retrospective perception an individual has about the controllability of each of his/her incidents. Although none of the four variables that were measured by ratings on the scales tested as being significant (p < .05, one-tailed) variables, controllability was the most significant.

For most subjects controllability was the most difficult to rate. The reason for the difficulty seemed to be a result of the complexity of the stressor; in most incidents there are a number of aspects that contributed to the overall stress. Teachers were asked to rate the incident on-the-whole. In terms of verbal descriptions and in contrast to the high-stress group, the low-stress group reported more action directed at controlling the incidents; however, they also reported more incidents in which they recognized limits. This implies that although the low-stress group could not always control what was stressful, in general, they did not feel helpless. More helplessness, in terms of reported action, was reflected in the high-stress group's responses. In conclusion, refinement of this item and further research is warranted.

*Self-evaluation* was a disappointing variable in the sense that neither statistical analysis of ratings nor the analysis of verbal data indicate differences between the two
groups. The high-stress group perceived themselves as positively as the low-stress group; both groups gave average ratings of over four on a six-point scale. The variable does not warrant further discussion.

Finally, several comments can be made about the verbal data on the outcome. Outcome was defined in terms of tone and resolution. The question that elicited the verbal data about resolution was, “For you personally, was your situation resolved?” Verbal data reflected that for both groups many incidents were current or ongoing. This may have complicated the ratings. Even though the individuals were asked to rate resolution from his or her perspective, the perspective, varied. For some individuals resolution meant that the circumstances of the incident were remedied; for other individuals resolution meant that even if the circumstances of the incident were not remedied they had emotionally come to grips with the outcome of the situation. This relates to the aspect of limit setting that was previously mentioned. A specific count of these differences was not done. Although the difference between the means of the two group's ratings of resolution was not statistically significant, the meaning of resolution could be a more significant variable.
CHAPTER V
SUMMARY AND CONCLUSIONS

Summary of the Study

Teaching is representative of those professions that are conducive to stress. As early as half a century ago, stress-related concerns appeared in literature. Since then, these concerns have remained reflected in educational, psychological, health, and medical journals. With the increased awareness of the interrelationship between the psychological and physiological systems that are involved in the stress response and with the development of stress instruments, coping models, and techniques for cognitive analysis, the process of determining the variables of stress can be approached better. The development of stress intervention and prevention techniques rests on the determination of these variables.

There exists a sizable body of literature that is focused on teacher stress and its prevalence, sources, symptoms, and measurement. Although the literature does not yield conclusive definitions, sources, nor symptoms, enough research has been conducted to give evidence that teacher stress is a significant problem. For example, results from two major studies (Coates & Thoresen, 1976; Fimian & Santoro, 1983) indicate that 78% to 87% of teachers consider their jobs to be at least moderately stressful.

Stress inventories and scales have been major tools for further exploring aspects and causes of teacher stress. Sources and manifestations have been common themes for the inventories and scales. Two of the major instruments mentioned in teacher stress literature are: the Schedule of Recent Events (SRE) (Holmes & Rahe, 1967), and the Life Events Survey (LES) (Sarason, Johnson, & Siegel, 1978); however, these scales have been evaluated as inappropriate for studies about job stress and have not been used as main measures of teacher stress. Stress measures that have been designed specifically for teaching include the following instruments: the Teaching Stress Events Inventory (TSEI) (Cichon & Koff, 1978), the Teaching Stress Inventory (TSI) (Fimian, 1983, 1984a), the Teacher Occupational Stress Factor Questionnaire (TOSFQ), by Clark, (cited in D’Arienzo, Moracco, & Krajewski, 1982), the STRESS, by Johnson and Gold (cited in Johnson, Gold, Williams, & Fiscus, 1980), the Teaching Event/Stress Inventory (TESI), Pratt,
1978, and the Stress Profile for Teachers, Wilson (cited in Truch, 1980). Besides these scales, the Maslach Burnout Inventory (Maslach & Jackson, 1981) has been used in a number of teacher stress studies. The Teaching Stress Inventory (TSI), Fimian, 1984a, was of particular importance to this study because it was designed, in part, for a similar population. As well, its importance is held in its relative reliability and validity.

With the development of instruments to measure teacher stress, came the opportunity to explore variables that influence stress level. A central purpose of most research has been to find causes, in order to develop interventions to alleviate stress. Typically, focus has been on external or environmental factors and conditions; however, the search has progressed to internal factors. For example, studies now center on personal characteristics, and general psychological conditions rather than on demographic variables and job conditions. An overview of most of the research focused on internal factors has yielded inconclusive findings.

Recently, research has been directed toward the internal processes and associated psychological behaviours that influence the experience of teacher stress. Variables have begun to be described in context. While considering the research of such phenomena, several main questions arise: Are there particular variables or patterns of variables of these processes that significantly influence the experience of stress? If there are variables or patterns of variables, how are they best determined and measured? Finally, do they center on alterable variables of an individual?

In response to the first question, a number of variables have been mentioned in the general literature on stress models and coping processes. These were reviewed and mentioned in Chapter II. Although research does not conclusively indicate the relationship of stress to the variables, five such variables were chosen for this study: self-efficacy, self-evaluation, perception of outcomes (tone and resolution), and coping behaviours. Two other variables, the meaning of the consequences and focus of attention, were chosen for incidental exploration.

To answer the second question, some current stress studies (e.g., Folkman & Lazarus, 1980; Folkman, Schaefer, & Lazarus, 1979; Lazarus, Kanner, & Folkman, 1980; Leventhal & Nerenz, 1983) have been conducted differently; rather than attempting to measure
stress as just an outcome, they have used descriptions of components of the stress and coping processes. As well, developments in the area of cognitive assessment have provided alternate approaches for collection and assessment of data.

This study centered on the relationship between some specific cognitive variables of the coping process and levels of teacher stress. Interviews were conducted on a sample group of low-stressed teachers and a sample group of high-stressed teachers, whose stress-levels were determined using Fimian's (1984a) Teacher Stress Inventory.

Four of the cognitive variables were measured using semantic differential scales; the other variables were explored using verbal data from direct questions and from descriptions of stressful incidents. An attempt was made to begin to formulate ideas about patterns of effective and ineffective coping by comparing the responses of the low-stressed group to the responses of the high-stressed group. Analysis was focused on testing five main hypotheses which centered on the previously mentioned variables (self-efficacy, self-evaluation, perception of outcomes (tone and resolution), and coping behaviours) and their relationship to stress level. Appropriate t tests were calculated for variables that were rated on scales and chi-square values were calculated on variables measured by frequency counts. Two other variables, the meaning of the consequences and focus of attention, were explored and ultimately, they were analyzed in similar ways to the main variables.

Although only one variable, the meaning of consequences, was found to be statistically significant, nonstatistical observations of trends in the verbal data also provided valuable information on which to base suggestions and recommendations for future research.

Conclusions

The following conclusions were made within the limitations of Chapter III:

1) There are differences between high-stressed teachers and low-stressed teachers in terms of the meaning they attribute to the consequences of the stressful incidents they experience. Low-stressed teachers are more likely to report positive-type consequences, consequences associated with personal gains (e.g., learning, challenge) or positive emotions. As well, low-stressed teachers are more likely than high-stressed teachers
to make more references to their underlying philosophies and their general attitudes, which influenced their view of the consequences.

2) Although the data trends for several of the remaining variables were in the predicted direction, differences between the two groups were not found to be significant. The low-stress group gave a higher mean rating of self-evaluation and self-efficacy than the high-stress group. As well, data trends for three categories of coping behaviours were in a predictable direction: The low-stress group reported a greater frequency of the coping behaviour labelled confrontation and lower frequencies of the coping behaviours labelled disengagement and acquiescence.

Recommendations

There are two main sources for making recommendations and suggestions for additional research. First, throughout the literature review, in Chapter II, comments were made about unsubstantiated research or relatively unexplored problems, which are connected to stress research. As well, in Chapter IV, the discussion of the results of this study included comments about possible direction for future research.

1) First, in the discussion on models for stress research Leventhal and Nerenz’s (1983) recommendation for the development of separate descriptions of the motor, psychological, and physiological types of responses is a worthwhile suggestion. Further, Lazarus, Kanner, and Folkman (1980) spoke about the inadequacies of information processing models, emphasizing the function of cognitions on emotions.

2) In the second section on sources of teacher stress, the refinement of the lists of stressors in terms of reaching some agreement on definitions could improve the comparability of studies and their results.

3) In Chapter II’s section on stress measurement, the following questions were proposed, for further research:
   a) What constitutes a thorough or representative measure of the stress a person experiences?
   b) How are ratings of stressors related to ratings of stress manifestations?
c) How do objective ratings compare to subjective ratings of physiological symptoms, which have been associated with stress?

4) In the section on causes or correlates of teacher stress the point was made that more research used to refine stress measurement items is needed before the data from these instruments can be usefully interpreted. As well, the recommendations were made to conduct more studies based on designs using blends of qualitative and quantitative techniques such as the design used in this study or to conduct more studies using direct assessment of certain responses. The latter suggestion was voiced by Coates and Thoresen (1976).

5) Finally, in the coping literature many coping taxonomies were discussed. Only the one developed by Blase (1984) was developed on a teaching population. The main suggestions for further research in terms of coping measurement center on establishing reliable and valid taxonomies. Improvements could be established if comprehensive or detailed categories were developed with the teaching role in mind.

As a result of the findings that were presented in Chapter IV of this study the following suggestions are made for further research:

1) The meaning of the consequences to stressful incidents was the variable with the greatest statistical significance. Before such a finding can be used in stress intervention and prevention programs, the findings need replication. As well, more exploration is needed to determine the root of this variable. For example, is personal perception of the consequences a stable factor? If it is, can other individuals be trained to look at most incidents as a challenge or as a learning experience as many of the low-stress group did?

2) Although the predicted differences of self-evaluation, self-efficacy, focus of attention, and coping behaviours were only minimally reflected in the data trend, anecdotal evidence supports the suggestion to replicate this study using more distinguishable groups of high- and low-stress teachers. As mentioned in the section of Chapter III, on the interpretation of TSI scores, the limits of the high- and low-stress categories were altered to accommodate the sample results. It is highly likely that the maintenance
of the prescribed limits is an important factor in obtaining significant results. Despite the good rate of return of the surveys, a larger sample size, than the one obtained in this study, is required to determine appropriate groups.

3) Upon examination of the verbal data of this study focus of attention was not significant and other categorizations for the data were not apparent. As suggested earlier, either further search of literature or a more direct method for eliciting statements could provide new significant categories.

4) The analysis of coping behaviours and the exploration to the associated verbal data provided insight into possible refinements of definitions for determining differences between the two stress groups. First, a more comprehensive or detailed taxonomy could prove to be meaningful or could help uncover differences between high- and low-stressed individuals. For example, coping behaviours classed as confrontational and adaptive: proactive positive could be further categorized in terms of comprehensiveness and effectiveness. As well, appropriateness also appeared to be a factor. Such a concept could be difficult to define but might be one of the key dimensions for determining general differences between effectiveness of all coping behaviours. Further, another category labelled adaptive: disengagement, made no distinction between disengagement used with resignation or helplessness and disengagement used with decided or realistic limits. Observed patterns in verbal data reflected the use of goal- and limit-setting by the low-stress group. In conclusion, although such trends were observed in the verbal data, these patterns need to be appropriately tested and validated.

5) Although self-efficacy was not found to be a significant variable as defined in terms of the retrospective perception an individual has about the controllability of each of his/her incidents, it has had some stronger support in the literature. For example, Leventhal and Nerenz (1983) claimed that self-efficacy or the perception of controllability was one of the most stable variables in effective coping. In this study, more helplessness, in terms of reported action taken to control the stressors, was reflected in the high-stress group’s responses. Again, after refinement of this variable, further research is warranted.
6) Although the difference between the means of the two group's ratings of outcome in terms of resolution and tone was not statistically significant, the verbal data indicated that the meaning of resolution could be a more significant variable. A categorization for individuals' perspectives on the outcome of their incidents could reflect important differences. For example, for those perceiving resolution there were differences in emotional or personal limits and in acceptance or satisfaction shown about the incidents' solutions. Therefore, a categorization such as initial goals reached, initial goals maintained but not reached, initial goals limited and reached used with another categorization for the associated emotions could reflect differences more effectively.

In conclusion, there are a number of possible ideas for implementing the findings of this study and for conducting additional research in the area of teacher stress. As discussed, there are needs for more thorough information processing models, stress models, and stress measurement instruments. As well, the blend of qualitative and quantitative research appears advisable in an area of research, such as teacher stress. In this study, for example, the description of the verbal reports reflected patterns or dimensions (e.g., appropriateness vs. inappropriateness of coping behaviour) that were not under consideration. After the recognition of such patterns, suggestions were made for how the dimensions could be approached quantitatively. Related to this idea, the findings and observations of this study support the recommendations and suggestions to attempt developing and then testing a more comprehensive categorization of several variables based on their meaning (e.g., outcomes, consequences). Variables, such as controllability, that have been substantiated in the literature but did not appear significant in this study were also recommended for further research. Finally, other suggestions for research included the replication of part of this study using the significant variable, the meaning of the consequences, in order to substantiate the findings.
References


Dear Teachers,

I am a graduate student from the Counselling Psychology Department at the University of British Columbia. I am interested in occupational stress. Many teachers and researchers have indicated that teaching can be a stressful occupation. I believe that you and other teachers have experience that can help researchers understand more about occupational stress and that this information will be particularly important in the development of stress intervention and prevention programs for teachers. This questionnaire is part of a two-part study, which focuses on the nature of teacher stress in special education settings. For this first part of my study I am asking every resource room teacher and special education teacher who works with learning handicapped students in this district, to complete this questionnaire; it takes less than 30 minutes to complete. Your participation is voluntary; as well, filling out this questionnaire does not obligate you to participate in the second part of the study. All data will be kept confidential; all inventories can be mailed directly to me in the attached envelope or if you request, I will collect them personally. My committee at the University of British Columbia and I will be the only people with access to the information. I would be willing, however, to discuss the conclusions of my study with your staff when my study is completed. I appreciate your help.

Yours sincerely,

Jaqueline J. Lisowski
TEACHER STRESS INVENTORY

In this section we would like to know about you, your previous education, and your teaching experience. Then, we would like to find out about your present position and your perceptions of your present position. Please read each statement or question carefully and respond by marking or providing the most appropriate answer, as indicated. All of your responses will be kept confidential.

1. Your sex:  
   (1) Male  
   (2) Female

2. Your age:  
   (1) 20-29  
   (2) 30-39  
   (3) 40-49  
   (4) 50 or over

3. Your length of teaching experience:  
   (1) 1 year  
   (2) 2-3 years  
   (3) 4-5 years  
   (4) 6-7 years  
   (5) 8-9 years  
   (6) 10 years or over

4. Your highest level of educational achievement:  
   (1) BA (BS)  
   (2) BA+ (BS+)  
   (3) MA (MS)  
   (4) MA+ (MS+)  
   (5) PhD (PsyD)

5. Have you attended any workshops, classes, or in-service programs on teacher stress prior to answering this survey?  
   (1) Yes  
   (2) No

6. Your type of site:  
   (1) Rural  
   (2) Suburban  
   (3) Urban  
   (4) Other (specify)

7. Your level of teaching:  
   (1) Preschool/Kdg  
   (2) Grades 1-4  
   (3) Grades 5-8  
   (4) High School  
   (5) Other

8. How many students, total, do you teach each day?  
   (1) 2-4  
   (2) 5-7  
   (3) 8-10  
   (4) 11-13  
   (5) 14-16

9. With what type of student(s) do you work?  
   (1) Nonhandicapped  
   (2) Mentally Retarded  
   (3) Behav. Disordered  
   (4) Learning Disabled  
   (5) Cross/Multicategory

10. Your type of classroom:  
    (1) Self-contained  
    (2) Resource  
    (3) Regular  
    (4) Vocational  
    (5) Other

11. How many hours per day do you work, including preparation?  
    (1) 2-4  
    (2) 5-7  
    (3) 8-10  
    (4) 11-13  
    (5) 14-16

12. In your estimation, did your previous training adequately prepare you for teaching?  
    (1) Yes  
    (2) No

13. Have your views of teaching become negative since you began teaching?  
    (1) Yes  
    (2) No

14. Does your supervisory or administrative staff take an active and supportive role in helping you deal with on-the-job stress?  
    (1) Yes  
    (2) No

15. Do you and your peers provide mental and/or emotional support to one another when needed?  
    (1) Yes  
    (2) No

16. Would you take another job, if the opportunity arose?  
    (1) Yes  
    (2) No

17. To what degree are you satisfied with your job?  
   1 = Very Little  
   2 = Moderately  
   3 = Very Much

18. To what degree do you find your job stressful?  
   1 = Very Little  
   2 = Moderately  
   3 = Very Much
Sources and Manifestations of Stress

The following are a number of sources and manifestations of stress commonly cited in the stress literature. In this section, please identify those factors which cause you stress or which result in stress in your teaching situation. Read each statement carefully and decide if you ever feel this way about your job or profession. If you have experienced this feeling, indicate HOW OFTEN you feel it by circling the appropriate number on the 7-point scale. Then, decide HOW STRONG the feeling is when you experience it and circle the appropriate number on the 5-point scale.

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<td>once a month</td>
<td>a few times a month</td>
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<td>a few times a week</td>
<td>every day</td>
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<td>very noticeable</td>
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**EXAMPLES**

- If you feel unprepared in your instruction a few times a month, you would circle number 4 in the left-hand column. If, when you feel unprepared, it is an extremely strong feeling, you would circle number 5 in the right-hand column.
- If you never feel this way, you would circle the left-hand number 1. Since you never feel this, and it does not have noticeable strength, you would circle the right-hand number 1.

**PERSONAL-PROFESSIONAL STRESSORS**

(I feel that . . .)

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1. There is little time to adequately prepare for my lessons and other teaching responsibilities.  
2. My personal priorities are being shortchanged due to time demands.
3. I have too much work to do.
4. My caseload/class is too big.
5. The pace of the school day is too fast.
6. There is too much administrative paperwork in my job.
7. I lack promotion and/or advancement opportunities.
8. I am not progressing in my job as rapidly as I would like.
9. I need more status and respect on my job.
10. I lack recognition for the extra and/or good teaching I do.
### DISCIPLINE AND MOTIVATION

(I feel frustrated . . .)

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1. My personal attitudes, opinions, and values are not given sufficient airing in my classroom or school.
2. I receive an inadequate salary for the work I do.
3. I lack control over decisions made about matters in my classroom or school.
4. I am not adequately emotionally and intellectually stimulated on the job.
5. I lack opportunities for professional improvement.
6. Because I have to constantly monitor pupil behavior.
7. Because of discipline problems in my classroom.
8. Attempting to teach students who are poorly motivated.
9. Because certain students of mine would do better if they only tried harder.
10. Because of inadequate or poorly defined discipline policies in my school or district.
11. Whenever my authority is rejected by pupils and/or administration.

### EMOTIONAL MANIFESTATIONS

(I respond to stress by . . .)

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1. Feeling insecure.
2. Feeling unable to cope.
5. Feeling anxious.

### BIOBEHAVIORAL MANIFESTATIONS

(I respond to stress by/with . . .)

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1. Calling in sick.
2. Using prescription drugs.
3. Using over-the-counter drugs.
4. Rapid and/or shallow breath.
5. Using alcohol.
6. Feelings of increased blood pressure.
7. Feelings of heart pounding or racing.
8. Feelings of increased blood pressure.
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Thanks for volunteering to participate in part two of this study. For this part of the study we are interested in further exploring teacher stress. In order to gather more information we are asking you to briefly describe three or four teaching incidents that you have encountered and consider to have been stressful. This interview will take about an hour to complete and you have the right to stop it at any time. All information collected will be kept confidential; only the researcher and her committee at the University of British Columbia will have access to the information. Taping the interview would be extremely helpful. These tapes will be destroyed immediately after all data has been collected and your name will not appear with any data.

I have read the above and consent to participate in part two of this study.

signature: ____________________________

date: ________________________________
APPENDIX E

The Interview

“Over the past month or so there may have been incidents that you consider to have been stressful. In this interview, I am interested in hearing your description of three or four stressful incidents. I would like you to take a few minutes to recall specific teaching incidents.” (Give subject several minutes to recall specific teaching situations.)

“What I am interested in is your description of the whole situation; what it was like for you. Please try to make clear what was stressful in your incident and then describe how you coped with what you found to be stressful. By coped I mean how you managed (i.e., responded, tolerated, or minimized) what you found to be stressful.” (The definition of coping appears in the definition section of Chapter I.)

“Now, choose one of your incidents. When you have it reviewed in your mind, begin describing the situation to me.” (Limit each description to approximately ten minutes.) “Can you recall anything else that was stressful about your situation? Is there anything else you can add to describe how you coped with this situation?”

“Now, I would like you to look at these scales (Appendices F, G, and H), keeping the incident you just described in mind. If this scale (F) represents the controllability of a teaching situation, how would you rate the situation you just described?” (Pause for rating and allow any comments of explanation from the subject.) “If this scale (G) represents how well you handled the situation compared to how well others could have handled it, how would you rate yourself?” (Pause for rating and allow any comments of explanation from the subject.) “Overall, how do you think the situation that you just reported turned out?” (Show appendix H) “If this scale represents the range of resolution for a teaching situation, how would you rate your incident?” (Pause for rating and allow any comments of explanation from the subject.) “Finally, would you say there were any particular consequences to the situation; what was the result for you?”

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Self-Efficacy Scale

If this scale represents the controllability of a teaching situation, how would you rate the situation you just described?

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<th>3</th>
<th>4</th>
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<tbody>
<tr>
<td>uncontrollable: no teachers could have controlled what happened: others couldn’t</td>
<td>some teachers could have controlled what happened: others couldn’t</td>
<td>controllable: every teacher could have controlled what happened</td>
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Self-Evaluation Scale

If this scale represents how well you handled the situation that you just described compared to how well others could have handled it, how would you rate yourself?

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<td>I didn’t do</td>
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<td>I did better</td>
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### Evaluation of the Situation

Overall, how do you think the situation that you just reported turned out?

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<td>totally</td>
<td>partly</td>
<td>totally</td>
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<td>unresolved</td>
<td>resolved</td>
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APPENDIX I

Blase's [1984] Teacher Stress Coping Taxonomy

Coping Behaviours vis-a-vis External Stressors

These behaviours are focused on external work stressors.

A. Confrontation: Behaviours aimed at reducing or eliminating the perceived source of stress

1) Direct: Behaviours that do not involve any intermediary.
2) Indirect: Behaviours that involve an intermediary.

B. Adaptation: Behaviours affecting the consequences rather than the stressors.

1) Proactive-Positive: Behaviours involving the use of skills (e.g., organization).
2) Proactive-Negative: Behaviours that go against the teaching system.
3) Disengagement: Behaviours that put psychological or/and physical space between the teacher and the stressor.
   a) Avoiding: Behaviours of purposely not attending to the stressor.
   b) Withdrawing: Behaviours of creating detachment.
4) Acquiescence: Behaviours showing passive tolerance.

Coping Behaviours vis-a-vis Internal Feelings/Emotions

A. Confrontation: Behaviours aimed at reducing or eliminating the negative feelings about work stress

B. Adaptation: Behaviours affecting the consequences of the feelings related to stress.

1) Proactive-Positive: Behaviours involving the use of skills (e.g., organization).
   b) Diversion: Behaviour that balances positive feelings with the negative feelings.
   c) Social Support: Behaviours that help develop acceptance of feelings.
2) Proactive-Negative: Behaviours that are self-destructive.
3) Disengagement: Behaviours that put psychological distance between the teacher and the stressor; behaviours called defense mechanisms.
   a) Repression: Behaviours of purposely not attending to the feelings.
   b) Rationalization: Behaviours that reframe the feelings and related situation.
c) Intellectualization: Giving explanations about a situation that do not evoke such negative feelings.

d) Compartmentalization: Limiting the time or place of focusing on a feeling.

4) Acquiescence: Behaviours that fail to reduce stress.