OCCUPATIONAL STRESS, COPING BEHAVIOR, COPING EFFICACY, AND OCCUPATIONAL SATISFACTION, ORGANIZATIONAL COMMITMENT, AND PROPENSITY TO LEAVE TEACHING

By

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Abstract

This study was concerned with the extent to which coping behavior, coping efficacy, and their interaction are associated with job satisfaction, organizational commitment, and propensity to leave teaching, after the effects of gender, stressor type, perceived stress, and control over stressor are accounted for. Respondents were 266 teachers from two British Columbia school districts covering smaller urban and rural areas. Data were collected by means of a questionnaire package distributed and collected through the district mail systems including: (a) demographic data, (b) 3 subscales from the revised version of the Teacher Stress Inventory (Pettegrew & Wolf, 1982), (c) 2 subscales from a coping efforts scale (Latack, 1986), (d) a modified version of the coping efforts scale measuring 2 subscales of coping efficacy, (e) the job satisfaction subscale from the Teacher Stress Inventory, (f) the Organizational Commitment Questionnaire (Mowday, Steers, & Porter, 1979), (g) a propensity to leave measure (Lyons, 1971), and (h) 8 single-item questions. Preliminary analysis was done to compare male and female teachers and to determine the influence of reluctance to complete the questionnaire. Hierarchical multiple regression analysis was used to examine relations among variables entered in six levels: (1) gender and stressor type; (2) perceived stress; (3) perceived control over stressor; (4) control and escape coping; (5) perceived control and escape efficacy; and (6) control and escape products. The first regression equation reached significance, $F(10,213)=13.68, p<.01$, and accounted for 39% of the variance of occupational satisfaction. The second regression equation reached significance, $F(10,213)=9.33, p<.01$, and accounted for 30% of the variance of propensity to leave teaching. The third regression equation reached significance, $F(10,213)=7.61, p<.01$, and accounted for 26% of the variance of propensity to leave teaching.
variance of organizational commitment. Partial support was found for the influence with control coping efficacy accounting for a significant increase in the variance of organizational commitment, and the control coping x efficacy interaction accounting for a significant increase in the variance for propensity to leave teaching. Other control efficacy measures, efficacy products, and all escape efficacy measures failed to account for a significant increase in variance. High control coping behavior was related to lower levels of occupational satisfaction, organizational commitment, and a desire to remain in teaching. High escape coping behavior was related to lower occupation satisfaction. Recommendations for the school environment are made as well as directions for future research.
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Dedication

I would like to dedicate this thesis to my wife, Annette, as a reminder of our beginnings together, and to my family that is with me wherever I go.
Introduction

Much of the research in the area of teacher stress has assumed an environmental perspective (Hiebert, 1985). The goal of this research has been to identify the major sources of stress such that they could be minimized or eliminated. Researchers recognize that a significant number of teachers find their profession to be stressful (Kyriacou & Sutcliffe, 1979) and that this has personal (Kinnunen, 1988; Dworkin, Haney, Dworkin, & Telschow, 1990), and organizational consequences (Blase, 1986). Although this research highlights the need for further consideration, it tends to ignore the coping potential of teachers (Hiebert & Farber, 1984).

Cox and MacKay (1981) suggest that only through an examination of the transaction between the individual and their environment can there be any real understanding of the impact of occupational stress. Research indicates that coping strategy selection depends on a number of factors including the controllability of the stressor (Dewe, 1985), and the extent to which the individual feels threatened (Freeman, 1987). As such individual, situational, and stress appraisal factors are all important in determining which coping is likely to be most useful (Newton & Keenan, 1985).

Research examining the effectiveness of coping behavior has produced mixed results. Suls and Fletcher (1985) conducted meta-analysis on 43 stress and coping studies and found that more positive outcomes are associated with avoidant strategies in the short-term, and attentional strategies in the long-term. Other researchers have found that occupational stress is relatively resistant to coping efforts (Menaghan 1982; Pearlin & Schooler, 1978; Parasuraman & Cleek, 1984). As Menaghan (1983) suggests, the effectiveness of coping efforts may depend on the criteria chosen to measure this. Roth and Cohen (1986) suggest that in considering the effectiveness of coping strategies it is important
to consider the point at which effectiveness is evaluated, the controllability of the stressful scenario, and the fit between the coping choice and the demands of the situation.

With inconsistent results regarding coping effectiveness, researchers have more recently begun to examine the importance of coping efficacy. Coping efficacy is defined as the individual's own perception that their coping efforts were successful. Aldwin and Revenson (1987) found that coping efficacy was significantly and positively related to instrumental action, and negatively related to escapism, self-blame, and negotiation. This was further supported by Long and Gessaroli (1989) who found that the greater the perceived efficacy of avoidant coping the greater the stress, and the greater the perceived efficacy of problem-solving coping the less the stress. While this research has highlighted the importance of the concept of perceived coping efficacy, it has tended to rely on single-item measures of efficacy or dichotomous yes/no efficacy evaluations.

The current study extends further the understanding of the stress and coping process by considering in greater detail the impact of perceived coping efficacy. A transaction model of stress and coping similar to that of Lazarus and Folkman (1984) is used with some notable deviations. Coping strategies are not classified as problem- and emotion-focused, but rather as approach and escape, consistent with the work of Tobin, Holroyd, Reynolds, and Wigal (1989). As well, a greater degree of coping consistency is assumed than that proposed by Lazarus and Folkman, consistent with recent findings regarding temporal consistency of coping efforts (Compas, Forsythe, & Wagner, 1988).

A standardized questionnaire format was chosen because this allowed the sampling of a large number of teachers over a vast geographical area. Much of the research conducted to date has focused exclusively on teachers from large urban areas, ignoring teaching populations from smaller urban and
rural areas. This methodology was chosen also because a number of well-researched instruments in this area already exist and were readily available. This quantitative approach also allows for regression analysis that would indicate the extent to which the experience of stress, the coping choices made, and the perception that the coping efforts were effective, are related to several outcome variables.

The goal of this study is thus twofold. First, this study aims to re-evaluate the established relationship researchers have found between a teacher's experience of stress and their occupational satisfaction, organizational commitment, and propensity to leave the profession. Second, this study attempts to evaluate to what extent individual coping efforts, and the perception that those efforts were successful, predicts the same three criterion variables.

The analysis allows for the established predictive power of the relationships between perceived stressfulness of teaching and the criterion variables to be examined first. The analysis also allows for the determination of the residual predictive power of coping efforts and coping efficacy to be examined after perceived stressfulness has been accounted for. In essence this will indicate if coping behavior and coping efficacy contribute in a unique and significant way to the prediction of occupational satisfaction, organizational commitment, and propensity to leave teaching.

Significant findings in the relationship between perceived stressfulness and the criterion variables occupational satisfaction, organizational commitment, and propensity to leave teaching would support the prior research in this area (Kyriacou & Sutcliffe, 1979). Significant results in the predictive power of coping efforts and coping efficacy would indicate that the way people choose to cope and how effective they feel those choices are is important above and beyond their experience of job stressfulness. This would heighten the
importance of maximizing coping behavior and coping efficacy for teachers within the school environment.

Hypothesis

It is expected that when a teacher is demonstrating a strong coping response to occupational stressors, and feels that these efforts are effective in achieving their goals, that they will experience higher levels of occupational satisfaction, organizational commitment, and a desire to remain in the profession.

Thus it is hypothesized that either singly or in combination, gender, stressor type, perceived stress, perceived control over stressor, coping efforts, perceived coping efficacy, and the coping behavior x efficacy interactions result in a significant linear relationship with the criterion variable occupational satisfaction. Similar hypotheses are posed for organizational commitment, and propensity to leave teaching.
Literature Review

The focus of this study is British Columbia public school teachers from small urban and rural areas, and the extent to which their coping efforts, and perceptions of coping efficacy, are related to several job related outcomes. Small urban schools are located in centers where the population ranges from 9 - 17 thousand, whereas rural schools exist in villages with populations under one hundred. Job related outcome is seen as a multi-dimensional construct consisting of occupational satisfaction, organizational commitment, and propensity to leave teaching. The necessity of this research is highlighted by the Royal Commission on Education's (Sullivan, 1988) forecast that there will be an acute teacher shortage of 1800 teachers per year in British Columbia after the year 1992. The following review contains an overview of the theoretical framework in which the study was conceptualized and an overview of the research in occupational stress and coping. In that the research pertaining to stress and coping for teachers is inadequate (especially in regards to coping efficacy), the literature examined in this review will focus on teaching populations where possible, and non-teaching populations where necessary.

Theoretical Framework

In a review of the literature Hiebert (1985) suggests that the majority of studies examining teacher stress can be classified in one of three ways. Those studies operating from an environmental perspective assume that certain situations in the workplace are inherently stress inducing. The goal of such research is to identify the predominant sources of stress such that they can be modified or eliminated to lower the teachers experience of stress. Hiebert's review indicated that much of the research falls in this domain. However such a conceptualization is limited in that it does not take into account the process of appraisal in which the individual decides what is a threat and what is a
challenge (Folkman & Lazarus, 1985). As well the environmental perspective
does not allow for individual coping efforts which may serve to modify the
source of stress, or the impact that the stressor has on the individual.

Other studies have operated from what Hiebert classifies as response
models. Research from such a perspective focuses mainly on the idiosyncratic
reactions of stressed individuals. The focus of such research is to determine
alternative ways of reacting to demanding situations such that the response is
lowered or eliminated. Again this model fails to account for individual appraisal
in determining what are potential stressors in the environment.

The third perspective described by Hiebert is known as an interactional
model. The current study falls within this domain. Stress is seen to arise from
the relationship between the individual and their environment that is perceived
by the person as taxing or exceeding his or her resources and endangering his
or her well-being (Cox & MacKay, 1981; Lazarus & Folkman, 1984). As such,
stress represents a subjective experience that cannot be determined solely by
the examination of environmental events. This theory identifies cognitive
appraisal and coping as the two critical mediators of the stressful person-
environmental relationship and the short- and long-term outcomes (Folkman,

According to this theoretical framework, cognitive appraisal involves the
dynamic interaction of two processes labelled primary appraisal and secondary
appraisal. Primary appraisal is the process by which the individual determines
whether he or she has anything at stake in the situation. The person attempts to
determine if they are being challenged or threatened by the environmental
circumstances. Secondary appraisal involves the evaluation of what if
anything can be done to moderate or eliminate the prospect of harm while
maximizing the opportunity for benefit.
Coping is seen to represent the individual's ever changing cognitive and behavioral efforts to manage specific external or internal demands that are appraised as taxing or exceeding the person's resources (Lazarus & Folkman, 1984). Central to this conceptualization of coping are three features. First, coping is seen to be a process, involving what the person thinks and does as the encounter proceeds. Second, coping is seen to be contextual, wherein the person and the particular situation shape the coping response. Third, coping involves the individual's attempt to manage situational demands, and such efforts cannot be classified as good or bad coping.

The focus of this study deviates from the theoretical model of Lazarus and Folkman (1984) in three ways. First, coping strategies are broadly classified as approach and escape strategies rather than the problem- and emotion-focused structure proposed by Lazarus and Folkman. This is consistent with the work of Tobin et al. (1989) who examined the hierarchical factor structure of coping and found that at the tertiary level, coping strategies appeared to fit best into two broad categories they classified as engage and disengage or what Latack (1986) called approach and escape strategies. The classification into problem- and emotion-focused coping appeared at the secondary level in this scheme. As such the strategies that fall under approach and escape categories involve a combination of both emotion- and problem-focused strategies.

This study goes beyond the framework of Lazarus and Folkman by considering the individual's perception of how effective their coping strategies were as a determinant in the individual-environment interchange. This is in keeping with the work of Aldwin and Revenson (1987) who suggest that the stress-modering effect of coping strategies may be contingent on the individual's belief that the coping effort was successful in managing the situation.
Finally, this study assumes a greater degree of stability in an individual's coping process than originally postulated by Folkman and Lazarus (1985). Coping consistency is a controversial issue and the contradictory results in the literature appear to be partly the result of the variety of ways in which consistency is defined. Compas et al. (1988) defined consistency as the use of one or several strategies on a repeated basis in response to the same event. With this definition, their sample of undergraduate students reported high levels of consistency in coping strategies used for academic or interpersonal stressors. It is important to note that high levels of consistency were not evident across situations.

Dolan and White (1988), suggest that the failure of Folkman and Lazarus to find coping consistency might have been the result of their definition of consistency which did not allow for moderate amounts of flexibility within a general pattern of coping. Dolan and White found that the undergraduate males in their study used relatively consistent coping in response to everyday stressors. Again they found that when the context was the same, the degree of coping consistency was much higher. Stone and Neale (1984) in a study involving 120 married individuals also found that with similar stressors, individuals cope in a relatively consistent fashion. Given that the current study involves stressors only in the work setting, and that the teaching environment is relatively stable, it seemed appropriate to assume a greater degree of coping consistency.

The following review will consider research examining the relationship between occupational stress and stress outcomes. Studies investigating the mediating role of coping efforts, coping effectiveness, and coping efficacy will also be discussed.
Teacher Stress and Stress Outcomes

Much of the research in the area of occupational stress has focused on determining the predominant sources of stress and the impact that these stressors have on the individual. It was felt that if the sources of stress could be clearly identified and the deleterious effects specified, then attempts could be made to moderate or eliminate these events.

Kinnunen and Leskinen (1989) conducted a longitudinal study on 142 primary and secondary teachers to examine the consistency of stress over the school year. The results indicated that the accumulation of stress over the school year was a stable process. They found that in excess of 95% of the variance in reported stress in a given measurement was explained by the previous measurement. The Christmas break was seen to have a dramatic impact on felt stress in that only 68% of the variance in reported stress in January was accounted for by the autumn term report. This points out that time away from work can have a significant impact on the level of personal stress experienced by teachers. Although time away from work may help reduce the experience of stress, it does not represent a long-term approach for coping with chronic work stress.

Kyriacou and Sutcliffe (1979) in their research with 218 British school teachers from mixed comprehensive schools, examined the relationship between self-reported teacher stress and 3 potential stress outcomes. They found that subjective stress was positively associated with an intention to leave teaching and negatively associated with job satisfaction. Results failed to demonstrate an association between teachers reporting of stress and self-report data on absenteeism. Of the 218 teachers, 23.4% reported that being a teacher was very or extremely stressful. Some gender differences were found, although the authors suggest that caution is required in that differences were not found
in a previous study (Kyriacou & Sutcliffe, 1978). In both studies conducted by these researchers, qualification, age, length of teaching experience, and position held, did not moderate any associations. Kyriacou and Sutcliffe also suggest that results must be interpreted with the recognition that the study measures a survival population, missing those teachers that may have left the profession due to excessive work stress. This study outlines the crucial nature of understanding the role of occupational stress for teachers, but fails to identify any individual solutions.

Kinnunen (1988) examined 153 teachers in a longitudinal study on job stress. Kinnunen conceptualized coping as stable patterns of dealing with difficult situations. Teachers were asked to indicate to what extent they used each of the 26 provided strategies to deal with difficult situations. This was repeated 6 times during a fall semester. The majority of teachers measured (70%) reported psychological stress symptoms, with women reporting more emotional stress than men. The author suggests that on the basis of the results, teachers can be classified into one of 4 groups as follows: teachers who were exhausted throughout the term (n=31); teachers who recovered from stress on the first weekends of the term but not later on (n=53); teachers without any stress (n=46); teachers feeling tired and anxious at the beginning and at the end of the term (n=23). This study served to point out that teachers are not universally impacted by the stressors in their work environment. The current study attempts to understand what accounts for differing responses by individual teachers to the stressors they experience.

In a study of teachers in Israel, Smilansky (1984) found that reports of teacher stress were not significantly correlated with satisfaction. The author suggests that teacher's feelings of satisfaction are more the result of internal factors, whereas the feeling of stress is more related to factors in their
environment. As such a teacher could be both satisfied and report considerable stress. This study challenges the generally accepted belief that satisfaction and the experience of stress are incompatable. Smilansky's study does have several limitations including the small sample size (n=36) and the use of single-item questions for both the measure of stress and satisfaction. Clearly further research examining this relationship is required.

Blase (1986) conducted a qualitative investigation in order to determine the sources of occupational stress for teachers and the consequences on performance. The sample of 392 teachers revealed that most events experienced as stressful by teachers are those that deprive them of time, interfere with instruction, and are considered too demanding qualitatively and quantitatively. Blase suggests that over time, dealing with chronic work stress in a relatively ineffective manner results in a common behavioral and attitudinal perspective on work. Over time teachers experiencing excessive stress make a dramatic departure from the qualities, attitudes, and behaviors perceived as essential to effective classroom instruction. This study highlights the fact that the impact of chronic occupational stressors not only can influence the individual teacher, but also their ability to provide quality instruction. These results suggest that the school as an organization must also be concerned with the impact of stressors on the teachers they employ.

Dworkin, Haney, Dworkin, and Telschow (1990) examined the relationship between job stress and stress-induced illness behavior in a sample of 291 urban school teachers. A low, but statistically significant correlation between reported stress and illness was found, r = .25. They also examined the influence of principal and co-worker support. Results indicated that teachers who felt their principal was supportive reported less stress-induced illness than those teachers who felt their principal was not supportive. Co-worker support
was not found to result in lower levels of stress-induced illness. Although useful information, schools cannot rely solely on the skills of principals to moderate the impact of stress on teachers. The current study examines a variety of coping behavior including seeking support from peers and superiors.

Cox and Brockley (1984) suggest that teacher's experience of satisfaction with work may act as a buffer, reducing some of the detrimental effects of work stress. They also suggest that the generally high levels of stress reported by teachers may be due in part to the fact that they tend to be a particularly articulate group of employees. As such they may find it easier to report their perceptions in the area of occupational stress. The ability of teachers to recognize and communicate their concerns about occupational stress does not in any way detract from the severity of the concern. It suggests that this may be a population that is most amenable to investigation and intervention.

In summary, the above research provides information about how the experience of chronic stress can result in lower satisfaction, higher propensity to leave teaching, ineffective instruction, and illness. However, this insight does not help schools or individual teachers to proactively deal with the issue of work stress. As Hiebert (1985) suggests, research focusing exclusively on stress and its potential consequences ignores the ability of individual teachers to moderate or cope with stressful events. Despite the extensive research and writing on stress, the way in which individuals cope with stress has until recently been relatively neglected (Dewe, Guest, & Williams, 1979).

Occupational Stress and Coping Behavior

Hiebert and Farber (1984) in a review of the teacher stress literature, suggest that the research in this area requires a change in focus. The focus had centered on determining the sources and prevalence of stressors in the teaching environment, and the deleterious effects that often accompanied such
Hiebert and Farber argue that future research needed to address the stress-coping repertoires of teachers such that they would be better able to manage their stress and be more effective in the classroom. This echoed the work of Cox and MacKay (1981), who suggest that only through an examination of the transaction between the individual and the environment, could there be an understanding of the impact of occupational stress. What is needed was a greater understanding of how teachers do cope with the stressful events they experience. What follows is a review of the research that examined coping behavior in response to stress.

Recognizing the importance of strategy selection, Dewe (1985) interviewed 1185 teachers to determine what they do to cope with the stresses of work. He then categorized the responses according to the emotion- and problem-focused schema developed by Lazarus and Folkman (1984). He found that in many situations teachers report that there are few direct-action strategies that they can implement. However, teachers tend to use this restricted list of problem-focused strategies more frequently. Emotion-focused strategies tend to be used as a group as often as problem-focused strategies, however, they tend to be more specific to individual characteristics and the school environment.

Dewe points out that emotion-focused strategies tend to be viewed as second best to direct action approaches. He suggests that this may be particularly untrue for teachers who often find it difficult or impossible to directly modify or eliminate the source of stress. Emotion-focused coping may thus be most effective in situations perceived to be beyond the control of the individual. This study suggests that it may be important to consider the controllability of the stressor when examining which coping strategies are most effective.
Freeman (1987) undertook a case study of a secondary school in an attempt to better understand the coping process of teachers. Freeman suggests that coping can be seen as a normal process, which is not necessarily activated by stressful events. Rather an individual only becomes aware of their own coping process when it is inadequate and requires attention. She classifies coping efforts on two levels. At the "employee" level, an individual's coping tends to function automatically, relying exclusively on overlearned strategies. At the "boss" level, the individual's coping processes come into action when a novel or attention provoking situation demands the use of higher ordered cognitive processes. The coping-stress relationship is thus seen to be a cognitive one. Freeman concludes that what is most important is the appraisal process in which the teacher decides if in fact they are threatened, and if "boss" coping strategies are required. Their study has the advantage of involving an interview design that allows for greater depth of information, however the limited sample restricts the generalizability. An important distinction is made between coping behavior that the individual is aware of and those that are overlearned and automatic.

The importance of strategy-stressor match is borne out in a study by Folkman and Lazarus (1980) involving 100 middle-aged community members. They found that both emotion- and problem-focused coping are used in 98% of stressful encounters reported by subjects. Subjects reported using higher amounts of problem-focused coping for work-related stress episodes than for family- or health-related episodes. Conversely, health-related episodes had higher amounts of emotion-focused coping than work- or family-related episodes. In another study of college students going through an exam procedure, 94% of students reported using both problem- and emotion-focused coping at each of the three stages investigated (Folkman & Lazarus, 1985).
Thus the type of stressor will be examined with regard to coping choices and effectiveness to determine whether stressor type is related to the outcome variables.

Newton and Keenan (1985) examined the coping behavior of 162 young engineers to determine what factors influenced decisions around how to respond to work stressors. Results indicated that the choice of coping strategies is influenced by individual, situational, and stress appraisal factors. As such universal programs emphasizing the most effective coping techniques are likely to be of little value. Newton and Keenan's work emphasizes the need to consider the individual as part of the context for coping.

Trendall (1989) examined the impact of occupational stress on teaching effectiveness with questionnaire data from 237 teachers. Additional interviews were conducted with 30 teachers from this original group. Trendall defines stress as a multi-factorial concept consisting of factors within the individual, the organization, and society that result in lowered feelings of self-worth, achievement, teaching effectiveness, and of coping within one's role. Teachers were asked to rank order 5 stressors from a list of 20. The most frequent stressors identified were: (a) lack of time; (b) large classes; (c) teaching workload; and (d) pupil misbehavior. In the sample, 74% of teachers rated the profession as either very stressful or stressful.

From the 10 coping strategies teachers were asked to rank order, coping through attempting to act rationally in response to a difficult situation was ranked first. Trendall indicates that high and low stress groups favored similar strategies except for the need to avoid confrontation, which was reported more by the high stress group. However, this must be interpreted with caution as Trendall used the Holmes and Rahe (1967) scale to define these groups. This scale merely classifies individuals according to the experience of major
changes in the previous year, ignoring minor events and the individuals perception and reaction to these events. The work of Trendall does put an emphasis on the individual's perception of what coping works, but fails to check this against any criteria.

In summary, past research emphasized that the individual and the environment are important factors in determining what coping will be chosen. It also became clear that teachers do not consider all strategies to be equally effective for the stressors they experience. The focus then shifted to what coping behavior, under what circumstances, is effective in managing work stressors.

Coping Behavior and Effectiveness

Pearlin and Schooler (1978) conducted research on the effectiveness of coping with a sample of 2300 adults. Coping effectiveness was a measure of the extent to which the individual's coping choices moderates the relationship between life-strains and emotional stress. They defined coping as the behavior that protects individuals from being psychologically harmed by difficult social experiences which societies inevitably create. Coping was seen to protect in one of three ways: eliminating or modifying the conditions that give rise to the problem; by controlling the perceptual experience of the event and neutralizing its problematic nature; and by keeping the emotional consequences within reasonable boundaries. This roughly corresponds to Lazarus and Folkman's concepts of problem-focused coping, reappraisal, and emotion-focused coping.

Although coping was found to be effective to a certain extent in parental and economic areas, it was least effective in areas related to job stress. The authors suggest that this may be because the work environment is impersonally organized and the forces affecting people are beyond the scope of personal coping efforts. Their findings indicate that work stress is likely to be lower only if
individuals are able to disengage themselves from that which represents a source of strain. The research also indicated that in reference to occupational stress, a large repertoire of coping strategies does not moderate the impact of occupational stress. Pearlin and Schooler suggest that psychological characteristics may be more helpful in managing life strains in areas such as occupation, where the direct control may be rather minimal.

A limitation of this study is the manner in which Pearlin and Schooler determine coping effectiveness. Coping effectiveness is based on the extent to which coping behavior reduces the relationship between role-strains and emotional stresses. This does not account for the possibility that coping may serve to impact role stress by first reducing role strain. If this is true the effectiveness of coping would be underestimated. This points to the need for further research examining the role of coping.

Pearlin and Schooler also found that men tend to possess psychological attributes or employ responses that minimize stressful outcomes of life problems. In situations where women do respond to the stressor in this manner, it often results in more rather than less stress. The authors suggest that women may be socialized to develop less effective coping patterns. In a later article Pearlin and Schooler (1979) emphasize that individual coping is no substitute for social change that will serve to modify the demands placed upon individuals.

Responding to the work of Pearlin and Schooler (1978), Schonfeld examined the effectiveness of five occupational coping scales in relation to the depressive and psychophysiological symptoms, job satisfaction and morale of teachers. A single-item measure of satisfaction and a 3-item measure of propensity to leave teaching were used. Positive comparison and direct action were significantly related to a desire to remain in teaching. Advice seeking, positive comparison and direct action were related to higher levels of job
satisfaction. This is contrary to the results reported by Pearlin and Schooler. However the findings must be considered with caution in that the sample size was quite small ($n=67$) and numerous multiple regressions were conducted, raising the likelihood of a type one error.

Parasuraman and Cleek (1984) in a study involving 204 managers examined the effectiveness of coping in moderating the relationship between role stressors with felt stress and job satisfaction. They used a value-laden classification scheme wherein coping strategies were seen as either adaptive or maladaptive. Adaptive coping includes problem-solving approaches aimed at directly confronting the stressful scenario by the implementation of solutions. Conversely maladaptive coping was seen to involve strategies that serve to protect the individual from the emotional consequences of the event without actually doing anything to moderate or alter the event.

Results indicated that female managers tended to use more adaptive coping strategies than did their male counterparts. This conflicts with the work of Pearlin and Schooler (1978) and emphasizes the further need for the consideration of gender in the examination of coping effectiveness. Using multiple regression analysis the researchers found that the effects of adaptive coping may be neutral at best in moderating the impact of work stressors. The results indicate that the impact of maladaptive coping is dependent on the nature of the stressor, and the degree of stress experienced. For managers who experienced role ambiguity, maladaptive coping was deleterious at low levels of reported stress, but functional at high levels of perceived stress. For quantitative overload, high levels of maladaptive coping was associated with higher levels of felt stress for both high and low levels of overload. The authors suggest that these results indicate that stress management should focus on training individuals to avoid the use of dysfunctional or maladaptive coping.
strategies. Although such a conclusion is questionable, it does emphasize the need for a match between the individual and the stressor for effective coping.

Needle, Griffin, and Svendsen (1981) explored the impact of stress on somatic complaints, general well-being, and satisfaction with a sample of 937 American public school teachers from rural and urban settings. They defined stress as that which arises from a discrepancy between the teacher's and the work environment in the area of needs, values, expectations, occupational rewards, and job demands. Coping was defined as a response to stressors that served to prevent, avoid, or control emotional distress. Coping was classified as one of 4 types of strategies, positive comparison, optimistic action, substitution of rewards, or selectively ignoring problems.

One or more physical symptoms were experienced often or sometimes by 96% of the questionnaire respondents. Using the General Well-Being scale (Fazio, 1977), the majority of teachers (72%) reported being in good, very good, or excellent spirits. Teachers that reported a lower discrepancy between what they value and rewards offered by the job, reported high general well-being and lower stress and anxiety. Those with a greater discrepancy between values and rewards (high stress) had more somatic symptoms. Interesting, only one coping strategy, positive comparison, was found to significantly reduce the impact of stress on general well-being and somatic complaints. This is in keeping with the work of Pearlin and Schooler (1978) who found that occupational stressors were quite resistant to coping efforts. This research indicates that if the coping process does impact the experience of stress it is not being adequately captured. This highlights the need for further research that examines other aspects of the coping process.

The importance of the perception of control is also emphasized by Folkman et al. (1986) in a study involving 85 married couples. They found that
coping is at least partially a function of people's judgements about what is at stake in a particular stressful encounter (primary appraisal), and what they view as the options for coping (secondary appraisal). Subjects tended to use emotion-focused coping in situations where they saw few if any options for influencing the outcome. Conversely, problem-focused coping predominated in situations appraised as changeable. The authors argue that coping is process oriented, contextual, and that efforts are neither good or bad. They suggest that conceptualizations that define coping in terms of maturity or outcome tend to confound the coping process with the outcome it is used to explain. This emphasizes the need to consider a control and escape strategies separately in that the effectiveness may depend on the changeability of the situation.

Brenner, Sorbom, and Wallius (1985) conducted a longitudinal study with 63 teachers in the Swedish school system. Questionnaires were given in the beginning of the fall term and at the end of the spring term. Results indicated that teachers change very little in perceived general strain over the school year. Most of those that did report a change indicated that they experienced less strain at the end of the school year. Teachers who perceived student behavior as stressful at time one, reported general strain and impaired somatic and mental health at time two. Only minor changes in the stress state were explained by coping processes. The use of coping strategies did not account for differences between stressed and non-stressed teachers. However, this is limited by the fact that only pupil-related strain was examined as a source of stress for teachers. Past research indicates this is only one of many potential sources of stress for teachers. Also the study examines coping as a single entity, not considering the possibility that certain types of coping behavior may be most effective with particular teaching stressors. The importance of considering the type of stressor is emphasized.
Menaghan (1982) conducted a longitudinal study on 758 married people over a 4-year period. From the interview data 4 major coping factors were identified: attempts at negotiation and discussion; optimistic comparisons of one's situation relative to the past and relative to one's peers; selective inattention to the unpleasant aspects and heightened attention to positive features of the situation; and a conscious suppression of feeling and withdrawal from the interaction. The effectiveness of coping was determined according to two criteria: (a) the extent to which these efforts reduce felt distress, and (b) the extent to which they reduce marital role problems over time.

Results indicated that the coping efforts selective ignoring and resignation increased ongoing distress and had little impact on future problem level. Negotiation reduced later problems, but had no impact on feelings of distress. Optimistic comparison reduced both the feelings of distress and later problems. However, as Menaghan points out, effectiveness may depend on the criteria chosen to measure this. Menaghan (1983) later suggests that it may be useful in future research designs to evaluate coping usage and perceived helpfulness of the strategies employed. Suls and Fletcher (1985) conducted meta-analysis on 43 studies to determine the effectiveness of attention and avoidant strategies. This analysis indicated that in the short run more positive outcomes are associated with avoidant strategies. Avoidant strategies tend to be more effective in reducing stress reactions in the short run than most forms of attentional strategies. However, this pattern appears to reverse with intervals of 2 weeks to 6 months with attention strategies becoming more effective. The authors suggest that attentional strategies are generally associated with better adaptation than avoidance, but that it takes more time for these benefits to become evident. However if a stressful life event is relatively brief, and without serious consequences, then avoidance is a useful means of
coping. As the authors concede, a weakness of this evidence is the way
avoidant and nonavoidant strategies are treated as antithetical. This study
emphasizes the need to consider a number of criteria in evaluating
effectiveness.

In a review of the stress and coping research, Roth and Cohen (1986)
suggest that situational determinants can determine which type of strategy will
likely be most effective. They suggest that there are 3 important factors in
evaluating coping effectiveness; (a) the point at which coping effectiveness is
evaluated; (b) the controllability of the stressful scenario; and (c) the fit between
the coping choice and the demands of the situation. The authors suggest that
there are costs and benefits associated with both approach and avoidant
coping and that the evidence supports the notion that approach strategies are
most appropriate in situations where the source of stress is within the control of
the individual and open to change. In situations where the source of stress is
uncontrollable, avoidance strategies may be more efficacious. In the ideal
case, both modes of coping with the stressful situations would be implemented,
maximizing the benefits of each and minimizing the costs.

In summary research has progressed from an investigation of
occupational stressors to an exploration of the interaction between an individual
and their work environment. The results provide conflicting results regarding
the effectiveness of coping in reducing the deleterious effects of chronic
stressors. Coping effectiveness appears to be determined by a number of
factors including the manner in which effectiveness is defined, the perceived
controllability of the stressor, the coping strategies implemented and the extent
to which the strategies chosen fit with the stressor. What also seems plausible
is that the individual's perception that their coping was effective may impact the
extent to which the coping moderated the stressors. This concept of coping efficacy is the focus of recent research and is central to the current study.

**Coping Behavior and Efficacy**

With inconsistent results regarding coping effectiveness, researchers began to consider if the individual's own perception that they were coping effectively was an important aspect in moderating the stressor-outcomes relationship (Aldwin & Revenson, 1987). This personal sense of effectiveness is called coping efficacy and what follows is an examination of the research that includes this concept.

Litt and Turk (1985) in their study of 291 high school teachers, examined the importance of coping efficacy in relation to occupational stress. Coping efficacy was defined as an individual's perception that a coping effort was successful in achieving the individual's goals in a particular situation. Using a 15-item scale developed by Weisman and Worden (1979) teachers were asked to indicate: (a) if they used a particular coping action, and (b) if so, to what degree that action is effective.

Although Litt and Turk were able to operationalize coping separate from the outcomes, they chose to define stress according to outcome measures. Teacher stress encompasses low job satisfaction, negative well-being, absenteeism, and the intention to leave one's occupation. Results indicated that coping resources were unrelated to job satisfaction or physical stress, but positively associated with the individual's intention to leave teaching. This definition of stress is regressive in that it is defined not in terms of an individual's experience with their environment, but rather in terms of factors thought to be stress outcomes.

Long, Schutz, Kendall, and Hunt (1986) made use of a single-item measure of coping efficacy which aims to capture the individual's perception of
coping success. The 2,268 teachers were asked to respond to the question "Overall, how well do you feel you cope with stress at work?". A self-report measure of teacher stress (Pettegrew & Wolf, 1982) was also assessed. Results indicated that coping efficacy had a strong relationship with the dependent variable, teacher stress. Males exhibited slightly higher degree of stress associated with the subscale role conflict, compared with females. Age differences were also present with the 25 to 35 year olds indicating greater perceived stress. This finding relies on a single-item measure of coping efficacy and needs to be evaluated with a more comprehensive measure of efficacy.

Aldwin and Revenson (1987) also used a single-item measure of coping efficacy in their longitudinal examination of the relation between coping strategies and psychological symptoms for a community survey of 291 adults. One goal of the study was to determine if perceived coping efficacy, or how well the person thought his or her coping efforts worked, acts as a mediating factor between coping and mental health. They also were interested in whether coping efforts and efficacy were additive or multiplicative concepts. Perceived stress was measured by a single-item 7-point scale. Coping strategy use was measured by the 70-item revised Ways of Coping Scale (Folkman & Lazarus, 1985). Perceived coping efficacy was measured by a single-item 5-point scale indicating "how well they thought they had handled a particular situation given the circumstances".

Of the eight coping factors identified by factor analysis, perceived coping efficacy was significantly and positively related to instrumental action. Individual's who used instrumental action relatively frequently, did not demonstrate increased symptoms in relation to increased stress. Infrequent use of instrumental action, combined with the perception that the situation was not handled well (low efficacy), was related to a dramatic increase in symptoms.
Perceived coping efficacy was negatively related to the strategies of escapism, self-blame, and negotiation. The only two coping strategies to demonstrate a significant efficacy by coping interaction were both problem-focused. When negotiation was frequently used and the coping effort perceived as successful, it markedly decreased symptoms. When the coping effort was used but not perceived as successful, however, it increased emotional distress. The authors suggest that whether problem-focused coping is useful in reducing stress may depend on whether the individual felt it worked. This research suggests that the interaction of coping behavior and coping efficacy is an important factor.

Long and Gessaroli (1989) conducted a study involving 781 elementary school teachers to determine the relationship between sources of work-related stress and type and effectiveness of various coping strategies. They defined teacher stress as a multidimensional construct including role-related stress, task/event stress, and environmental stress. Coping was defined as any response to a stressor that is seen to prevent, avoid, or control psychological distress. Coping efficacy was defined as the perceived effectiveness of the coping strategies used to confront the most salient work-related stress. Long and Gessaroli found that in all cases males reported feeling more stressed than females. They also report that the greater the perceived efficacy of avoidance coping the greater the stress, and the greater the perceived efficacy of problem-solving coping the less stress.

In a study involving 151 community-dwelling adults, McCrae and Costa (1986) examined the perceived effectiveness of coping mechanisms. After each coping item respondents were asked to indicate for those strategies they used if it helped solve the problem (yes/no) and if it made them feel better (yes/no). The former was computed into a problem-solving efficacy score with the later computed to produce a distress reduction efficacy score.
Results indicated that strategies perceived to be more effective on one criterion, were also deemed effective by the other criterion. Strategies perceived to be most effective on the two criteria were seeking help, rational action, expression of feelings, self-adaptation, and humor. The results suggest that the use of strategies perceived to be more effective, and the avoidance of strategies perceived to be less effective, contributes to psychological well-being. The authors suggest that while it is difficult to demonstrate a dramatic long-term effect of coping on well-being, it does appear that coping can help to solve specific problems, and at least temporarily reduce distress.

Summary

Research has established that a significant number of teachers find their profession to be stressful, and that this is associated with a number of deleterious outcomes in the short- and long-term. It also appears that the coping choices made by an individual in response to particular stressors does impact the extent to which these events result in negative outcomes. Recently research has indicated that the extent to which the individual perceives coping efforts as effective may be an important consideration in job-related outcomes. This study will focus on the extent to which the individual's perception that they cope effectively relates in a unique way to occupational satisfaction, organizational commitment, and propensity to leave teaching.
Method

Subjects

The sample (n =266) was drawn from the 778 teachers in two British Columbia school districts selected for this research project. These districts were selected because much of the research in this area has involved large, urban schools, neglecting small urban and rural teaching populations. Schools ranged dramatically in size from those employing only 2 teachers in rural areas, to those with 67 teachers in smaller urban areas.

Sample Characteristics

The following demographics characterized the sample of respondents returning completed questionnaires: 59% female, 79% married, and 99% hold a bachelor's degree, while 8% also have a master's degree. Age of the subjects ranged from 24 to 62 years, with a mean age of 41.6 (SD =7.8). Years of teaching experience ranged from 1 to 36 years, with a mean of 14.6 years experience (SD = 7.9). Kindergarten to grade 7 teachers represented 60% of the subjects, while instructors of grades 8 to 12 represented 40% of those responding. The average class size was 21-30 students for 71% of the teachers responding, with 20% reporting smaller class sizes, and 9% reporting larger classes. See Table 1 for further descriptive information.

Procedure

Eight hundred seventy-seven packages of questionnaires and cover letters were sent to the professional development co-ordinators from each of the 46 schools through the district mail system (see Appendix A for cover letter, and Appendix B for questionnaire). This allowed extra copies of the package for each school in case any were lost or misplaced. A letter explaining the purpose of the study and distribution procedures was sent along with each package to assist the professional development
Table 1

**Demographic Variables of Public School Teachers (N = 244)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>%</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
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<tr>
<td><strong>Gender</strong></td>
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<tr>
<td>Female</td>
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<tr>
<td>Male</td>
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<tr>
<td>District A</td>
<td>50</td>
<td></td>
<td></td>
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<tr>
<td>District B</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td>41.6</td>
<td>7.8</td>
<td>24-62</td>
<td></td>
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<tr>
<td><strong>Years Teaching Experience</strong></td>
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<td>7.9</td>
<td>1-36</td>
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<td><strong>Grades Taught</strong></td>
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<td></td>
<td></td>
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<tr>
<td>K-grade 7</td>
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<td></td>
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<tr>
<td>Grade8-Grade 10</td>
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<td></td>
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<tr>
<td>Grade 11-Grade12</td>
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<tr>
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<tr>
<td><strong>Marital Status</strong></td>
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<tr>
<td>Single</td>
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<td></td>
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<tr>
<td>Married</td>
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<td></td>
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<tr>
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<tr>
<td>Separated</td>
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<tr>
<td>Other</td>
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<tr>
<td>Variable</td>
<td>%</td>
<td>M</td>
<td>SD</td>
<td>Range</td>
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<tr>
<td><strong>Degree Held</strong></td>
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<tr>
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<tr>
<td>Master's</td>
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<tr>
<td>Other</td>
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<tr>
<td><strong>Average Class Size</strong></td>
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<tr>
<td>1-10 Students</td>
<td>9</td>
<td></td>
<td></td>
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<tr>
<td>11-20 Students</td>
<td>12</td>
<td></td>
<td></td>
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<tr>
<td>21-30 Students</td>
<td>71</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>31-40 Students</td>
<td>3</td>
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<td></td>
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<tr>
<td>N/A</td>
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<tr>
<td><strong>School Enrollment</strong></td>
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<tr>
<td>up to 200 Students</td>
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<tr>
<td>201-400 Students</td>
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<tr>
<td>401-600 Students</td>
<td>32</td>
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<tr>
<td>601-800 Students</td>
<td>10</td>
<td></td>
<td></td>
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<tr>
<td>Over 1000</td>
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<tr>
<td><strong>Prep Hours per Week</strong></td>
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<td>7.47</td>
<td>0-60</td>
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<tr>
<td><strong>Date Questionnaire Completed</strong></td>
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<tr>
<td>Week One</td>
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</tr>
<tr>
<td>Week Two</td>
<td>33</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Variable</td>
<td>%</td>
<td>M</td>
<td>SD</td>
<td>Range</td>
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<td>--------------------------------</td>
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<tr>
<td>Predominant Source of Stress</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Too Much Work</td>
<td>36</td>
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<tr>
<td>Role Ambiguity</td>
<td>27</td>
<td></td>
<td></td>
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<tr>
<td>Disruptive Students</td>
<td>24</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>6</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Peers</td>
<td>2</td>
<td></td>
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<tr>
<td>Role Uncertainty</td>
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<td></td>
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<tr>
<td>Job Uncertainty</td>
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<tr>
<td>Parental Influences</td>
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<tr>
<td>Balancing Work &amp; Home</td>
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<td></td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
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</table>
representative (see Appendix C for instructions letter). The representatives were also provided with reminder letters and asked to distribute them to all teachers one week after the questionnaires had been initially distributed (see Appendix D for reminder letter). Subjects were asked to complete the questionnaire within a 2-week period and return them in the provided envelope through the district mail system.

In all, 266 questionnaires were returned for a return rate of 34%. This rate is somewhat lower than the 49% return rate reported by Long et al. (1986), but comparable to the 37% return rate reported by Dworkin et al. (1990). This may be due to the length of the questionnaire package, the large geographical area over which they were distributed, and the fact that they were asked to complete the packages in June, a time that is notoriously a stress peak for teachers (Kinnunen & Leskinen, 1989). Of the returned questionnaires 246 were complete, 20 were considered incomplete, the respondents having responded at a rate of less than 70% for one or more of the predictor measures. Given that there were 3 criterion measures, those with incomplete measures on one criterion were retained for inclusion on the other criterion measures. Of the remaining 244 subjects, 1 was eliminated in that the subject indicated they had experienced low stress in all areas, and 1 eliminated because the subject responded incorrectly to non-work stress.

Measures

Demographic information. As previously outlined the questionnaire package included a number of questions regarding demographic information. As well a final question was included at the end of the questionnaire package asking subjects to make any additional comments. This open-ended information was not interpreted for inclusion in the current study.
Criterion measures. The three criterion variables measured in this study were occupational satisfaction, organizational commitment, and propensity to leave teaching.

Occupational satisfaction was measured with the job satisfaction subscale from Pettigrew and Wolf's (1982) *Teacher Stress Inventory*. This scale was originally included by the authors in order to demonstrate construct and discriminant validity and as such is seen to be distinct from the construct of stress. Schutz and Long (1988) found this factor to have a high level of internal consistency with Cronbach's alpha $\alpha = .82$. In the current study the internal consistency of this measure was similarly high with Cronbach's alpha $\alpha = .83$. In an attempt to demonstrate the construct validity of the stress subscales, Pettigrew and Wolf (1982) found that the items used to measure job satisfaction related in the expected manner to the 3 subscales used to measure job related stress. Although related to job stress, job satisfaction was found to have discriminant validity. Subjects were asked to indicate the extent to which they agreed with the four items provided on a 5-point scale with the anchors *strongly disagree* (1) and *strongly agree* (5). Scores could range from a low of 4 to a high of 20 with a higher score representing greater occupational satisfaction. This measure was seen as a preferrable alternative to the single-item format used by some researchers or the much longer 77 item Teacher Job Satisfaction Questionnaire developed by Lester (1987). This scale measures overall job satisfaction rather than satisfaction with daily tasks. For the purposes of this study the terms occupational satisfaction and job satisfaction are seen to be synonymous, and are used interchangeably.

Organizational commitment was measured with the 15-item version of the *Organizational Commitment Questionnaire* (Mowday et al., 1979; Porter, Steers, Mowday, & Boulian, 1974). This scale has been used for similar
research in the area of occupational stress (Curry, Wakefield, Price, & Mueller, 1986; McKenna, Orrit, & Wolff, 1981). Internal consistency of the instrument has been demonstrated on numerous populations with coefficient alphas ranging from .82 to .93 with a median of .90 (Mowday et al., 1979). In the current study the coefficient alpha was $\alpha = .89$. Test-retest reliability with psychiatric technicians were $r = .53, .63, .75$ over 2-, 3-, and 4-month periods, respectively. This compares favorably with other attitude measures.

Evidence of convergent validity was found in a number of areas. The OCQ was correlated with the Sources of Organizational Attachment Questionnaire (Mowday et al., 1979) with convergent validities across six diverse samples ranging from .63 to .74 with a median of .70. Significant correlations between OCQ and the intent to remain in an occupation were found in 5 separate studies. Four studies using the OCQ also found moderate relationships between organizational commitment and motivational force to perform and intrinsic motivation with correlations ranging from .35 to .45. With a sample of retail employees the OCQ also correlated at $r = .60$ with an independent rating by the employees supervisor.

Evidence for discriminant validity was collected by comparing the OCQ with three other attitude measures: job involvement, career satisfaction, and job satisfaction. The relationship between the OCQ and job involvement ranged from $r = .30$ to $r = .56$ across four samples. Correlations between the OCQ and career satisfaction were .39 and .40 for two samples. Finally with five studies the correlations between the OCQ and scales of the Job Descriptive Index ranged from .01 to .68 with a median correlation of .41. Given the high correlations that tend to exist between measures of various job attitudes taken at a single point in time, these correlations appear sufficiently low to provide an
indication of acceptable discriminant validity. In eight studies evidence for predictive validity has surfaced in the prediction of turnover.

Subjects in the current study were asked to indicate the extent to which they agreed with the 15 statements on a 7-point likert scale with anchors strongly disagree (1) to strongly agree (7). Scores for this scale could range from a low of 15 to a high of 105 with a high score representing greater organizational commitment.

Propensity to leave teaching was measured by a 3-item scale developed by Lyons (1971). The scale has been widely used and only required slight modifications in wording from hospital to school settings. Inter-item correlations ranged from $r = .54$ to $r = .75$ representing acceptable internal consistency (Lyons, 1971). With the current sample the internal consistency for this scale was $r = .81$. For two of the questions the anchors were definitely would (1) to definitely would not (5), and for one of the questions they were as short as possible (1) to as long as possible (5). Scores for this scale could range from a low of 3 to a high of 15, with higher scores representing a greater propensity to leave.

**Predictor variables.** A revised version of the Teacher Stress Inventory was used to measure the predictor variable of occupational stress. Three of the seven factors contained in the revised instrument were retained. Role ambiguity, role stress, and task stress comprised this measure of perceived stress. In a review of the research on teacher stress, Hiebert (1984) found these factors consistently amongst the factors identified as major stressors. This instrument was chosen over other available instruments (i.e., Fimian, 1984) because of the evidence for reliability and validity. Reliability of the subscales chosen for this study were assessed by Schutz and Long (1988) with the following Cronbach's alphas obtained: subscale 1, role ambiguity, .74; subscale
In the current study the internal consistency for the scale combining the subscales role ambiguity, role stress and task stress was high with Cronbach's alpha $\alpha = .76$. Schutz and Long also provide evidence for the discriminant validity of the subscales on this instrument. The subscales were found to discriminate between groups of teachers known to be different on stress related variables.

A shortened version of this instrument was used for two reasons. First, as suggested by Schutz and Long (1988), the original instrument may be too lengthy for combination with other questionnaires. Given the number of variables being considered in the current study, questionnaire length is an important factor. Second, supervisory support, organizational management, and life satisfaction were deleted in that they are found to be less significant contributors to perceived occupational stressfulness (Heibert, 1985). The 18 items retained for the current study had anchors strongly disagree (1) to strongly agree (5). Scores from the 3 subscales were combined to form one overall measure of perceived occupational stress. Scores for this scale could range from a low of 18 to a high of 90, with higher scores representing greater perceived occupational stress.

Coping efforts were measured using 2 scales from an instrument developed by Latack (1986). This includes two distinct coping modes; control (proactive strategies), and escape (avoidance strategies). A third subscale including symptom management coping strategies was not included for a number of reasons. First, as was the case with perceived stress, inclusion of symptom management strategies would have made the questionnaire package too lengthy. Second, the conceptualization of control and escape strategies fits with the most recent literature on coping classification (Tobin et al., 1989) including both emotion- and problem-focused strategies as proposed by
Lazarus and Folkman (1984). Third, these scales represent strategies that are more proactive, whereas symptom management strategies tend to focus on modifying the psychophysiological state produced by life events.

Latack found that the internal consistency of the 28 control and escape items varied dependent on the stressor identified. The inter-item correlations ranged from $r = 0.53$ to $0.78$ for role ambiguity, from $r = 0.55$ to $0.65$ for role conflict, and from $r = 0.51$ to $0.67$ for role overload. The internal consistency for the current sample was $r = 0.76$ for control coping behavior, and $r = 0.72$ for escape coping behavior. Latack also provided evidence for construct validity by examining correlations between coping and constructs it was theoretically related and not related to. Latack summarizes these expected correlations as follows: Role conflict and role overload with control (+); Role ambiguity with control (−), and escape (+); Personal life changes with control (−), and escape (±); Type A personality with control (+); Anxiety, psychosomatic symptoms, propensity to leave with control (−), and escape (+); Job satisfaction with control (+), and escape (−); Social desirability with control (ns), and escape (ns).

Subjects were provided with a list of 6 stressors that have repeatedly been identified by teachers as most significant (Heibert, 1984). They were asked to identify which was most stressful for them over the last two weeks. Subjects were also allowed to classify and describe their stressor as "other" if they did not feel the categories matched their predominant stressor for this time period. For the purposes of analysis the predominant stressor was dichotomized as either interpersonal- or task-related stressor. With this classification 66% of teachers reported their predominant stressor was task-related, while 34% reported it was interpersonal. For the regression equation, task-related stressors were coded as 1, whereas interpersonal stressors were classified as 0. Respondents indicated the extent to which they used the
provided coping strategies in response to the stressor on a 5-point Likert scale with anchors *never do this* (1) to *always do this* (5). A 2-week time restriction was used in response to the concern raised in the literature that accurate recall is questionable after this length of time (Tennen & Herzberger, 1985). Strategy use was summed for the 17 control and 11 escape strategies to create separate coping strategy scores. Scores for this instrument could vary from a low of 28 to a high of 140 with higher scores representing greater coping strategy use.

Coping efficacy was measured using a modified version of the coping scales developed by Latack (1986). Subjects were asked to indicate in response to the predominant stressor, the extent to which they feel the 28 coping strategies were successful in achieving their goals. The questionnaire was arranged such that they answered this question immediately after their response to coping strategy use as outlined above. Items were rated on a 5-point likert scale with the anchors *not at all successful* (1) to *extremely successful* (5). A response alternative *not applicable* (0) was also provided for strategies the subject reported never using. Scores from the 17 control strategy efficacy and 11 escape strategy efficacy were summed to create two efficacy scores. This procedure for measuring coping efficacy was previously used by Litt and Turk (1985). Scores could range from a low of 28 to a high of 140 with higher scores representing a stronger belief that one's coping strategies were more effective. High internal consistency for this measure was evident with Cronbach’s alpha of \( r = .81 \) for control coping efficacy and \( r = .79 \) for escape coping efficacy.

The single-item question regarding control over the predominant stressor asked respondents to indicate the extent to which their stressor was something they could change or do something about on a 5-point Likert scale with anchors *not at all* (1) to *a great deal* (5).
**Additional Measures.** Included in the questionnaire package was a series of 8 single-item questions regarding perceived stressfulness, coping efficacy and control over the predominant stressor. This was done to allow for comparison with other studies that used a single-item format.

**Data Analysis**

In order to examine the strengths of the relationships between the 10 variables, a Pearson product-moment correlation matrix was created. Descriptive statistics were also computed.

Three separate multiple regression analyses were conducted to examine the nature and strength of the linear relationship among stressors, control over stressors, coping efforts, coping efficacy, and the criterion variables occupational satisfaction, organizational commitment, and propensity to leave teaching. A hierarchical model of regression analysis was used (Cohen & Cohen, 1983) in which predictor variables were entered into a stepwise analysis in the following order: (a) gender and stressor type, (b) perceived teacher stress, (c) control over stressor, (d) 2 subscales of coping efforts (i.e., control and escape), (e) 2 corresponding subscales of coping efficacy, and (f) the product of coping efforts and coping efficacy for the 2 subscales. Gender was entered first as it is not amenable to change. Males were coded as 1 and females coded as 0. The remaining variables were entered in a temporal fashion in that teacher stressors can be seen to lead to primary appraisal regarding controlability over the stressor, which leads to coping efforts which in turn will lead to the individual's assessment regarding the efficacy of the coping choices. Within each step the variables were entered in a stepwise fashion.

The advantage of the hierarchical regression is that it allowed for the effects of the main variables to be examined after controlling for gender and stressor type. This allowed for the determination of the amount of variance in
stress outcomes that is explained by coping efforts and efficacy, above and beyond that explained by gender, stressor type, teacher stressor, and perceived control over the source of stress.

Following a procedure outlined by Cohen and Cohen (1983) the form of significant interactions was explored. Using the full regression equation, separate regression lines were generated representing the predictor-criterion relationship at relatively high (+1 SD) and relatively low (-1 SD) levels of the moderator variable. Direct comparison of these pairs of regression lines with each other will allow for determination of how coping efficacy moderates the coping-outcomes relationship.
Results

Descriptive Statistics

Means, standard deviations, and pairwise correlations for all variables are provided in Table 2. In that a revised version of Pettegrew and Wolf's (1982) instrument was employed, it is not possible to compare results directly for reported stress and satisfaction. Using a single-item 5-point Likert scale to measure perceived occupational stress, Long et al. (1986) found a mean score of 2.4 (SD = .48). This is comparable to an item mean for the stressfulness questionnaire used in the current study (M = 2.6, SD = .60).

Latack (1986) used the same measure to determine propensity to leave on a sample of managers and professionals in a medium-sized manufacturing firm and in an osteopathic hospital. Latack reported a mean score of 8.4 (SD = 4.4). The sample of teachers in the current study demonstrated slightly lower mean scores on this measure (M = 7.26, SD = 3.0).

The organizational commitment questionnaire developed by Mowday et al. (1979) has not previously been used on a teaching sample. The authors report mean scores that range from scientists and engineers (M = 4.4, SD = .98) to that for auto company managers (M = 5.3, SD = 1.05). The mean item score for teachers in this sample fell between these samples (M = 4.9, SD = 1.04).

Latack (1986), in measuring coping strategy use, discriminated according to the type of stressor reported. Dependent on the type of stressor indicated as most significant, respondents in Latack's study reported mean scores of 63.6 to 87.6 for control coping (SD = 7.2 to 11.0). Teachers in this study reported less coping strategy use than that evident in Latack's study (M = 58.23, SD = 8.13). For escape coping use, Latack reports that strategy use means ranged between 15.4 to 34.5 (SD = 5.0 to 6.5) dependent on the stressor type. The current
Table 2

Means, Standard Deviations, and Intercorrelations of Measures for Teachers (n=244)

<table>
<thead>
<tr>
<th>Measure</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.Control</td>
<td>2.82</td>
<td>1.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.Stress</td>
<td>47.07</td>
<td>10.70</td>
<td>-.18</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.Coping-C</td>
<td>58.23</td>
<td>8.13</td>
<td>.08</td>
<td>.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.Coping-E</td>
<td>32.36</td>
<td>6.40</td>
<td>.01</td>
<td>.16</td>
<td>.22</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.Efficacy-C</td>
<td>52.25</td>
<td>10.31</td>
<td>.24</td>
<td>.17</td>
<td>.67</td>
<td>.22</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.Efficacy-E</td>
<td>28.97</td>
<td>8.35</td>
<td>.09</td>
<td>-.02</td>
<td>.20</td>
<td>.65</td>
<td>.47</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.Product-C</td>
<td>3098.63</td>
<td>919.07</td>
<td>.19</td>
<td>.13</td>
<td>.87</td>
<td>.22</td>
<td>.94</td>
<td>.38</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.Product-E</td>
<td>971.73</td>
<td>409.96</td>
<td>.04</td>
<td>.06</td>
<td>.22</td>
<td>.88</td>
<td>.39</td>
<td>.91</td>
<td>.34</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.PT-Leave</td>
<td>7.26</td>
<td>3.01</td>
<td>-.17</td>
<td>.35</td>
<td>-.21</td>
<td>.11</td>
<td>-.27</td>
<td>.05</td>
<td>-.29</td>
<td>.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.Commitment</td>
<td>73.64</td>
<td>15.81</td>
<td>.15</td>
<td>-.40</td>
<td>.19</td>
<td>-.13</td>
<td>.31</td>
<td>-.01</td>
<td>.30</td>
<td>-.07</td>
<td>-.41</td>
<td></td>
</tr>
<tr>
<td>11.Satisfaction</td>
<td>14.64</td>
<td>3.36</td>
<td>.24</td>
<td>-.46</td>
<td>.19</td>
<td>-.18</td>
<td>.27</td>
<td>-.06</td>
<td>.28</td>
<td>-.12</td>
<td>-.66</td>
<td>.58</td>
</tr>
</tbody>
</table>

Note. Control is perceived control over stressor, stress is perceived level of stress, Coping-C is control coping, Coping-E is escape coping, Efficacy-C is control efficacy, Efficacy-E is escape efficacy, Product-C is control coping x control efficacy, Product-E is escape coping x escape efficacy, PT-Leave is propensity to leave, Commitment is organizational commitment, Satisfaction is occupational satisfaction. For all variables a higher score represents a higher reported value of that construct.

\[ r .01,242= .23 \]
\[ r .05,242= .16. \]

\[ r \text{ (adjusted)} .01,200= .35 \]
\[ r \text{ (adjusted)} .05,200= .31 \] (Shavelson, 1988)
sample reported a relatively high mean score for escape coping use (\( M = 32.36, SD = 6.40 \)).

All three criterion variables, occupational satisfaction, organizational commitment, and propensity to leave teaching, correlated significantly with each other at the .01 level. A moderate, negative correlation was found between propensity to leave teaching and organizational commitment (\( r = -.41 \)), and a strong, negative correlation was found between propensity to leave teaching and occupational satisfaction (\( r = -.66 \)). A similar relation between occupational satisfaction and propensity to leave teaching (\( r = .39 \)) was found by Litt and Turk (1985). A moderate, positive correlation was evident between organizational commitment and occupational satisfaction (\( r = .58 \)). Though clearly these correlations indicate that these criterion variables are not mutually exclusive, they are low enough to suggest that they are distinct constructs and worthy of independent measure. Overall the correlations are in keeping with the strength and direction of relationships established in the literature.

Most correlations between the predictor variables were non-significant when adjustments for dependency were considered (Shavelson, 1988). A low, positive correlation was evident between perceived stress and escape coping (\( r = .16 \)), and a low, negative correlation between perceived stress and control efficacy (\( r = -.18 \)). The relationships between perceived stress and control coping and escape efficacy also failed to reach significance. As might be expected most of the correlations between control coping, control efficacy, escape coping, and escape efficacy were significant at the .01 level. The only non-significant correlation was between control coping and escape coping (\( r = .22 \)). This combined with the low correlation between control efficacy and escape efficacy (\( r = .47 \)) supports the idea that these items do represent different modes of coping. The correlations between control coping and control efficacy
(r = .67) and between escape coping and escape efficacy (r = .65) are moderate, indicating that they are not mutually exclusive concepts. However this correlation is low enough to suggest that separate consideration of these variables does provide additional power in understanding the coping process.

Kyriacou and Sutcliffe (1978) found a correlation between reported stress and job satisfaction (r = -.27) with a sample of teachers. This is the same direction and of similar magnitude of that evidenced in the current study (r = -.46). Similarly they reported a modest correlation between reported stress and propensity to leave teaching (r = .18). Again this relationship was evident in the current study (r = .35). Although both samples involved teachers, they used different instruments for measuring the variables and this may account for variation in the strength of the correlations.

Needle et al. (1981) in their study of public school teachers, reported a negative correlation between stress and teacher satisfaction (r = -.37). This was evident in the current research (r = -.46).

Missing Data

As previously stated, subjects who completed less than 70% of any predictor scale were excluded from the analysis. In that there were 3 criterion measures, respondents with incomplete results on one criterion scale were retained for analysis on the other criterion variables. In total 20 subjects were excluded due to insufficient data. Where respondents missed some items, but completed more than 70% of the scale, their mean score was entered in place of the missing value.

Preliminary Analysis

A preliminary MANOVA compared males and females on the predictor variables control over stressors, perceived stressfulness, control coping, escape
coping, control efficacy, escape efficacy, control interaction, escape interaction, as well as the criterion variables organizational commitment, occupational satisfaction, and propensity to leave teaching. This was done because gender differences in the literature, with regard to teachers, are frequently inconclusive and often contradictory (Hiebert, 1984; Long & Gessaroli, 1989). The MANOVA results of this are presented in Table 3. The overall group main effect was significant, $F(12, 211) = 4.46, \ p < .001$. Follow-up univariate tests indicated that females reported using control strategies more frequently ($p < .001$) and with greater sense of efficacy ($p < .02$). The differences for the other predictor variables failed to reach significance.

However males and females in this sample differed significantly on all three criterion variables occupational satisfaction, propensity to leave teaching, and organizational commitment. Women reported higher levels of organizational commitment ($p < .03$), and lower propensity to leave the profession ($p < .001$). Females also reported significantly higher levels of job satisfaction ($p < .001$).

A MANOVA was conducted to determine the influence of subject reluctance on reporting. Respondents who completed the questionnaire in the first week of the study ($n = 150$) were compared with those who completed it in the second week ($n = 69$). No statistically significant differences were found on any of the predictor or criterion variables, $F < 1$.

**Hypothesis-Multiple Regression Analysis**

Three separate multiple regression equations were analyzed for the criterion variables occupational satisfaction, organizational commitment, and propensity to leave teaching. Hierarchical MR analysis was used to determine the amount of the variance accounted for by perceived coping efficacy above and beyond that accounted for by the other predictor variables. Predictor
Table 3
Multivariate and Univariate Analysis of Variance Results for Male and Female Teachers (N=224)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Male (n=94)</th>
<th>Female (n=130)</th>
<th>F(12,211)=4.46, p&lt;.001</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Group Effect</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stressor Type</td>
<td>.61</td>
<td>.49</td>
<td>.72</td>
</tr>
<tr>
<td>Control</td>
<td>2.81</td>
<td>1.04</td>
<td>2.82</td>
</tr>
<tr>
<td>Stress</td>
<td>47.95</td>
<td>11.24</td>
<td>46.42</td>
</tr>
<tr>
<td>Coping-C</td>
<td>55.64</td>
<td>7.83</td>
<td>59.78</td>
</tr>
<tr>
<td>Coping-E</td>
<td>33.02</td>
<td>6.01</td>
<td>32.13</td>
</tr>
<tr>
<td>Efficacy-C</td>
<td>50.43</td>
<td>9.55</td>
<td>53.51</td>
</tr>
<tr>
<td>Efficacy-E</td>
<td>29.77</td>
<td>8.12</td>
<td>28.44</td>
</tr>
<tr>
<td>Product-C</td>
<td>2849.61</td>
<td>835.07</td>
<td>3257.46</td>
</tr>
<tr>
<td>Product-E</td>
<td>1010.20</td>
<td>393.79</td>
<td>953.57</td>
</tr>
<tr>
<td>Commitment</td>
<td>71.22</td>
<td>17.13</td>
<td>75.93</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>13.54</td>
<td>3.56</td>
<td>15.38</td>
</tr>
<tr>
<td>PT-Leave</td>
<td>8.52</td>
<td>2.94</td>
<td>6.30</td>
</tr>
</tbody>
</table>

Note. See Table 2 for key.
variables were entered into the regression equation in six levels, as follows: (1) gender and stressor type; (2) perceived stress; (3) perceived control over stressor; (4) control and escape coping; (5) perceived control and escape efficacy; (6) control and escape products. Within each level the strongest predictor entered first.

Gender and stressor type were entered at the first level as dichotomous variables coded as either a 1 or 0. This allowed for the determination of the contribution of the main variables above and beyond these two variables. The ordering of the other variables is in keeping with Lazarus and Folkman’s (1984) theoretical perspective. The individual (level 2) perceives themselves to be experiencing a stressor (primary appraisal); (level 3) determines if there is anything they can do to alter or manage this stressor (secondary appraisal); (level 4) chooses their coping repertoire; (level 5) then determines to what extent this coping was efficacious. In keeping with the procedure outlined by Cohen and Cohen (1983) the interaction effects were entered last at level 6.

The first regression equation tested the hypothesis that either singly or in combination, gender, stressor type, perceived stress, perceived control over stressor, coping efforts, perceived coping efficacy, and the coping behavior x efficacy interactions would result in a significant linear relationship with occupational satisfaction.

The regression equation for occupational satisfaction was significant, $F(10,213) = 13.68, p < .01$, and the predictor variables in the equation accounted for 39% of the variance (adjusted $R^2 = .36$). Table 4 summarizes the findings. In a hierarchical manner the variables entered as follows for the criterion occupational satisfaction: level one, gender then stressor type; level two perceived stress; level three, perceived control over stressor; level four, control coping behavior then escape coping
Table 4
Hierarchical Multiple Regression Analysis on Teacher Satisfaction (N=224)

<table>
<thead>
<tr>
<th>Variable</th>
<th>(B_{\text{adjusted}})</th>
<th>(B_{\text{increase}})</th>
<th>(F_{\text{to enter}})</th>
<th>(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>.08</td>
<td>.08</td>
<td>18.18**</td>
<td>-.16</td>
</tr>
<tr>
<td>Stressor type</td>
<td>.09</td>
<td>.02</td>
<td>4.34*</td>
<td>.17</td>
</tr>
<tr>
<td>+Perceived stress</td>
<td>.30</td>
<td>.21</td>
<td>67.50**</td>
<td>-.39</td>
</tr>
<tr>
<td>+Control over stressor</td>
<td>.33</td>
<td>.03</td>
<td>11.01**</td>
<td>.16</td>
</tr>
<tr>
<td>+Control coping</td>
<td>.34</td>
<td>.02</td>
<td>6.28*</td>
<td>-.27</td>
</tr>
<tr>
<td>Escape coping</td>
<td>.36</td>
<td>.02</td>
<td>6.84**</td>
<td>-.03</td>
</tr>
<tr>
<td>+Control efficacy</td>
<td>.36</td>
<td>.00</td>
<td>&lt;1</td>
<td>-.41</td>
</tr>
<tr>
<td>Escape efficacy</td>
<td>.36</td>
<td>.00</td>
<td>1.36</td>
<td>-.02</td>
</tr>
<tr>
<td>+Control product</td>
<td>.36</td>
<td>.01</td>
<td>2.64</td>
<td>.84</td>
</tr>
<tr>
<td>Escape product</td>
<td>.36</td>
<td>.00</td>
<td>&lt;1</td>
<td>-.12</td>
</tr>
</tbody>
</table>

\(F(10,213) = 13.68\)  \(p<.01\).

**Note.** Each new level in the hierarchical analysis is indicated by a plus sign (+) and \(B=\)Standardized Regression Coefficient for final equation.

*\(p<.05.\)  **\(p<.01.\)
behavior; level five, control efficacy then escape efficacy; level six, control product then escape product.

Gender entered the equation first and accounted for 8% of the variance, followed by stressor type (2%). After gender and stressor type were accounted for, perceived stress increased the variance by 21% and was negatively related to occupational satisfaction. Even after the large impact of this predictor was accounted for, significant portions of the variance were accounted for by control over stressor that positively related to occupational satisfaction ($\Delta R^2 = .03, p < .01$), and control ($\Delta R^2 = .02, p < .05$), and escape coping ($\Delta R^2 = .02, p < .01$) both of which negatively related to occupational satisfaction. The other variables did not make a statistically significant contribution to occupational satisfaction.

The standardized beta weights indicate that female teachers tend to experience higher levels of occupational satisfaction than males. Individuals who perceived their predominant stressor in the 2-week time period to be interpersonal tended to report higher levels of occupational satisfaction than those whose predominant stressor was task related. Greater control was associated with greater satisfaction, whereas greater occupational stress was associated with less satisfaction. Respondents reporting lower use of both control and escape coping strategies report higher levels of satisfaction.

The second regression equation was used to test the hypothesis that either singly or in combination, gender, stressor type, perceived stress, perceived control over stressor, coping behavior, coping efficacy, and the coping effort x efficacy interactions would result in a significant linear relationship with propensity to leave teaching.

The multiple regression equation for propensity to leave teaching was significant, $F(10,213) = 9.33, p < .01$, and the predictor variables in the equation
accounted for 30% of the variance (adjusted $R^2 = .27$). Table 5 summarizes the findings. In a hierarchical manner the variables entered as follows for the criterion propensity to leave teaching: level one, gender then stressor type; level two perceived stress; level three, perceived control over stressor; level four, control coping behavior then escape coping behavior; level five, control efficacy then escape efficacy; level six, control product then escape product.

Gender accounted for 14% of the variance in this criterion variable. After gender and stressor type were accounted for, perceived stress increased the variance accounted for by 10%. After these variables were entered, significant positive relations between control over stressor ($\Delta R^2 = .02, p < .05$), control coping ($\Delta R^2 = .01, p < .05$), control product ($\Delta R^2 = .01, p < .05$) and the propensity to leave teaching were also evident. The other predictor variables did not make a significant contribution to the propensity to leave teaching.

The standardized beta weights indicate that male teachers report a greater likelihood to leave the teaching profession. Greater occupational stress was associated with a greater likelihood to leave the profession, as was the perception that their predominant stressor was beyond their control. Higher levels of control coping use was also associated with a greater likelihood to leave teaching. Even after the main effects of coping behavior and coping efficacy have been accounted for, a significant control coping x efficacy interaction is evident. Figure 1 demonstrates that high levels of control coping was more strongly and positively related to propensity to leave teaching among low ($b = .06$) than among high ($b = -.18$) efficacy individuals. What is evident is that coping efficacy is differentially associated with propensity to leave teaching with regard to control coping behavior. When individuals report low levels of control coping behavior, low and high efficacy teachers did not differ in reported level of propensity to leave the profession.
Table 5

Hierarchical Multiple Regression Analysis on Propensity to Leave Teaching (N=224)

<table>
<thead>
<tr>
<th>Variable</th>
<th>( B_{\text{adjusted}} )</th>
<th>( B_{\text{increase}} )</th>
<th>( F_{\text{to enter}} )</th>
<th>( B_a )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>.13</td>
<td>.14</td>
<td>35.05**</td>
<td>.28</td>
</tr>
<tr>
<td>Stressor type</td>
<td>.13</td>
<td>.00</td>
<td>&lt;1</td>
<td>-.08</td>
</tr>
<tr>
<td>+Perceived stress</td>
<td>.23</td>
<td>.10</td>
<td>28.06**</td>
<td>.25</td>
</tr>
<tr>
<td>+Control over stressor</td>
<td>.24</td>
<td>.02</td>
<td>5.51*</td>
<td>-.11</td>
</tr>
<tr>
<td>+Control coping</td>
<td>.25</td>
<td>.02</td>
<td>4.58*</td>
<td>.49</td>
</tr>
<tr>
<td>Escape coping</td>
<td>.25</td>
<td>.00</td>
<td>1.58</td>
<td>-.14</td>
</tr>
<tr>
<td>+Control efficacy</td>
<td>.26</td>
<td>.01</td>
<td>2.15</td>
<td>.52</td>
</tr>
<tr>
<td>Escape efficacy</td>
<td>.26</td>
<td>.01</td>
<td>1.95</td>
<td>-.05</td>
</tr>
<tr>
<td>+Control product</td>
<td>.27</td>
<td>.01</td>
<td>4.07*</td>
<td>-1.14</td>
</tr>
<tr>
<td>Escape product</td>
<td>.27</td>
<td>.00</td>
<td>&lt;1</td>
<td>.29</td>
</tr>
</tbody>
</table>

\( F(10,213) = 9.33 \ p< .01. \)

*Note.* Each new level in the hierarchical analysis is indicated by a plus sign (+)
a
\( B_a = \) Standardized Regression Coefficient for final equation.

\(*p< .05. \ **p< .01. \)
Figure 1. Regression of propensity to leave teaching on control coping behavior within efficacy (EFF) subgroups. (High EFF: \( Y = -0.19(x) + 18.09 \); low EFF: \( Y = 0.06(x) + 5.03 \)).
After gender and stressor type were stepped in to the regression equation at step one, variables were stepped in in a temporal fashion, with the strongest predictor at each step entering first. The predictor variables for organizational commitment entered in the following order: step one, stressor type then gender; step two, perceived stress; step three, perceived control over stressor; step four, control coping then escape coping; step five, control efficacy then escape efficacy; step six, escape product then control product.

The third regression equation was used to test the hypothesis that either singly or in combination, gender, stressor type, perceived stress, perceived control over stressor, coping behavior, coping efficacy, and the coping effort x efficacy interactions would result in a significant linear relationship with organizational commitment.

The regression equation for organizational commitment was significant, $F(10,213) = 7.61, p < .01$, and the predictor variables in the equation accounted for 26% of the variance (adjusted $R^2 = .22$). Table 6 summarizes the findings. In a hierarchical manner the variables entered as follows for the criterion organizational commitment: level one, stressor type then gender; level two perceived stress; level three, perceived control over stressor; level four, control coping behavior then escape coping behavior; level five, control efficacy then escape efficacy; level six, escape product then control product.

Stressor type accounted for a significant portion of the variance in this criterion ($\Delta R^2 = .03, p < .05$). After gender and stressor type had been accounted for, perceived stress was negatively related to organizational commitment and increased the variance accounted for by 14%. Control coping was negatively related ($\Delta R^2 = .03, p < .01$), and control coping efficacy positively related ($\Delta R^2 = .02, p < .05$), to the criterion of organizational commitment. The other variables did not make a statistically significant contribution to organizational commitment.
Table 6

Hierarchical Multiple Regression Analysis on Organizational Commitment in Teachers

(N=224)

<table>
<thead>
<tr>
<th>Variable</th>
<th>B adjusted</th>
<th>B increase</th>
<th>F to enter</th>
<th>a B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stressor type</td>
<td>.02</td>
<td>.02</td>
<td>6.65*</td>
<td>-.04</td>
</tr>
<tr>
<td>Gender</td>
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<td>.02</td>
<td>3.84</td>
<td>.17</td>
</tr>
<tr>
<td>+Perceived stress</td>
<td>.19</td>
<td>.14</td>
<td>39.03**</td>
<td>-.32</td>
</tr>
<tr>
<td>+Control over stressor</td>
<td>.18</td>
<td>.01</td>
<td>1.93</td>
<td>.04</td>
</tr>
<tr>
<td>+Control coping</td>
<td>.21</td>
<td>.03</td>
<td>9.53**</td>
<td>-.11</td>
</tr>
<tr>
<td>Escape coping</td>
<td>.22</td>
<td>.01</td>
<td>2.79</td>
<td>.13</td>
</tr>
<tr>
<td>+ Control efficacy</td>
<td>.23</td>
<td>.02</td>
<td>4.32*</td>
<td>.01</td>
</tr>
<tr>
<td>Escape efficacy</td>
<td>.23</td>
<td>.01</td>
<td>1.40</td>
<td>.11</td>
</tr>
<tr>
<td>+ Escape product</td>
<td>.23</td>
<td>.00</td>
<td>&lt;1</td>
<td>.38</td>
</tr>
<tr>
<td>Control product</td>
<td>.22</td>
<td>.00</td>
<td>&lt;1</td>
<td>-.37</td>
</tr>
</tbody>
</table>

F(10,213) = 7.61  p< .01.

Note. Each new level in the hierarchical analysis is indicated by a plus sign (+) and a B=Standardized Regression Coefficient.

* p< .05.  ** p< .01.
The standardized beta weights indicate that greater occupational stress was associated with higher organizational commitment, as was the perception that their predominant stressor was interpersonal. Teachers who report lower control coping use and those who experience a higher level of control coping efficacy report greater organizational commitment.

**Ancillary Results**

Results of the single-item questions indicate that on a 5-point scale 38.9% of teachers rated their profession as a 4 for stressfulness, whereas 13.5% rated it as a 5 (extremely stressful). The mean for the perceived stress single item was equal to 3.43 ($SD = 1.01$).

Teachers were also asked to rate on a 5-point single-item question how effective they coped with work stress. In response to this question, 52% of teachers rated their efficacy as a 4, whereas 9% rated themselves as a 5 (extremely successful). On the item for coping efficacy the mean was equal to 3.60 ($SD = .81$).

A 5-point single-item question asked teachers to rate their overall level of satisfaction with the profession they had chosen. Approximately 50% of teachers rated their satisfaction as a 4, whereas 21.3% rated the profession as a 5 (extremely satisfying). The mean for the single-item satisfaction question was equal to 3.80 ($SD = .94$).

Teachers were asked to rate on a 5-point scale the extent to which they feel they have control over their predominant source of stress. A total of 10% of teachers report that they feel they have no control over their predominant source of stress. The mean for this scale was equal to 2.81 ($SD = 1.02$).

Results of the question asking teachers to identify the event that was most stressful for them over the previous 2 weeks were rank ordered as follows: too much work and not enough time to do it (36%); feeling the work demands
are so varied and extensive that it is impossible to do an adequate job on all fronts (27%); interactions with disruptive students (24%); interactions with administrators (6%); interactions with peers (2%); uncertainty about what you are supposed to do on your job or how to approach a particular problem (1%); job uncertainty (1%); other (1%); parental influences (1%); and, trying to balance work with non-work responsibilities (1%).
Discussion

The primary interest of this study was twofold. First, this study re-evaluated the established relationship researchers have found between a teacher's experience of stress and their occupational satisfaction, organizational commitment, and propensity to leave teaching. Second this study sought to determine if a teacher's coping behavior and perception that their coping efforts were effective, related to the same three outcome variables. The results provide support for the previously established relationship between perceived stress and the outcome variables. In general, the results provide partial support for the hypothesized relationships between coping efficacy and the outcome variables. For the criterion organizational commitment, only control coping efficacy significantly increased the variance after the variance for gender, stressor type, perceived stress, control over stressor, and coping behavior were accounted for. Control and escape efficacy did not significantly increase the variance accounted for for criterion variables occupational satisfaction and propensity to leave teaching.

Control and Escape Efficacy

The finding that control efficacy was positively related to organizational commitment suggests that when teachers perceive their coping efforts to be effective, they are more likely to be committed to the school. This supports the work of Suls and Fletcher (1985) who suggest that control strategies are generally more efficacious in modifying the impact of occupational stressors on long-term outcomes such as organizational commitment.

The finding that control efficacy does not significantly relate to occupational satisfaction seems to support the idea that the profession can be quite satisfying for teachers irrespective of how effective they feel their coping efforts are. It may also be that occupational satisfaction is more transitory
(Porter et al., 1974) and as such is influenced less by long-term factors than organizational commitment. Although control efficacy did not relate significantly to propensity to leave teaching, the control coping by efficacy interaction was significant and suggests that the relationship with this variable is interactional.

Despite the failure of control efficacy to relate significantly to propensity to leave teaching, the interaction of control coping and efficacy significantly increased the variance accounted for. Plotting of relatively high and relatively low control coping behavior within efficacy subgroups indicated that efficacy has a significant effect on propensity to leave at high levels of control coping behavior. Teachers that reported a high level of control coping behavior with the feeling that this behavior was not efficacious, tended to have a greater propensity to leave teaching. Conversely teachers that reported high levels of control coping behavior with a feeling that this behavior was highly efficacious, tended to have a lower propensity to leave teaching. For those reporting low levels of control coping behavior, the extent to which they felt these efforts were efficacious did not have a significant impact on propensity to leave the profession.

Thus it could be speculated that when teachers attempt to directly confront the sources of stress in their work environment, and feel that these efforts are not successful, they experience frustration (Aldwin & Revenson, 1987) which contributes to a propensity to leave teaching. Conversely, when they make significant efforts to modify the sources of stress in the teaching environment, and feel that these actions are efficacious, they experience a lesser propensity to leave their profession. Given the importance of retaining experienced teachers in the school system it would seem that any efforts to increase the perception of control coping efficacy would benefit the educational organization.
The finding that escape efficacy was not significantly related to occupational satisfaction, organizational commitment, and propensity to leave teaching supports earlier work (Suls & Fletcher, 1985) that suggests that approach strategies compared with avoidant strategies are associated with more positive adaptation in the long-term. Although feeling that one's efforts to avoid potential sources of stress may be successful and reduce personal distress in the short-term, it does not appear to have long-term beneficial effects.

The interaction of escape coping and efficacy did not relate significantly to propensity to leave teaching, providing further evidence for the minimal impact of escape coping on long-term outcomes. Furthermore the interactions of control coping and efficacy and escape coping and efficacy did not relate significantly for organizational commitment or occupational satisfaction. This suggests that the interaction of control coping and efficacy does not further relate to organizational commitment above and beyond the significant efficacy relationship. The non-significant findings of the escape coping interactions fits with the herein established pattern where escape coping choices seem unrelated to long-term outcomes.

**Coping Efforts**

Control and escape coping behavior were entered into the regression equations at level 4, with the strongest predictor entering first. In each of the regression equations control coping behavior stepped in ahead of escape coping. Control coping behavior accounted for a significant increase in the portion of the variance for occupational satisfaction (2%), organizational commitment (3%), and propensity to leave teaching (2%). The standardized beta weights indicate that higher levels of control coping behavior are associated with lower satisfaction and organizational commitment, and higher propensity to leave teaching. This conflicts with the results of Schonfeld (1990)
who found that direct action coping was associated with increased motivation to
remain in teaching, and higher satisfaction. However, Schonfeld's sample was
small (n=67) and from a large urban area (New York City). Unlike in this study,
Schonfeld's sample was instructed to indicate how they generally cope with
occupational stressors, reflecting coping style rather than coping behavior. This
method has been criticized (Lazarus & Folkman, 1984) for assuming greater
coping stability than research would support.

Menaghan (1982) suggests that occupational stressors are often
unchangeable and resistant to coping efforts, a finding evident in this study.
Results indicate that on a 5-point scale, 39.2% of teachers rated their control
over their predominant source of stress as a 1 or 2 (M=2.81, SD= 1.02). This
may be an explanation for why higher levels of control coping behavior is
associated with lower levels of occupational satisfaction, organizational
commitment, and propensity to remain in teaching. If the predominant sources
of stress are seen by some teachers to be unalterable, the coping efforts they
exhibit may lead to frustration when no reduction in stress occurs. Vigilant
coping efforts may serve to exacerbate problems for teachers in situations
where the source of stress is perceived to be resistant to modification. This
finding would be in keeping with the research of Aldwin and Revenson (1987)
who suggest that a crucial factor in problem-focused coping reducing the
experience of stress, is whether it was successful in modifying the external
stressor.

Escape coping contributed a significant increase to the prediction of
occupational satisfaction (2%), but failed to do so for organizational
commitment, and propensity to leave teaching. The failure of escape coping to
be associated with the long-term outcomes of organizational commitment and
propensity to leave teaching supports earlier research which suggests that
while escape coping reduces distress in the short-term, it does not produce beneficial effects in the long-term (Suls & Fletcher, 1985). Standardized beta weights indicate that teachers demonstrating higher levels of escape coping behavior report lower levels of satisfaction.

**Gender and Stressor Type**

Gender and stressor type were entered at the first level of the hierarchical regression analysis with the most significant relationship stepping in first. Gender entered first for teacher satisfaction accounting for 8% of the variance with females tending to report higher levels of occupational satisfaction than males. Possibly males as a group are socialized to have higher expectations regarding career progression and promotion which may not be met by the school system which tends to have few such opportunities for teachers with seniority. However such speculation must be taken with due caution in that the results regarding gender differences are often discrepant or contradictory in teacher stress research (Hiebert, 1985).

Gender also entered first for propensity to leave teaching, accounting for 14% of the variance, with male teachers reporting a greater likelihood to leave the teaching profession. It could be speculated that male teachers might perceive themselves to have more career options available to them, and as such are more open to considering career change. However such speculation must be considered with caution in that exploratory post-hoc analysis suggests that the relationship between propensity to leave teaching and gender may be influenced by grade taught (see Appendix E). A statistically significant gender by grade interaction for male and female elementary and secondary school teachers was evident. An examination of the means indicated that male elementary teachers are more likely to leave teaching compared with male secondary teachers, whereas female secondary teachers are more likely to
leave than female elementary teachers. With regard to organizational commitment, after stressor type entered the equation, gender did not significantly increase the variance accounted for. Despite lower satisfaction and propensity to remain in the profession, males as a group appear to be as committed as females to the organization.

Stressor type was hierarchically entered at level one and stepped in after gender for teacher satisfaction accounting for 2% of the variance. Teachers who perceived their predominant stressor in the previous 2-week period to be interpersonal, tended to experience higher levels of occupational satisfaction. Teachers may perceive interpersonal stressors to be less a result of the occupation per se, and as such not gauge their overall satisfaction according to such events. Stressor type stepped in first for organizational commitment, accounting for 2% of the variance. Teachers who perceive their predominant stressor in the previous 2-week period to be interpersonal, tended to experience higher levels of organizational commitment. Again teachers may feel that interpersonal stressors are less a reflection of the organization than are task-related stressors. Stressor type entered second for propensity to leave teaching and did not make a statistically significant contribution.

**Occupational Stress**

A secondary goal of this study was to test previously established relationships between perceived stress and occupational satisfaction, organizational commitment, and propensity to leave teaching. Perceived level of occupational stress was hierarchically entered third into the regression equation. It accounted for a significant increase in the portion of the variance for occupational satisfaction (21%), propensity to leave teaching (10%), and organizational commitment (14%) after gender and stressor type were entered. Teachers experiencing a higher degree of perceived stress reported a lower
level of occupational satisfaction. This is in keeping with the work of Kyriacou and Sutcliffe (1979) who found a low but significant negative correlation, $r = -0.27$, between teacher stress and satisfaction. Needle et al. (1981) also found a negative correlation, $r = -0.37$ between perceived teacher stress and satisfaction.

The finding that higher levels of reported stress is related to a greater likelihood to leave the teaching profession is also in keeping with the work of Kyriacou and Sutcliffe (1979) who found a small, but significant positive correlation between these two variables with, $r = 0.18$. As Heibert (1985) suggests, leaving the profession may be one way that some teachers cope with the stressfulness of their occupation. Not surprisingly higher levels of reported stress were also associated with lower organizational commitment. It could be speculated that teachers who perceive themselves to be under more stress, would find it more difficult to be committed to organizational needs.

**Perceived Control**

Perceived control over the predominant stressor was hierarchically entered into the regression equations and significantly increased the portion of the variance for occupational satisfaction (3%), and propensity to leave teaching (2%), but did not contribute significantly to the prediction of organizational commitment (1%). The non-significant finding in regards to organizational commitment may be because commitment tends to be more enduring (Porter et al., 1974) and is thus less influenced by immediate concerns.

Teachers who perceived themselves to have greater control over their predominant stressor reported higher satisfaction and a lesser likelihood to leave the profession. This is in keeping with the work of Roth and Cohen (1986) who suggest that the perception that stress is within the individuals control may influence the coping choices made, and thus influence the effectiveness of the coping behavior.
Ancillary Findings

Results of the single-item question regarding the extent to which teachers find their profession stressful produced some rather interesting findings. Results indicate that 52.4% of teachers rate their profession as a 4 or 5 on a 5-point scale for stressfulness ($M= 3.43$, $SD= 1.01$). Rating as a 4 or 5 is equivalent to what other researchers classify as very or extremely stressful, respectively. Using a similar 5-point single-item question, Long and Schutz (1986) found that 25% of teachers reported that teaching was very or extremely stressful ($M= 2.4$, $SD=.48$). Kyriacou (1987) found a similar result with 25% of teachers reporting that teaching was very or extremely stressful, whereas Kyriacou and Sutcliffe (1979) report that 23.4% of their sample found teaching very or extremely stressful. The discrepancy between established findings and this study’s results may be due to the fact that this study draws on teachers from smaller centers where isolation may be more of an issue.

Though many teachers in this study report that they find their chosen profession quite stressful, many also indicate that they feel they cope quite well with this stress. In response to a single-item 5-point question 61% of teachers rated the efficacy of their coping efforts as a 4 or 5, with the later indicating they feel they are extremely effective ($M= 3.60$, $SD=.81$). This finding is comparable to the results of a similar single-item question reported by Aldwin and Revenson (1987) with their sample of community adults ($M= 3.62$, $SD= 1.04$), suggesting this finding is not unique to teachers.

The results of the single-item question regarding occupational satisfaction indicate that a significant number of teachers in this sample find their work satisfying. From this sample, 49.6% rated teaching as a 4 for satisfaction, while 21.3% find it extremely satisfying ($M= 3.80$, $SD=.94$). This is comparable to the results reported by Kyriacou and Sutcliffe (1979) who
reported a mean satisfaction score of $M = 3.73$. As Kyriacou (1987) suggests, stress appears to be only one of many determinants of a teachers occupational satisfaction.

Teachers in this sample tended to respond in a similar way to those previously investigated in regards to what they perceive to be their predominant source of stress. In keeping with the work of Blase (1986) the two stressors that were reported most often reflected a lack of time available to perform the duties required by the job. Too much work and not enough time to do it was chosen by 36% of teachers, whereas feeling the work demands are so varied and extensive that it is impossible to do an adequate job on all fronts, was chosen by 27% of teachers. Interactions with disruptive students accounted for 24% of those responding while only 6% found that interactions with administrators was the most stressful event for them in the 2-week period prior to completing the questionnaire. The other 6 factors accounted for only 7% of teachers responding. Clearly the sources of stress that teachers in this sample experience are rather universal and persistent (Hiebert, 1985). Given the finding that excessive workload is the predominant source of stress for 63% of teachers in this study, it would seem that any efforts to reduce demands, or help teachers better manage their demands, would be beneficial to the individual and the school organization.

Limitations

Although a questionnaire format does allow for the sampling of a large population over a vast geographic area, it does have some limitations. Dolan and White (1988) argue that the coping appraisal process is quite subjective and as such the sampling of subject's responses to actual stressful events is most suitable. However, as Lazarus et al. (1985) suggest, any attempt to measure
responses by observable, environmental events will lose the interactional essence of the stress-coping process.

Although this method of data collection has supporters and detractors, Dewe (1989) suggests that more qualitative forms of investigation (i.e., Blase, 1986) would be useful in checking the results of self-report data. As Folkman et al. (1986) suggest, self-report may be the only way to obtain information about some psychological processes, but it ultimately requires some form of verification by other methods such as observation of direct behavior and physiological assessment.

It could also be argued that the exclusive use of questionnaire data in the current study may lead to method variance, wherein the results are an artifact of measurement using the same method. Although it is difficult to prove that this is not a factor in the current study, the results of a study by Spector (1987) suggest that this need not be a major concern. Spector found that social desirability and acquiescence had a small or non-existent impact on the accurate assessment of affect and an employee's perception of their organization. He suggests that if well-designed instruments are used then method variance is not an issue.

The cross-sectional nature of this investigation is also a limitation. In that data are collected at a single point in time it is impossible to determine the long-term impact of chronic stressors and coping choices. Longitudinal investigation would have allowed for an examination of the stability of reported stress. As well the stability of the coping process could have been more clearly explored. However, given the limited events perceived to be most stressful by teachers it may be assumed that the teaching environment is more stable than most and least vulnerable to a cross-sectional investigation.
In that the nature of the analysis is correlation, the current study allows for understanding the relationship between factors. However, the direction of these relationships must be considered with caution. As suggested earlier not only may occupational satisfaction be influenced by the experience of stress, but it may serve to buffer the impact of this stress. Though this study does provide some clear evidence that factors such as the experience of stress relates to certain outcomes, it does not support the idea that this relationship is causal. Evidence from other work (Cox & MacKay, 1981; Kyriacou & Sutcliffe, 1979; Pearlin & Schooler, 1978) must be used to support any causal beliefs. It is also important to remember that the results represent the experience of 37% of the selected teaching population, and as such does not represent the experience of all teachers.

Finally the current investigation is limited to the work environment. It does not evaluate how teachers cope with the stressful non-work events in their lives. Nor does this study evaluate any spillover effect between a teacher's work and home life.

Contributions and Implications

With an expected teacher shortage in the year 1992 (Sullivan, 1988), and a recognition that the schools will play an ever increasingly important role in preparing our youth for a competitive world economy (Peel, 1990), the need to retain satisfied and committed teachers has never been more crucial. The finding that high perceived stress is a strong predictor of lower occupational satisfaction, organizational commitment, and propensity to continue in teaching, supports the previous findings, and suggests that this is an issue that must be addressed.

The finding that control coping and control coping efficacy significantly increase the variance of organizational commitment has potential implications
for stress management workshops. Rather than workshops that focus on the teaching of generic coping approaches, it may be more useful for teachers to examine what control coping strategies they already use, and the extent to which they feel these are effective in modifying the stressors. The results of this study support the notion that the teaching of universal coping prescriptions may be of little use (Newton & Keenan, 1985). Teachers could be encouraged not to simply use more coping strategies, but to use strategies that over time seem to be more efficacious.

The importance of considering coping efficacy is also evident in the significant interaction found in relation to propensity to leave teaching. When teachers attempt to control the stressor, without feeling these efforts are successful, this results in a greater propensity to leave teaching. This supports the work of Aldwin and Revenson (1987) who suggest that in some situations the most adaptive approach is to use the minimum amount of energy to manage a stressor.

The finding that greater coping strategy use has either negligible or sometimes deleterious effects on occupational satisfaction, organizational commitment, and propensity to remain in teaching, suggests that more coping may not always be better. It may be that the selection of a few, highly efficacious strategies, is the best way to confront work stressors. Teachers could be challenged to examine to what extent their attempts to modify circumstances beyond their control, paradoxically contributes to negative outcomes. As Dewe (1985) suggests, the use of emotion-focused strategies may be the best alternative when the stressor is resistant to modification.

As some authors have suggested (Needle et al., 1981; Pearlin & Schooler, 1979), it is important to avoid the temptation to explain personal distress merely in terms of a failure of personal coping efforts and individual
support systems. With a finite supply of qualified, competent teachers, the school system needs to examine the extent to which the organizational environment contributes to lowered teacher satisfaction, commitment, and a propensity to leave the profession.

The finding that 39.2% of teachers feel they have little or no control over their predominant source of stress suggests that this is an area where organizational change may be indicated. The results of this study supports past work (Roth & Cohen, 1986) indicating that perceived controllability of stressors is an important factor. Greater perceived control was related to higher levels of satisfaction, and a lower propensity to leave teaching. It may be useful for the school system to reexamine how the organizational structure could further empower the teachers, such that they could have a greater sense of control over the sources of stress in the work setting.

It is somewhat encouraging that 70.9% of teachers in this sample report high levels of occupational satisfaction, while 61% report that they feel they cope quite well with work-related stressors. However it is important to remember that the teachers in this sample represent a survival population and as such may represent a group particularly adept at minimizing the impact of occupational stress (Kyriacou & Sutcliffe, 1979). As well, 9.4% of this sample reported very low levels of satisfaction with their profession. An organizational system may have difficulty functioning optimally when almost 1 out of 10 employees are this dissatisfied with their work.

Future Directions For Research

With partial support found for the importance of coping efficacy, it would seem that further systematic investigation is indicated. The effectiveness of coping efforts aimed at modifying or eliminating the stressor may depend a great deal on the extent to which the individual perceives these efforts to be
successful. The findings of this study support past work that suggests that more coping effort does not necessarily translate into the reduction of negative outcomes.

The finding that female teachers as a group are more satisfied and less likely to leave teaching provides further evidence for gender differences within the school setting. It would be important to examine whether this is a result of organizational factors that are detrimental to male teachers, or the result of a society that provides more occupational opportunities to males. Results of post-hoc analysis suggest that any future research examining gender differences in the teaching profession should control for grade level.

While the importance of perceived control over individual stressors was not of primary interest in this study, it did surface as an important consideration. Further research in this areas would help to clarify the way in which this factor relates to occupational satisfaction, organizational commitment, and propensity to leave teaching. Consideration of other factors, such as personality variables would also be worthwhile.

Finally, the understanding of this area could be further enhanced through intervention studies. Given the findings in the current study it may be useful to examine a program that encouraged teachers to use those control strategies which they perceive to be most effective. Such an intervention program might also challenge teachers to first consider the controllability of stressors, before choosing the most appropriate control and escape strategies. It may be that the teaching environment often involves stressors which are best handled by escape or symptom management strategies, wherein the individual does not attempt to modify the actual event.
In conclusion, the current study has contributed some insight into the stress and coping process for teachers from small urban and rural areas. The process is clearly quite complex and will benefit from further research.
References


The following information will be used to describe the group of teachers involved and to determine if these factors influence the results. Fill in the blank or circle the correct response.

Age: _____

Gender: M F

Total years teaching experience: _____

Grades currently taught: (a) K-grade 7
(b) grade 8 - grade 10
(c) grade 11 - grade 12
(d) other

Marital status: (a) single
(b) married
(c) divorced
(d) separated
(e) other _____

Degree held: (a) bachelor's
(b) master's
(c) doctoral

Average class size: (a) 1-10
(b) 11-20
(c) 21-30
(d) 31-40
(e) n/a

Number of students enrolled in your school: (a) up to 200
(b) 201-400
(c) 401-600
(d) 601-800
(e) 801-1000
(f) over 1000

Number of prep hours per week: _____

Date questionnaire completed: ________________
Research has indicated that a number of factors are consistently identified as sources of stress for teachers. Circle the one that has been most stressful for you at work over the last two weeks.

(a) Too much work to do and not enough time in which to do it.
(b) Interactions with disruptive students.
(c) Interactions with administrators.
(d) Interactions with peers.
(e) Uncertainty around what you are supposed to do on your job or how to approach a particular problem.
(f) Feeling the work demands are so varied and extensive that it is impossible to do an adequate job on all fronts.
(g) Other (please describe event briefly)

Now with this particular stressor in mind circle the number that indicates:

(a) The extent to which you used the following coping strategies in response to this stressor, and
(b) The extent to which you feel the coping strategies were successful in achieving your goals.
(If you report never using a particular strategy simply score n/a for the item on this scale).

<table>
<thead>
<tr>
<th>Never do this</th>
<th>Always do this</th>
<th>Not at all successful</th>
<th>Extremely successful</th>
<th>n/a</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>n/a</td>
</tr>
</tbody>
</table>

1. Get together with my supervisor to discuss this.
2. Try to be very organized so that I can keep on top of things.
3. Talk with people (other than my supervisor) who are involved.
4. Try to see this situation as an opportunity to learn and develop new skills.
5. Put extra attention on planning and scheduling.
6. Try to think of myself as a winner – as someone who always comes through.
7. Tell myself that I can probably work things out to my advantage.
8. Devote more time and energy to doing my job.
9. Try to get additional people involved in the situation.
10. Think about challenges I can find in this situation.
11. Try to work faster and more efficiently.
12. Decide what I think should be done and explain this to the people who are affected.
13. Give it my best effort to do what I think is expected.
14. Request help from people who have the power to do something for me.
15. Seek advice from people outside the situation who may not have power, but who can help me think of ways to do what is expected of me.
16. Work on changing policies which caused this situation.
17. Throw myself into my work and work harder, longer hours.
18. Avoid being in this situation if I can.
19. Tell myself that time takes care of situations like these.
20. Try to keep away from this type of situation.
21. Remind myself that work isn’t everything.
22. Anticipate the negative consequences so that I’m prepared for the worst.
23. Delegate work to others.
24. Separate myself as much as possible from the people who created this situation.
25. Try not to get concerned about it.
26. Do my best to get out of the situation gracefully.
27. Accept this situation because there is nothing I can do to change it.
28. Set my own priorities based on what I like to do.

<table>
<thead>
<tr>
<th></th>
<th>Never do this</th>
<th>Always do this</th>
<th>Not at all Successful</th>
<th>Extremely Successful</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>n/a</td>
</tr>
</tbody>
</table>

Appendix B
Coping Efforts and Efficacy Scale
Using the provided scale, indicate the extent to which the following statements apply to you in your school setting by circling the appropriate number.

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I can predict what will be expected of me in my work tomorrow.</td>
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<tr>
<td>2. I am unclear on what the scope and responsibilities of my job are.</td>
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<tr>
<td>3. I am uncertain what the criteria for evaluating my performance actually are.</td>
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<tr>
<td>4. I receive enough information to carry out my job effectively.</td>
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<tr>
<td>5. When asked, I am able to tell someone exactly what the demands of my job are.</td>
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<tr>
<td>6. I find that I have extra work beyond what should normally be expected of me.</td>
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<tr>
<td>7. The criteria for performance on my job are too high.</td>
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<tr>
<td>8. I am given too much responsibility without adequate authority to carry it out.</td>
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<tr>
<td>9. I receive conflicting demands from two or more people or groups in the school setting.</td>
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<td></td>
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<tr>
<td>10. I have to buck a rule or policy in order to carry out an assignment.</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. I have a hard time satisfying the conflicting demands of students, parents, administrators, and teachers.</td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>12. I am given school-related duties without adequate resources and materials to carry them out.</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>13. Trying to complete reports and paper work on time causes me a lot of stress.</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>14. I find that dealing with student discipline problems puts a lot of stress on me.</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>15. There is a lot of stress just keeping up with changing professional standards.</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. Trying to keep my work from being too routine and boring puts a lot of stress on me.</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. Having to participate in school activities outside of the normal working hours is very stressful to me.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. I find that trying to be attentive to the problems and needs of fellow faculty is very stressful.</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Indicate the degree of your agreement or disagreement with each statement by circling one of the seven alternatives.

<table>
<thead>
<tr>
<th>Strongly</th>
<th>Moderately</th>
<th>Slightly</th>
<th>Neither</th>
<th>Slightly</th>
<th>Moderately</th>
<th>Strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disagree</td>
<td>Disagree</td>
<td>Disagree</td>
<td>Agree</td>
<td>Agree</td>
<td>Agree</td>
<td>Agree</td>
</tr>
</tbody>
</table>

1. I am willing to put in a great deal of effort beyond that normally expected in order to help this school be successful. 
2. I talk up this school to my friends as a great school to work for.
3. I feel very little loyalty to this school.
4. I would accept almost any type of job assignment in order to keep working for this school.
5. I find that my values and the school's are very similar.
6. I am proud to tell others that I am part of this school.
7. I could just as well be working for a different organization as long as the type of work was similar.
8. This school really inspires the very best in me in the way of job performance.
9. It would take very little change in my present circumstances to cause me to leave this school.
10. I am extremely glad that I chose this organization to work for over others I was considering at the time I joined.
11. There's not too much to be gained by sticking with this school indefinitely.
12. Often, I find it difficult to agree with this school's policies on important matters relating to its employees.
13. I really care about the fate of this school.
14. For me this is the best of all possible organizations to work for.
15. Deciding to work for this school was a definite mistake on my part.
Using the following scale, indicate by circling, the extent to which you agree or disagree with the statements below.

1. All in all, I would say that I am extremely satisfied with my job.  
   Strongly Disagree: 1 2 3 4 5

2. My job is extremely important in comparison to other interests in my life.  
   Strongly Disagree: 1 2 3 4 5

3. Knowing what I know now, if I had to decide all over again whether to take this job, I would definitely do so.  
   Strongly Disagree: 1 2 3 4 5

4. In general, my job measures up extremely well with the sort of job I wanted before I took it.  
   Strongly Disagree: 1 2 3 4 5

Using the scales provided, indicate by circling, the extent to which the statements below apply to you.

1. If you were completely free to choose, would you continue working in a school setting or would you prefer not to?
   1 2 3 4 5
definitely would  definitely would not

2. How long would you like to stay in a school setting?
   1 2 3 4 5
   as short as possible
   as long as possible

3. If you had to quit work for a while (because of pregnancy for example), would you return to a school setting?
   1 2 3 4 5
definitely would  definitely would not

If you have any concerns about the content or format of this questionnaire please comment on the back of this questionnaire.
Using the provided scales, circle the appropriate response:

1. Overall, how effectively do you feel you cope with stress at work?

   Not at all effectively  1  2  3  4  5  Extremely effectively

2. Overall, how stressful do you feel teaching is for you?

   Not at all stressful  1  2  3  4  5  Extremely stressful

3. Overall, how effective do you feel your coping efforts are in achieving your goals?

   Not at all effective  1  2  3  4  5  Extremely effective

4. Overall, how effective do you feel your coping efforts are in minimizing psychological distress?

   Not at all effective  1  2  3  4  5  Extremely effective

5. Overall, how effective do you feel your coping efforts are minimizing physical illness?

   Not at all effective  1  2  3  4  5  Extremely effective

6. Overall, how satisfied are you with teaching?

   Not at all satisfied  1  2  3  4  5  Extremely satisfied

7. Overall, how effective do you feel your coping efforts are in minimizing anxiety?

   Not at all effective  1  2  3  4  5  Extremely effective

8. According to your assessment, to what extent is the stressful event described by you earlier one that you could change or do something about?

   Not at all  1  2  3  4  5  A great deal
Appendix E

Multivariate and Univariate Analysis of Variance Results for Male and Female Elementary and Secondary Teachers (N=190)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Male (n=82)</th>
<th></th>
<th>Female (n=108)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Elementary (n=44)</td>
<td>Secondary (n=38)</td>
<td>Elementary (n=89)</td>
<td>Secondary (n=19)</td>
</tr>
<tr>
<td>Group Sex x Grade interaction</td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Stressor Type</td>
<td>.66</td>
<td>.48</td>
<td>.53</td>
<td>.51</td>
</tr>
<tr>
<td>Control</td>
<td>2.82</td>
<td>.97</td>
<td>2.89</td>
<td>1.06</td>
</tr>
<tr>
<td>Stress</td>
<td>48.20</td>
<td>10.13</td>
<td>46.55</td>
<td>11.72</td>
</tr>
<tr>
<td>Coping-C</td>
<td>56.39</td>
<td>8.19</td>
<td>55.68</td>
<td>7.59</td>
</tr>
<tr>
<td>Coping-E</td>
<td>32.18</td>
<td>5.99</td>
<td>34.53</td>
<td>5.62</td>
</tr>
<tr>
<td>Efficacy-C</td>
<td>52.95</td>
<td>9.27</td>
<td>49.02</td>
<td>8.89</td>
</tr>
<tr>
<td>Efficacy-E</td>
<td>30.59</td>
<td>8.51</td>
<td>30.05</td>
<td>7.12</td>
</tr>
<tr>
<td>Product-C</td>
<td>3032.55</td>
<td>872.62</td>
<td>2763.95</td>
<td>757.42</td>
</tr>
<tr>
<td>Product-E</td>
<td>1011.61</td>
<td>399.06</td>
<td>1062.82</td>
<td>384.25</td>
</tr>
<tr>
<td>Commitment</td>
<td>75.48</td>
<td>15.33</td>
<td>68.50</td>
<td>18.26</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>13.50</td>
<td>3.41</td>
<td>13.63</td>
<td>3.47</td>
</tr>
<tr>
<td>PT-Leave</td>
<td>8.80</td>
<td>2.79</td>
<td>7.84</td>
<td>3.01</td>
</tr>
</tbody>
</table>

Note. See Table 2 for key.