Reducing teachers' levels of stress: A comparison of two counseling treatment models

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Reducing teachers' levels of stress: A comparison of two counseling treatment models

Elgort, Andrew Charles, Ed.D.
The College of William and Mary, 1992
REDUCING TEACHERS' LEVELS OF STRESS: A COMPARISON OF TWO COUNSELING TREATMENT MODELS

A Dissertation Presented to the Faculty of the School of Education College of William and Mary in Virginia

In Partial Fulfillment Of the Requirements for the Degree Doctor of Education

by

Andrew C. Elgort

May 1992
REDUCING TEACHERS' LEVEL OF STRESS: A COMPARISON OF TWO COUNSELING TREATMENT MODELS

by

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Approved May 1992 by

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Pamela F. Oksman, Ph.D.
DEDICATION

To my wife, Ginny
For her continuing support, patience,
and love.

A wife of excellence who can find?
Her value far exceeds that of pearls.
The heart of her husband trusts in her,
he lacks no gain.
She treats him with goodness, never evil,
all the days of her life.

Proverbs 31:10-12
TABLE OF CONTENTS

Dedication .............................................. iii
Acknowledgments ........................................ vi
List of Tables ........................................... vii
Abstract ................................................... viii

Chapter 1: Introduction
  Justification for Study .................................. 2
  Statement of Problem ................................... 4
  Theoretical Rationale .................................. 4
  Definition of Terms .................................... 12
  Research Hypotheses .................................. 16
  Sample Description and Data Gathering Procedures .... 17
  Limitations of the Study ................................ 18

Chapter 2: Review of Literature
  Teacher Stress: Causes and Consequences
    Introduction ......................................... 20
    Causes of Teacher Stress ............................. 22
    Consequences of Teacher Stress ..................... 25
    Review of Meichenbaum's Theoretical Concept of
      Coping Strategies ................................... 27
    Research on the Use of SIT with Classroom Teachers.. 32
    Cooperative Professional Development ............... 46

Chapter 3: Methodology
  Sample Population ..................................... 55
  Selection of Sample .................................... 56
  Description of Intervention ........................... 60
  Instrumentation ........................................ 64
  Research Design ........................................ 69
  Statistical Procedure .................................. 70

Chapter 4: Analysis of Results
  Hypothesis One ......................................... 72
  Hypothesis Two / Hypothesis Three ..................... 78

Chapter 5: Discussion
  Summary .................................................. 83
  Conclusions
    Hypothesis One ....................................... 86
    Hypothesis Two ....................................... 91
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypothesis Three</td>
<td>92</td>
</tr>
<tr>
<td>Limitations</td>
<td>95</td>
</tr>
<tr>
<td>Implications</td>
<td>97</td>
</tr>
<tr>
<td>Recommendations for Future Research</td>
<td>98</td>
</tr>
<tr>
<td>Appendices</td>
<td></td>
</tr>
<tr>
<td>I. Group Sessions: Activities for each session</td>
<td>101</td>
</tr>
<tr>
<td>II. Activities for the Cooperative Professional Development Condition</td>
<td>112</td>
</tr>
<tr>
<td>III. Teacher Stress Management SCC Course - Course Evaluation - GC</td>
<td>126</td>
</tr>
<tr>
<td>IV. Teacher Stress Management SCC Course - Course Evaluation - CPD</td>
<td>128</td>
</tr>
<tr>
<td>V. Consent Form</td>
<td>131</td>
</tr>
<tr>
<td>References</td>
<td>134</td>
</tr>
<tr>
<td>VITA</td>
<td>142</td>
</tr>
</tbody>
</table>
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# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>Demographic Data</td>
<td>58</td>
</tr>
<tr>
<td>Two</td>
<td>Effect of Group on Treatment Outcome - Stress</td>
<td>73</td>
</tr>
<tr>
<td>Three</td>
<td>Averaged Group Means - Cardiovascular Manifestations</td>
<td>74</td>
</tr>
<tr>
<td>Four</td>
<td>Effect of Time on Treatment Outcome - Stress</td>
<td>75</td>
</tr>
<tr>
<td>Five</td>
<td>Average of the Group Condition Means - Time</td>
<td>76</td>
</tr>
<tr>
<td>Six</td>
<td>Effect of Group x Time Interaction on Treatment Outcome - Anxiety</td>
<td>78</td>
</tr>
<tr>
<td>Seven</td>
<td>Averaged Group Means - State Anxiety</td>
<td>80</td>
</tr>
<tr>
<td>Eight</td>
<td>Average of the Group Condition Means - State Anxiety</td>
<td>81</td>
</tr>
<tr>
<td>Nine</td>
<td>Total Test Means and Standard Deviations - Stress</td>
<td>89</td>
</tr>
<tr>
<td>Ten</td>
<td>Group Means and Standard Deviations - Trait Anxiety</td>
<td>92</td>
</tr>
</tbody>
</table>
REDUCING TEACHERS' LEVELS OF STRESS: A COMPARISON OF TWO COUNSELING TREATMENT MODELS

ABSTRACT

Teachers are experiencing heightened levels of stress throughout the school day; the impact of which may be seen in increased absenteeism, turnover, poor performance and waste. This study taught classroom teachers cognitive-behavioral methods to reduce and manage their professional stress comparing a Group Counseling (GC) approach with a Cooperative Professional Development (CPD) approach.

Participating classroom teachers were randomly selected for each treatment condition. The participants in the GC approach met for ten 2-hour consecutive weekly sessions. The CPD treatment initially met as a group for a 6 1/2 hour inservice. At the end of the inservice, the participants formed dyads which met for nine 90 minute consecutive weekly sessions. Both treatment conditions received the same information, strategies, and activities. A follow-up session was held for each treatment condition one-month after the conclusion of the program.

All participants, including those in the Waiting-List
Control Group, completed two self-report inventories (Teacher Stress Index and State-Trait Anxiety Inventory) three times during the course of the study (pretest, posttest, and one-month follow-up). Additionally, a demographic questionnaire was completed at the beginning of the study and a Course Evaluation Form was completed at the end of the study.

It was predicted that both treatment groups would demonstrate significantly less of an increase in their measured stress and anxiety levels compared to the control group. It was also predicted that there would be no significant difference between the three conditions in their measured levels of "Trait" anxiety.

A MANOVA design was employed to analyze whether significant differences existed for each dependent variable. When analyzed, none of the hypotheses were supported. However, the data were suggestive of a number of trends.

This study re-affirmed the efficacy of delivering stress management techniques to teachers through a "traditional" counseling group method. The efficacy of the Cooperative Professional Development model was also demonstrated. This study also found that teachers valued the flexibility, independence and enhanced feelings of professionalism the latter model offered, suggesting that staff development programs capitalizing on these components may have a greater positive impact on participants and may pre-
sent a cost-effective way to increase a participant's level of motivation and willingness to implement new techniques.
REDUCING TEACHERS' LEVELS OF STRESS: A COMPARISON OF TWO COUNSELING TREATMENT MODELS
CHAPTER 1: Introduction

Justification for Study

The mandate of public schools is the education of all children in a manner that allows each individual child to develop to his or her full potential. The persons given direct responsibility for the intellectual care and the emotional nurturing required for the attainment of this mandate are teachers. Unfortunately, many teachers are appearing to become severely overburdened with the seemingly ever-increasing professional expectations forced upon them from school administrators, parents, community, and state and federal educational agencies. As a result of these continuing demands, teachers are experiencing heighten levels of stress throughout the school day (Cedoline, 1982; Coates and Thoreson, 1979; Fimian, 1986; Hicks, 1933; Holt, Fine, and Tollefson, 1987; Peck, 1933; Swick, 1989; Swick and Hanley, 1985; Weiskopf, 1980).

Matteson and Ivancevich (1987) report that the impact stress has on organizations may be seen in increased accidents, absenteeism, turnover, increased
health care costs, and decreases in quality and quantity of work production. These negative consequences of stress have been documented in studies on teacher stress (e.g. Coates and Thoresen, 1976; Keavney and Sinclair, 1978; Kyriacou and Sutcliffe, 1977, 1979; Needle, Griffin, and Svendsen, 1981).

While the research literature is in agreement that teachers, as an occupational group, tend to be highly stressed, only a limited number of studies have focused on developing systematic interventions to assist teachers generate new methods and strategies to address this problem.

The studies that have shown to be effective in reducing teacher stress have tended to employ a cognitive-behavioral counseling group format. While it is possible to employ this format with its many possible variations in the schools, this type of program does not generally occur as part of the usual inservice offerings available in many school division. It would appear that most inservice programs available in public schools today, regardless of the content of the inservice, take the form of one-shot programs with little or no follow-up provided.

This study investigated the impact that cognitive-behavioral techniques have upon teacher stress, comparing the counseling models by which the techniques and strategies were transmitted. This study compared the tradi-
tional Counseling Group format, in which the teachers are instructed in the stress management techniques and strategies in ten weekly two-hour sessions, with a Cooperative Professional Development model, in which the teachers, after being given the information and techniques in a one-day group inservice, form dyads and assisted each other to systematically implement and practice the new strategies during nine weekly ninety minute sessions with regularly scheduled contact with a psychologist "coach."

Statement of Problem

The purpose of this study was to determine the effects of a cognitive-behavioral treatment on the level of teacher stress and anxiety comparing a group counseling service delivery model to a cooperative professional development delivery model.

Theoretical Rationale

Cognitive-behavioral theory (CBT) consists of a number of therapeutic models and theories which share several common elements. CBT postulates that the thoughts and perceptions a person experiences have a direct and sig-
icant impact on the way a person feels and behaves (Beck, 1976). All of the cognitive-behavioral approaches endorse the belief that cognitions not only affect behavior, but that cognitions can be monitored and altered, and that by changing a person's cognitions, behavioral changes will occur (Dobson and Block, 1988).

Much of the early work in CBT was pioneered by Aaron T. Beck. Beck's theory postulates that in order to understand why a person is responding to an external event with a specific behavior or feeling, it is first necessary to understand the cognitions that lead to the person's response (DeRubeis and Beck, 1988). Beck (Beck, Rush, Shaw, and Emery, 1979) defines cognitions as the thoughts or images a person experiences about an external event. Cognitions are based on underlying assumptions or schematas which have been developed from previous life experiences (Freeman, 1987). According to Beck, a person uses these schematas to interpret and to assign meaning to the external event. If the schemata used to evaluate the external event is formulated based on faulty or maladaptive assumptions, cognitive distortions occur (Weishaar and Beck, 1983). Cognitive distortions are specific, habituated errors in the way a person perceives external events and these misperceptions contribute to disturbed feelings or emotions.

CBT is an active, directive, relatively short term
therapy in which the client and therapist work collaboratively to resolve the client's difficulties (Beck et al., 1979). The therapist's role is to assist the client gain an understanding of his dysfunctional and irrational thinking, to propose hypotheses and strategies for testing the validity of these distortions, and to teach the client new, adaptive, coping skills (Freeman, 1987). The role of the client is to be the expert about himself, his experiences and the meaning he attaches to those experiences (DeRubeis and Beck, 1988).

The goal of CBT is not to "cure" the client but, instead, to help the client develop more realistic and adaptive strategies to cope with current problems and to be able to generalize these strategies to deal with future situations as they arise (Beck et al., 1979; Freeman, 1987). The techniques used to obtain these goals include various verbal techniques directed at identifying and exploring the logic and basis behind specific cognitions. Behavioral techniques are designed to elicit cognitions related to specific behaviors (Beck et al., 1979; Weishaar and Beck, 1987). CBT endorses the behavior therapy concept that therapy does not occur only for the short time a client is present in the therapist's office. Therefore, CBT makes use of "homework assignments" to investigate concepts or practice skills discussed during the therapy session (Freeman, 1987).
Donald Meichenbaum's theory of cognitive-behavior modification (CBM), while sharing many of the basic premises of the other cognitive behavioral theories, traces its development from somewhat different sources. Meichenbaum proposes that a significant relationship exists between language, thought, and behavior and that a person's behavior is self-regulated by the verbal self-instruction the person gives himself/herself (Dobson, 1988). This belief was heavily influenced by the work of Soviet psychologists Luria and Vygotsky who proposed a three stage developmental theory of how children gain voluntary control over their behavior (Luria, 1961; Luria, 1969; Vygotsky, 1962 as cited in Meichenbaum, 1977). Luria and Vygotsky proposed that the child's behavior gradually progressed from (1) being externally regulated by significant adults; (2) to being self-regulated by the child's own overt speech; (3) to being self-regulated by the child's covert speech (Dobson, 1988; Meichenbaum, 1977). According to Meichenbaum, a person's mastery of a voluntary act follows a similar pattern wherein, initially, speech (whether overt or covert) serves to support and guide the person's efforts, but as the voluntary act becomes more automatic, these verbalizations disappear (Meichenbaum, 1977).

Meichenbaum (1977) posits that maladaptive behaviors are the result of a person's automatic, habituated cogni-
tions (self-statements and images) which form a "maladaptive response chain". The first step in therapy is to assist the client become aware of the impact these cognitions play in the sequence of his/her behavior and thereby return the behavior to an earlier stage, one in which the client is once again aware of his overt or covert speech. Meichenbaum maintains that this awareness will interrupt the sequence of events that lead to the maladaptive behavioral response (Meichenbaum, 1977).

Whereas Beck (Weishaar and Beck, 1983) employs the concept of schematas to explain the underlying assumptions a person uses to interpret and evaluate external events, Meichenbaum utilizes the concept of cognitive structures. Meichenbaum defines a cognitive structure to mean "that organizing aspect of thinking that seems to monitor and direct the strategy, route, and choice of thoughts... a kind of "executive processor" which "holds the blueprints of thinking"and which determines when to interrupt, change, or continue thoughts" (Meichenbaum, 1977). A behavior under the control of a cognitive construct is "so overlearned that its habitual, automatic, or reflexive nature operates in a manner similar to a physical structure in the body" (Jaremko, 1987).

In CBM a therapist employs a "cognitive-functional" approach, in which the maladaptive behavior is task analyzed in order to discover the role of the client's cogni-
tions (self-statement and images) and the circumstances that contribute to the deficient behavioral response (Jar- emko, 1987; Meichenbaum, 1977). Once analyzed the therapist uses a variety of cognitive and behavioral strategies to assist the client change his cognitions (Meichenbaum, 1977).

The first phase in the CBM process of change (the conceptualization phase) is to instruct the client on how to become a more accurate observer of his own behavior. During this phase, the client begins to monitor his thoughts, feelings, physical reactions and resulting behaviors. In addition, it is during this phase that the therapist educates the client regarding the theoretical rationale of CBM (Meichenbaum, 1977).

During the second phase of the change process, (the skills acquisition and rehearsal phase) the client learns to substitute new cognitions and behaviors that are incompatible with his/her previous, maladaptive behaviors. Meichenbaum (1977) states that when the client recognizes, using his self-observational skills, that he/she is engaging in a maladaptive cognition or behavioral response, he/she uses this awareness as a signal to enter into an internal dialogue. During the inner dialogue, the client examines the situation and chooses a new, hopefully more adaptive coping statement. Coping statements are adaptive self-statements that the client learns during the therapy
sessions.

During the third and final phase (the application and follow-through phase), the client attempts to utilize his new coping abilities in the "real" world. During this phase, the client observes the outcome of his behavior and its impact on other people in his environment (Meichenbaum, 1977).

CBM differs from other CBT approaches in several ways. While both CBM and other CBT approaches attempt to have the clients focus on the maladaptive cognitions, the CBM focus is on assisting the client to learn to employ specific problem solving and coping skills. In other CBT approaches the focus tends to be directed on the ideational content of the client's irrational belief system. That is, in CBM, the client is taught to change or substitute his maladaptive cognitions, whereas in other CBT approaches the client is instructed to question the maladaptive cognition's validity (DeRubeis and Beck, 1988, Meichenbaum, 1977).

Meichenbaum (1977) further states that CBM differs from other CBT approaches in that CBM "focused on altering the client's inner speech, which encouraged the production of new behaviors and an examination of the resultant behavioral outcomes which permitted an exploration of the client's cognitive structures." Other CBT approaches "focuses more on getting clients... to engage in new
behavioral acts so they can examine the inner speech which follows from behavioral outcomes. Once the client's inner speech is examined the implications this has for the underlying cognitive structures is examined during therapy" (1977, p. 226).

Meichenbaum's theory of CBM holds much promise for the reduction of stress in many populations and occupations. This study attempted to demonstrate the use of CBM techniques to reduce stress in public school teachers. Meichenbaum's stress inoculation training (1985), a specific set of techniques developed for stress reduction and stress management utilizing CBM strategies, has proven applicable for use with this population (Cecil, 1987; Forman, 1982; Forman, 1981; Long, 1988; Sharp and Forman, 1985).

Definition of Terms

Stress has been conceptualized as a stimulus, a response, or an interaction (Cecil, 1987; Matheny, Aycock, Pugh, Curlette, and Cannella, 1986; Spring, 1989). The stimulus model views stress as a psychosocial demand, or stressor, which occurs in the external environment and creates strain on the individual when he/she encounters it (Holmes and Rahe, 1967; Spring, 1989). This model sug-
gests that environmental factors, such as major life events (Holmes and Rahe, 1967), control, or at least influence, the individual's response. A problem with this model is the assumption that the individual's response to a stressful event is fully based on the individual's experience with that event. (Cecil, 1987; Matheny et al., 1986; Spring, 1989). This model does not appear to account for differences in response patterns among individuals nor for the impact previous experiences might have on the individual's response.

The response model of stress views stress as a physiological imbalance between environmental demands and the individual's ability to adapt to those demands (Benson, 1975; Humphrey and Humphrey, 1985; Matteson and Ivancevich, 1987; Selye, 1956, 1974; Spring, 1989). These physiological reactions were conceptualized by Selye (1956, 1974) to constitute a "general adaptation syndrome" in which the body goes through three identifiable stages (alarm, resistance, and exhaustion) in its attempt to restore its balance or homeostatic functioning. While the response model has considerable merit, its physiological/biological vantage point may be somewhat limiting.

The interactional model views stress as an interaction between the individual and the environment (Cecil, 1987; Heiden, 1988; Lazarus, 1966; Matheny et al., 1986; Spring, 1989). Lazarus's theory (1966) posits that when
confronted with an environmental event, the individual engages in a cognitive appraisal of the event, rating the event as either irrelevant, benign-positive, or stressful. Irrelevant events hold no influence, positive or negative, on the individual. Benign-positive events are judged to those for which adequate coping responses are available. Events judged to be stressful events are then further appraised to determine if they are in the form of (1) harm/loss - a past negative experience in which the damage has already been done; (2) threat - an anticipation of possible harm/loss; (3) challenge - a positive occurrence (Heiden, 1988; Matheny et al., 1986). In the interactional model, events are only judged to be stressful when the coping resources available are judged to be inadequate to cope with the event.

For the purposes of this study, stress was defined according to the interactional model. This model allows that the individual is not just a passive recipient of stressful events, but that the individual chooses to respond to environmental events with certain behaviors, cognitions, or physiological responses. This model also allows for the individual to learn new ways of interacting with the environment, a concept in concert with the function of stress management programs.

Teacher stress has been defined by Kyriacou and Sutcliffe (1978) as a response by a teacher to a negative
affect (or emotion) as a result of professional demands occurring within the school setting. Moracco and McFadden (1981) suggest that stress initially occurs when the teacher cognitively perceives an event as a potential stressor. Once thus perceived, the teacher’s ability to successfully deal with the resultant stress is dependent on the coping strategies available to the teacher at that time.

This study defined teacher stress as the potentially negative consequences or outcomes resulting from a teacher’s inability to perceive success in his/her interaction with the school environment. These perceptions are influenced and acted upon by the teacher’s interpersonal relationships with the students, administrators, parents, and other professionals; as well as role conflict (the conflicting goals and demands placed upon the teacher by himself/herself and others), role ambiguity (the lack of a clearly defined understanding of the job’s expectations and responsibilities), role overload (the lack of authority to carry through with a responsibility or being assigned additional responsibilities), and role unpreparedness (the feeling that his/her training was inadequate or that he/she is not competent to fulfill the job expectations) (Cecil, 1987).

According to Sharp and Forman (1985), anxiety has been the most frequently studied teacher stress reaction.
In stress reaction literature, the terms "stress" and "anxiety" have been used somewhat interchangeably (Coates and Thoreson, 1976; Ramirez, Kratochwill, and Morris, 1987; Sharp and Forman, 1985). Forman and Cecil (1986) note that the majority of teacher stress studies have employed anxiety measures as at least one of the dependent variables. However, Forman and Cecil caution that to use "stress" and "anxiety" as synonyms describing the same reaction may preclude the consideration of other cognitive, physiological, or behavioral responses. This study defined stress to include anxiety as one of a number of possible teacher stress reactions.

As part of the instrumentation utilized to measure the participant's levels of stress, the State-Trait Anxiety Inventory (STAI) (Spielberger, 1983) was administered. The STAI compares how a respondent feels "right now" (State) with how the respondent "generally" feels (Trait). On the State portion, after reading a presented statement, the respondent rates himself/herself as to the intensity of his/her feelings, while the Trait portion requires the respondent to rate himself/herself on the frequency of his/her feelings about the statement.
Research Hypotheses

1. Teachers receiving either the Counseling Group treatment or the Cooperative Professional Development treatment will demonstrate significantly less of an increase in their measured stress levels, both at the end of treatment and after a four week follow-up, compared to the Control Group condition (as measured by the Teacher's Stress Index).

2. Teachers receiving either the Counseling Group treatment or the Cooperative Professional Development treatment will demonstrate significantly lower levels of anxiety (State), both at the end of treatment and after a four week follow-up, compared to the Control Group condition (as measured by the State-Trait Anxiety Inventory).

3. There will be no significant differences among the three groups in their measured levels of anxiety (Trait), either at the end of the treatment programs or after a four week follow-up (as measured by the State-Trait Anxiety Inventory).
Sample Description and Data Gathering Procedures

Full-time classroom teachers in grades 1 - 12 from a suburban school division located just outside of Richmond, Virginia, were eligible to volunteer for participation in this study which was offered as an inservice course sponsored by the school division's Department of Staff Development. Teachers interested in participating in the course were directed to choose one of two conditions (Counseling Group, Cooperative Professional Development).

The participating teachers for each condition were randomly selected from the total number of teachers indicating their interest to participate in that condition. Teachers who were not selected to participate were informed that they would be able to participate in the program at a later date and invited to participate in the study as part of the Waiting-List Control Group.

Each condition had 24 participants. The Counseling Group condition (consisting of two groups, 12 participants per group) participated in 10 consecutive weekly sessions for two-hours per session co-led by this researcher and another school psychologist trained in these techniques. The Cooperative Professional Development condition partic-
ipated in a 6.5 hour inservice program as a group. At the conclusion of the inservice the participants formed 10 dyads and met for nine consecutive weekly sessions for 1.5 hours per session. The Waiting-List Control Group did not receive any direct intervention during the time of the study. Pre-, Post- and Delayed Post-treatment measures were obtained for all groups measuring participant levels of stress and anxiety.

Limitations of the Study

A limitation of this study was the population of teachers who volunteered to participate in the program. While all participants were randomly selected for each of the two treatment conditions, the participants choose the treatment condition in which they wished to participate. This method of treatment condition assignment was necessary as the program ran over ten weeks for a total of 20 hours and the participating teachers needed to be able to indicate which treatment condition would be best suited for their own individual scheduling needs. Demographic data was collected to determine whether the two groups were similar.

Another limitation of this study was that all the participants in this study, including those in the Wait-
...ing-List Control Group, were drawn from a group of teachers who volunteered to participate in a stress reduction program. Therefore, the results of this study may not be generalizable to non-volunteer populations.

A third limitation of this study was the potential for experimenter bias. This researcher co-led both Counseling Group treatments and was the "coach" for one of the dyads in the Cooperative Professional Development treatment. Having a different co-leader for each counseling group and having three other school psychologists acting as "coaches" for some of the dyads controlled for this effect.

A fourth limitation of this study was that all of the collected data was limited to self-report measures. It is suggested that, as the conditions under which individuals become stressed, and as the manner in which individuals respond to stressful stimuli differ so vastly, alternative methods of measurement were judged not to be valid.

A final limitation of this study was the lack of additional longitudinal study to determine the long term effects the treatments had on the participants. While a four-week follow-up was conducted to assess the short-term effects of the treatment, long-term follow-up was judged not to be feasible as part of the present study.
CHAPTER 2: Review of Literature

Teacher Stress: Causes and Consequences

Introduction

Teaching has been shown to be a highly stressful occupation. Researchers have found that many teachers operate under significantly high levels of stress, creating a potential hazard for the teacher, for the student, for the school - for the teaching process in general. Unrelieved stress can, over time have a seriously negative impact on the teacher, both in terms of job satisfaction and job performance, as well as negative consequences on the teacher's personal life and physical well-being (Holt, Fine, and Tollefson, 1987).

Coates and Thoresen (1976) reviewed some of the major early studies and suggested that the impact of teacher stress has long been a concern of researchers with studies on the subject going back over 50 years. Hicks (1933) found that of 600 teachers studied, 17% rated themselves as "unusually nervous" and 11% had actually experienced a nervous breakdown. Peck (1933) wrote that of 110 female teachers participating in a study, 33% suffered from ner-
vous symptoms. The National Education Association (NEA, 1938) surveyed 5,150 teachers nationwide and reported that 37.5% were "seriously nervous and worried". Randall (1951) reported that 10% of teacher absences of ten days or longer were due to "nervous conditions". The NEA (1951) found based on a national survey of 2,200 teachers that 43% reported working under "considerable strain and tension". In 1967, the NEA found that 16.2% of the 2,290 teachers surveyed reported working under "considerable strain and tension" while 61.7% reported working under "moderate strain and tension," a choice not available in the 1951 survey (as reported in Coates and Thoresen, 1976). Anderson (1981) wrote that when surveyed by the American Academy of Family Physicians, 67% of the responding teachers reported experiencing their work environment as "always or usually stressful" (as reported in Holt, Fine, and Tollefson, 1987).

Swick and Hanley (1985) defined teacher stress as "the occurrence of perceived negative situations that result in adverse teacher responses or behaviors." Further, "an occurrence or event that may be stress provoking for one person may appear as a challenge to another or may go completely unnoticed" (Swick and Hanley, 1985).

In an attempt to gain an understanding of how teachers define stress, Humphrey and Humphrey (1986) asked teachers participating in teacher stress workshops to complete the
sentence: "Stress is ____." The most frequent responses to this query included: pressure, tension, frustration, strain, anxiety, emotion and fatigue.

Causes of Teacher Stress

Swick and Hanley (1985) categorize causes of teacher stress into three classifications: environmental, interpersonal, and intrapersonal. Environmental stressors included: poor working conditions (e.g. poor lighting, inadequate heating or cooling systems, inadequate restroom facilities), small classroom size, large class enrollments, lack of instructional materials and teaching resources, lack of teacher work space, frequent interruptions during teaching time, excessive paperwork unrelated to instruction, non-teaching duties, regulated bathroom time, poor salaries, and lack of upward mobility.

Interpersonal stressors included: relationships with other colleagues, students, administrators, staff and parents. Intrapersonal stressors included the teachers': sense of powerlessness, self concept, motivation, ability to set priorities, classroom skills, educational background, sense of responsibility, need for achievement, feelings of lack of influence, and feelings of personal and professional competence.
Swick (1989) reclassified these stressors under new headings in a later publication, utilizing the main categories of Ecological Stressors and Interactional Stressors. Ecological stressors included the subcategories of classroom stressors, school-related stressors, and professional stressors. Interactional stressors consisted of the subcategories of personal-life stressors and job-related stressors.

Coates and Thoresen (1976) conceptualized teacher stressors by those commonly experienced by beginning teachers versus those stressors experienced by experienced teachers. Beginning teachers experience stress related to their ability to maintain discipline in the classroom, their knowledge of the subject area, their fear of the ramifications of making a mistake or running out of materials, their relationships with the students, and their relationships with their colleagues, the school system, and the parents. Experienced teachers experience stress due to time demands, student discipline, budgetary constraints, large class sizes, and the lack of educational resources available.

Cedoline (1982) wrote that the major causes of teacher stress included: public pressure, legislative enactments, violence within the schools (especially violence directed at teachers), limited feedback and support from supervisory personnel, student disciplinary problems, budgetary con-
straints, media involvement within the schools, and involuntary assignments and transfers.

Cedoline (1982) also reported that role conflict, role ambiguity, and conflicting values also contribute to increased teacher stress. Role conflict was defined as the discrepancy between the need to teach the total class and the needs of individual students. Role ambiguity was defined as the poorly defined, varied roles the teacher was expected to assume during the day (e.g. teacher, counselor, disciplinarian, monitor, and clerk). Conflicting values occur when the information the teacher is required to teach conflicts with the teacher's own personal belief system.

Fimian (1986) reported that lack of peer and administrative support, lack of professional guidance, and poor supervision and feedback contributed to teacher stress.

Weiskopf (1980) suggested that work overload, lack of on-the-job success, longer periods of time spent in direct interaction with students, poor student/teacher ratios, poorly defined program structures, and the constant responsibility for others were major factors in increased stress levels in special education teachers.

Humphrey and Humphrey (1986) reported that incompetent administrations, heavy work loads, fear of violence, negative student attitudes, and the fatigue resulting from continuous decision making contributed to teachers' elevated stress levels.
Alshuler (1980) noted that two main factors in teacher stress were teacher isolation from other adults during the working day and the build up of emotional and physical fatigue resulting from teaching.

Consequences of Teacher Stress

According to Truch (1980), teacher stress costs the public at least $3.5 billion dollars annually through teacher absenteeism, teacher turnover, and poor performance and waste (in Cedoline, 1982).

Teachers have been found to exhibit a number of stress-related symptoms. Cedoline (1982) noted that the most commonly reported symptoms related to teacher stress were: irritability, depression, sleeping problems, headaches, stomach disorders, and shortness of breath.

Bloch (1980), a psychiatrist, reported that somatic complaints, fatigue, weakness, blurred vision, irritability, sensitivity to weather, dizziness, and depression were common stress-related symptoms he observed in the teachers he treated. Bloch also reported that stress-related illness within the cardiovascular system (palpitations, hypertension, arteriosclerosis, and coronary artery disease), the musculoskeletal system (back difficulties, cervical tensions, and headaches), and the respiratory system
(repeated upper respiratory infections, bronchial asthma, and hyperventilation) were possible due to continued exposure to unrelieved stress (1980).

Fimian, Zacherman, and McHardy (1985) reported that based on their study, 5% to 10% of teachers routinely use substances (alcohol, over-the-counter and prescription drugs) to assist in coping with and reducing stress to more manageable levels.

Critique

Teacher stress is clearly a serious problem in today's schools. Based on the studies above, the hypotheses that teaching is a stressful occupation and that stress has a significant negative impact on the lives of teachers, and through them, the lives of students, staff, administrators, parents, and the community at-large, are proven. The studies identified many of the causes of teacher stress and the consequences of prolonged exposure to unrelieved stress.

This study attempted to assist teacher participants identify the stressors in their individual teaching situations and explored with each participant how he/she responded to these stressors. This study also instructed the participants in stress management techniques to reduce
their current levels of stress and assist each participant develop strategies to successfully cope with future stress inducing situations.

Review of Meichenbaum's Theoretical Concept of Coping Strategies

Stress Inoculation Training (SIT), as developed by Meichenbaum, is a "multileveled, multifaceted... highly flexible, interdependent... training regimen... a set of interconnected interventions that can be combined in a systematic way" (Meichenbaum, 1985). But before proceeding to a discussion of what SIT is and how it is used, it is necessary to consider how Meichenbaum conceptualizes stress.

Meichenbaum writes that stress is a "cognitively mediated relational concept," the result of a transaction between the individual and the environment. According to Meichenbaum, stress is the outcome of a person's interaction with the environment in which the person perceives the interaction or transaction as exceeding the coping resources the person has available (1985). In other words, when faced with an environmental event, the person first considers the event and assesses the coping resources he/she has available to deal with the event. If the person perceives that the available coping resources are not ade-
quate to meet the needs of the event, stress results. Therefore, it is not the specific event or the person which cause the stress, rather it is the transaction between the two.

Coping, according to Meichenbaum (1985), refers to a variety of efforts, both behavioral and cognitive, that a person employes in an attempt to overcome, reduce, or at least, tolerate a stressful situation or transaction. Meichenbaum cites Lazarus and Folkes (1984) who described two types of coping strategies. Problem-focused coping strategies, including information gathering, problem solving, decision making, and direct action, are employed in situations in which the person perceives the problem as changeable. Emotion-focused coping strategies, including compromise, acceptance, distortion and denial, are used in stressful transactions which are assessed as being unchangeable (as cited in Meichenbaum, 1985).

Meichenbaum points out that a coping strategy that may be successfully used in one situation, may not only be inappropriate in a different situation, but may actually exacerbate the situation, creating additional stress. Therefore, teaching a limited number of coping strategies is not in the client’s best interest. Meichenbaum suggests that a stress management program should focus on assisting a client to develop a varied repertoire of coping behaviors (1985).
According to Meichenbaum, the SIT program is designed to:

1. Teach clients the transactional nature of stress and coping.

2. Train clients to self-monitor maladaptive thoughts, images, feelings and behaviors in order to facilitate adaptive appraisals.

3. Train clients in problem solving, that is problem definition, consequence, anticipation, decision making and feedback evaluation.


5. Teach clients how to use maladaptive responses as cues to implement their coping repertoires.

6. Offer practice in in vitro imaginal and in behavior rehearsal and in vivo graded assignments that become increasingly demanding, to nurture clients' confidence in and utilization of their coping repertoires.

7. Help clients acquire sufficient knowledge, self-understanding, and coping
skills to facilitate better ways of handling (un)expected stressful situations (1985, p. 22).

The SIT program is presented in three phases: the Conceptualization Phase (previously called the Education Phase), the Skills Acquisition and Rehearsal Phase (previously called the Rehearsal Phase), and the Application and Follow-Through Phase (previously called the Application Phase). Meichenbaum writes that he renamed the phases as he felt that the original names did not accurately address the function of each phase (1985).

During the conceptualization phase the main task is the establishment of a collaborative relationship between the therapist and the client(s). Additionally, during this phase, a conceptual framework is introduced to the client which focuses on the transactional nature of stress and its effect on emotion and performance (Meichenbaum, 1985; Meichenbaum, 1977; Meichenbaum, Turk, and Burstein, 1975).

In the skills acquisition and rehearsal phase the client is instructed in the development of a variety of coping skills and assisted in developing the capacity to execute these skills appropriately. Clients are instructed in relaxation techniques and in cognitive strategies, such as cognitive restructuring, problem solving, and self-instructional training (Meichenbaum, 1985; Meichenbaum, 1977; Meichenbaum, Turk, and Burstein, 1975).
It is during the final stage, the application and follow-through phase, that the client is encouraged to use his/her new coping skills in a variety of daily situations. The therapist also attempts to facilitate generalization of these coping strategies through the use of "paced mastery" in which the client learns to successfully cope with small, manageable amounts of stress first in vitro and the gradually in vivo (Dobson and Block, 1988; Meichenbaum, 1985; Meichenbaum, 1977; Meichenbaum, Turk and Burstein, 1975).

Critique

Meichenbaum has developed a complete conceptual framework for stress management that incorporates some well-defined strategies for the therapist and researcher to utilize when working with a number of diverse populations. The purpose of this study was to formulate a program using these ideas to assist classroom teachers reduce their current stress levels and to learn new strategies to deal with stress producing situations that may arise in the future.
Research on the use of SIT with classroom teachers

A limited number of studies have attempted to utilize SIT as an intervention technique to address the problem of teacher stress. In a creative two part study, Forman (1981) trained school psychologists in the use of SIT as a stress management program and then had several of the participating school psychologists conducted stress management workshops with classroom teachers using the SIT techniques. Although, Forman's study focused on the changes in perceptions held by the school psychologists regarding their own ability to manage personal stress, the psychologists' perceptions of whether training in stress management enhanced their job satisfaction, and the teacher participants' perceptions of satisfaction with school psychology services, Forman's findings suggest that the participating teachers perceived this training as assisting the teacher to perform his/her job more effectively.

In a study focusing on secondary classroom teachers and stress management, Forman (1982) examined the effect of utilizing SIT techniques on teachers' self-reported stress and anxiety levels and on motoric manifestations of anxiety in the classroom. The design of this study included a treatment group consisting of 18 teachers, with data from the self-report measures and classroom observations col-
lected on 12 teachers who were reported to have participated on a regular basis, and a waiting list control group of 12 teachers (the teachers could choose to participate in the program immediately or to register to participate in it at the beginning of the following semester, those in the control group self-selected to wait until the next semester). The self-report measures were collected three times, during the week prior to treatment, during the week treatment was completed, and six weeks following the completion of treatment. For the classroom observations, four graduate students, trained by Forman, observed the 12 teachers in the treatment group and 6 of the teachers in the control group for three 30 minute periods during the week prior to treatment and during the last week of treatment. During the first twenty minutes, teacher verbalizations were coded on the categories of praise, criticism, information-giving, direction-giving, or question asking. During the final 10 minutes, the observers coded motoric manifestations of anxiety defined as speech dysfluencies and body touches. The treatment program consisted of 6 three-hour sessions meeting each Saturday mornings for six consecutive weeks. The treatment program followed the basic SIT phases of conceptualization, skills acquisition and rehearsal, and application and follow-through, as described above.

Findings of this study indicated significant reductions in self-reported anxiety and stress within the treat-
ment group. Additional reductions were noted six weeks after the termination of the program suggesting that the strategies learned by the participating teachers were able to be generalized after the conclusion of treatment. No significant findings were noted for the overall area of motoric manifestations of anxiety, although a significant interaction was found for body touches, suggesting that the treatment did not have a significant influence on the types of statements made in the classroom.

Forman (1982) notes that her findings may have been influenced by several issues. First, data for the treatment group was only collected on the 12 teachers who participated on a consistent basis suggesting, according to Forman, that it was possible that only the teachers who found the program to be helpful were motivated to participate fully. Secondly, the lack of randomization of the sample selection may have influenced the outcome. Forman observed that, based on the means of the self-report measures on the pre-tests, the teachers in the treatment group entered the program with higher levels of stress and anxiety than the control group. Thirdly, Forman suggested that the findings may have been biased by the fact that the control group was a no-treatment group rather than a placebo control group. A final methodological difficulty was the design flaw of only collecting follow-up data on the treatment group participants.
Forman (1982) indicated that further research could focus on several aspects of her study. Forman noted that although observations of classroom behavior has been suggested as a means to evaluate teacher stress and anxiety (Coates and Thoreson, 1976), further research needs to be undertaken to determine which specific teacher behaviors, if any, are related to high or low stress levels. Additionally, Forman suggested that treatment programs combining stress management skills and teaching skills training may demonstrate greater efficacy in changing teachers’ classroom behaviors. A final recommendation for additional research was the need to evaluate the effects of individual program components to determine, if possible, at which phases changes occur and which techniques and strategies contribute to those changes.

In what was essentially a follow-up study, Sharp and Forman (1985) compared the effects of SIT and classroom behavior management training on teacher anxiety. After matching groups of teachers for their scores on the self-report instrument, Teacher Questionnaire (TQ4) (Dollar, 1972 as cited in Sharp and Forman, 1985), sixty participating teachers were randomly assigned, twenty to a group, to one of the two treatment groups or to the no-treatment control group. Each group was conducted two times, once in the fall and once in the spring, with half of each group participating each time. Both treatment groups met after
school for two hours per session twice a week for four weeks.

Teacher participants completed self-report measures of anxiety and classroom observations of motoric manifestations of anxiety and teacher verbal behaviors were completed prior to the onset of treatment, at the conclusion of treatment, and during a four-week follow-up. For the classroom observations, two trained observers conducted three 30 minute observations for each of the data collection periods on ten randomly selected teachers from each group. During 10 minutes of the observation, the observers coded the frequency of motoric manifestations of anxiety as defined as speech dysfluencies, body touches, throat clearing, moistening lips, and flips pages/plays with objects. During the other 20 minutes the observers coded the frequency of specified teacher verbal responses to student behaviors (approval, mild disapproval, harsh disapproval, and ignores the student's inappropriate bid for attention).

The SIT treatment group followed the basic training program as delineated by Meichenbaum (1985) and adapted for teacher stress groups by Forman (1982). The classroom management training consisted of instruction in the areas of: "problem identification and specification, observing and recording behaviors, increasing behavior-reinforcement procedures, decreasing behaviors - extinction and punishment procedures, contracts, and examples of successful
school-based programs" (Sharp and Forman, 1985). Application of the material was facilitated through the teachers responding to videotaped scenarios, role playing, and the implementation of behavioral programs within their own classrooms.

The findings of this study indicated that SIT and the classroom management techniques were effective in significantly reducing self-reported anxiety; no significant changes were noted in the no-treatment control group. The findings also indicated that both groups demonstrated a decreased in the physical indicators of anxiety and an increase in positive verbal classroom behaviors. Interestingly, the SIT group exhibited greater decreases in the physical indicators of anxiety factor, while the classroom management group exhibited greater increases in the positive verbal behavior factor. It is hypothesized that the SIT group's cue-controlled relaxation training may account, at least to some extent, for the decrease in physical indicators of anxiety, while the classroom management group's training in problem awareness and positive reinforcement may account for the increase in positive verbal behaviors.

Sharp and Forman suggest that additional research should be undertaken to determine the effects of combined training in stress management and classroom management. They also recommended examining the link between the treatment and behavioral change by conducting a direct assess-
ment of the teachers' coping skills. Additional studies to examine the relationship of teaching level and teacher stress were also suggested as, according to Sharp and Forman, "task, role and organizational demands are likely to be different for elementary vs. secondary teachers" (Sharp and Forman, 1985). Sharp and Forman also recommended future researchers consider a design modification, utilizing a placebo control group instead of a no-treatment control group to address the effects that increased attention and altered expectations might have on the findings.

Cecil (1987; Cecil and Forman, 1990) compared the effects of SIT and coworker support on the teacher stress variables of: school stress, task-based stress, role overload, peer support, job satisfaction, role ambiguity, role conflict, nonparticipation in decision making processes, role preparedness, management style of school administrator, life satisfaction, supervisory support, illness symptoms, coping skills, turnover intentions, motoric manifestations of stress, and absenteeism. Cecil's study included 54 teachers representing 5 elementary schools and 4 middle schools. One SIT treatment group and one coworker support group was conducted at each instructional level (elementary, middle); one no-treatment control group was also established. The treatment groups were conducted for 90 minutes each week for six consecutive weeks. Cecil assigned the teachers to the treatment groups so that while there
would only be one treatment group at a school, the number of teachers in each group would be equal. Data collection was made via measures of self-reported teacher stress, classroom observations of motoric manifestations of anxiety, absenteeism, and turnover intention during the week before treatment, immediately upon the conclusion of treatment, and at a four week follow-up. The classroom observations were conducted by five trained observers who were unaware of the nature of the study. A random sample of 10 teachers from each treatment condition were observed for a period of 30 minutes three times within the same week. The observations occurred during the week prior to treatment, at the conclusion of treatment, and at the four week follow-up. The five behavioral categories observed included: speech dysfluencies, body touches, clearing throat, moistens lips, and flips pages/plays with objects.

The SIT treatment groups followed the basic phases delineated by Meichenbaum (1985). The coworker support groups focused on group problem solving skills and on learning how to use coworkers as a source of social support within the work environment.

Cecil's results indicated that the SIT strategies significantly reduced self-reported teacher stress and that this reduction was maintained at the four-week follow-up. The results of the co-worker support group and the no-treatment control group were not significant. Similar to
Forman's findings (1982), neither treatment group demonstrated significant reductions in motoric manifestations of anxiety, absenteeism, or turnover intention.

Cecil suggested that the lack of significance on the part of the coworker support group may have been due to several factors. He hypothesized that a longer period of time might be necessary before treatment results are noted. Cecil also suggested that a coworker support group may be geared more to system level problems, whereas SIT strategies are geared toward individual strategies. According to Cecil, the time limitations of the study may have also accounted for the lack of significance on the absenteeism and turnover intention factors.

Cecil reported that when considering his findings, several factors needed to be considered. Treatment bias was possible, in that the teachers in both treatment groups may have reported lower stress levels based on a hopeful perception that the treatment would help them. The no-treatment control group, on the other hand, not having an opportunity for treatment during the study, may have adopted a negative response set due to their perceived inconvenience of having to respond to the self-report questionnaires on three different occasions. Cecil, like Forman (1982), suggested the use of a placebo control group as a way to control for this effect. Cecil also recommended the use of a direct assessment of the teachers' coping
skills rather than just relying on self-report measures.

Cecil suggested that the limited amount of time spent in direct training (9 hours) may have contributed to the lack of significant reduction in teachers' classroom anxiety. He hypothesized that a teacher's classroom behavior was more resistant to change than was a self-report of the teacher's stress level. Additional time, particularly spent in the areas of role playing and modeling, was recommended as a possible solution to this difficulty.

Long (1988) compared the effects of SIT and physical exercise on the factors of teacher stress, trait anxiety, and coping strategies.

Two treatment groups were formed: one using SIT techniques combined with exercise (SITE), and the other first using only minimal exercise treatment (MIN) and afterwards, as a separate component, using SIT techniques (SIT). A control group was not utilized. The SITE and MIN groups met for eight weekly sessions for 90 minutes per session. After the first 8 week session, the MIN group received the SIT component for 8 weeks for 90 minutes per session. The SITE group did not receive any intervention during the second 8 week session. Self-report measures were conducted at the beginning of the treatment, at the end of the first eight week session, and at the end of the second eight week session. The exercise component was measured through several measures. The participants' cardiovascular fitness
was measured with a "continuous submaximal bicycle ergometer test that predicts maximum oxygen uptake (VO2 max) from heart rate responses to different workloads" (Long, 1988). Long also employed several self-recording measures to monitor the participants' pattern and intensity of physical activity over the course of the 8 week session.

The findings of this study indicated that the SITE treatment was more effective than the MIN treatment in reducing teacher stress and trait anxiety. The findings further indicated that both the SITE and MIN treatments were successful at enhancing coping skills in the participants; however, neither of the treatment groups significantly increased their fitness or exercise levels.

Several significant design flaws were evident in this study. Long identifies the fact the possibility of a history confound, in that the treatments did not run completely concurrently. The MIN/SIT group's treatment program essentially ran for 16 weeks while the SITE treatment group's program ran for eight weeks. In the data analysis Long compares the SITE 8 week follow-up to the results collected after the completion of the SIT group. It appears that Long treated both of these data as follow-up data, although only the SITE data is such. In addition, as noted above, no control group of any kind was used. It is, therefore, difficult to determine whether the positive outcome was due to the treatment interventions or to some
other effect not accounted for in the research.

Critique

The findings of the studies reviewed in this section indicated that SIT has assisted teachers to significantly reduce the measured level of stress, compared to the levels at which they entered the specific training programs, and taught the teachers new coping strategies that they were able to successfully employ after the training program was terminated.

Of the studies reviewed, three of the four focusing specifically on teacher stress employed a no-treatment control group (Cecil, 1987; Forman, 1982; Sharp and Forman, 1985); Long's study (1988) did not use a control group at all. Several of the authors (Cecil, 1987; Forman, 1982; Sharp and Forman, 1985) recommended that future researchers employ a placebo control group as opposed to the no-treatment control group used in these studies. The authors suggest that this design modification would allow the researcher to better control for the effect that increased attention and altered expectations might have had on the previous findings.

An additional concern with the methodology of the studies was related to the amount of time spent in train-
ing. Forman's study (1982) had the teachers receiving a total of 18 hours of training over a period of 6 weeks with once a week sessions; Sharp and Forman's study (1985) included a total of 16 hours of training over a period of 4 weeks with twice per week sessions; Cecil's study (1987) included a total of 9 hours of training over a period of 6 weeks with once a week sessions; and Long's study (1988) comprised a total of 12 hours of training over a period of 8 weeks with once a week sessions. In the latter study, the SITE group received a total of 8 hours of SIT training and 4 hours of exercise training. As noted above, Cecil (1987) suggested that his some of his findings might have been negatively influenced by the limited amount of time spent in training.

Meichenbaum (1985) writes that while there is no set period of time the training requires, the duration of the training should be based on the needs of the client(s). Meichenbaum also suggests the implementation of follow-up assessments and booster sessions when possible. Beck (Beck et al., 1979) reported that moderately to severely depressed people averaged 15 therapy sessions over an 11 week period, initially receiving two sessions per week for four weeks and then one session per week for seven weeks. Freeman and Greenwood (1987) write that major ameliorations of symptoms in psychiatric and medical settings usually required 12 to 20 sessions over a 16 week period. Shank
and Shaffer (1984) write that 15 weekly group sessions meeting for 75 to 90 minutes has proven to be effective in treating depression and anxiety. Based on this information, it was hypothesized that a longer treatment period would be appropriate.

A final concern regarding Cecil's study (1987) was that he conducted both treatment groups himself, which may have resulted in an experimenter bias effect.

It was proposed that the treatment component of this study run 10 weeks. One treatment group met weekly for two (2) hour sessions (20 hours total), while the second treatment group initially participated in a six hour and one-half hour inservice as a group, and then met weekly, in dyads, for 90 minutes for the next nine (9) weeks (20 hours total). It was opined that the increased amount of time spent in training would allow the participants additional time in the application and follow-through phase, wherein the new coping skills and strategies were practiced through in vitro and in vivo experiences. In order to control for an experimenter bias effect, it was proposed that this study would utilize other clinicians, in addition to this researcher, to conduct the training sessions.

In regard to the issue of a placebo control group: It is suggested that this type of group raised some serious ethical considerations. As recruiting teachers to participate in a group which required the participants to expend
time and energy on a project for which no positive gains are expected or anticipated appeared to be highly questionable, if not unethical, this study did not employ a no-treatment control group.

Cooperative Professional Development

Traditionally, teachers have not been encouraged to engage in independent, creative thinking or programming. School divisions, as hierarchial bureaucracies, tend to be invested in maintaining the educational status quo (Wildman and Niles, 1987). School divisions are attempting to find new strategies to assist classroom teachers make the most of their professional development time. Joyce (1983) reported that only 5% to 10% of teachers presented with a theory at a typical inservice program will even attempt to apply the new skill within the classroom (in Moffett, St. John, and Isken, 1987).

Cooperative professional development is the process by which small teams of 2 to 6 teachers work together utilizing a variety of methods and structures for their own professional growth (Glatthorn, 1987). A variety of models have been proposed by researchers, the main commonality being the cooperation amongst peers each model espouses (Glatthorn, 1987).
Glatthorn (1987) proposes five models into which most cooperative professional development programs fall: Professional Dialogue, Curriculum Development, Peer Supervision, Peer Coaching, and Action Research.

Professional dialogue, also called a collegial inter­actional process (Anastos and Ancowitz, 1987), is a cogni­tively based approach, the objective of which is to moti­vate teachers to become more thoughtful decision makers by encouraging the reflection about the practice of teaching. In the professional dialogue model, a small team of teach­ers engages in a guided discussion of their own teaching methods as they relate to new developments in education (Glatthorn, 1987).

In the initial meeting the team structures the dial­ogues (frequency, time, place), tentative topics are selected, and responsibility for leadership of the discus­sion of each topic is agreed upon. Each subsequent session follows a three stage format. First, the leader summarizes the current research and the members analyze this informa­tion. In the second stage, the team discusses their per­sonal knowledge and experiences on the topic. In the last stage, the members attempt to link their future teaching practices with the professional dialogue. Glatthorn (1987) noted that while no studies have examined the effects of the professional dialogue model, his personal experience suggested that positive results are achieved.
In the curriculum development model, a team of teachers work collaboratively to revise or modify the school division's curriculum guides. The focus of this model is the cooperative production of instructional materials (Glatthorn, 1987).

Peer supervision, called technical coaching by Garmston (1987) and colleague consultation by Goldsberry (1986 in Glatthorn, 1987), is a systematic process in which a team of teachers utilize the "essential components of clinical supervision to grow professionally." (Glatthorn, 1987). The distinguishing features of this model include the data-based observation of teaching methods by a colleague(s) followed by an analysis of and feedback about the lesson. Garmston (1987) suggested that this method may tend to inhibit collegial dialogue due to the evaluative activities and the tendency to engage in advice-giving or constructive criticism instead of non-critical feedback. However, Glatthorn (1987) reported that when used correctly, teachers were able practice new strategies, develop new classroom practices, and retain knowledge about skills for longer periods of time.

Peer coaching, also called collegial coaching (Garmston, 1987), uses observations and conferences to reinforce skills and theories introduced in staff development programs. Neubert and Bratton (1987) define peer coaching as the process in which two teachers attend the same inser-
vice, collaborate on lesson development, observe one another within the classroom as the lesson is being taught, conference together to discuss and analyze the lesson, and then encourage each other to apply the learned information to future teaching.

Showers (1984) identified five major functions of peer coaching: peer companionship - to reduce teacher isolation and to foster professional dialogue; technical feedback - objective feedback about the observed teacher's execution of the methods used in the lesson; analysis of the application - to assist in its internalization; adaptation - to refine the strategy to fit the specific needs of the individual students; and support - to encourage the observed teacher's experimentation with the new strategy during the early stages (in Glatthorn, 1987).

The action research model, also called challenge coaching (Garmston, 1987), is a collaborative problem-solving model in which a team of teachers identify and resolve instructional problems using research methodology. Glatthorn (1987) writes that in this model, the teacher team use the results of the research they carried out to develop intervention plans to be implemented in the school.

Several other models of cooperative professional development have been developed. In cognitive coaching developed by Costa and Garmston (1985), the teacher being observed discusses with the observer the intended purpose
of the lesson, expected student outcomes and behaviors, planned teacher strategies and methods, any concerns about the lesson and the desired focus of the evaluation. During the observation, the observer collects data about the instructional elements identified by the teacher. After the observation, the teacher and observer analyze the lesson, the observer facilitating the teacher’s reflections. During this post-observation conference, the teacher and observer also discuss whether the observer influenced, either positively or negatively, the outcome of the instructional strategy. By analyzing all this information together in a non-judgmental manner, both the teacher and observer benefit from the process (in Raney and Robbins, 1989).

Chase and Wolfe (1989) have classified several cooperative professional development models in a slightly different manner. In the mirroring model, the coach records but does not interpret the observational data; in the collaborative model, the coach collects and helps interpret the data; and in the expert coaching model, the coach gives feedback to assist the teacher’s acquisition or refinement of a specific skill.

There are a number of positive outcomes associated with cooperative professional development programs. Garmonston (1987) notes that all coaching programs positively affects participating teacher’s self concepts, the work
environment, and the teacher's professional commitment to growth.

Chrisco (1989) writes that cooperative professional development programs allow teachers to re-establish communication between teachers. Additionally, Chrisco suggests that teachers benefit from the rehearsal effect of discussing during the pre-observation conference about their teaching style, methods, content and the role the observer is to play during the observation, giving the teacher the opportunity to review the lesson in a type of "dress rehearsal." Chrisco also found that cooperative professional development programs assist teachers become more conscious, more aware of the entire process of teaching (1989).

Wildman and Niles (1987) found that participation in a cooperative professional development program lessens the psychological isolation from other adults inherent in classroom teaching; creates a forum for teachers to experiment with new ideas about teaching; extends the teachers' level of expertise; and can furnish the emotional support and encouragement necessary for teachers to take the risks involved in learning to be good teachers.

Garmston (1987) identified several negative aspects of creating cooperative professional development programs. It tends to be costly to train the teachers to take on the role of coaches; teachers need regular, on-going inservice
to learn how to be coaches; and the teachers need release
time so they can meet with their colleagues. Also,
although participation in a cooperative professional develop-
ment program is strictly voluntary, some teachers may be
resistant to participate due to fears regarding the observa-
vations or a reluctance to miss time from the classroom.
Additionally, some teachers may just need to see the pro-
gram work before they enter into a program. (Anastos and
Ancowitz, 1987).

Sparks and Bruder (1987) initially found that teachers
held concerns that participation in a cooperative profes-
sional development program would add one more demand on
their limited time, exacerbating the teachers' feeling of
being overextended. An additional concern held by some
teachers was that the collegial observation would become
evaluative or judgmental.

Cooperative professional development programs have
been found to have a positive effect on teacher stress.
Brandt (1987) wrote that the "ability to cope is determined
not by the amount of stress a person is under but by the
balance between the stress and the support. And much of
the support has to come from peers... In the school that
means there must be strong, caring, supportive relation-
ships among teachers" (page 15). Wildman and Niles (1987)
suggested that "teacher burnout is not inevitable but is a
condition of frustration arising when intelligent, moti-
vated teachers find little opportunity to exercise professional judgement" (page 7).

Anastos and Ancowitz (1987) reported that teachers perceived participation in a cooperative professional development program as a palliative against burnout. Teachers reported that participation in a collaborative program gave them the feeling of "being in charge" of the observational process; increased the teachers' feelings of respect and affection for the other participating teachers; and was felt to alleviate the sense of isolation inherent to teaching (Anastos and Ancowitz, 1987).

Critique

Cooperative professional development programs appear to be flexible, self-concept enhancing methods of introducing new strategies to teachers in a manner that allows the teacher to develop competency with the strategy over a period of time with the support and feedback of his/her colleagues. While several researchers have directed comments at the positive effects participation in a cooperative professional development program has on teacher stress, there does not appear to be any experimental evidence or proof that this hypothesis is true. This study attempted to determine whether teaching stress management
methods to classroom teachers using a cooperative professional development strategy resulted in lowered stress levels and increased coping skills.
CHAPTER 3: Methodology

Sample Population

The sample for this study was drawn from the full-time professional teaching staff of a large suburban school division. The school division, located just outside of Richmond, Virginia, consists of approximately 2,270 professionals serving about 32,000 students. The sample included teachers in the first through twelfth grades. Special Education teachers were included in the sample. The sample did not include: part-time teachers, kindergarten teachers, school counselors, administrators, supervisory staff, para-professionals, student teachers, or teachers who spend part of their day in an administrative capacity (administrative aides).

All teachers in the school division received a notice from the school division's Department of Staff Development in April 1991 inviting them to participate in a seminar on "Stress Reduction" scheduled for Fall 1991. Interested teachers were directed to complete an attached registration form and to return the completed form to the Department of Staff Development. Responses were reviewed
by this researcher and those responses not fitting the sample criteria listed above were culled.

Teachers who participated in the entire program received recertification credits toward the renewal of their teaching certificate.

Selection of Sample

Of the 124 teachers responding to the school division's Department of Staff Development's invitation to participate in this program, 57 teachers indicated their interest in participating in the Counseling Group (CG) condition, while 67 teachers indicated their desire to participate in the Cooperative Professional Development (CPD) condition. When the responses of each group were reviewed to determine whether each response met the criteria noted above, 6 responses were eliminated from the CG condition and 7 responses were eliminated from the CPD condition. Of the remaining responses (51 from the CG condition and 60 from the CPD condition), 24 participants were randomly selected for each condition from the eligible pool of responses for that condition. Within the CG condition, after being selected, the 24 participants were randomly assigned to one of two treatment groups (each group consisting of 12 participants).
The selected participants were notified of their selection in May 1991 giving the date, time, and location of their group meeting. A reminder letter was sent to each participant in August 1991, two weeks prior to the first meeting date of each group.

Of the 24 selected participants in the CG condition, 5 teachers dropped out prior to the first session. These drop-outs were replaced by randomly selecting 5 teachers from the pool of teachers not previously selected to participate in the CG condition. Two participants were "no shows" for the CG condition. Of the 22 remaining participants, all completed the entire study.

Within the CPD condition, 3 teachers dropped out prior to the first session. It was only possible to replace one of these drop-outs from the remaining pool of teachers not previously selected. Of the 22 teachers scheduled to participate, one participant was a "no show". Two participants dropped out during the course of the study, the remaining 19 participant teachers completed the entire study.

Those teachers not selected to participate in one of the treatment conditions were invited to participate in the study as part of the Waiting-List Control Group. Forty-three teachers were invited to participate in the Control Group. Of the 25 teachers agreeing to participate in this condition, 20 teachers completed the study. Regard-
less of whether a teacher choose to participate in the Control Group, they were offered the opportunity to participate in a similar treatment experience at the conclusion of the study.

Based on the demographic data collected, the participants were overwhelmingly female (96.72%) who had taught for more than 10 years (81.97%). In terms of educational degrees held, the participants were fairly evenly divided between holding a Bachelors’ degree (57.38%) and a Masters’ degree (40.98%). The participants were also fairly evenly divided in regard to the level at which they taught with about half teaching at the Elementary level (47.54%) and half at the secondary level (45.9%). Of the latter group, 29.71% taught in a High School, while 16.39% taught in a Middle School. Table One presents the breakdown by group of the demographic data.
### TABLE ONE: DEMOGRAPHIC DATA

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<th></th>
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<th>CPD</th>
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<td>N  %ile</td>
<td>N  %ile</td>
<td>N  %ile</td>
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<td>11 55.00</td>
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<tr>
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<td>7 36.84</td>
<td>9 45.00</td>
<td>25 40.98</td>
</tr>
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<td>0 0.00</td>
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<td></td>
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<td>0 0.00</td>
<td>1 5.00</td>
<td>1 1.64</td>
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<td>1 5.00</td>
<td>5 8.20</td>
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<td>2 10.00</td>
<td>5 8.20</td>
</tr>
<tr>
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<td>14 73.68</td>
<td>16 80.00</td>
<td>50 81.7 9</td>
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<td></td>
<td></td>
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<td>8 40.00</td>
<td>29 47.54</td>
</tr>
<tr>
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<td>1 5.26</td>
<td>1 5.00</td>
<td>4 6.58</td>
</tr>
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</table>
Description of Intervention

In the Counseling Group condition, the participants, as noted above, were randomly assigned to one of the two treatment groups (N=12). Each group met once a week for ten consecutive weeks. Each session, held after school hours, ran for two hours (20 hours total). Each group was co-led by this researcher and another school psychologist trained in this intervention. The co-leader for each of the two groups was different. A two-hour follow-up session was held for each group one-month following the completion of the treatment program.

A brief summary of the activities for each session is presented below. An indepth summary of the activities for each session is included in Appendix I.

Session 1: Definitions, causes, and effects of stress; theoretical rationale for the program; discussion of stressful situations and the manner in which the stress response was displayed; completion of research instruments.

Session 2: Relaxation - Deep Muscle relaxation and Cue Controlled relaxation were introduced.

Session 3: Rational Restructuring - discussion of principles of RET (Ellis, 1962); presentation of Ellis's
ABC model of emotions (1962).

Session 4: Irrational Beliefs - presentation of concept of irrational beliefs and how these beliefs influence one's feelings and behavior; identification of irrational self statements.

Session 5: Stress Scripts - written format providing cognitive, emotional, and behavioral plans for constructive responses to stressors.

Session 6: Coping Imagery - presentation of rational-emotive imagery procedures.

Session 7: Role-Playing - development of stress scripts, practice using coping imagery, trainer modeling, role-playing.

Session 8/9: Practice - continued practice in the development of stress scripts and coping imagery using role-playing.

Session 10: Final Session - closing out activities; completion of research instruments.

One-Month Follow-Up Session: Review of month, "trouble-shooting" problems; completion of research instruments.

For the Cooperative Professional Development (CPD) condition all of the teacher participants (N=19) attended an all day (6.5 hour) inservice. During this inservice the same information, strategies, and activities contained in Sessions I - VI of the Counseling Group condition were
taught. This researcher led the inservice.

At the end of the inservice, the participants formed dyads. Each dyad was assigned a psychologist "coach" and established a regular meeting date and time for future sessions. As an uneven number of participants existed, one group formed as a triad. (For reporting and statistical purposes, this group was considered to be no different than the other dyads.)

Each dyad met once each week for nine consecutive weeks for a 90 minute session (total 20 hours, including the inservice). Prior to each meeting, each dyad member received written instructions listing discussion questions to be addressed during the session and the homework to prepare for the following week. At least once every three weeks, the psychologist "coach" met with the dyad during their weekly session to act as a resource to the dyad, to "troubleshoot" problems, and to review written homework assignments. The dyad was able to request the psychologist "coach" to meet with the dyad more often than once every three weeks, but the psychologist "coach" was not permitted to meet individually with a dyad member.

The complete group met back together for a two-hour follow-up session held one-month following the completion of the treatment program.

A complete outline activities of the Cooperative Professional Development condition is listed in Appendix.
II. A brief summary of the activities included:

Inservice: Definitions, causes and effects of stress; theoretical rationale for program; discussion of stressful situations and the manner in which the stress response was manifested; Relaxation: Deep Muscle relaxation and Cue Controlled relaxation techniques; Rational Restructuring: principles of RET and ABC model of emotions (Ellis, 1962); Irrational Beliefs: principles of irrational beliefs and how irrational thoughts influence one's feelings and behavior, identification of irrational self-statements; Stress Scripts; Coping Imagery; set-up dyads; completion of research instruments.

Session 1: Relaxation - review and practice Deep Muscle relaxation technique.

Session 2: Relaxation - review and practice Cue-Controlled Relaxation techniques.

Session 3: Rational Restructuring - review and practice with the ABC model of emotions.

Session 4: Irrational Beliefs - review and practice with identifying and challenging irrational thoughts.

Session 5: Stress Scripts - review and practice with writing and implementing stress scripts.

Session 6: Coping Imagery - review and practice with coping imagery.

Session 7: Role-Playing - practice using stress scripts and coping imagery through role-playing situa-
Session 8: Practice - continued practice with techniques.

Session 9: Final Session - closing-out activities; completion of research instruments.

One-Month Follow-Up Session: Review of month; "trouble-shoot" problems; completion of research instruments.

During the course of this study, the Waiting-List Control Group did not receive any direct intervention. As noted above, at the conclusion of the study, the members of the Waiting List Control Group were invited to participate in a commensurate treatment experience.

Instrumentation

All participants completed two self-report inventories during the first week of treatment, during the final week of treatment, and during a follow-up four weeks after the termination of treatment. Each participant also completed a demographic questionnaire during the first week of treatment. The participants in the two treatment conditions also completed a "Course Evaluation Form" generated by the researcher. The self-report inventories were the Teacher Stress Inventory (Fimian, 1988) and the State-
Trait Anxiety Inventory - Form Y (Spielberger, 1983).

Developed by Michael J. Fimian (1988), the Teacher Stress Inventory (TSI) identifies 10 general factors that comprise teacher stress, five of them termed Stress Sources (Time Management, Work-Related Stressors, Professional Distress, Discipline and Motivation, and Professional Investment) and five termed Stress Manifestations (Emotional Manifestations, Fatigue Manifestations, Cardiovascular Manifestations, Gastronomical Manifestations, and Behavioral Manifestations). The test also yields a Total Stress score.

Fimian (1988) defines "stress sources" as any one or more events that act as a source of stress. "Stress manifestations" is defined as specific manner or way the stress interacts with the person experiencing the event.

The test itself consists of 49 items presented on a 5-point Likert scale. The teachers are directed to rate presented "factors that cause you stress in your present position" as to how strong the feeling was when the teacher experienced it. A rating of "1", the low end of the scale, means that the factor has "no strength; not noticeable"; while a rating of "5", the high end of the scale, indicates that the factor is a "major strength; extremely noticeable."

The norms of the TSI were standardized on an aggregate of 3,401 elementary and secondary teachers grades
1-12. The breakdown by group included: regular teachers 962, special education teachers 2352; male 726, female 2561; and elementary level 791, middle school level 499, high school level 1420. Scoring norms are available for the total test, giving ranges of significance levels for a teacher's score. Comparisons of a teacher's total test score can be made with the entire group sample or with specific sub-samples. Fimian reported (1988) that he choose to employ decile ranges as opposed to individual percentiles on the subtest scales as reportedly, "some of the stress subscales' distributions tended to be posi­tively skewed." (p. 20).

Fimian (1986, 1987; Fimian and Fastenau, 1987 in Fimian, 1988) reported acceptable validity and reliability for the TSI. Fimian investigated face validity, content validity, factorial validity and convergent validity to establish the TSI as a valid instrument. Alpha (or inter­nal) reliability, test-retest reliability, split-half reliability, and alternative form reliability were also investigated to establish the overall reliability of the TSI.

Fimian (1987, 1988) reported the whole scale alpha reliability was .93 with subscale reliability estimates ranging from .67 to .88. Test-retest reliability, measured over an 8 week period found a total test correlation of .76 with subtests estimates ranging from .48 to .84.
Alternative form reliability (.43 to .81) was also reported to be adequate.

The State-Trait Anxiety Inventory (STAI), developed by Charles D. Spielberger (1983) in conjunction with R. L. Gorsuch, R. Lushene, P. R. Vagg, and G. A. Jacobs, has been used extensively in research and clinical studies. Form Y was developed as the result of a revision of Form X begun in 1979.

The STAI consists of a total of 40 questions, 20 designed to evaluate how the participant feels "right now" (State) and 20 designed to assess how the participant "generally" feels (Trait). On the State portion, after reading a presented statement, the participant rates himself or herself on a four-point Likert scale as to the intensity of his/her feelings about the statement, while on the Trait portion, the participant rates himself or herself on the four-point Likert Scale as to the frequency of his/her feelings about the statement. Each STAI item is weighted with a score of "1" indicating the absence of anxiety and a score of "4" suggesting the presence of greater anxiety. The weighted scores combine to yield a raw score which can be converted into a percentile or standard score based on gender and age (19-39, 40-49, 50-69).

Based on highly correlative nature of both forms (.96 to .98), Spielberger (1983) suggested that Form X and
Form Y may be considered "essentially equivalent." Therefore, Spielberger argued that it was not necessary to repeat all of the previous reliability and validity studies. The reliability and validity studies based on Form X indicated that the STAI is a highly reliable and valid instrument. Spielberger reported that the median alpha coefficients, based on the normative sample, are .92 for the State scale and .90 for the Trait scale.

Spielberger (1983) reported that the STAI has been used in numerous studies to evaluate the process and outcome of treatments using behavioral and cognitive strategies.

A Course Evaluation (see Appendices III and IV), generated by the researcher, was completed by each participant in the two treatment conditions. The evaluation requested anecdotal information regarding the participants' perceptions on the effectiveness of the overall course, the weekly sessions, and the specific treatment interventions. The evaluation also invited the participants' general comments regarding the course and recommendations they might offer for modifications of the course in the future. The participants in the Cooperative Professional Development condition were also requested to comment on the effectiveness of the treatment model wherein a teacher was presented a body of information in an all-day inservice and then the teacher works with another
teacher over a period of time to implement and integrate the information provided. Some of the participants' responses will be integrated into the discussion of the results in Chapter 5.

Research Design

A variation on a pretest-posttest control group design was employed in that a delayed posttest was also collected. After registering for one of the two treatment conditions (Counseling Group, Cooperative Professional Development), the participants were randomly selected from an applicant pool to participate in the treatment program. Applicants not selected to participate in treatment were invited to participate in the Waiting List Control Group. All participants in each of the three groups were administered the pre-, post- and delayed posttests.

<table>
<thead>
<tr>
<th>Pre</th>
<th>Post</th>
<th>Delayed-Post</th>
</tr>
</thead>
<tbody>
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<td>0</td>
<td>X</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
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<td>2</td>
</tr>
<tr>
<td>3</td>
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<tr>
<td>0</td>
<td>X</td>
<td>0</td>
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<td>4</td>
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<td>8</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The random selection of the participants to each of the treatment conditions, the administration of the treatment to the two experimental conditions but not to the control condition, and the administration of a post- and delayed posttest (employed to determine whether changes gained through participation in the treatment program were maintained over time) to all conditions strengthened the internal and external validity of the study.

Employing two different school psychologists to co-lead the Counseling Group condition with the researcher and employing three school psychologists in addition to the researcher to act as "coaches" for the Cooperative Professional Development condition helped control for experimenter bias. The Waiting List Control Group was employed to control for the Hawthorne effect.

Statistical Procedure

A multivariate analysis of variance (MANOVA) was utilized to complete the statistical analysis of the data. Follow-up analysis, as appropriate, was conducted employing an univariate analysis of variance (ANOVA). This analysis allowed for the tests of differences between the treatment groups, changes over time, and the interaction of treatment and time. The .05 level of significance was
used to determine the effectiveness of the two experimental treatments.
CHAPTER 4: Analysis of Results

The results of this study are presented in this chapter in the order in which the hypotheses were presented in Chapter 1.

Multivariant analysis of variance (MANOVA) statistical procedures were utilized to determine how the three groups compared over time on each of the dependent variables.

Hypothesis One

Hypothesis One states that teachers receiving either the Counseling Group treatment or the Cooperative Professional Development treatment will demonstrate significantly less of an increase in the amount of their measured stress levels compared to the Control Group at the end of the treatment and at a four week follow-up. A MANOVA analysis of the participant's stress levels by group, over time, resulted in no significant differences between the two treatment groups and the Control Group (Wilks Lambda $p < 0.072$). Therefore, Hypothesis One was not supported.

The data were further analyzed to determine whether
significant differences were observed in either of the independent variables (Group or Time). An Averaged MANOVA analysis of the Main Effect - Group found that significant differences did occur between the three group conditions (Wilks Lambda $p < .017$). An ANOVA analysis (see Table Two) found that a significant decrease in the group scores in the Cardiovascular Manifestations factor. No other significant differences among the groups were evidenced. The Means and Standard Deviations for the Cardiovascular factor are found in Table Three.

An Averaged MANOVA analysis of the Main Effect - TIME found significant differences between the administration of the TSI across the three group conditions (Wilks Lambda $p < .002$). An ANOVA analysis (see Table Four) found significant changes in the factors of Work-Related Stressors, Discipline and Motivation, Emotional Manifestations, and Cardiovascular Manifestations. The Means and Standard Deviations for these factors are found in Table Five.
TABLE TWO

Effect of Group on Treatment Outcome - Stress

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<tr>
<th>Variable</th>
<th>F</th>
<th>Significance of F</th>
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<td>Time Management</td>
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<td>Professional Distress</td>
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Wilks Lambda - $F = p < .017$
TABLE THREE
Averaged Group Means - Cardiovascular Manifestations

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<td>Averaged Total</td>
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Wilks Lambda - F = p < .017
### TABLE FOUR

Effect of Time on Treatment Outcome - Stress

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Wilks Lambda - F = p < .002
TABLE FIVE
Average of the Group Condition Means - TIME

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<th>Standard Deviation</th>
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</thead>
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<td>Discipline and Motivation:</td>
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<tr>
<td>Pre-Test</td>
<td>3.169</td>
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<tr>
<td>Post-Test</td>
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<tr>
<td>Averaged Total</td>
<td>2.993</td>
<td>1.003</td>
</tr>
<tr>
<td>Emotional Manifestations:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Test</td>
<td>3.303</td>
<td>.948</td>
</tr>
<tr>
<td>Post-Test</td>
<td>3.010</td>
<td>1.044</td>
</tr>
<tr>
<td>Delayed Post-Test</td>
<td>2.859</td>
<td>1.101</td>
</tr>
<tr>
<td>Averaged Total</td>
<td>3.057</td>
<td>1.031</td>
</tr>
<tr>
<td>Cardiovascular Manifestations:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Test</td>
<td>2.683</td>
<td>1.201</td>
</tr>
<tr>
<td>Post-Test</td>
<td>2.481</td>
<td>1.105</td>
</tr>
<tr>
<td>Delayed Post-Test</td>
<td>2.370</td>
<td>1.055</td>
</tr>
<tr>
<td>Averaged Total</td>
<td>2.511</td>
<td>1.120</td>
</tr>
</tbody>
</table>

Wilks Lambda - F = p < .002
Hypothesis Two / Hypothesis Three

As the data for Hypothesis Two and Hypothesis Three were based on the results of the State-Trait Anxiety Inventory, the data was initially analyzed using a single MANOVA.

Hypothesis Two states that teachers receiving either the Counseling Group treatment or the Cooperative Professional Development treatment will demonstrate significantly lower levels of anxiety (State) at the end of the treatment and at a four week follow-up. Hypothesis Three states that there will be no significant difference among the three groups in their measured levels of anxiety (trait) at the end of treatment or after a four week follow-up.

The MANOVA analysis of participant's anxiety level by group, over time, resulted in a significant difference between the two treatment groups and the Control Group (Wilks Lambda $p < .012$).

An ANOVA analysis was employed to further analyze the data to determine how the variables of State Anxiety and Trait Anxiety contributed to the findings of significance on the MANOVA. The ANOVA analysis (see Table Six) found no significant decrease in State Anxiety, therefore Hypothesis Two was not supported. A significant difference between the groups over time was found for the variable of Trait;
therefore, Hypothesis Three was not supported.

TABLE SIX

Effect of Group x Time Interaction on Treatment Outcome - Anxiety

Univariant F Tests (4,116) D.F.

<table>
<thead>
<tr>
<th>Variable</th>
<th>F</th>
<th>Significance of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
<td>2.01633</td>
<td>.097</td>
</tr>
<tr>
<td>Trait</td>
<td>3.33159</td>
<td>.013*</td>
</tr>
</tbody>
</table>

Wilks Lambda - $F = p < .012$

The data was further analyzed to determine whether to determine whether, within the variable of State anxiety, any significant differences were evidenced in either of the independent variables (Group or Time). An Averaged MANOVA analysis of the Main Effect - Group found that significant differences did occur between the three group conditions (Wilks Lambda $p < .000$). The Means and Standard Deviations for State anxiety Group Main Effect are found in Table Seven. An Averaged MANOVA analysis of the Main Effect - Time found no significant differences in State Anxiety.
across the group conditions (Wilks Lambda $p < .410$). The Means and Standard Deviations for this variable are found in Table Eight.
TABLE SEVEN
Averaged Group Means - State Anxiety

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Control:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Test</td>
<td>43.750</td>
<td>14.722</td>
</tr>
<tr>
<td>Post-Test</td>
<td>45.200</td>
<td>13.249</td>
</tr>
<tr>
<td>Delayed Post-Test</td>
<td>47.150</td>
<td>15.746</td>
</tr>
<tr>
<td>Averaged Total</td>
<td>45.367</td>
<td>14.572</td>
</tr>
<tr>
<td><strong>Counseling Group:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Test</td>
<td>36.409</td>
<td>9.850</td>
</tr>
<tr>
<td>Post-Test</td>
<td>31.182</td>
<td>8.455</td>
</tr>
<tr>
<td>Delayed Post-Test</td>
<td>31.545</td>
<td>10.285</td>
</tr>
<tr>
<td>Averaged Total</td>
<td>33.045</td>
<td>9.530</td>
</tr>
<tr>
<td><strong>Cooperative Professional Development:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Test</td>
<td>37.053</td>
<td>10.757</td>
</tr>
<tr>
<td>Post-Test</td>
<td>36.684</td>
<td>9.473</td>
</tr>
<tr>
<td>Delayed Post-Test</td>
<td>32.263</td>
<td>9.672</td>
</tr>
<tr>
<td>Averaged Total</td>
<td>35.333</td>
<td>9.967</td>
</tr>
</tbody>
</table>

Wilks Lambda - $F = p < .000$
**TABLE EIGHT**

*Average of the Group Condition Means - TIME*

*State Anxiety*

<table>
<thead>
<tr>
<th>Factor</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Test</td>
<td>39.016</td>
<td>12.185</td>
</tr>
<tr>
<td>Post-Test</td>
<td>37.492</td>
<td>11.923</td>
</tr>
<tr>
<td>Delayed Post-Test</td>
<td>36.885</td>
<td>13.998</td>
</tr>
<tr>
<td>Averaged Total</td>
<td>37.798</td>
<td>12.702</td>
</tr>
</tbody>
</table>

Wilks Lambda - $F = p < .410$
CHAPTER 5: Discussion

A summary of this study with interpretations of the results are presented in this chapter. Additionally, the conclusions drawn from the results are stated and implications for future research are suggested.

Summary

Unrelieved stress in the work-place has been shown to have many negative physical, emotional, and professional consequences, both on the individual and on the organization. Teachers operating under significantly high levels of stress are less able to perform their duties in an efficient, professional, and caring manner. The stress of teaching has been linked to increased absenteeism, professional turnover, poor performance and waste. Additionally, unrelieved teacher stress has a negative impact on the teacher's personal life and physical well-being.

This study attempted to teach classroom teachers to manage and reduce their levels of professional stress through the implementation of cognitive-behavioral strate-
gies and techniques using Meichenbaum's (1985) Stress Inoculation Training model. In this study, after the participating teachers were instructed on how to identify situations in which stress occurred and the manner in which they manifested stress reactions, a number of different coping strategies were taught and practiced in vitro and in vivo. This study hypothesized that if teachers were introduced to these strategies and techniques and were able to integrate them over time, the teachers' level of professional stress would be reduced and would remain lowered over a period of time.

This study also focused on the manner in which the counseling techniques were introduced and integrated. This study compared the measured stress and anxiety levels of teachers who were instructed in the cognitive-behavioral strategies in a "traditional" counseling group format to a group of teachers who were instructed in the techniques using a Cooperative Professional Development model. In the latter model, the teachers were introduced to all the techniques in a one-day inservice and then, in groups of two, they systematically implemented and practiced the new strategies. Studies have suggested that a Cooperative Professional Development model allowed teachers to exert greater control over their professional development while developing a close, professionally supportive relationship with other teachers. It was hypothesized that both the
"traditional" counseling group and the Cooperative Professional Development group would have a similar positive effect on the teachers' measured levels of stress and anxiety.

To investigate these hypotheses, this study utilized a pretest-posttest-delayed posttest control group design. The participating teachers, after registering for one of the two treatment conditions (Counseling Group, Cooperative Professional Development), were randomly selected from the applicant pool. Those teachers selected to participate in the Counseling Group condition were randomly assigned to one of two treatment groups. Those not selected to participate in either of the treatment conditions were invited to participate in the Waiting-List Control Group. The participating teachers were 61 full-time classroom teachers (grades 1-12) drawn from a suburban Richmond, VA. school division. Teachers participating in the Counseling Group condition met for a two-hour session once a week for 10 consecutive weeks. Teachers in the Cooperative Professional Development condition participated in an all day (6.5 hour) inservice session and then met for once a week for 90 minutes over the next nine consecutive weeks. The teachers in the Waiting-List Control Group condition received no treatment during the study. After the study was completed, the participants in the Control Group were offered the opportunity to participate in a commensurate
experience. All participants in the three conditions completed two self-report inventories at the onset of the study, at the conclusion of the study, and four-weeks after the conclusion of the study. The participants in the Counseling Group condition and in the Cooperative Professional Development condition also completed a Course Evaluation form.

At the conclusion of the study the research hypotheses were investigated utilizing multivariable analysis of variance statistical tests. Differences among the dependent variables were compared for all groups with a .05 level of significance employed.

Conclusions

To facilitate the discussion of the outcomes of this study, the conclusions will be presented by hypotheses.

Hypothesis One

Hypothesis one, which stated that teachers participating in either the Counseling Group condition or the Cooperative Professional Group condition would have significantly less of an increase in their measured levels of
stress at the end of treatment and after a four week follow-up compared to the Control Group condition, was not accepted. Significant differences at the .05 level were not found.

Further investigation of the data was, however, suggestive of a trend. Table Nine provides the Means and Standard Deviations for the Total Test for the Teacher Stress Index (TSI) scores. These scores were generated by averaging the 10 individual factors. Examination of the data revealed that, although not statistically significant (Wilks Lambda p < .396), the Means of both counseling treatment groups decreased over the course of treatment and continued to decrease at the four-week follow-up. The Means of the Control Group actually rose over the course of the treatment period, dropping slightly at the four-week follow-up to a level commensurate with the point at which it was at the onset of the study.

This trend was also supported by the participant's ratings on the Course Evaluation form. When asked to rate the effectiveness of the techniques taught in the course on a scale of 1 to 5 with one being low/poor and 5 being high/great, the mean score for both counseling treatment groups was 4.30 suggesting that the participants felt that techniques taught in the course were highly effective.

In response to a question asking the participants to respond to the prompt: "What did you consider the most
effective part(s) of this course?, well over half of all participants (70%) noted that having the opportunity to share their concerns and interact with other teachers was the most effective part of the course. Twenty-two and one-half percent of the participants reported that the relaxation exercises were most effective, while 10% of the participants named role playing as the most effective part of the course. Additionally, 5% of the participants reported learning about Stress Scripts was most effective while 2.5% of the participant noted that learning to challenge his/her irrational beliefs was the most effective part of the course.

When asked to rate their overall satisfaction with the course on a scale of 1 to 5 with one being low/poor and 5 being high/great, the mean score for the participants was 4.43 indicating that the participants were greatly satisfied with the overall course. Anecdotal comments included: "I think that there are several ideas that I will continue to use to manage personal and school stress..."; "This course has helped me through many situations in which I could plan, after anticipating, what may happen, thus being prepared..."; "Very personally helpful - emotionally and physically..."

A univariant analysis of variance of the Main Effects for the dependent variable of Group found a significant difference among the groups due to a significant decrease
in the Cardiovascular Manifestations factor. This factor required participant's self-ratings on items addressing feelings of increased blood pressure, heart pounding or racing, and rapid and/or shallow breath. As Table Three (see Chapter 4) demonstrates, the averaged means for both counseling treatment conditions were significantly lower than the averaged mean for the Control Group condition, suggesting that the participants who received one of the treatments were less likely to manifest their stress cardiovascularly.

A univariant analysis of variance investigating the effect of the dependent variable of Time found significant differences among four factors - Work-Related Stressors, Discipline and Motivation, Emotional Manifestations, and Cardiovascular Manifestation. This finding suggested that on these four factors, significant decreases in these factors were evidenced without regard to group condition. Table Five in Chapter 4 lists the average of the group condition means for these factors.
<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Control:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Test</td>
<td>2.691</td>
<td>.463</td>
</tr>
<tr>
<td>Post-Test</td>
<td>2.784</td>
<td>.577</td>
</tr>
<tr>
<td>Delayed Post-Test</td>
<td>2.674</td>
<td>.615</td>
</tr>
<tr>
<td><strong>Counseling Group:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Test</td>
<td>2.841</td>
<td>.463</td>
</tr>
<tr>
<td>Post-Test</td>
<td>2.678</td>
<td>.714</td>
</tr>
<tr>
<td>Delayed Post-Test</td>
<td>2.578</td>
<td>.545</td>
</tr>
<tr>
<td><strong>Cooperative Professional Development:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Test</td>
<td>2.946</td>
<td>.518</td>
</tr>
<tr>
<td>Post-Test</td>
<td>2.765</td>
<td>.652</td>
</tr>
<tr>
<td>Delayed Post-Test</td>
<td>2.666</td>
<td>.670</td>
</tr>
</tbody>
</table>
Hypothesis Two

Hypothesis two stated that teachers participating in the Counseling Group condition or the Cooperative Professional Development condition would demonstrate significantly lower levels of State anxiety at the end of treatment and after a four week follow-up when compared to the Control Group condition. Significant differences at the .05 level were not found. Therefore, hypothesis two was not accepted.

A trend was suggested upon further investigation of the data. An examination of Table Seven (see Chapter 4) indicated that the Mean score for the Counseling Group treatment condition decreased from the Pre-Test to the Post-Test (36.409 to 31.182) and essentially maintained its lowered level at the four-week follow-up (31.545). The Mean score for the Cooperative Professional Development treatment condition decreased from the Pre-Test to the Post-Test (37.053 to 36.684) and continued to decrease through the four-week follow-up (33.045). The Mean scores for the Control Group condition actually rose over the treatment period (43.750 to 45.200) and continued to rise through the four-week follow-up (45.367). This trend suggested that while not statistically significant, the teachers who participated in a treatment condition experienced
lowered State anxiety levels as a result of the treatment.

Hypothesis Three

Hypothesis three, stating that there would be no significant differences between the three group conditions on their measured levels of Trait Anxiety, was not supported. In fact, a significant difference at the .05 level of acceptance was found.

An examination of the Means for each of the group conditions, listed in Table Ten, revealed that the Means for both the treatment group conditions decreased over the course of the treatment and continued to decrease through the four-week follow-up. The Mean for the Control Group condition, however, increased over the course of the treatment period (43.800 to 45.000), decreasing to approximately to the pre-treatment level through the four-week follow-up (43.700). This finding suggested that the Trait Anxiety level of teachers participating in the treatment groups was significantly lower as a result of participating in treatment.

According to Spielberger theory (1983), programs addressing anxiety may effect an individual’s current level of anxiety (State), but the individual’s Trait anxiety level should remain relatively consistent over time. A
<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Control:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Test</td>
<td>43.800</td>
<td>11.414</td>
</tr>
<tr>
<td>Post-Test</td>
<td>45.000</td>
<td>11.416</td>
</tr>
<tr>
<td>Delayed Post-Test</td>
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<td>11.712</td>
</tr>
<tr>
<td><strong>Counseling Group:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Test</td>
<td>40.955</td>
<td>8.318</td>
</tr>
<tr>
<td>Post-Test</td>
<td>37.500</td>
<td>8.695</td>
</tr>
<tr>
<td>Delayed Post-Test</td>
<td>35.409</td>
<td>8.450</td>
</tr>
<tr>
<td><strong>Cooperative Professional Development:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Test</td>
<td>45.789</td>
<td>9.150</td>
</tr>
<tr>
<td>Post-Test</td>
<td>38.526</td>
<td>8.903</td>
</tr>
<tr>
<td>Delayed Post-Test</td>
<td>38.000</td>
<td>8.524</td>
</tr>
</tbody>
</table>
possible explanation for the finding of this study to the contrary may be due to the participant's understanding of the instructions for the Trait Anxiety component on the State-Trait Anxiety Inventory (STAI). On the side of the STAI measuring the Trait Anxiety component, the participant was directed to: "Read each statement and then blacken in the appropriate circle to the right of the statement to indicate how you generally feel." The State Anxiety component, presented first, directed participants to focus on how they "feel right now, that is at this moment."

It is possible that the participants interpreted the Trait Anxiety instruction to indicate how they "generally" felt in a more temporal manner than Spielberger originally anticipated. If this supposition is correct, then the Trait Anxiety scores may, in fact, just be describing a different aspect of the participant's State Anxiety. It is possible that the Trait Anxiety scores represent an indication of the participants' State Anxiety level over a short period of time, perhaps days or weeks, compared with the specific immediacy of their feelings implied by the instructions for the State Anxiety component.

Given this interpretation, it is suggested that the finding of a statistically significant difference among the anxiety levels of the group conditions may be seen in a positive manner. In this interpretation, the anxiety levels of the teachers in the two treatment groups were posi-
tively influenced by their participation in the treatment program.

Limitations

Given that this study was completed with practicing teachers as part of the Department of Staff Development course offerings for teacher recertification points, certain limitations were unavoidable.

One limitation was the voluntary status of the participants. It is suggested that the generalizability of the results may be limited as the motivation of teachers who volunteer to participate in a Teacher Stress Reduction program for recertification points may be quite different than non-volunteering teachers.

An additional limitation to the generalizability of the results was the demographic finding that the overwhelming majority of the participants were women with more than 10 years of teaching experience.

A second limitation of the study may have been the time of year the program was offered. The study commenced at the beginning of the school year with one treatment group beginning just prior to the students returning from the summer vacation and the other treatment group beginning just after the students returned. The treatment period
ended at the end of October/beginning of November with the four-week follow-up occurring at the end of November/beginning of December just after the Thanksgiving Day four-day weekend. It is possible that the teachers' level of stress was affected by the date of data collections. This may have been particularly true on the four-week follow-up data given the positive impact of the Winter Holiday Season tends to have on many individuals.

A third limitation of this study was its reliance on self-report measures. While self-report data allowed for the investigation of the participant's own personal perceptions of any changes that occurred due to the treatment, no objective measures were employed to check the accuracy of the individual participant's perceptions. Additionally, this type of data collection did not allow for the investigation of how "significant others" (administrators, students, colleagues) perceived any changes that occurred as a result of the treatment.

A final limitation of this study was the low number of participants who were able to participate. It was possible that the low number of participants contributed to the lack of significance in the study's findings.
Implications

A number of implications may be inferred based on the findings of this study. This study demonstrated that the occupational stress experienced by classroom teachers can be managed and reduced utilizing cognitive-behavioral techniques. This study also re-affirmed the efficacy of delivering these strategies through a "traditional" counseling group method.

The efficacy of utilizing a Cooperative Professional Development model to deliver stress-reducing techniques and strategies was also demonstrated. It is suggested that utilizing the Cooperative Professional Development model in Teacher Staff Development programs holds many positive benefits both for individual teachers and for school divisions.

An overwhelming majority of the teachers who participated in the Cooperative Professional Development treatment (84.21%) found this model to be a very positive experience. The teachers reported an enhanced feeling of professionalism received from being encouraged to work with colleagues to implement the strategies introduced in the initial inservice meeting. Teachers also valued the flexibility and independence this model offered.

It is suggested that Staff Development programs that
capitalize on teachers' perceptions of professionalism, flexibility, and independence may have a greater positive impact on the participating teachers and may increase an individual teacher's level of motivation and willingness to implement the strategies introduced. It is further suggested that Staff Development programs utilizing a Cooperative Professional Development approach may be found to be more cost-effective, both monetarily and in terms of the availability of human resources.

Recommendations for Future Research

It is recommended that this study be replicated with a larger number of participants to determine whether the study's findings were, in fact, accurate.

Future research should also consider whether the factors of gender or number of years of teaching experience contribute significantly to a teacher's stress level or the manner in which a teacher manifests his/her stress.

It is further recommended that future research attempt to employ a behavioral-observational component in an effort to be able to compare the participant's own perceptions against a more objective measure. This study found that utilizing only self-report measures may not elicit a clear understanding of the efficacy of a treatment approach.
Incorporating the perceptions of "significant others" within the teaching day (administrators, colleagues, students) may provide a third dimension for comparison of a specific technique's effectiveness.

Future research should also continue to investigate the efficacy of utilizing Cooperative Professional Development models in Teacher Staff Development programs. An related area of research may be investigating whether personality differences exist between teachers who prefer an independent staff development experience versus teachers who prefer more traditionally structured staff development experiences.
APPENDICES

Appendix I:           Group Sessions: Activities for Each Session
Appendix II:          Activities for the Cooperative Professional Development Condition
Appendix III:         Course Evaluation - GC
Appendix IV:          Course Evaluation - CPD
Appendix V:           Consent Form
APPENDIX I

Group Sessions: Activities for each session

SESSION I: Introduction (Conceptualization Phase)

I. Introduction
   A. participants introduce themselves
   B. "housekeeping" chores - dates of meetings, time, etc.
   C. group rules
   D. emphasize personal responsibility for use of the procedures - daily practice and completion of homework assignments necessary for training to be effective.

II. Discuss STRESS
   A. definitions
   B. causes
   C. effects of stress on school staff and students

III. Identify specific situations that were stressful for
the participants during the school day. Discuss their physical, cognitive, emotional, and behavioral reactions to these situations.

IV. Introduce RATIONALE - (Lazarus, 1966) - explain model of stress and the rationale for cognitive coping strategies.

V. Explain that emotional responses have both physiological and cognitive components and the effects of relaxation and cognitive restructuring on these components.

VI. Complete research instruments.

HOMEWORK:

1. Record self-assessed level of stress each school day.

2. Record one stress-provoking incident each day and list physical, cognitive, emotional, and/or behavioral reactions to the situation.

SESSION II: Relaxation (Skills Acquisition and Rehearsal Phase)

I. Review homework.
II. Introduce DEEP MUSCLE relaxation.

III. Introduce CUE-CONTROLLED relaxation - breathing while using the word "RELAX" as the cue.

IV. Visual Imagery
   A. Present Visual Imagery procedures.
   B. Practice pairing visual imagery with cue-controlled relaxation.

HOMEWORK:
   1. Record self-assessed level of stress each school day.
   2. Daily practice of deep muscle relaxation.

SESSION III: Rational Restructuring

I. Review homework.

II. Rational Restructuring
   A. Introduce Rational Restructuring concepts - Ellis's
(1962) ABC model of emotions - explain concepts of Activating event, Beliefs, and Consequences.

B. Present school-related examples and have participants identify components of the presented situation in relation to Ellis's model.

C. Explain concept that emotions are not the direct result of objective events, but are influenced by the individual's perception of the event.

HOMEWORK:

1. Record self-assessed level of stress each school day.
2. Daily practice of deep muscle relaxation.
3. Daily practice of cue-controlled relaxation
4. Completion of an ABC analysis on one school-related stressful situation.

SESSION IV: Irrational Beliefs

I. Review homework.

II. Introduce Ellis's basic irrational beliefs and discuss how these beliefs influence individual's feelings and behavior.
III. Begin to identify irrational self-statements participants make throughout the school day and substitute rational ones to replace them.

HOMEWORK:

1. Record self-assessed level of stress each school day.
2. Daily practice of deep muscle and cue-controlled relaxation.
3. Complete an ABC analysis of a school-related stress situation and identify the accompanying thoughts. Identify whether the thoughts are rational or irrational. Suggest rational thoughts to replace irrational ones.

SESSION V: Stress Scripts

I. Review homework.

II. Introduce STRESS SCRIPTS - written format providing cognitive, emotional, and behavioral plans for constructive responses to stressors. Devise thoughts, feelings and behaviors that will lead to better coping.
III. Develop stress scripts for dealing with specific school related situations:
   A. large group
   B. small group
   C. individually

HOMEWORK:
   1. Record self-assessed level of stress each school day.
   2. Daily practice of deep muscle and cue-controlled relaxation.
   3. Develop a stress script for an actual school-related stress-provoking situation.

SESSION VI: Coping Imagery

I. Review of homework.

II. Review deep muscle and cue-controlled relaxation.

III. Present coping imagery procedures. Practice rational thinking by relaxing, imagining a school-related stressful situation, and thinking rational thoughts and rehearsing rational emotional and behavioral responses while imagining oneself successfully coping
with the situation.

HOMEWORK:

1. Record self-assessed level of stress each school day.
2. Daily practice of deep muscle and cue-controlled relaxation.
3. Develop stress script of school-related stressful situation.

SESSION VII: Role-playing (Application and Follow Through Phase)

I. Review homework.

II. Develop additional stress scripts and practice successful coping using coping imagery.

III. Trainer model use of coping skills - while providing overt cognitions (including challenging irrational thoughts).

IV. Trainer model use of coping skills - internalizing
thoughts. Participants record which coping skills they perceive the trainer to be employing.

V. Participants role-play use of coping skills - thinking out-loud.

HOMEWORK:
1. Record self-assessed level of stress each school day.
2. Daily practice of deep muscle and cue-controlled relaxation.
5. Record one attempt to use coping skills in real-life situation. List irrational thoughts, feelings, behaviors and the coping skills used to deal with the situation. Rate perceived success.

SESSION VIII: Practice

I. Review homework.

II. Practice stress script using coping imagery.
III. Participants role-play use of coping skills. Other participants attempt to determine which coping skills were employed.

HOMEWORK:

1. Record self-assessed level of stress each school day.
2. Daily practice of deep muscle and cue-controlled relaxation.
4. Each day, record one attempt to employ rational thinking and the use of coping skills in a real-life school-related stress-provoking situation. Rate perceived success.

SESSION IX: Practice

I. Review homework.

II. Review deep muscle and cue-controlled relaxation.

III. Participants role-play use of coping skills. Other
participants critique role-plays.

IV. Plan for last session.

HOMEWORK:

1. Record self-assessed level of stress each school day.
2. Daily practice of deep muscle and cue-controlled relaxation.
3. Each day, record one attempt to employ rational thinking and use of coping skills in a real-life school-related stress-provoking situation. Rate perceived success.

SESSION X: Final Session

I. Review homework.

II. Emphasize the importance of continued practice of coping skills.

III. Feedback about group.

IV. Complete research instruments.
V. Set date, time and place for one month follow-up meeting.

HOMEWORK:

1. Practice coping skills throughout the next month.

2. Attend follow-up session.

One Month Follow-up Meeting

I. Review how month has gone. Trouble shoot.

II. Complete research instruments.
APPENDIX II

Activities for the Cooperative Professional Development Condition

INSERVICE (6.5 hours)

Section I: Introductory Activities

A. Introductions

1. introduction of leaders and participants
2. group rules and other "housekeeping" issues
3. explanation of cooperative professional development
4. emphasize personal responsibility for use of the procedures - daily practice and completion of homework assignments necessary for training to be effective.

B. Discuss Stress

1. definitions
2. causes
3. effects of stress on school staff and students
C. Introduce RATIONALE - (Lazarus, 1966) - explain model of stress and the rationale for cognitive coping strategies.

D. Explain that emotional responses have both physiological and cognitive components and the effects of relaxation and cognitive restructuring on these components.

E. Identify specific situations that are stressful for the participants during the school day. Discuss their physical, cognitive, emotional, and behavioral reactions to these situations.

Section II: Deep Muscle Relaxation

A. Introduce DEEP MUSCLE relaxation.

B. Complete Deep Muscle relaxation exercise.

Section III: Rational Restructuring

A. Introduce Rational Restructuring concepts - Ellis's (1962) ABC model of emotions - explain concepts of activating event, beliefs, and consequence.

B. Present school-related examples and have participants identify components of the presented situation in relation to Ellis's model.

C. Explain concept that emotions are not the direct result of objective events, but are influenced by
the perceptions an individual holds of the events.

Sections IV: Cue-Controlled Relaxation

A. Introduce CUE CONTROLLED relaxation - breathing while using the word "RELAX" as the cue.
B. Practice cue controlled relaxation - breathing while imagining themselves in stress provoking situations.

Section V: Irrational Beliefs

A. Introduce Ellis's basic IRRATIONAL BELIEFS and discuss how these beliefs influence individual's feelings and behaviors.
B. Begin to identify the irrational self statements participants make throughout the school day and substitute rational ones to replace them.
C. Practice rational thinking by relaxing, imagining a school-related stressful situation, thinking rational thoughts and rehearsing rational emotional and behavioral responses while imagining oneself successfully coping with the situation.

Section VI: Visual Imagery

A. Present Visual Imagery procedures.
B. Practice pairing visual imagery with cue controlled relaxation - to allow for the visualiza-
tion of potentially stressful events while focusing on feelings of comfort and relaxation.

Section VII: Stress Scripts
A. Introduce STRESS SCRIPTS - written format providing cognitive, emotional, and behavioral plans for constructive responses to stressors.
B. Devise thoughts, feelings and behaviors that will lead to better coping.
C. Develop stress scripts for dealing with specific school related situations:
   1. large group
   2. small group
   3. individually

Section VIII: Coping Imagery
A. Introduce concept of rational-emotive imagery - a way to practice stress scripts prior to actually encountering the situation.
B. Practice Coping Imagery with an exercise.

Section IX: Role-Playing
A. Trainers model use of coping skills - while providing overt cognitions (including challenging irrational thoughts).
B. Participants practice use of stress scripts,
rational-emotive imagery, and role-play the situations.

C. Discuss concept of coping model versus mastery model.

Section X: Closing Inservice

A. Review concepts taught during inservice:
B. Have participants select dyad partner and establish day and time for future sessions.
C. Assign psychologist "coach" to group and set up schedule for his/her sessions with the group.
D. Hand-out first assignments and recording forms.
E. Set date and time for one-month follow-up meeting.

Homework:
1. Record self-assessed stress level for each school day.
2. Daily practice of deep muscle.
3. Record one stress-provoking incident each day and list physical, cognitive, emotional, and/or behavioral reactions to each situation.

Dyad Session I: Relaxation

I. Review homework.
II. Deep Muscle Relaxation

A. Each member of the dyad takes a turn leading the other member through the deep muscle relaxation exercise.

B. Discuss outcome of the exercise.

HOMEWORK:

1. Record self-assessed level of stress each school day.
2. Daily practice of deep muscle relaxation.
4. Record one stress-provoking incident each day and list physical, cognitive, emotional, and/or behavioral reactions to each situation.

Dyad Session II: Relaxation

I. Review Homework.

II. Cue- Controlled Relaxation

A. Each member of the dyad takes a turn leading the other member through the cue-controlled relaxation exercise.

B. Discuss outcome of the exercise.
III. Visual Imagery with Cue-Controlled Relaxation

A. Each participant selects one stress-provoking incidents listed in his/her homework.

B. Begin visual imagery of incident using cue-controlled relaxation to reduce stress as it arises in the imagery.

C. Discuss outcome of exercise.

HOMEWORK:

1. Record self-assessed level of stress each school day.


3. Daily practice of Cue-Controlled Relaxation.

Dyad Session III: Rational Thinking

I. Review Homework.

II. Rational Restructuring

A. Review presentation of Ellis’s ABC model of emotions.

B. As a dyad, complete an ABC analysis of a school-related stress situation and identify accompanying thoughts.
HOMEWORK:

1. Record self-assessed stress level for each school day.
2. Daily practice of deep muscle and cue controlled relaxation.
3. Completion of an ABC analysis on one school-related stressful situation.

Dyad Session IV: Irrational Beliefs

I. Review homework.

II. Irrational Beliefs

A. Review concepts.

B. Using ABC analysis completed for homework, each member discusses his/her school-related stress situation and the accompanying thoughts. Member discusses whether accompanying thoughts were rational or irrational, suggesting rational thoughts to replace irrational ones.

C. Using a situation provided by the researcher:

1. Dyad members complete an ABC analysis of the incident.
2. Members identify whether the accompanying
thoughts were rational or irrational.

3. Discuss how the accompanying emotions, physical responses, and/or behaviors were influenced by the thoughts.

4. Each member suggests rational thoughts to replace the irrational ones.

HOMEWORK:

1. Record self-assessed stress level for each school day.

2. Daily practice of deep muscle and cue controlled relaxation.

3. Complete an ABC analysis of a school-related stress situation and identify whether the accompanying thoughts were rational or irrational. Suggest rational thoughts to replace the irrational ones.

Dyad Session V: Stress Scripts

I. Review homework.

II. Review STRESS SCRIPTS

A. Review stress script concepts.

B. As a dyad, develop stress script for dealing with
a school-related situation provided by researcher.

HOMEWORK:
1. Record self-assessed stress level for each school day.
2. Daily practice of deep muscle and cue-controlled relaxation.
3. Develop a stress script for an actual school-related stress-provoking situation.

Dyad Session VI: Coping Imagery

I. Review homework.

II. Coping Imagery
   A. Review coping imagery concepts.
   B. Practice coping imagery procedures using given situations.
      1. Practice rational thinking by relaxing, imagining the school-related stressful situation.
      2. Think rational thoughts and rehearse rational emotional and behavioral responses while imagining oneself successfully coping with the situation.
      3. Discuss and critique imagined outcomes.
III. Review Coping Model vs. Mastery Model concepts.

HOMEWORK:

1. Record self-assessed stress level for each school day.
2. Daily practice of deep muscle and cue controlled relaxation.
3. Daily real-life practice of rational thinking in stressful situations - list one such occasion.
4. Record one attempt to use a coping skill in a real-life situation.

Dyad Session VII: Role-Playing

I. Review homework.

II. Practice
   A. Develop additional stress scripts and practice successful coping using rational-emotive imagery.
   B. Role-play situation and discuss outcome.
   C. Additional role plays - switching roles. Discuss and critique role play.

HOMEWORK:
1. Record self-assessed stress level for each school day.
2. Daily practice of deep muscle and cue controlled relaxation.
3. Record incidents of irrational thinking and rational thinking substituted.
4. Anticipate a potentially stressful situation:
   a. Devise a stress script for situation.
   b. Practice stress script using coping imagery.
   c. Employ stress script in real-life situation.

Dyad Session VIII: Practice

I. Review homework.

II. Review deep muscle and cue-controlled relaxation techniques.

III. Review the concepts that have been discussed - Review earlier sessions and orally summarize the concepts.

HOMEWORK:

1. Record self-assessed stress level for each school day.
2. Daily practice of deep muscle and cue controlled relaxation.
3. List three irrational statements made during the week and the rational thoughts substituted.
4. Anticipate a potentially stressful situation:
   a. Devise and practice a stress script using coping imagery.
   b. Employ stress script in real-life situation.

Dyad Session IX: Final Session

I. Review homework.

II. Discuss importance of continued practice of coping skills.

III. Complete research instruments.

HOMEWORK:
1. Practice coping skills throughout the next month.
2. Attend follow-up session.

One-Month Follow-Up Session
I. Review how month has gone.

II. Complete research instruments.
APPENDIX III

HENRICO COUNTY PUBLIC SCHOOLS
Department of Instructional Support Services

TEACHER STRESS MANAGEMENT SCC COURSE
COURSE EVALUATION - GC

To assist me in evaluating the effectiveness of this course, please complete the following:

1. What did you consider the most effective part(s) of this course?

2. What did you consider the least effective part(s) of this course?

3. Homework:
   A. Did you complete the homework assignments on a regular basis? YES NO
   B. What part(s) of the homework was most effective?
   C. What part(s) of the homework was least effective?
D. How would you change the homework to make it more effective or to increase a participant's completion of it?

4. Sessions
   A. What part(s) of the weekly sessions did you find most effective?
   B. What part(s) of the weekly sessions did you find least effective?
   C. What would you change in the weekly sessions to make them more effective?

5. Rate the following items on a 1 - 5 scale with 1 being low/poor and 5 being high/great.

<table>
<thead>
<tr>
<th>Item</th>
<th>Poor</th>
<th>Great</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Effectiveness of instructor.</td>
<td>1...2</td>
<td>3...4.5</td>
</tr>
<tr>
<td>B. Effectiveness of techniques.</td>
<td>1...2</td>
<td>3...4.5</td>
</tr>
<tr>
<td>C. Number of weekly sessions.</td>
<td>1...2</td>
<td>3...4.5</td>
</tr>
<tr>
<td>D. Time of weekly sessions.</td>
<td>1...2</td>
<td>3...4.5</td>
</tr>
<tr>
<td>E. Overall satisfaction with the course.</td>
<td>1...2</td>
<td>3...4.5</td>
</tr>
</tbody>
</table>

6. Please share any comments or share any thoughts you might have about this course.
APPENDIX IV

HENRICO COUNTY PUBLIC SCHOOLS
Department of Instructional Support Services

TEACHER STRESS MANAGEMENT SCC COURSE
COURSE EVALUATION - CPD

To assist me in evaluating the effectiveness of this course, please complete the following:

1. What did you consider the most effective part(s) of this course?

2. What did you consider the least effective part(s) of this course?

3. Sessions
   A. How many times did you actually meet with your dyad partner?
   B. What part(s) of the weekly sessions did you find most effective?
   C. What part(s) of the weekly sessions did you find
least effective?
D. What would you change in the weekly sessions to make them more effective?

4. Weekly Mailings
A. What part(s) of the weekly mailings did you find most effective?
B. What part(s) of the weekly mailings did you find least effective?
C. How would you change the weekly mailings of make them more effective?

5. Homework:
A. Did you complete the homework assignments on a regular basis? YES NO
B. What part(s) of the homework was most effective?
C. What part(s) of the homework was least effective?
D. How would you change the homework to make it more effective or to increase a participant’s completion of it?

6. How many times did you see/hear from your psychologist "coach" contact?

7. Rate the following items on a 1 - 5 scale with 1 being low/poor and 5 being high/great.
A. Effectiveness of instructor. 1...2...3...4...5
B. Effectiveness of techniques. 1...2...3...4...5
C. Number of weekly sessions. 1...2...3...4...5
D. Effectiveness of weekly mailings. 1...2...3...4...5
E. Effectiveness of interactions with "coach". 1...2...3...4...5
F. Overall satisfaction with the course. 1...2...3...4...5

8. In your opinion, please comment on the effectiveness of this type of model wherein a teacher is presented a body of information in an all-day inservice and then the teacher works with another teacher over a period of time to implement and integrate the information provided.

9. Please share any comments or share any thoughts you might have about this course.
APPENDIX V

CONSENT FORM

This consent form is to request your voluntary participation in a study that will be conducted as part of a Special Content Course (SCC) through the Department of Staff Development. This study will run during the Fall semester 1991. Please read the following information carefully; then sign the section marked: Informed Voluntary Consent to Participate.

Purpose of Study

The purpose of this study is to investigate the effects of two different counseling approaches in assisting teachers:

a) reduce their levels of professional stress and;

b) learn new coping strategies to deal with future stressful situations.

Amount of Time Involved for the Subjects

Participating teachers will be randomly assigned to one of two treatment groups. Each group will meet for ten weeks for a total of 20 hours. A one-month follow-up meeting lasting 2-hours will also be held. Therefore, the total commitment of time for each participating teacher will be 22 hours.

In addition to participating in the treatment sessions, each participating teacher will be asked to complete two standardized measures three times throughout the treatment period (pre-treatment, post-treatment, and at the one-month follow-up).

Participating teachers who complete the entire study will be eligible to receive 22 recertification credits toward their teaching certificate renewal.

Description of Benefits

The potential benefits a teacher may experience by participating in this study may include:
a) experiencing teaching as a less stressful profession;  
b) the increased perception of being able to appropriately cope with stressful incidents in his/her professional life and;  
c) an indirect benefit may be the participating teacher's ability to utilize the strategies introduced in this study in non-teaching, personal situations.

**Description of Risks**

No risks to the participating teachers have been identified.

**Assurance of Confidentiality**

All data collected in this study will be kept in STRICT confidence. The researcher, and only the researcher, will have access to the data collected on individual participants. For the purpose of the statistical analysis, only group data will be used. No data will be used for any purpose except that expressly specified in this study.

**Assurance of Voluntary Participation**

Participants in this study is strictly voluntary. A participating teacher has the right to withdraw participation at any time. Any decision not to participate, or to withdraw from participation, will in no way bias or negatively effect the participant's employment status with Henrico County Public Schools.

**Availability of Results**

A written summary of the results of this study will be made available upon request from:

Andrew C. Elgort, School Psychologist  
Henrico County Public Schools  
P.O. Box 23120  
Richmond, Virginia 23223  
(804) 644-1201

or
Informed Voluntary Consent to Participate

I have been fully informed and hereby consent to participate in the study outlined above. My right to decline to participate or to withdraw at any time has been guaranteed.

_________________________  ______________________
Signature, Participating Teacher  Date
REFERENCES


New York: Plenum Press.


VITA

Andrew C. Elgort

Birthdate:  March 27, 1953

Birthplace:  New York, New York

Education:

- 1988-1992  College of William and Mary  
  Williamsburg, Virginia  
  Doctor of Education

- 1984-1986  James Madison University  
  Harrisonburg, Virginia  
  Education Specialist

- 1976-1977  University of Virginia  
  Charlottesville, Virginia  
  Master of Education

- 1971-1975  West Chester State College  
  West Chester, Pennsylvania  
  Bachelor of Science

Professional Experience:

- 1985-present  School Psychologist  
  Henrico County Public Schools  
  Richmond, Virginia

- 1984-1985  Staff Psychologist  
  Child Development Clinic  
  James Madison University  
  Harrisonburg, Virginia

- 1980-1983  Teacher of Emotionally Disturbed  
  Albermarle County Public Schools  
  Charlottesville, Virginia

- 1978-1980  Educational Diagnostician  
  City of Manassas Public Schools  
  Manassas, Virginia

- 1977-1978  Assist. Project Director - TREES  
  Augusta County Public Schools  
  Fisherville, Virginia

- 1975-1976  Teacher of Emotionally Disturbed  
  Greenbank School  
  Glenmore, Pennsylvania