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Occupational environment stress, personal strain, and coping: A study of elementary and secondary public school principals

Thrower, Sidney Arthur, Ph.D.
The Ohio State University, 1990

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OCCUPATIONAL ENVIRONMENT STRESS, PERSONAL STRAIN, AND COPING: A STUDY OF ELEMENTARY AND SECONDARY PUBLIC SCHOOL PRINCIPALS

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of the Ohio State University

By

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* * * * *

The Ohio State University
1990

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To My Mother

Sydney C. Thrower
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TABLE OF CONTENTS

DEDICATION ............................................... ii
ACKNOWLEDGMENTS ....................................... iii
VITA............................................................. iv
LIST OF TABLES............................................... vii

CHAPTER

I. INTRODUCTION.............................................. 1
   Objectives of the Study.............................. 6
   Definitions............................................. 7
   Organization of the Study......................... 8

II. REVIEW OF THE LITERATURE.............................. 10
   Concepts of Stress..................................... 10
   Occupational Stress in Principals................. 18
   Hypotheses and Research Questions.............. 24

III. METHODOLOGY............................................. 27
   Population............................................. 27
   Procedure............................................. 27
   Instruments............................................ 28
   Normative Data....................................... 29
   Validity................................................ 30
   Analyses of Data..................................... 30

IV. RESULTS.................................................. 31
   Descriptive Data..................................... 32
   Results of t-Tests................................... 43
   Pearson Correlation & Multiple R............... 44

V. DISCUSSION............................................... 49
   Occupational Stress of Principals................. 49
   Implications of the Study......................... 52
   Suggestions for Future Research................ 53
APPENDICES

A. Sample Request for Participation Letter.54

B. Sample Personal Data Questionnaire......56

BIBLIOGRAPHY........................................ 58
### LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Age of Principals</td>
<td>32</td>
</tr>
<tr>
<td>2. Sex of Principals</td>
<td>33</td>
</tr>
<tr>
<td>3. Race of Principals</td>
<td>33</td>
</tr>
<tr>
<td>4. Highest Degree Obtained</td>
<td>34</td>
</tr>
<tr>
<td>5. Years Teaching</td>
<td>36</td>
</tr>
<tr>
<td>6. Total Years Principal</td>
<td>36</td>
</tr>
<tr>
<td>7. Total Years Worked in Education</td>
<td>37</td>
</tr>
<tr>
<td>8. Age First Became Principal</td>
<td>37</td>
</tr>
<tr>
<td>9. Principals Still Teaching</td>
<td>38</td>
</tr>
<tr>
<td>10. Location of School</td>
<td>38</td>
</tr>
<tr>
<td>11. Economic Background of Students</td>
<td>40</td>
</tr>
<tr>
<td>12. Enrollment</td>
<td>40</td>
</tr>
<tr>
<td>13. Total Number Teachers Supervised</td>
<td>41</td>
</tr>
<tr>
<td>14. Total Staff Supervised</td>
<td>41</td>
</tr>
<tr>
<td>15. Change (Rapid Gain/Loss) in District</td>
<td>43</td>
</tr>
<tr>
<td>16. T-Test for OES, PSQ, PRQ</td>
<td>45</td>
</tr>
<tr>
<td>17. Pearson Correlations</td>
<td>46</td>
</tr>
<tr>
<td>18. Multiple R for OES, PSQ, PRQ</td>
<td>47</td>
</tr>
</tbody>
</table>

vii
CHAPTER I

INTRODUCTION

Managing a public elementary or secondary school is not an easy task. In a discussion of administrator burnout, Cedoline (1982) notes that before 1970 administrators were concerned with staff supervision, interacting with parents, student discipline, and facility management. After 1970 they were besieged with mandated state and federal programs which included such matters as providing an appropriate educational environment for handicapped students, bilingual education, and desegregation matters. In the 1980's crime and drug usage have been major problem areas the schools have had to address. School administrators have received increased criticism for the poor skills and performance demonstrated by graduates. Overall, educational leaders currently face more conflict and change than ever before (Gmelch, 1983).

The task of managing a public elementary or secondary school belongs to the principal. As with other occupations, there are aspects of the job which make it rewarding. There are also many aspects of the
job which make it stressful. The job is complex and demanding. As Cedoline (1982) points out:

Perhaps few other occupations have more extensive responsibility than a school administrator. The job requires working with more supervisors and recipients of services than in any other profession. These include parents, school board members, advisory groups, state and federal bureaucrats, district administrators, teachers, and most importantly, students (p.73).

Is it important to know what makes the principal's job stressful?

Research indicates that the study of occupational stress, such as that experienced by principals, is important. Studies have found that occupational stress influences both the physical and mental health of the worker. (French and Caplan, 1972; Kasl, 1978; McLean, 1979; Holt, 1982; Benner, 1984; Sutherland and Cooper, 1988). Thus, the impact of work stress may affect the quantity and quality of an individual's life.

Selye (1976, 1982) maintains that regardless of the degree of stress, it has an effect on the physical health of the individual that may result in ulcers, heart problems, intestinal problems and other health problems. In addition, psychological functioning may be affected resulting in mental illness, depression, drug addiction, or similar difficulties.
The role of the principal involves considerable contact with a variety of people. In a review of role responsibility, Cobb (1974) states "it can be said that there is scattered evidence that diabetes, hypertension and myocardial infarction as well as peptic (presumably duodenal) ulcer are unduly common among persons subject to heavy, close personal responsibility for the lives of other people" (p. 69). Jackson and Maslach (1982) also note that "the unique stress experienced by those who do 'people work' has been acknowledged by the helping professions as a widespread problem" (p. 63).

Is the principal's job more or less stressful than other occupations?

Whether or not the job of being a principal is more stressful than other occupations has not been determined with certainty at this time. The study of job stress and occupational differences has been a relatively neglected area by researchers (Beehr and Newman, 1978; Kasl, 1978). Holt (1982) points out that occupational stress is not new but that it is a relatively new area of study. Among the difficulties encountered by researchers regarding this area of study are the definitional and methodological issues. Until studies
using common definitions and methods appear, comparisons will be hard to make.

Current comparisons between school principals and other occupations encounter a common problem in the literature on work stress. The perception of comparative job stress among various occupations has been highly influenced by subjective opinion. Shaw and Riskind (1983), in a research study on predicting job stress, relate the story of the 1981 strike by the air traffic controller's union. The union had attempted to argue that their occupation was more demanding and stressful than other occupations. As a result, they felt they were entitled to higher salaries and fewer working hours. Those against the union's demands pointed out that policemen and firemen had jobs just as stressful, received lower salaries, and had longer working hours. They conclude that the arguments used "point clearly to a common belief that certain jobs are more stressful than others and that employees in those jobs are more likely to experience a greater risk of physical or emotional harm" (p.253).

Selye (1982) suggests that whether a person is a short-order cook or a surgeon, he believes his job is more stressful than others. However, until evidence is presented to support the claim that an occupation is
stressed or that one occupation is more stressful than another, care must be taken in drawing conclusions. The researcher's bias may influence the reported findings.

Milstein and Farkas (1988) studied stress among educators and found that researcher bias may affect results. From their review of the literature they found that the case of educator stress may be greatly overstated. According to their review, most of the literature dealing with educator stress in the 1970's was either anecdotal or research-based. Much of the anecdotal literature was negative in tone and was often written by disaffected educators. The research-based studies were usually very narrow in scope, did not include physical data, and made assumptions in rating or ranking stressors that were perhaps inaccurate.

To overcome the limitations of previous research, studies measuring stress among educational administrators should use instruments which are solidly based on occupational stress research. Three such instruments have been developed by Osipow and Spokane (1983) that link occupational stress, strain, and coping. The instruments measure "the six major role components involved in work, the four coping components available to people, and the four major strain outcomes"
A study of school principals using such instruments would be useful for the information obtained regarding principals. Later, the resulting data could be used and compared with data obtained from individuals in other occupations who have been administered the instruments.

Vetter (1976) claims many talented principals are leaving the profession because they are finding it less satisfying. It is important to know if such a claim is true. Principals, like managers in a corporation, have a profound influence on the morale and "production" of the organization. Understanding the stress, strain, and coping of principals will hopefully help promote the retention of those who excel.

According to Cedoline (1982):

Strong evidence supports the conclusion that as the principal goes, so goes the school. If, in fact, the quality of school administrators has a determining effect upon student performance, the loss of effective, experienced leadership in our schools can be devastating. (p. 74)

**Objectives of the Study**

The purpose of this study was to examine the measured levels of occupational environment stress, personal strain, and coping as reported by elementary and secondary public school principals. In addition, institutional and personal characteristics thought to be related to stress, strain, and coping were investigated.
The instruments used in data collection included three different experimental scales developed by Osipow and Spokane (1983). The instruments administered were the Occupational Environment Scales (OES - a measure of stress), the Personal Strain Questionnaire (PSQ - a measure of strain), and the Personal Resources Questionnaire (PRQ - a measure of coping). A personal/institutional questionnaire developed by the investigator was also administered to the participating subjects.

Definitions

Osipow and Spokane (1983) define occupational stress, strain, and coping in *A Manual for Measures of Occupational Stress, Strain, and Coping* (Form E-2) as follows:

**Occupational stress** - "those job characteristics which pose a threat to the individual" (p. 10). (Measured by the Occupational Environment Scales - OES.)

**Strain** - "the deviation from the normal response an individual would emit in a given situation" (p. 10). (Measured by the Personal Strain Questionnaire - PSQ.)
**Coping** - "the skills and resources available to counter the effects (strain) of occupational stress" (p. 10). (Measured by the Personal Resources Questionnaire - PRQ.)

**Limitations of the Study**

This study examined 72 public elementary and secondary school principals in the State of Ohio. The subjects voluntarily returned questionnaires sent to them in 1986. Generalizations regarding the findings of this study will depend on the extent to which the subjects are representative of other school principals. All four instruments used in data collection were self-report instruments. The resulting data are limited by the degree of validity of the instruments used in the study.

**Organization of the Study**

Chapter I provides an introduction to the need for occupational stress research concerning public school principals, objectives of the study, and limitations of the study. Chapter II reviews the literature both on occupational stress and occupational stress in school administrators and concludes with the statement of the hypotheses of the investigation. Chapter III discusses the methodology used in the study. Chapter IV presents
the findings and analysis of data collected. Chapter V discusses the results, conclusions that might be drawn, and implications.
CHAPTER II
REVIEW OF THE LITERATURE

Stress has been a popular topic of study for psychologists and other interested researchers for a number of years. Gmelch (1988a) indicates that there are over 100,000 books, journals, and articles that have been published regarding stress. It is beyond the scope of this study to review all the literature available on stress. Instead, this review will focus on selected conceptualizations of stress, occupational stress, and occupational stress specifically in respect to school administrators.

Concepts of Stress

A review of the literature on stress quickly reveals two recurrent issues regarding stress research: defining stress and measuring stress. In one article on stress conceptualization and research, Goldberger (1986) notes that it has almost become a ritual when discussing stress to lament the lack of agreement on definition and conceptualization. It is doubtful a consensus will ever
be reached among researchers regarding a single concept of stress. Reviewing research related specifically to occupational stress, however, does reveal some common elements.

Described as a pioneer in stress research, Hans Selye laid the foundation for modern stress research. According to Selye (1982), "stress is the nonspecific (that is, common) result of any demand upon the body, be the effect mental or somatic" (p. 70). As a medical doctor, Selye was particularly interested in the bodily responses to stress. A central theme of this conception of stress is what he calls the "staying power" of the body, or homeostasis. Walter B. Cannon, a physiologist, used the term "homeostasis" to describe the body's attempt to maintain equilibrium.

Selye (1956, 1976) developed the concept of a stress syndrome, which he called the general adaptation syndrome, using the idea of homeostasis. The syndrome has three stages: alarm reaction, stage of resistance, and stage of exhaustion. The alarm reaction describes the initial response to stress. The stage of resistance is the stage of adapting to the stress. The final stage, the stage of exhaustion, occurs once the organism can no longer hold the adapting process.
Another area which Selye helped define was the difference between good stress and bad stress. Selye (1956, 1976) states:

We must, however, differentiate within the general concept of stress between the unpleasant or harmful variety, called "distress" (from the Latin dis = bad, as in dissonance, disagreement), and "eustress" (from the Greek eu = good, as in euphonia, euphoria). During both eustress and distress the body undergoes virtually the same nonspecific responses to the various positive or negative stimuli acting upon it. However, the fact that eustress causes much less damage than distress graphically demonstrates that it is "how you take it" that determines, ultimately, whether one can adapt successfully to change. (p. 74)

Since Selye's original work on stress others have added their definitions to the literature, especially regarding definitions of occupational stress. Following are some of the most frequently cited.

So there is a potential for stress when an environmental situation is perceived as presenting a demand which threatens to exceed the person's capabilities and resources for meeting it, under conditions where he expects a substantial differential in the rewards and costs from meeting the demand versus not meeting it. (McGrath, 1976, p. 1352).

Job stress may be defined as the condition in which some factor, or combination of factors, at work interacts with the worker to disrupt his psychological or physiological homeostasis. (Margolis and Kroes, 1974, p. 15.)

In summary, occupational stress is generally seen and measured by individual reactions to situations perceived consciously or unconsciously as threatening. People react based on personal predisposition and in a vocational context. Such reactions are generally of tremendous complexity. Seen by the clinician as symptoms to be treated
and by the researcher as events to be measured, they have other dimensions as well. There are the relationships between stress and productivity, morale and job satisfaction. Legal ramifications include employer responsibility under workmen's compensation statutes, federal standards, and state and local regulations. (McLean, 1974, p. 13.)

Job stress refers to a situation wherein job-related factors interact with a worker to change (i.e., disrupt or enhance) his or her psychological and/or physiological condition such that the person (i.e., mind-body) is forced to deviate from normal functioning. (Beehr and Newman, 1978, pp. 669-670.)

If job stress effects both mental and physical health, the results should be measurable. In 1957 the University of Michigan's Institute for Social Research developed a program which examined organizational stress and individual strain. Those who worked on the program defined strain as reaction to job stress. From the results of the study, French and Caplan (1972) developed a theory of organizational stress and how it contributes to coronary heart disease.

The primary occupational stresses listed by French and Caplan are the ones they found to be related to individual strain. French and Caplan (1972, p. 31) list as occupational stresses: role ambiguity, role conflict, quantitative and qualitative role overload, crossing organizational boundaries, responsibility for people, relations with others, participation, and occupational differences.
Role ambiguity is not knowing what is expected regarding job performance. Role ambiguity was found to be related to lower job satisfaction, higher job-related tension, lower utilization of intellectual skills, and lower utilization of administrative skills.

Role conflict involves the conflicting demands made on a worker and such things as getting along with superiors and subordinates. As with role ambiguity, role conflict was found to be related to lower job satisfaction and higher job-related tension. Regarding personality characteristics, role conflict produces greater job-related tension in introverts compared to extroverts and flexible individuals compared to rigid individuals.

Role overload concerns the demands made on a worker. Two types of overload are noted: quantitative and qualitative. Quantitative overload is the amount of work to be done. Qualitative overload involves the individual skills and knowledge required to do the work. In summarizing several studies, French and Caplan state that quantitative and qualitative overload may produce at least nine types of psychological and physiological strain. They include job dissatisfaction, job tension, self-esteem, threat, embarrassment, cholesterol, heart rate, skin resistance, and smoking. Job
dissatisfaction, elevated heart rate, elevated cholesterol, and smoking are all risk factors in heart disease.

Organizational boundaries involve both external boundaries and internal boundaries. External boundaries are those which separate the organization from its environment. Internal boundaries are those which separate various segments, such as departments, from each other within an organization. According to French and Caplan men in an alien environment tend to exhibit more stress and more strain.

Responsibility for people was likely to have several outcomes. People responsible for others were found to smoke more and have higher diastolic blood pressure. In relating to others, poor relations with others is found to be related to job satisfaction and feelings of threat.

The amount of influence an individual has on the decision-making process of the organization is known as participation. Overall, it was found that low participation had its biggest impact on job satisfaction and threat. People who had high participation also had high feelings of self-esteem.

Occupational differences in stress were found. French and Caplan explain that since different jobs have
different varieties of stress, as a result they have different varieties of strain. For example, they found administrators were more likely to develop coronary heart disease than engineers and scientists.

In summary, French and Caplan conclude that the studies done by the Institute for Social Research they reviewed found organizational stress does have an impact on the physical and mental health of the organization's workers.

McGrath (1976), in a comprehensive article on stress and behavior in organizations, notes that the use of the term "stress" has not been very precise in the behavioral science literature. However, he does find six general themes in the research literature regarding stress. Theme 1 is cognitive appraisal. People perceive stress subjectively as a result of their interpretation of the situation. Theme 2 is experience. Previous experience can modify how one reacts to stress. Theme 3 is reinforcement. Positive reinforcement and negative reinforcement can affect how stress is experienced in a given situation. Theme 4 is the inverted U. There appears to be an inverted U-shaped relationship between amount of stress and level of performance. Theme 5 is task differences. The nature of the tasks and how they related to stressor conditions
influence the amount of perceived stress, performance, and consequences. Theme 6 is interpersonal effects. The presence or absence of others affects that amount of perceived stress.

Regarding behavior in organizations, McGrath conceptualizes the interaction of three independent systems. First, the physical-technical environment where behavior occurs. Second, the social-interpersonal environment within which the behavior occurs. Third, the person-system of the individual whose behavior is of interest.

McGrath (1976) also derived a framework from his study of stress literature that indicates six classes of stress or sources of stressful situations. They include:

1. Task based stress (difficulty, ambiguity, load, etc.).
2. Role-based stress (conflict, ambiguity, load, etc.).
3. Stress intrinsic to the behavior setting (e.g., effects of crowding, of undermanning, etc.).
4. Stress arising from the physical environment itself (e.g., extreme cold, hostile forces, etc.).
5. Stress arising from the social environment, in the sense of interpersonal relations (e.g., interpersonal disagreement, privacy, and isolation, etc.).
6. Stress within the person system, which the focal person "brings with him" to the situation (e.g., anxiety, perceptual styles, etc.). (p. 1369)
Occupational Stress in Principals

The Journal of Educational Administration recently devoted an entire issue to the subject of stress and the school administrator. Gmelch (1988b), the guest editor of the issue, indicated that since 1978 over 70 studies had been conducted regarding administrator stress. He found that the majority of studies were surveys and correlational studies designed to investigate the causes or stressors experienced by administrators. A few examined physiological reactions. Only ten percent looked at coping processes.

Gmelch posited a four stage stress cycle to provide a construct in order to contrast findings. The cycle included stressors, perceptions, responses, and consequences. Stressors, the first stage, deals with the causes of stress. Perceptions, the second stage, involves both the psychological and physiological reactions to stress. Responses, the third stage, concerns coping responses. Consequences, the fourth stage, focuses on the long-range effects stress may have on an individual. (Gmelch, 1988b, pp. 136-138.)

Some researchers have created stress measures specifically for school administrators. Gmelch, Koch, Swent, and Tung (1982) developed the Administrative Stress Index (ASI) which attempted to identify perceived
job stress, establish categories of stress, and find the coping methods of school administrators. The instrument was developed using members of the Confederation of Oregon School Administrators, which included elementary and secondary principals, superintendents, and central office administrators. The ASI revealed four factors: 1) task-based stress; 2) role-based stress; 3) conflict-mediating stress; and, 4) boundary-spanning stress.

Another group of researchers constructed an instrument similar to Holmes and Rahe's (1967) life event questionnaire to measure school administrator stress. Koff, Laffey, Olson, and Cichon (1979-80) developed the Administrators' Events Stress Inventory (AESI) to measure the various stressful life events of principals. They used as their subjects members of the National Associations of Secondary and Elementary School Principals. Four factors were identified from their research: 1) helplessness/security; 2) management tasks/problem solving; 3) teacher conflict; and, 4) student conflict.

Conflict between administrators and teachers was found to be highly stressful, with elementary principals experiencing more stress than secondary principals. Events which threatened security and status, represented
by events having a sense of "helplessness" and "drama", were also stressful for principals. Routine management of administrative tasks were low or moderate in stress. Student conflicts were very stressful for principals, especially for secondary principals.

Çedoline (1982) did an extensive review of literature concerning job burnout in public education. In his discussion of job burnout in administrators he compared administrators to middle management in business organizations. The job-related stresses of the work environment of the middle manager are also characteristic of the school administrator. Some of the major stressors he found in school principals dealt with areas of stress experienced by other occupational groups. The areas include: "Control Over One's Destiny; Communication/Feedback; Work Overload/Underload; Contact Overload; Role Conflict/Ambiguity; Training Deficits; and Personal Factors" (p. 76).

Covington (1982) studied the perceived stress of secondary school principals and found several important factors. Compared to principals of smaller schools, principals in schools of over 1000 students perceived less stress from interpersonal relations, intrapersonal conflicts, and role expectations. The category of principals working 66 hours or more a week perceived
more stress than other categories. Also, principals with best perceived health had less stress than those with poorer health.

Kadlecek (1982) developed the Principals' Stress Inventory to measure stress perceived and experienced by public school principals in Illinois. His study found principals 55 years of age and over had less stress compared to younger principals. Elementary principals experienced less stress than secondary principals. Principals with over 21 years experience in their school districts had less stress than others. Principals in districts with collective bargaining agreements had greater stress in certain situations than those who did not. Generally, the principals in Illinois reported their overall job-related stress as slightly less than moderate.

Cusack (1982) compared stress in Virginia public elementary and secondary school principals. Cusack found secondary school principals experienced more stress in interpersonal relations, intrapersonal conflicts, administrative constraints, and administrative responsibilities. Age, race, and length of experience were also found to be important. Youngest, least experienced, white principals experienced greater stress regarding interpersonal
relations. In addition, principals with a higher percentage of white students had a lower degree of perceived stress relating to intrapersonal conflict and administrative constraints.

Robe (1982) studied Colorado secondary school principals and attempted to identify stress factors, the relationship to job satisfaction, and the coping behaviors used by the principals. Robe found that out of 67 principals studied, 20 were experiencing stress. The area of greatest stress was personal finance. Size of school and years of experience were not found to be related to the number of stress factors experienced or to job satisfaction. Coping techniques were no different between principals experiencing stress and those not experiencing stress.

Murphy (1982) also examined the relationship of stress variables and job satisfaction, but with elementary school principals in Virginia. Murphy found that stress reduced job satisfaction of elementary school principals 40 years of age and older and with six years or more experience.

responsibilities, and intrapersonal conflicts than elementary or middle/junior high school principals. Principals under 34 years of age experienced more stress from interpersonal relations than those 35 to 54 years of age. Principals with schools having over 700 students had more stress than those with under 300 students concerning administrative constraints and intrapersonal conflicts.

Overall, the research concerning school principals and stress shows conflicting findings. Regarding sex of principal, Baugh (1976) found it significant but Schuetz (1980) did not. For years of experience Kadlecek (1982) and Siler (1983) found it significant but Mills (1981) and Schuetz (1980) did not. Perhaps the most interesting conflicting results pertain to the overall occupational stress of being a principal. Harris (1978), Mills (1981), and Siler (1983) all found overall levels of stress for principals to be low to moderate. Schuetz (1980) and Steffen (1985) found elementary principals experiencing more stress than secondary principals. Milligan (1982), Kadlecek (1982), and Cusack (1982) all reported more stress for secondary principals.

Other factors have had more consistent findings. Covington (1982) found both number of people supervised
and number of hours worked to be significant to reported stress. Age has been found to be a significant factor to several researchers (Baugh, 1976; Domain, 1980; Milligan, 1982; Kadlecek, 1982). Size of school has also been found to be a significant factor (Schuetz, 1980; Milligan, 1982; Covington, 1982).

Because much of the research remains suspect as a result of the bias introduced by the researchers and the lack of comparability among instruments used to measure stress, additional research in the area of occupational stress among school principals appears needed. By using instruments developed to measure occupational stress, strain, and coping among the whole range of occupations, hopefully data will reveal a better understanding of educational administrators. In addition, the possibility of comparison with other occupations would develop.

Hypotheses and Research Questions

This study was designed to examine the following hypotheses:

1. There is no significant difference in occupational environment stress between elementary and secondary public school principals.
2. There is no significant difference in personal strain between elementary and secondary public school principals.

3. There is no significant difference in personal coping resources between elementary and secondary public school principals.

In addition, the following subsidiary questions were also examined:

1. Is sex of the principal an important factor in reported stress, strain, and coping?

2. Is age of the principal an important factor in reported stress, strain, and coping?

3. Is the number of people supervised important in reported stress, strain, and coping?

4. Is the size of the school important in reported stress, strain, and coping?

5. Is the number of years experience as a principal important in reported stress, strain, and coping?

6. Is the number of years teaching before becoming a principal important in reported stress, strain, and coping?

7. Is the age when one became a principal important in reported stress, strain, and coping?
8. Is type of school (rural, suburban, or urban), important in reported stress, strain, and coping?

9. Is the socioeconomic background of the student body important in reported stress, strain, and coping?

10. Is the rapid gain or loss of students in the school district important in reported stress, strain, and coping?
CHAPTER III
METHODOLOGY

This chapter will discuss in order the population studied, the procedure for selecting subjects and how the research was conducted, instruments used in the study, and how the data were analyzed.

Population

The study of stress in principals of elementary and secondary schools was conducted using principals of schools in the State of Ohio. Subjects were randomly selected from the Ohio Educational Directory 1985-86 obtained from the Ohio Department of Education.

Procedure

A total of 100 elementary and 100 secondary principals were selected from the Ohio Educational Directory 1985-86. Each individual was sent the Occupational Environment Scales, the Personal Strain Questionnaire, the Personal Resources Questionnaire, a questionnaire developed by the researcher providing personal/institutional data, a stamped pre-addressed envelope to return the materials once completed, and a
pre-addressed stamped postcard indicating a request for the research findings to be sent separately.

A total of 72 usable sets of completed questionnaires were returned from 34 elementary public school principals and 38 secondary public school principals. The response rate was 36 percent.

**Instruments**

Osipow and Spokane constructed three related instruments. The instruments included one that measures occupational stress, another that measures occupational strain, and a third that measures coping skills and personal resources.

The Occupational Environment Scales (OES), a measure of occupational stress, consists of 60 Likert-scaled items. The OES contains six subscales: Role Overload; Role Insufficiency; Role Ambiguity; Role Boundary; Responsibility; and, Physical Environment. Preliminary two week test-retest reliability for the OES was .90 using Pearson r correlations. Internal consistency analysis using the Cronbach Alpha coefficient was .89 for the OES.

The Personal Strain Questionnaire (PSQ), a measure of strain, consists of 40 Likert-scaled items. The four subscales include: Vocational Strain; Psychological Strain; Interpersonal Strain; and,
Physical Strain. Preliminary two week test retest reliability for the PSQ was .94 using Pearson r correlations. Internal consistency analysis using the Cronbach Alpha coefficient was .94 for the PSQ.

The Personal Resources Questionnaire (PRQ), a measure of coping, also consists of 40 Likert scaled items. The four subscales of the PRQ include: Recreation; SelfCare; Social Support; and, Rational/Cognitive Coping. The preliminary two week test retest reliability for the PRQ was .88 using Pearson r correlations. Internal consistency analysis using the Cronbach Alpha coefficient was .99 for the PRQ.

The fourth instrument sent to the sample population was developed by the present investigator. The questionnaire consisted of 19 questions requesting personal/institutional information.

Estimated time for completion of all four questionnaires was between 20 and 30 minutes.

Normative Data

The normative data for the construction of the OES, PSQ, and PRQ were collected using employed adult men and women in 103 different occupations.
Validity

Construct validity data came from factor analytic studies, correlational studies, and treatment studies.

Analyses of Data

The statistical analyses of the data were performed using the SPSS: Statistical Package for the Social Sciences (Nie, Hull, Jenkins, Steinbrenner, and Bent, 1975). Scores from the Occupational Environment Scales (stress), the Personal Strain Questionnaire (strain), and the Personal Resources Questionnaire (coping) were computed and t tests performed. A probability level of $p < .05$ was selected as the criterion for significance. Pearson correlation coefficients between personal/institutional characteristics and the three measures of stress, strain, and coping were calculated.
CHAPTER IV
RESULTS

The results of this study of occupational stress, personal strain, and coping among elementary and secondary public school principals are presented in this chapter. Statistical analyses of the data were performed using the SPSS: Statistical Package for the Social Sciences (Nie, Hull, Jenkins, Steinbrenner, and Bent, 1975).

Personal/institutional information collected from the Personal Data sheet developed by this investigator was crosstabulated by elementary and secondary schools. Scores from the Occupational Environment Scales (stress), the Personal Strain Questionnaire (strain), and the Personal Resources Questionnaire (coping) were computed and t tests performed for each instrument. A probability level of $p \leq 0.05$ was selected as the criterion for significance. Finally, Pearson correlation coefficients between personal/institutional characteristics and the three measures of stress, strain, and coping were calculated.
Descriptive Data

A variety of personal/institutional data were collected using the Personal Data sheet developed by the investigator and are reported in Tables 1 through 15.

Table 1 indicates that the majority of the individuals were between the ages of 35 and 54. A total of 29.2% were between 35 and 44 years of age while 43.1% were between 45 and 54 years of age. No respondents were younger than 25 years and only 6.9% were between the ages of 25 and 34 years. The distribution reflects the job of principal as a "middle management" position which generally requires experience in the educational field before appointment.

Table 1
Age of the Elementary and Secondary School Principals of the Study

<table>
<thead>
<tr>
<th>Age</th>
<th>Elementary</th>
<th>Secondary</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Below 25</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>25 -34</td>
<td>2</td>
<td>2.8</td>
<td>3</td>
</tr>
<tr>
<td>35 - 44</td>
<td>10</td>
<td>13.9</td>
<td>11</td>
</tr>
<tr>
<td>45 - 54</td>
<td>14</td>
<td>19.4</td>
<td>17</td>
</tr>
<tr>
<td>55 and over</td>
<td>8</td>
<td>11.1</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>72</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>
Table 2 indicates that the majority (76.4%) of all school principals responding to the survey were male. The data indicate that females are more likely to be principals of elementary schools than secondary schools.

Table 3 indicates that 80.6% of all school principals in the study were white and 19.4% were black.

Table 2

<table>
<thead>
<tr>
<th>Sex</th>
<th>Elementary</th>
<th>Secondary</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Male</td>
<td>19</td>
<td>26.4</td>
<td>36</td>
</tr>
<tr>
<td>Female</td>
<td>8</td>
<td>11.1</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>72</td>
<td>100.0</td>
<td>72</td>
</tr>
</tbody>
</table>

Table 3

<table>
<thead>
<tr>
<th>Race</th>
<th>Elementary</th>
<th>Secondary</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Black</td>
<td>6</td>
<td>8.3</td>
<td>8</td>
</tr>
<tr>
<td>Hispanic</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>White</td>
<td>28</td>
<td>38.9</td>
<td>30</td>
</tr>
<tr>
<td>Total</td>
<td>72</td>
<td>100.0</td>
<td>72</td>
</tr>
</tbody>
</table>
Table 4 illustrates the percentages of the highest academic degree obtained by elementary and secondary principals. The majority of respondents possessed either the Specialist (8.3%) or Master Degree (80.6%). This reflects the certification requirements by the State of Ohio Department of Education.

Table 5 indicates the number of years teaching before the individual became a principal. Only a small percentage, 15.3%, had 5 years or less teaching experience. Most individuals (55.6%) became principals after having 6 to 10 years experience.

Table 4

<table>
<thead>
<tr>
<th>Degree</th>
<th>Elementary</th>
<th>Secondary</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor</td>
<td>1</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Specialist</td>
<td>3</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Master</td>
<td>28</td>
<td>30</td>
<td>58</td>
</tr>
<tr>
<td>Doctorate</td>
<td>2</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>72</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Highest Obtained Academic Degree of the Elementary and Secondary School Principals of the Study
Table 6 indicates 31.9% of the respondents had between 16 and 20 years of experience as a principal. The next largest category were those with up to five years experience, 26.4%. The remaining categories indicated 23.6% had from 6 to 10 years experience and 18.1% had between 11 and 15 years experience. No responses were obtained from individuals with 21 years or more of experience. Table 7 illustrates that the majority of respondents, 86.1%, have worked in the field of education for between 16 and 20 years. No responses were obtained from individuals with 21 years or more of experience.

Table 8 indicates that when individuals became principals, most were between 35 and 44 years of age (43.0%). The next largest group were those between 25 and 34 years of age (41.7%). Only 2.8% of the responding principals stated that they were younger than 25 years of age when first becoming a principal.

Table 9 indicates that the overwhelming majority of principals, 93.1%, no longer teach. Of the 6.9% of the principals who were still teaching, most were principals of elementary schools.

Table 10 indicates that the majority, 62.5%, of the random sample who responded to the study were principals of urban schools.
Table 5

Years of Teaching Before Becoming Principal of the Elementary and Secondary Principals of the Study

<table>
<thead>
<tr>
<th>Years</th>
<th>Elementary n</th>
<th>%</th>
<th>Secondary n</th>
<th>%</th>
<th>Total n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 5</td>
<td>3</td>
<td>4.1</td>
<td>8</td>
<td>11.1</td>
<td>11</td>
<td>15.3</td>
</tr>
<tr>
<td>6 - 10</td>
<td>20</td>
<td>27.8</td>
<td>20</td>
<td>27.8</td>
<td>40</td>
<td>55.6</td>
</tr>
<tr>
<td>11 - 15</td>
<td>5</td>
<td>6.9</td>
<td>6</td>
<td>8.3</td>
<td>11</td>
<td>15.3</td>
</tr>
<tr>
<td>16 - 20</td>
<td>6</td>
<td>8.3</td>
<td>4</td>
<td>5.6</td>
<td>10</td>
<td>13.9</td>
</tr>
<tr>
<td>21+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>72</td>
<td>100.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6

Total Number of Years as a Principal of the Elementary and Secondary School Principals of the Study

<table>
<thead>
<tr>
<th>Years</th>
<th>Elementary n</th>
<th>%</th>
<th>Secondary n</th>
<th>%</th>
<th>Total n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 5</td>
<td>9</td>
<td>12.5</td>
<td>10</td>
<td>13.9</td>
<td>19</td>
<td>26.4</td>
</tr>
<tr>
<td>6 - 10</td>
<td>8</td>
<td>11.1</td>
<td>9</td>
<td>12.5</td>
<td>17</td>
<td>23.6</td>
</tr>
<tr>
<td>11 - 15</td>
<td>5</td>
<td>6.9</td>
<td>8</td>
<td>11.1</td>
<td>13</td>
<td>18.1</td>
</tr>
<tr>
<td>16 - 20</td>
<td>12</td>
<td>16.6</td>
<td>11</td>
<td>15.3</td>
<td>23</td>
<td>31.9</td>
</tr>
<tr>
<td>21+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>72</td>
<td>100.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 7
Total Years Worked in Education of the Elementary and Secondary Principals of the Study

<table>
<thead>
<tr>
<th>Years</th>
<th>Elementary</th>
<th>Secondary</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>0 - 5</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>6 - 10</td>
<td>-</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>11 - 15</td>
<td>4</td>
<td>5.6</td>
<td>3</td>
</tr>
<tr>
<td>16 - 20</td>
<td>30</td>
<td>41.7</td>
<td>32</td>
</tr>
<tr>
<td>21+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>72</td>
<td>100.0</td>
<td>72</td>
</tr>
</tbody>
</table>

Table 8
Age When First Became Principal of the Elementary and Secondary Principals of the Study

<table>
<thead>
<tr>
<th>Age</th>
<th>Elementary</th>
<th>Secondary</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Below 25</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>25 - 34</td>
<td>16</td>
<td>22.2</td>
<td>14</td>
</tr>
<tr>
<td>34 - 44</td>
<td>12</td>
<td>16.6</td>
<td>19</td>
</tr>
<tr>
<td>45 - 54</td>
<td>5</td>
<td>6.9</td>
<td>3</td>
</tr>
<tr>
<td>55 and Over</td>
<td>1.4</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>72</td>
<td>100.0</td>
<td>72</td>
</tr>
</tbody>
</table>
Table 9

Principals Currently Still Teaching of the Elementary and Secondary Principals of the Study

<table>
<thead>
<tr>
<th>Still Teaching</th>
<th>Elementary</th>
<th>Secondary</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>No</td>
<td>30</td>
<td>41.7</td>
<td>37</td>
</tr>
<tr>
<td>Yes</td>
<td>4</td>
<td>5.5</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 10

Location of the School of the Elementary and Secondary Principals of the Study

<table>
<thead>
<tr>
<th>Location</th>
<th>Elementary</th>
<th>Secondary</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Urban</td>
<td>20</td>
<td>27.8</td>
<td>25</td>
</tr>
<tr>
<td>Suburban</td>
<td>8</td>
<td>11.1</td>
<td>8</td>
</tr>
<tr>
<td>Rural</td>
<td>6</td>
<td>8.3</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 11 shows that 51.4% of those responding were principals of schools in which the student body were mainly from a middle and lower class economic background. A total of 5.6% responded that their school was evenly divided between students from an upper, middle, and lower class background.

Table 12 indicates that 38.8% of the respondents were from schools with between 1 and 300 students. Respondents from schools with between 331 to 600 students and 601 or more students both had 30.6% of the total.

Table 13 indicates that most principals, 62.5%, had 30 or fewer teachers to supervise. Another 36.1% had between 31 and 60 teachers to supervise. Only one respondent, 1.4%, had more than 61 teachers to supervise.

Table 14 indicates that counting all staff members of a school, both professional and non-professional, the majority of principals (58.3%) had 30 or less individuals to supervise. Another 19.5% had between 31 and 60 total people to supervise. Regarding total staff, 22.2% had 61 people or more to supervise.

Table 15 indicates that 72.2% of the respondents indicated no significant change in the number of
Table 11

Economic Background of the Students of the Elementary and Secondary Principals of the Study

<table>
<thead>
<tr>
<th>Type</th>
<th>Elementary</th>
<th>Secondary</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Mainly Upper Class</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mainly Upper &amp; Middle Class</td>
<td>5</td>
<td>7.0</td>
<td>7</td>
</tr>
<tr>
<td>Mainly Middle Class</td>
<td>7</td>
<td>9.7</td>
<td>2</td>
</tr>
<tr>
<td>Mainly Middle &amp; Lower Class</td>
<td>14</td>
<td>19.5</td>
<td>23</td>
</tr>
<tr>
<td>Mainly Lower Class</td>
<td>7</td>
<td>9.7</td>
<td>3</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>1.4</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>72</td>
<td>100.0</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 12

Enrollment of the School of the Elementary and Secondary Principals of the Study

<table>
<thead>
<tr>
<th>Number of Students</th>
<th>Elementary</th>
<th>Secondary</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>1 - 300</td>
<td>25</td>
<td>34.7</td>
<td>3</td>
</tr>
<tr>
<td>301 - 600</td>
<td>9</td>
<td>12.5</td>
<td>13</td>
</tr>
<tr>
<td>601+</td>
<td>-</td>
<td>-</td>
<td>22</td>
</tr>
<tr>
<td>Total</td>
<td>-</td>
<td>-</td>
<td>72</td>
</tr>
</tbody>
</table>
Table 13

Total Number of Teachers Supervised of the Elementary and Secondary Principals of the Study

<table>
<thead>
<tr>
<th>Number of Teachers</th>
<th>Elementary n</th>
<th>%</th>
<th>Secondary n</th>
<th>%</th>
<th>Total n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 30</td>
<td>34</td>
<td>47.2</td>
<td>11</td>
<td>15.3</td>
<td>45</td>
<td>62.5</td>
</tr>
<tr>
<td>31 - 60</td>
<td>-</td>
<td>-</td>
<td>26</td>
<td>36.1</td>
<td>26</td>
<td>36.1</td>
</tr>
<tr>
<td>61 - 90</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>1.4</td>
<td>1</td>
<td>1.4</td>
</tr>
<tr>
<td>91+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>72</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Table 14

Total Number of Professional and Non-Professional Staff Supervised by the Elementary and Secondary Principals of the Study

<table>
<thead>
<tr>
<th>Number of Staff</th>
<th>Elementary n</th>
<th>%</th>
<th>Secondary n</th>
<th>%</th>
<th>Total n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 30</td>
<td>32</td>
<td>44.4</td>
<td>10</td>
<td>13.9</td>
<td>42</td>
<td>58.3</td>
</tr>
<tr>
<td>31 - 60</td>
<td>2</td>
<td>2.8</td>
<td>12</td>
<td>16.7</td>
<td>14</td>
<td>19.5</td>
</tr>
<tr>
<td>61 - 90</td>
<td>-</td>
<td>-</td>
<td>16</td>
<td>22.2</td>
<td>16</td>
<td>22.2</td>
</tr>
<tr>
<td>91+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>72</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>
students entering or leaving their school district. However, 27.8% indicated they were experiencing rapid loss or rapid gain in their school district.

Overall, the information obtained from the Personal Data sheet indicates that elementary and secondary school principals are generally similar regarding personal characteristics, experience, and academic background. There is a significant difference between the number of males and females who are principals, with males holding 76.4% of the positions. If one becomes a principal after the age of 44, it is likely to be as principal of an elementary school. Although the majority of principals do not still teach, those who do are more likely to be elementary school principals. An important difference in the size of schools is noted in the findings. Most elementary schools were small while secondary schools were large. As a result, the secondary school principals generally had more teachers and other personnel to supervise.
Table 15
Rapid Gain/Loss of Students in School District of the Elementary and Secondary Principals of the Study

| Type of Change | Elementary n |  | Secondary n |  | Total n |
|----------------|-------------| |-------------| |---------|
| No Change      | 27 37.5     | | 25 34.7     | | 52 72.2 |
| Rapid Gain/Loss| 7 9.7       | | 13 18.1     | | 20 27.8 |
| Total          | 72 100.0    | |             | |         |

Results of t-Tests

Hypothesis 1. There is no significant difference in occupational environment stress between elementary and secondary school principals.

Means were computed using SPSS and the t-test performed. The results (see Table 16) indicate that between elementary and secondary principals there is no significant difference (t=1.16, p>.05) in occupational environment stress as measured by the Occupational Environment Scales. The null hypothesis is accepted.

Hypothesis 2. There is no significant difference in personal strain between elementary and secondary school principals.
The SPSS program was used to compute means and the t-test performed. The results (see Table 16) indicates there is no significant difference ($t=1.56, p>.05$) in personal strain as measured by the Personal Strain Questionnaire between elementary and secondary school principals. The null hypothesis is accepted.

Hypothesis 3. There is no significant difference in personal coping resources between elementary and secondary public school principals.

Again, the SPSS program was used to compute means and the t-test performed. The results (see Table 16) indicate that there is no significant difference ($t=-0.03, p>.05$) between elementary and secondary public school principals and personal coping resources as measured by the Personal Resources Questionnaire. The null hypothesis is accepted.

**Pearson Correlation Coefficients and Multiple R**

Pearson correlation coefficients were run with the ten independent variables thought to have a relationship on the three dependent variables: measures of stress, strain, and coping (see Table 17). The data reflect that no individual characteristic significantly predicts scores on the measures of stress, strain, and coping. Computation of R-Square for the OES indicates sex, years principal, and change are predictive of scores.
Table 16

$t$-Test for the Occupational Environment Scales (Stress), Personal Strain Questionnaire (Strain), and Personal Resources Questionnaire (Coping) for Elementary and Secondary Public School Principals

<table>
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<tr>
<th>Variable</th>
<th>Mean</th>
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<th>Stand. Error</th>
<th>t-Value</th>
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Table 17

Pearson Correlation Coefficients for Personal and Institutional Characteristics and Measures of Occupational Environment Scales (Stress), Personal Strain Questionnaire (Strain), and Personal Resources Questionnaire (Coping)

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<th>Age</th>
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<th>Years Teaching</th>
<th>Years Principal</th>
<th>Age First Principal</th>
<th>Location</th>
<th>Economic Background</th>
<th>Enroll</th>
<th>Total Supervised</th>
<th>Change</th>
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<th>PSQ</th>
<th>PRQ</th>
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<td>0.51***</td>
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<td>0.14</td>
<td>0.03</td>
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<td>-0.39***</td>
<td>-0.33**</td>
<td>-0.05</td>
<td>-0.06</td>
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<td>Years Teaching</td>
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<td>0.40***</td>
<td>1.00</td>
<td>-0.31**</td>
<td>0.63***</td>
<td>0.12</td>
<td>0.09</td>
<td>-0.23</td>
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<td>-0.14</td>
<td>-0.01</td>
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<tr>
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<td>Enrollment</td>
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<tr>
<td>Total Supervised</td>
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<td>-0.19</td>
<td>0.11</td>
<td>0.04</td>
<td>-0.33**</td>
<td>-0.00</td>
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<tr>
<td>Change</td>
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<td>0.03</td>
<td>-0.06</td>
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<td>-0.02</td>
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<td>0.32**</td>
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<td>0.79***</td>
<td>1.00</td>
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<tr>
<td>Personal Resources Questionnaire</td>
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<td>0.16</td>
<td>0.17</td>
<td>-0.09</td>
<td>-0.54***</td>
<td>-0.64***</td>
</tr>
</tbody>
</table>

*p<.05  **p<.01  ***p<.001
Table 18

Multiple R for Occupational Environment Scales, Personal Strain Questionnaire, and Personal Resources Questionnaire of Elementary and Secondary Principals of the Study

**Multiple R for Occupational Environment Scales**

- Multiple R = 0.54
- R Square = 0.29
- Standard Error = 22.35
- Adjusted R Square = 0.17

**Multiple R for Personal Strain Questionnaire**

- Multiple R = 0.53
- R Square = 0.28
- Standard Error = 21.10
- Adjusted R Square = 0.16

**Multiple R for Personal Resources Questionnaire**

- Multiple R = 0.52
- R Square = 0.27
- Standard Error = 20.04
- Adjusted R Square = 0.15
R-Square for the PSQ indicates sex and years principal are important predictors on scores of strain. Finally, R-Square for the PRQ indicates sex and years principal are also important predictors (see Table 18).

Additional exploratory factor analysis and multiple regression analysis were performed once the initial study was completed to examine the ten independent variables and their predictive value on a total stress score. Three factors were obtained. The first was composed of age one first became a principal, chronological age, and years teaching. The second factor was composed of enrollment of the school and total staff supervised. The third factor consisted of years the individual had been a principal and chronological age. Factor two, enrollment of the school and the total number of staff members supervised, was found to be predictive of a total stress score. The larger the school and the larger the staff the higher the total stress score.
CHAPTER V
DISCUSSION

The purpose of this study was to examine occupational environment stress, personal strain, and coping as reported by elementary and secondary public school principals. In addition, personal and institutional characteristics were examined to see if they were related to stress, strain, and coping. This chapter discusses the study, conclusions drawn, and implications. Suggestions for future research are also presented.

Occupational Stress of Principals

The main purpose of this study was to serve as an exploratory study to determine if elementary and secondary school principals differed in occupational stress, strain, and coping. As discussed in Chapter I and II, occupational stress among educators has been a growing concern due to the perception of public schools as experiencing numerous problems. The results of this study indicate that there is no significant difference between elementary and secondary public school
principals in measured occupational stress, strain, and coping.

In addition to the main hypotheses, a variety of personal/institutional characteristics were examined in relation to scores on the measures of stress, strain, and coping. Male principals experienced more stress and strain but also scored higher than females on the measure of coping. The number of years as a principal and change in the school district student population (rapid loss/gain) were related to scores on the Occupational Environment Scales, a measure of stress. The number of years as a principal and number of people supervised were related to scores on the Personal Strain Questionnaire. Other studies have found that number of people supervised (Covington, 1982) and length of experience (Cusack, 1982) were related to stress.

The Personal Resources Questionnaire, which measures coping, found the number of years as principal and sex of the principal were predictive of scores. Male principals with longer experience scored higher.

Previous studies of principals have found stress to be greater for elementary principals (Schuetz, 1980; Steffen, 1985) while others have found secondary principals experiencing more stress (Cusack, 1982; Kadlec, 1982; Milligan, 1982). The lack of
consistency reported in the research literature partially reflects methodological problems in the research on stress. The current study attempted to overcome some of the previous limitations by using standardized instruments developed by Osipow and Spokane (1983).

Given the results of the initial study, it was decided to do additional exploratory factor analysis and multiple regression analysis of the data. Three factors were found. The first was composed of the age when one first became a principal, chronological age, and years teaching. The second factor was composed of enrollment of the school and total staff supervised. The third factor was composed of years principal and chronological age. Factor analysis and multiple regression found that factor two, enrollment of the school and the number of staff members supervised, were predictive of a total stress score made up of the three dependent measures.

Overall, it appears that elementary and secondary principals do not differ markedly in occupational stress. They appear to be affected by the same stressors and use the same coping mechanisms. Whether principals differ from other occupations was not in the scope of this study. Hopefully, results from this study can be useful to others who do comparative studies.
Implications of the Study

The scope of this research study was limited and as a result caution must be used in arriving at implications. The study examined the stress, strain, and coping of elementary and secondary school principals. Although they hold the same position, or role, their occupational environment differs in one major respect - age of students. Principals of elementary and secondary schools appear more similar than different as a result of their role.

Some interesting implications might be drawn from the responses to the Personal Data Sheet. For example, over 75% of the responses indicated the respondents were men. Although the field of education is predominantly female, administrators still tend to be male. Those females who did respond tended to be principals of elementary schools.

Interestingly, of all the responses received, none of the principals reported being principal for more than 21 years. Perhaps this reflects retirement as soon as eligible. The lack of job satisfaction after a number of years might also be a factor. No longitudinal studies regarding long term occupational stress experienced by educators is noted in the research.
Although not a focus of this study, preliminary comparisons with data collected using the Occupational Environment Scales, Personal Strain Questionnaire, and Personal Resources Questionnaire indicate that principals do not appear to differ markedly from the normative population used in development of the instruments. Further research is needed before drawing a conclusion but it does tend to support some of the more recent findings that occupational stress in education is not as drastic as some have contended.

**Suggestions for Future Research**

Several suggestions are made regarding future research resulting from this study.

First, studies might be conducted using a larger number of subjects obtained throughout the United States. Perhaps it is more stressful to be a principal in Ohio than it is in Oregon.

Second, longitudinal studies are needed to determine the long term impact of occupational stress. Studies with principals tested at the start of their career and during their career are needed.

Third, comparative studies of principals and other occupational fields. These studies could compare and contrast stress, strain, and coping among various occupations.
APPENDIX A

SAMPLE REQUEST FOR PARTICIPATION LETTER
March 31, 1986

Dear Principal:

As a member of the Ohio educational community you are probably aware of the interest in stress and the school environment. Surprisingly, most of the research conducted has been concerned with teachers and very little research has focused on stress and principals. I am requesting your assistance in a study of stress in principals which is part of my doctoral dissertation entitled, "Occupational Environment Stress, Personal Strain, and Coping: A Study of Elementary and Secondary Public School Principals." The results should be of interest both personally and professionally to all principals.

Your participation in this study is strictly voluntary. If you choose to participate, simply complete the enclosed personal data sheet and the three questionnaires: the Occupational Environment Scales, the Personal Strain Questionnaire, and the Personal Resources Questionnaire. The questionnaires are very quick to complete and the whole process should only take 15-25 minutes. Please do not include your name on any of the questionnaires or the personal data sheet. The resulting data collected will be used collectively, not individually. Of course, all responses will be confidential.

Once the study is completed I would be pleased to send anyone interested a summary of the results. If you want a copy of the results place your request on the postcard enclosed and mail separately.

Thank you for your cooperation. I appreciate your taking time from your busy schedule to help with this project.

Sincerely yours,

Sidney A. Thower
Doctoral Candidate,
Department of Psychology
The Ohio State University

College of Social and Behavioral Sciences
APPENDIX B

SAMPLE PERSONAL DATA QUESTIONNAIRE
**PERSONAL DATA SHEET**

1. **Age:** __________  
2. **Sex:** Male  Female

3. **Marital Status:** Single  Married  Divorced  Widowed  Other (please specify)

4. **Race:** Black  White  Hispanic  Other (please specify)

5. **Highest degree obtained:** Bachelor's degree  Master's degree  Specialist  Doctorate

6. **Number of years teaching (if any) before becoming principal:** __________

7. **Number of years you have been a principal:** __________

8. **Total number of years working in education:** __________

9. **Age when you first became principal:** __________

10. **Do you still teach one or more courses, even as principal?** Yes  No

11. **School location:**  
- Urban  
- Suburban  
- Rural  
- Other (please specify)

12. **Economic background of students:**  
- Predominantly White  
- Predominantly Black  
- Predominantly Hispanic  
- Other (please specify)

13. **School composition:**  
- Mainly upper class  
- Mainly upper and middle class  
- Mainly middle class  
- Mainly middle and lower class  
- Mainly lower class  
- Other (please specify)

14. **Total enrollment of school (approximate):** __________

15. **Total number of hours worked per week (approximate):** __________

16. **Number of teachers supervised:** __________

17. **Number of other professional staff supervised:** __________

18. **Total number of professional and non-professional staff supervised:** __________

19. **Is your school district experiencing rapid loss or gain of student population?** Yes  No

   If yes, check the appropriate description:  
   - Rapid loss of student population  
   - Rapid gain of student population  
   - Other (please specify)
BIBLIOGRAPHY


