



Burnout among the isolated, rural teachers in Montana
by Ryan D Taylor

A thesis submitted in partial fulfillment of the requirements for the degree of Doctor of Education
Montana State University
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Abstract:

The major problem of this study was to determine if there was an indication of teacher burnout within the ranks of the isolated, rural elementary teachers in Montana during the 1985-86 school year. Also a major problem of this study was to determine if the incidence of teacher burnout could be identified as being concentrated in an identifiable stratification of the population.

The MBI, Maslach Burnout Inventory, created by Christina Maslach and Susan Jackson was used to measure the burnout perceptions of the teachers in the study. Specially tailored demographic sheets were also used to gather information for statistical analysis.

One-way analysis of variance was used as the method for testing the differences between the means. Where significant differences were obtained the Student Newman-Keuls post hoc test was used. A series of two-way analysis of variance were used to test for interaction among the six independent variables identified for the study. The level of significance was .05.

The conclusions of this study suggest that burnout exists (approximately 21%) within the ranks of Montana's rural teachers; that younger teachers reflect greater feelings of emotional exhaustion and depersonalization than do more experienced teachers; that teachers in the 28 - 38 age group working in schools in excess of one hour from their superordinate had a tendency to feel high degrees of depersonalization in their job, that the longer a teacher spends on the job the greater their reported level of emotional exhaustion, and that teachers that took time off during the summer to attend inservice training were more satisfied with their jobs.

The major recommendation for education was for inservice training for rural superordinates and school trustees to make them aware of the problems the teachers in their rural, "Country" schools are encountering.

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TEACHERS IN MONTANA

by

Ryan D. Taylor

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of the requirements for the degree

of

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APPROVAL

of a thesis submitted by

Ryan D. Taylor

This thesis has been read by each member of the thesis committee and has been found to be satisfactory regarding content, English usage, format, citations, bibliographic style, and consistency, and is ready for submission to the College of Graduate Studies.

5-12-86
Date

Robert J. Thibault
Chairperson, Graduate Committee

Approved for the Major Department

5-20-86
Date

Ronald L. Rooson
Head, Major Department

Approved for the College of Graduate Studies

May 28, 1986
Date

Henry L. Parsons
Graduate Dean

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Date 19 May, 1986

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ABSTRACT

The major problem of this study was to determine if there was an indication of teacher burnout within the ranks of the isolated, rural elementary teachers in Montana during the 1985-86 school year. Also a major problem of this study was to determine if the incidence of teacher burnout could be identified as being concentrated in an identifiable stratification of the population.

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One-way analysis of variance was used as the method for testing the differences between the means. Where significant differences were obtained the Student Newman-Keuls post hoc test was used. A series of two-way analysis of variance were used to test for interaction among the six independent variables identified for the study. The level of significance was .05.

The conclusions of this study suggest that burnout exists (approximately 21%) within the ranks of Montana's rural teachers; that younger teachers reflect greater feelings of emotional exhaustion and depersonalization than do more experienced teachers; that teachers in the 28 - 38 age group working in schools in excess of one hour from their superordinate had a tendency to feel high degrees of depersonalization in their job, that the longer a teacher spends on the job the greater their reported level of emotional exhaustion, and that teachers that took time off during the summer to attend inservice training were more satisfied with their jobs.

The major recommendation for education was for inservice training for rural superordinates and school trustees to make them aware of the problems the teachers in their rural, "Country" schools are encountering.

Chapter 1

Introduction

Teacher burnout and the stress-related conditions of teaching are not new phenomenon to education. Turch (1980) reported that conditions of burnout and stress have vexed educators for at least a major portion of this century and has probably been associated with the teaching profession in the United States since colonial times. Smith and Milstein (1984) supported Turch through their extensive, sixty year review of the literature that addressed the stress-related concerns of educators. However, teacher burnout and the stress-related circumstances associated with burnout have not been limited to past educational adversities.

Cassel (1984) emphasized that because of the amplification of stress-related problems in schools the incidence of teacher burnout has been steadily increasing, and at an alarming rate. In fact, Farber (1982b) identified the current situation facing teachers as being near the critical point because no substantive effort had been made to assist teachers who had become victims of burnout to cope with their situation or to assist potential victims of burnout in reducing the distressful conditions. Smith and Milstein in 1984 predicted that teacher burnout would be an ongoing educational problem of the future when they summarized that teacher burnout and stress would "continue to be one of our major concerns for the foreseeable future"(p. 39).

The twentieth century has been a time of continued growth in education. But, according to Smith and Milstein (1984) teachers' concerns about their

careers have remained relatively constant since the 1930's. Teachers working during the 1930's and teachers in 1984 did identify similar aspects of their jobs that had caused them stress and had led to burnout. However, in recent years, teacher burnout and stress-related problems have received so much attention in the media that many people wondered if these related conditions were just another educational fad or if there really was a serious problem (Cunningham, 1982). Farber and Miller (1981) reported that in the last decade, no other professional group had been criticized with the intensity or as frequently as teachers by the media.

The concepts of both burnout and stress have been defined in various ways. Melendez & de Guzman (1983) bound the two concepts together when they defined burnout as "a distinctive kind of work- related stress" (p. 5). However, Farber (1982a) suggested that burnout and stress were separate and distinct concepts with burnout being the the result of stress. He stated, "Burnout can be regarded as the final step in a progression of unsuccessful attempts to cope with negative stress conditions" (p. 8). He defined burnout in terms of stress as, "unmediated stress-of being stressed and having no 'out', no buffer, no support system" (p. 8). Farber picked up upon the original stress research of Selye when he described stress as having both positive and negative effects and as a condition "necessary to motivate action" (p. 8). Maslach (1978) further identified the specific type of stress that resulted in job burnout as being related to emotional exhaustion. She referred to this type of stress as the "emotional exhaustion syndrome" (p. 56).

Sweeney (1981), Cassel (1984) and many others have identified teacher burnout and teacher stress as two of the primary problems facing educators. Smilansky described teaching as follows:

teaching is a very stressful job requiring an individual to stand for many hours daily, alone, before a group of sometimes alienated pupils. The teacher has to play multiple roles such as supporting, parenting, disciplining, taskmaster, stimulating actor and informed resource person (1984, p. 85).

Cunningham (1982) identified the identical instructional roles, responsibilities, and prestige afforded to teachers regardless of their experience or talent as another cause of stress. He tied these conditions to burnout when he stated: "this lack of differentiation contributes to burnout" (p. 20).

The nature of the job and the inherent structure of the educational system has been identified as daily stress-related factors that must be addressed by teachers (Farber, 1982a). A few authors have cited job satisfaction as being a major contributor to burnout. Smilansky (1984) concluded that a teacher's job satisfaction was directly related to general self-esteem, to the level of classroom control and to each teacher's sense of accomplishment.

Farber (1982a) described teaching as "a very lonely profession," he used that expression to symbolize the plight of teachers. He identified those conditions normally associated with teacher stress and burnout and then concluded, as did Smilansky, 1984; Turch, 1980, and others, that loneliness was a condition which encompassed all of the negative stress-causing symptoms because classroom teachers were by design, alone with their problems.

Smith and Milstein (1984) reported that traditionally, teachers were urged to be well-adjusted, self-actualizing persons. Farber (1982a) indicated

that from his research, the majority of teachers were well-adjusted, self-actualized people. However, self-actualization encouragement was not effective and few, if any teachers were reaching self-actualization. Other solutions to the problem of teacher burnout have been ineffective as well. Smith and Milstein (1984) indicated that solutions to stress or burnout conditions have generally, in the majority of the cases, focused upon "teacher cure thyself" prescriptions because no standardized treatment approaches had been established. However, research into burnout and stress-reduction has been ongoing. Farber and Miller (1981), Kahn (1978), Fruedenberger (1974), Maslach (1976, 1978) and others have made recommendations ranging from preventative measures to stress-reducing activities which have helped reduce the effects and incidence of teacher burnout.

Frey and Young (1983) reported that a good principal-teacher relationship and technical support reduced the daily stressors that could result in teacher burnout and that most principals failed to realize the importance of their role in reducing teacher stress. Pines (1983) added that "principals do play a vital role in the mental health of teachers" (p. 41). Farber (1982a) included the school administrator's efforts to reduce teachers' feelings of isolation as yet another vital role that principals must assume. However, teachers in one and two teacher schools in rural Montana have not had a building principal and their superordinate, who was usually a County Superintendent of Schools, may have been as many as ninety miles away.

Little, if any, data has been gathered with respect to stress and burnout conditions possibly being experienced by isolated, rural educators. These teachers were usually required to live alone in a desolate setting, without much

social life and far from support of comrades and supervisors. The previous studies of teacher burnout have been conducted in urban or suburban settings. The stress factors causing burnout among rural teachers have not been identified. It was not known if the stress factors that resulted in burnout in the rural Montana schools would be consistent with those stress factors identified by the studies conducted in the larger school systems.

Therefore, unknowns existed: was there a problem of teacher burnout in the rural schools in Montana; and could a study of the population of rural teachers in Montana provide some of the needed information that would provide insights into the unsolved aspects of teacher burnout?

Statement of the Problem

The problem of this study was to determine if there were low, moderate or high levels of burnout among the isolated, rural elementary teachers in Montana during the 1985 - 1986 academic year.

The intent of the study was threefold: to determine the extent of teacher burnout in isolated, rural Montana schools; to identify if the reported levels of burnout were equally distributed throughout the ranks of the rural teachers or if burnout was concentrated in an identifiable stratification; and to make recommendations that could be gleaned from the results of the teacher profile data and the survey that could assist these teachers in dealing with the stress-related conditions that could result in burnout.

Need for the Study

As evidenced by the steady increase in the number of studies and reports that have been published in the area of teacher burnout, it has become

obvious that the concept is one of the most complicated and disturbing issues in education (Smith and Milstein, 1984). To further complicate the issue, there have been numerous articles published that address teacher stress, the relationship of stress to burnout and the symptoms of burnout (Farber, 1982a). However, the vast majority of these reports and studies have been conducted in large urban or suburban areas that had populations greater than the State of Montana, let alone Montana's largest city. Therefore, the reported extent and underlying symptoms of teacher burnout that have been identified by the studies conducted in the larger metropolitan areas could have been skewed information, not pertinent to those educators working in the isolated schools in rural Montana.

The only studies combining burnout and teachers working in smaller schools were the studies by Rottier, Kelly and Tomhave (1983), which was conducted in small (K-12) school districts in Minnesota, and the study conducted by Dedrich, Hawkes and Smith (1981) that used medium-sized (K-12) school systems in Iowa. Rottier, Kelly and Tomhave; and Dedrich, Hawkes and Smith's results indicated that teachers did perceive stress-related problems quite differently from their counterparts in the urban or suburban schools. These studies identified the teachers inability to move, the lack of job satisfaction and the system, i.e. the practices commonly employed in education, as reported causes of teacher stress. These studies attempted to substantiate the fact that teacher burnout has been universal, that it has increased steadily and that teachers by their own volition were not able to combat or "cure" the situation (Smith and Milstein, 1984).

To date, there has not been a study conducted using data collected from teachers working in the isolated, rural schools in Montana. These teachers have usually been required to live at or near their school, work alone or at best with one other teacher, were deprived of professional association and experienced a very restricted social life outside of the school during the school term. Rural teachers in one and two teacher schools have also been responsible for the instruction of students in multiple-grade settings. The teachers have taught all of the academic disciplines and were assigned many non-traditional duties. These unusual duties included responsibilities for all school requisitions, the daily custodial care of the building, school lunch preparation, school activities director, student transportation, school nurse, school and community counselor, school public relations agent, parent arbitrator in cases of student discipline, outside toilet maintenance, and minor building maintenance.

The concept of teacher burnout in isolated, rural schools has not been studied. Possibly this was due to the lack of an adequate number of rural schools in other states or due to the lack of consideration usually afforded to these small educational institutions by educational planners and researchers.

General Questions to be Answered

The following research questions were answered in this study:

1. Will burnout be indicated by rural teachers as a condition of their job?
2. What age stratification of teachers will report the greatest amount of burnout?

3. Will teachers working in one teacher rural schools report burnout differently from teachers working in two teacher schools?
4. Do teachers perceive burnout differently if they have differing amounts of teaching experience?
5. Do teachers perceive burnout differently if they have differing amounts of educational preparation?
6. Will teacher gender affect how they report burnout?
7. Will distance, reported in number of minutes it takes to get from the teacher's school to the superordinate's office, affect how the teachers report burnout?
8. Will age, experience, educational preparation, gender, and time from the superordinate's office have an interacting effect on how teachers report burnout?

General Procedures

This problem was addressed by first conducting a thorough review of the literature to determine the history, characteristics, magnitude, causes, cures and ramifications of teacher burnout. The population was identified and every teacher in the population was mailed a post card informing them of their selection for participation in the study. Then the Maslach Burnout Inventory, (MBI), a burnout survey instrument, and a teacher profile sheet was mailed to each rural teacher in the population.

Non-respondents were mailed a follow-up request fifteen days after the original mailing. The results of the returned survey responses were compiled

and scored in conjunction the the procedures outlined by the guidelines established for the MBI.

The raw data and the converted scores collected from the surveys were organized in tabular and narrative form and analyzed using statistical procedures. Conclusions and recommendations were formulated from the results of the data.

Limitations

1. The study was limited to teachers working in isolated, rural schools in Montana.
2. Data was collected via a mailed survey from isolated, rural teachers throughout the state of Montana.
3. The study was conducted in the winter and spring of 1986.
4. Data was not collected from teachers who had left the profession.
5. Data was not collected from teachers who were no longer teaching in an isolated, rural setting.

Delimitations

1. The study did exclude schools that had more than two full time teachers.
2. The study did exclude schools that had more than thirty five students.
3. The study did exclude part-time teachers. Only full-time, certificated personnel were included.

Definition of Terms

1. Administrator

An administrator was a Montana certified, class III, staff member designated as either a district superintendent or a building level principal.

2. Burnout

The key words usually used to define burnout include: to fail; wear out; or become exhausted by reason of excessive demands on energy, strength, or resources (Webster's Third New International Dictionary, 1966).

3. Depersonalization

An unfeeling and impersonal response towards recipients of one's care and/or service (Maslach Burnout Inventory manual, p. 6).

4. DPF

Depersonalization Frequency, one of the scales on the MBI.

5. DPI

Depersonalization Intensity, one of the scales on the MBI.

6. Distress

A physical, chemical, or emotional factor such as trauma, histamina, or fear to which an individual fails to make a satisfactory adaptation, and which causes physiological tensions that may be contributing causes of disease (Webster's Third International Dictionary, 1966).

7. Emotional Exhaustion

Feelings of being emotionally overextended and exhausted by one's work (Maslach Burnout Inventory manual, p. 6).

8. EEF

Emotional Exhaustion Frequency, one of the scales on the MBI.

9. EEI

Emotional Exhaustion Intensity, one of the scales on the MBI.

10. Eustress

Good stress, stress that results in a person having good feelings (Selye, 1976, p. 74).

11. Isolated, Rural School

For the purpose of this study "Isolated, Rural School" was defined as all public, rural, one and two teacher Montana schools. These schools are sometimes referred to as country schools.

12. MBI

Maslach Burnout Inventory, created by Christina Maslach and Susan Jackson. This was the survey instrument for the study.

13. Personal Accomplishment

Feelings of competence and successful achievement in one's work with people (Maslach Burnout Inventory manual, p. 6).

14. PAF

Personal Accomplishment Frequency, one of the scales on the MBI.

15. PAI

Personal Accomplishment Intensity, one of the scales on the MBI.

16. Stress

the nonspecific response of the body to any demand made upon it. Stress was what remained when we disregarded specific changes (Selye, 1974, p. 141).

17. Teacher

Teachers are Montana certified personnel, class I or II, who were employed full-time in a school and who were not the principal or the superintendent.

18. Third Class District

A school system (K-12) that services a community population of less than 1000 residents (Revised Codes of Montana, 20-6-201, 1985).

Chapter 2

Review of the Literature

Introduction

This chapter will be divided into three main parts. These three parts include: Burnout and Stress, A Review; Burnout, Symptoms, Stressors and Cures; and Burnout Recovery.

Burnout and Stress. A Review

This section will be made up of the following eight subparts: (1) Historical Perspective of Teacher Burnout; (2) Burnout Identified; (3) The Physiological Aspects; (4) The Psychological Aspects; (5) Distress and Eustress; (6) Work Stress and Job Burnout; (7) The Classic Burnout Model; and (8) Burnout in Schools.

Historical Perspective of Teacher Burnout. The concept of teacher burnout and the resulting effects on education has not been thoroughly researched. Turch (1980) contended that in order to have a functional understanding of the current situation of teacher burnout, the reader needed an understanding of the history of education in the United States. He stated:

to appreciate the effect of teacher stress and burnout on contemporary society requires some understanding of the history of education on this continent (p. 13).

Turch continued by stating that "education has been and still is, the people's servant" (p. 13). Brenton, in his book What's Happened To Teacher? quoted a

statement from the 1929 Columbus Dispatch that depicted the attitude of the public with respect to female teachers of the day. The Dispatch stated:

Teachers should know that it is part of American educational tradition that a teacher should have little or no freedom. She is born to be suppressed and harassed by a system of supervision designed to keep her docile (p. 72).

Similar attitudes prevail in the public mind today. Teachers are still told what to teach, how to teach, and when to teach (Kirst, 1984; Turch, 1980). No other professional group in the United States has been or is monitored so closely (Turch, 1980) or criticized as frequently or as intensely as teachers (Farber and Miller, 1981).

Smith and Milstein's fifty year review of the literature supported the work of Brenton and Turch. Smith and Milstein (1984) stated "even though there have been some shifts in issue focus, there are many that have concerned educators since the 1930's" (p. 47). They identified the following eight stress-related constants that have concerned teachers for the last fifty years:

(1) rewards by years in the profession rather than by achievement; (2) little opportunity for collegial feedback; (3) role conflicts; (4) little control by teachers over decisions affecting their work; (5) lack of career ladders; (6) educational training that appears to be inadequate or irrelevant; (7) perception that many administrators are poorly prepared, or at least don't seem to care; and (8) the failure of school districts to protect teachers in basic survival areas (p. 48).

Turch tied the past to the present and the future, when he expressed that "teachers need to understand their roots in order to achieve some perspective and reflect on the direction the future will take" (1980, p. 13).

Burnout Identified. There is not one, universal definition for the "dis-ease" referred to as "burnout." The dictionary definition of the verb "burnout" is "to fail, wear out, or become exhausted by making excessive

demands on energy, strength, or resources." Ricken (1980) stated that a condition of burnout existed whenever a person performed his/her job by "simply going through the motions" (p.21). Bramhall and Ezell (1981) identified burnout as being "a mental, emotional, and physical condition that manifested itself in an array of symptoms" (p. 23). Pines (1978) and Kahn (1978) added inappropriate attitudes to the conditions identified by Bramhall and Ezell. Zahn (1980) referred to burnout as being, "a cluster of exhaustion reactions occurring in people whose occupation is helping people" (p. 4). However, Hendrickson (1979) made no direct reference to the physical, emotional, mental or attitudinal aspects usually associated with burnout when he referred to burnout as being:

a response to circuit overload; it is the unchecked stress caused by the institution's impersonal and unyielding demands and by the immediate environment in which teaching is done (p. 37).

At the other end of the definition spectrum, Jackson (1982) stated that the word burnout had become a verbal Rorschach test with an individual meaning for each person using the word.

Originally, the research with respect to burnout was restricted to the helping, human services professions, i.e. nursing and social work (Cherniss, 1980). Freudenberger (1974) identified stress resulting from boredom caused by the routinization of the job as being a condition of burnout in the helping professions. Maslach (1976, 1978; Kahn, 1978; Belcastro and Gold, 1983) stated that burned out professionals lost concern for their clients and treated them in detached, even dehumanizing ways and that burned out people often became ill, suffering from insomnia, ulcers, migraine headaches as well as more serious illnesses. Maslach (1978) capsulated all of the conditions pertaining to burnout when she classified burnout, as "the emotional

exhaustion syndrome" (p. 56). Weiskoph (1980) summarized that teacher burnout was related to stress when she stated, "it is evident that teachers do burnout and that stress is directly associated with this syndrome" (p. 21).

Recently, researchers have added education to the ranks of helping services and have made teachers the focus of studies of burnout. For example, Smith and Milstein (1984) in their historical review of the literature reported that burned-out teachers minimize their classroom energy output. They stated:

the accumulation of unresolved stresses so greatly out-distance the meager accumulation of needs fulfillment and rewards for teachers that many are simply no longer able to find the psychic energy to go on (p. 50).

Smith and Milstein (1984) provided additional information concerning illness caused from burnout: "teacher burnout signals the last stage of endurance before collapse" (p. 50). In addition to the personal problems, including illness identified as being caused by burnout, it was reported that burnout had a debilitating effect on the process of education.

Weiskoph (1980) identified teacher burnout as having adverse effects on the educational program offered and delivered to children when she stated:

ultimately, burnout affects the children. Burned out teachers think only of their personal survival in the classroom. They are not caring for nor listening to their students. At best a burned out teacher neither prevents student progress nor furthers it (p. 22).

The Physiological Aspects. Harry Truman made the often quoted remark, "if you can't stand the heat, get out of the kitchen." Farber (1982b) identified being stuck in their position as being a major source of stress for teachers that caused a feeling of helplessness plus possible physiological problems. Farber felt that teachers could not "get out of the kitchen."

Truman's remark could have read, "if you can't take the stress that goes with your job, get out of your job." Selye popularized the term stress in the early fifties and sixties as a general adaptation syndrome. He felt that the body's psychological response to stimuli was specific to that stimuli and that there would be a constant physiological response to varied stimuli which he called, stress.

Selye (1974) in his discussion of the psychological aspects of stress made light of the Declaration of Independence phrase, "We hold these truths to be self-evident, that all men are created equal...", because of the relationship stress has to the individual goals and aspirations we strive for in our everyday lives. He identified mental tension, frustration, insecurity and aimlessness as being the most damaging stressors facing people.

The causes and effects of stress on teachers have not been studied substantially, as Coates and Thorsen (1976) reported from the results of their national study:

the stress and tension or anxiety among teachers represents one area of teacher personality that has remained all but ignored from a cause and effect perspective (p.160).

Burke (1976) in his discussion of Role Theory further described stress-related situations that would have serious consequences for teachers. He outlined role theory and identified one type of role conflict as follows:

role theory states that when the behaviors expected of an individual are inconsistent, one kind of role conflict, he will experience stress, become dissatisfied, and perform less effectively than if the expectations imposed on him did not conflict. Role theory likewise states that role ambiguity, lack of the necessary information available to an organization position, also increases the probability the person will be dissatisfied with his role, will experience anxiety, and will, thus, perform less effectively (p. 235-236).

Benson combined the concept of role theory and the theories of stress established by Selye. Benson (1974) stated that, "All humans use the same basic physiologic mechanisms to respond to individually meaningful, stressful events" (p. 51). Benson's statement referred to each individual's flight or fight response: a physiologic change resulting from adrenalin or noradrenalin which is controlled by an area of the brain called the hypothalamus. These physiologic changes are the result of each person's perceptions of a given situation. Benson noted that the fight or flight response could be considered as either an appropriate or inappropriate human response when he reported:

although the flight or fight response is a necessary and useful physiologic feature for survival, the stresses of today's society have led to its excessive elicitation; at the same time, its behavior features, such as running or fighting, are usually socially inappropriate or unacceptable (p. 51).

The elicitation of the fight or flight response resulting from stress has not been restricted to a simple human reaction. The response to stress has been very complex, different for each teacher. The teacher's perception of the stressful condition has been compounded by the physiologic effects of his/her fight and flight response and has resulted in furthering the negative psychological aspects of stressors (Benson, 1974).

Kyriacou and Sutcliff (1978b) described a teacher's job as situational and demanding, a job that could cause a negative stress response syndrome that could result in anger or depression.

Belcastro and Gold (1983) tied their stress-related research of 359 teachers back to the original work of Selye and identified eight somatic complaints that can be used to identify burnout victims. The eight somatic complaints include tightening of muscles, bowel difficulties, tinnitus, warts,

allergic reaction to something in the air, loss of voice, allergic reaction to food, and difficulty breathing. Selye (1974) stated that stress could result in: "migraine headache, peptic ulcer, heart attacks, hypertension, mental disease, suicide or just hopeless unhappiness" (p.109-110).

The Psychological Aspects. While the cause and effect of teacher stress may have been ignored, "the incidence of various types of emotional maladjustment, particularly anxiety, among teachers has received considerable attention" (Coates and Thorsen, 1976, p.160). For example, the National Education Association (NEA) report of 1938 stated that 37.5 percent of a sample of 5150 teachers were seriously nervous or worried. In 1951, the NEA published a similar report that stated 43 percent of a sample of 2200 teachers reported that they were working under considerable strain and tension; and in 1967, 77.9 percent of the NEA's sample of 2290 teachers reported at least moderate strain (Coates and Thorsen, 1976). In 1981, 36 percent of the teachers surveyed by the NEA indicated that they would not chose teaching again as a career choice if they had such an opportunity (Boyer, 1983). In their concluding remarks Smith and Milstein (1984) stated that stress related problems have "vexed educators for at least much of the present century and will probably continue to be one of our major concerns for the foreseeable future" (p. 39).

Needle, Griffin and Svendsen (1981) agreed that stress has been and will be a factor in education but stated, as did Truch (1980) and Melendez and de Guzman (1983), that the manner in which the problem is conceptualized greatly determines the severity of the situation. Needle, Griffin and Svendsen

(1981) reported that the individual's perception of himself/herself was a major contributor to stress. They contended that:

stress is perceived when people's behavior modes are not adequate to meet the demands of situations and when the failure to adapt has serious consequences (p. 175).

Hodge and Marker (1978) identified stress as a universal problem when they stated: "stress is a common denominator in our lives" (p. 49). However, psychological stress is not restricted to personal qualities. Psychological stress resides neither in the person nor in the situation, it depends on a transaction between the two. Melendez and de Guzman (1983) stated: "The environmental stimulus and the reacting individual are both crucial in the response to stress" (p. 7). Hodge and Marker (1978) expanded upon the stress found within the person when they identified three categories of stimuli: environmental; interpersonal; and intrapersonal. They reported that the overlap of these three categories resulted in negative physiological stress and feelings which they identified as distress.

Also, as reported by McNeely (1983), an administrator's over emphasis on teacher's professional growth through skill development without the inclusion of specific training, has resulted in additional, negative, employee stress. McNeely stated:

on the other hand, the presence of overgeneralization, resulting in the continual barraging of workers with complex and ambiguous tasks, may result in stress invocation rather than skill development that enhances professional growth (p. 85).

However, according to Cichon and Koff (1980) "stress is common to the human condition" (p. 91). Some professionals have had training in stress reduction techniques and are aware of the psychologically harmful effects of

stress, but very few school teachers have been trained and therefore do not know how to prevent, to control and live effectively with or to avoid or alleviate these effects (Benson, 1974).

Maslach (1978) identified the flight syndrome of psychological withdrawal as being the usual technique employed by professionals dealing with overly stressful situations. One set of withdrawal techniques identified by Maslach was the fine art of intellectualization; another approach utilized was physical distancing. Maslach maintained that professionals who hid behind the rules were employing a form of physical distancing. Also, in 1976, Maslach reported that individuals that could not resolve their stressful situations on the job often resurrected the situation at home, thereby extending and compounding the stress-causing situation.

Distress and Eustress. Stress has been thought of as being harmful and as an enemy of health. However, not all stress is harmful. A feeling of eustress, meaning good stress, is usually the result of the successful acceptance or completion of a challenge. Eustress can lead to professional or personal growth and does result in pleasant and satisfying conditions (Melendez and de Guzman, 1983). Farber (1982b) identified eustress experiences for the teachers as those that "made them feel sensitive to and involved with their students and committed to and competent in their jobs" (p. 1). Positive relationships with their colleagues, families, and friends were also reported by Farber as being important conditions in the facilitation of the eustress experiences. Smilansky (1984) added the teacher's feeling of satisfaction in his/her classroom and in his/her role as an educator were interpreted as feelings of success: a eustress condition.

The concept of change has been associated with both feelings of success and failure. Toffler in his book Future Shock discussed the positive and negative attributes of change and the resulting effects of change upon individuals, organizations and society. He contended that each change, positive or negative, brought with it a psychological price tag that affected each person differently. Bennis, Benne and Chin (1985) thoroughly reviewed the concept of change. They noted that increased enrollment in alcohol, drug and stress management courses was a sign that negative stress - distress had increased. The concept of change as described by Bennis, Benne, and Chin; and Toffler set forth the paradox of stress as it is related to change, at three levels: personal; organizational; and societal.

However, the paradox of stress "is a significant problem because the same events which make one person ill can be an invigorating experience for another" (Cichon and Koff, 1980, p. 91). Burke (1976) reported the paradox as the positive and negative effects of job pressures. He stated:

certain job pressures may be useful under most conditions; i.e., realistic job performance goals, a heavy work load, or quality workmanship. Other job pressures may be dysfunctional under most conditions; i.e. too little job authority, lack of information, or conflicting job expectations (p. 243).

Burke reported that individuals responded independently to the job pressures, dependent upon their perception of the situation. Maslach (1976) concluded that individuals who feel the most negative effects of distress of on-the-job stress are psychologically "burned-out" by the stress-causing condition.

The paradox, eustress/distress, compounded the burnout situation. Many teaching situations have been perceived as being stressful. However, some situations have been perceived as challenges, eustress, and result in

personal motivation, success and satisfaction, while others have been considered threats, resulting in anxiety, and distress (Melendez and de Guzman, 1983).

Work Stress and Job Burnout. Stress has been identified as an indispensable element, both in a person's life and on the job. Melendez and de Guzman (1983) declared that stress was a necessity for success in the workplace as follows:

it would be impossible to work efficiently without generating some degree of stress. Adrenalin must flow if one is to do a beneficial job. Stress therefore should not be eliminated from the body's system (p. 10).

There is a cost to stress; a price has to be paid. In education, in addition to teachers, the people that have been paying that price are the students (Coates and Thorsen, 1976). Stress in education involved both the teacher and the student. However, it is the teacher who must control the situation:

a teacher may set unrealistic goals for students to achieve. When goals are not realized, feelings of failure produce emotional stress, thereby lowering the teacher's self esteem and self confidence (Weiskopf, 1980, p. 20).

Kyriacou and Sutcliff (1978a) stated that it is how the teacher perceived the situation, not necessarily the actual situation, that contributes to the deterioration of the teacher's self-esteem and their effectiveness. As stated by many authors, teachers often identify only the problems of their students. They, the teachers, failed to see any progress or success in their classroom. Lack of perceived success on the job contributed to lower self-esteem, which retarded the self-actualization process, eventually resulting in burnout (Collins, 1977; Daley, 1979; Farber, 1982a; Fruedenberger, 1977).

Abraham Maslow spent his life studying the self-esteem of people in the self-actualizing process. Maslow (1954) postulated that human beings have a basic hierarchy of needs. This was premised on the theory that for higher-level needs to be addressed, lower-level needs had to be attained or satisfied.

Malanowski and Wood reported from their study of 508 teachers that teachers who were more "self-actualized" were more immune to the pressures that lead to burnout (1984). Sweeney reported an increased lack of higher-level needs fulfillment for teachers working in high schools with enrollments in excess of 1000 students. He stated that schools have not been "meeting the higher level needs of secondary teachers and that those deficiencies may be greater than they were a decade ago" (1981, p. 206). Turch (1980) identified the school's failure to assist teachers in the self-actualization process as being "what is missing in education today" (p. 45).

The Classic Burnout Model. Freudenberger (1974) stated that the dedicated and the committed are prone to burnout. He identified what he called the three pronged attack that leads to burnout. The three-pronged attack included: (1) pressure from within to work harder and help more; (2) pressure from outside to give more; and (3) pressure from supervisors to work more, do more, or achieve more. Bramhall and Ezell (1981) identified what they considered the classic headed-for-burnout personality type. This classic personality involved the beginning professional who took on too much, for too long and with too much intensity. "The seemingly inexhaustible youthful energy of such a person dovetails neatly with the insatiable need of clients for services" (p. 24).

Burnout in Schools. Many authors have related the negative aspects of stress and burnout to the teaching profession. Walsh (1979) contended that teaching was a hazardous profession. He stated: "Teaching may be hazardous to your health" (p. 253). This statement cannot be restricted to only the physical or mental acts of violence that have been reported in our schools. Teacher burnout must also be included. Walsh (1979) described teacher burnout using the terms "battle fatigue or combat neurosis" (p. 253). Farber (1982a) reported that teachers were suffering, suffering from burnout, a "dis-ease" caused by over-emotional stimulation. Melendez and de Guzman (1983) characterized burnout as a distinctive kind of work-related stress.

Melendez and de Guzman (1983) identified teacher burnout as the largest problem facing education today by stating:

staying in the teaching profession is probably the biggest challenge facing teachers today. Year after year, competent teachers abandon their profession. This exodus stems from a variety of reasons, but probably one of the most meaningful and rapidly growing is burnout (p. 12).

Cassel (1984) identified the following five critical factors that he considered as being the "underlying dynamics fostering" teacher burnout:

negative image of the present school system; inadequate teacher preparation; ineffective school management; lack of effective home cooperation; and focus on other than learning or development (p.102).

McNeely (1983) included hierarchical decision-making and educational specialization as two additional factors that relate to teacher burnout. White (1980) asserted that certain events happening within an organization indicated the presence of burnout. He identified the following eight events:

high turnover, low morale, "we-they" polarizations, increased concern with bureaucratic "turf", conflicts over authority, scapegoating of organizational leaders, increased absenteeism, and the replacement of informal communication channels by rigid, role defined channels (p. 4).

Considering teachers individually, Farber (1982a) stated that most, if not all teachers, were stressed by the very nature of their work, and that the teachers perceived their building administrators as being non-supporting, with interests in self-preservation rather than in improving their schools. Fruedenberger (1974) indicated that, "the signs of burnout are easy to spot" (p.160). He identified the following six physical symptoms:

feeling of exhaustion and fatigue, being unable to shake a lingering cold, suffering from frequent headaches and gastrointestinal disturbances, sleeplessness and shortness of breath (p.160).

Fruedenberger summed up the plight of the burned out professional with the following statement, "A greater and greater number of physical hours are spent on the job, but less and less is being accomplished" (p. 161).

Burnout Symptoms, Stressors and Cures

Part two the this chapter will be divided into the following three subparts: Burnout Symptoms, An Overview; Stressor Identification; and Remedies, Preventions and Cures.

Burnout Symptoms, An Overview. Burnout has been identified with depression because both can occur in similar situations. However, the two conditions are not synonymous:

burnout should be distinguished from general depression. While burnout may manifest itself in some ways that are similar to depression, its symptoms are very different and can be defined more specifically. Burnout among helping professionals resembles the battle fatigue of soldiers more than the symptoms of depression (Bramhall and Ezell, 1981, p. 23).

Nevertheless, a few authors concluded that depression was a symptom of burnout (Farber, 1982a; Gold, 1985; Hendrickson, 1979; Cooper and Marshall, 1976; Maslach and Pines, 1977; Weiskopf, 1980). The idea that depression was a symptom illuminates the various ways burnout affects people. Weiskopf (1980) also identified the compounding nature of stress and burnout when she stated: "the symptoms of stress differ for each individual. But, as the degree of burnout intensifies, so do symptoms" (p. 21).

Hendrickson (1979) identified the symptoms of burnout as follows:

being tired all the time, sleeplessness, depression and being physically rundown. Teachers experiencing burnout often have minor physical maladies, such as frequent colds, headaches, dizziness, or diarrhea. If left unchecked, these ailments may turn into ulcers, colitis or asthma, or they may cause loss of appetite and loss of sexual interest" (p. 37).

Cooper and Marshall (1976), Farber (1982a), Farber and Miller (1981), and Maslach and Pines (1977) identified the following burnout symptoms in teachers: anger, anxiety, depression, fatigue, boredom, mental illness, cynicism, absenteeism, substance abuse, psychosomatic symptoms, and marital and family crises. In addition to the symptoms identified above, Bramhall and Ezell (1981) identified loss of a sense of humor, and Maslach (1978) and Wooten and McCullough (1985) identified the gradual loss of caring about the client as being typical symptoms of the burned-out professional. Maslach (1976) discussed the symptom of physical distancing as being an escape mechanism for some burnouts. Zahn (1980) referred to harmful

distancing as being a major symptom of burnout. Finally, Levitov and Wangberg (1983) identified many of the physical symptoms listed. They also concluded that the following poor health habits were usually associated with the burned-out professional: "non-nutritional diet, smoking more, eating more, drinking more, and too little exercise" (p. 20).

Weiskopf (1980) and Wooten and McCullough (1985) stated burned-out teachers did in fact work longer hours and yet contributed less to the education of their students. Zahn (1980) referred to people in this situation as feeling trapped and alone, feelings which he stated may be completely unrealistic. Maslach (1976) stated that even though burned-out professionals tended to keep to themselves, "it is painfully clear that they have a strong need to talk to someone about their problems" (p. 22). However, the teachers were trapped because they had no one to turn to as indicated by the following statement:

when they approach their supervisors and administrators about the problem they are experiencing, they often receive a macho response that in effect asks, "What's the matter, can't you take it?" A further contributing factor to this situation is what we call pluralistic ignorance; that is, many professionals adopt a protective facade of being cool and calm and confident as a way of hiding their fears and feelings (Maslach, 1978, p. 56).

Because of this and other types of rejection, teacher alienation, distrust, and suspicion have replaced commitment, enthusiasm, and cooperation (Ricken, 1980).

Stressor Identification. Coates and Thorsen (1976) in their review of the research for the years 1951 through 1974 inclusive, cited fifteen studies where the sources of anxiety for beginning teachers have been identified. Beginning teacher concerns centered around the following five areas: (1) classroom discipline; (2) academic preparation; (3) how to relate to other faculty,

administrators and parents; (4) how to handle mistakes; and (5) their popularity with the students. Coates and Thorsen also cited seven studies that occurred between the years of 1939 and 1976 where sources of anxiety for experienced teachers have been identified. The concerns of experienced teachers have centered around the following five areas: (1) time demands; (2) student discipline; (3) class size; (4) financial restrictions; and (5) lack of resources.

Stress-perception studies conducted by Needle, Griffin, and Svendsen (1981), Hodge and Marker (1978), and Kyriacou and Sutcliffe (1977) identified and utilized numerous known sources of stress that result in teacher burnout. The results of these studies plus the literature of Cichon and Koff (1980), Farber (1982b), Hendrickson (1979), Hunter (1977), Kyriacou and Sutcliffe (1977), Lorte (1975), and Scrivens (1979) have reported that teacher burnout has been the result of the following stressors: disruptive student discipline; student apathy; overcrowded classrooms; shortage of available support staff; excessive paperwork; excessive testing; involuntary transfer; inadequate salaries; lack of promotional opportunities; demanding parents; lack of administrative, supervisor support; role conflict and role ambiguity; and public criticism of teachers. But, burnout could be the result of multiple stressors as Rottier, Kelly and Tomhave (1983) reported:

teachers have recently been singled out as being severely afflicted with burnout because of the many different types of stress that impinge on them during a given day (p. 72).

Cichon and Koff (1980) identified managing disruptive children, being threatened with personal injury, having a colleague assaulted in school, and being a target of verbal abuse by students as being very stressful, priority concerns of urban teachers. Zahn (1980) identified five stress factors usually

not addressed in the literature. She listed the following: monotony, teaching the same thing, in a similar way, to similar people for long periods of time; negative recognition, an educator's work is noticed only when something is wrong; urban living, living in the city means continual bombardment of the senses; compassion, teachers because of their compassion and caring can give too much, too often; and powerlessness, teachers are judged by what happens to others, over whom they have little control.

Smith and Milstein (1984) stated that "many causes of teacher stress emanate from the way we organize our public schools" (p. 48). They identified inadequate reward structures, lack of power sharing, poor modes of upward mobility, minimal on-the-job support, and faulty professional preparation as being inherent stressors to public education. Wooten and McCullough's (1985) study involved retired professors. They supported Smith and Milstein and added that "burnout takes time to develop and usually begins about the third year" (p. 143). However, Maslach (1976) revealed that her research indicated that time was not necessarily a factor of burnout. She identified such factors as over-crowded classrooms and longer working hours as being conditions where burnout did not require an extended period of time to develop.

Melendez and de Guzman (1983) reported from their investigation into the sources of stress in colleges the following three sources of stress as being of the most concern to faculty: faculty apathy; student apathy; and workload.

But, the stressors have been impossible to identify and what one teacher perceives as a stressful condition may be considered a challenge to a colleague (Gold, 1985). Kyriacou and Sutcliffe (1977) stated:

it should also be noted that if a teacher were to find only one aspect of his/her job extremely stressful, perhaps one not considered by most teachers as a source of stress, this source of stress would cause him/her to rate his/her overall level of stress as extreme (p. 67).

Therefore, the stressors that create distress for teachers have not been fully identified. The lack of this identification has created problems identifying remedies for curing and preventing burnout.

Remedies, Preventions and Cures. Smith and Milstein (1984)

concluded that the "attempted solutions have been focussed on a teacher cure thyself" philosophy that has not been successful (p. 49). Farber (1982a) in his review of the known "cures" for stress and burnout stated:

typically, these solutions fall into one of two categories: (a) stress-reduction techniques such as jogging, meditation, biofeedback, or relaxation training; and (b) group support techniques such as teacher workshops that aim to lesson isolation and produce solidarity through the sharing of problems and solutions (p. 24).

Farber went on to state that solutions of this type have produced some positive short-term benefits, but for the long term they are destined to failure. These solutions have failed because they did not alter the "nature of the malfunctioning system" and did not teach the victims how to alter the sources of their perceived stresses (p. 23).

Bramhall and Ezell (1981) supported Farber's position that traditional cures aimed at burnout have been ineffective. They affirmed that both the short and long term effects of burnout had to be addressed as follows:

because burnout is primarily an exhaustion syndrome, treatment with insight therapy is not enough. In order to overcome burnout, both behavioral and situational changes are necessary. In the short term, burned out workers must be placed on a regime that allows them to rest while continuing to work. They must also alter their personal habits that helped trap them in the exhaustion cycle. In the long term, they must do what they can to alter their job situation so they will not continue to be subject to the stresses that caused them to burn out (p. 27).

This does not mean that the individual can erase all the stressors. Walsh (1979) reported that most of the stressors were a direct reflection of an individual's personality and the environment in which the individual worked and lived.

For those teachers who were suffering from burnout, Benson (1974) and Daley (1979) recommended that relaxation response consisting of either transcendental meditation, Zen and Yoga, autogenic training, progressive relaxation or hypnosis with suggested deep relaxation be considered as an interim treatment. In addition to the relaxation response, Van Aiken (1979) and Maslach (1976) recommended use of humor; Garte and Rosenblum (1978) identified leisure therapy as successful means to temporarily combat the adverse effects of burnout. Hendrickson (1979) and Gold (1985) recognized three steps that each burned out teacher should employ on his/her road to recovery. First, the teacher must recognize the symptoms of his/her stress. Second, the teacher must face the symptoms squarely. Finally, the teacher must realize that he/she is responsible for only how he/she responded to the stressors, not for all the external factors that caused the stress.

Zahn (1980) identified what she entitled the "magic three" essential ingredients: good physical condition; relaxation; and proper nutrition, necessary in the treatment of the burned-out teacher. Also, she identified

having the afflicted teacher discuss his/her problem with sympathetic colleagues, the development of a decompression routine between work and home, adding variety to one's life and reducing crowding, noise and discomfort as additional things that could be done in order to cure the burned-out professional. A more traditional treatment program was suggested by Fruedenberger. He (1974) expressed that the treatment of the burned-out teacher/professional should consist of simply asking the person to go home and not return until he/she felt rested and "back together."

Prevention of burnout has received much attention in the literature both from a theoretical perspective as well as from research perspective. Farber (1982b), Fruedenberger (1974), Hendrickson (1979), Maslach (1976), Smith and Milstein (1984), Reed (1979), Wooten and McCullough (1985), and Zahn, (1980) recommended preventive measures that could be implemented by the teacher, administrator or school system to keep burnout from occurring. Their preventative treatments included: creation of a teacher support system in the school; development a personal growth program for teachers in each building; encourage innovation and creativity; have teachers occasionally change teaching assignments; team teaching; keeping abreast of educational changes within and outside teacher's discipline; developed programs that allow teachers to take time off when needed; encourage teachers to lighten or increase their outside of school commitments; assist teachers to learn to decompress anxieties between work and home; improved district and building communication systems; expand involvement and personal relationships in school; lower expectations; involve parents in school; and have administrators

promote programs that have resulted in increased health and well being of the staff.

However, Fruedenberger (1974) had a pessimistic attitude about burnout, especially the prevention of burnout. He stated, "we cannot prevent burnout, but we can certainly help ourselves and others to avoid it as much as possible" (p. 165).

McNeely (1983) associated the problems of burnout in education with the organizational patterns found in the public schools. He identified the human relations model of management as being a workable solution that met the criteria established by the literature on preventing burnout. The human relations management model has also been used to address the needs of educational special interest groups: teachers; other school staff; students; parents; and the support community.

However, as Weiskoph (1980) reported concerning teacher responsibility: "teachers ultimately are responsible for their effectiveness in the classroom; they need to initiate solutions to cope with emotional stress" (p. 21). Ricken (1980) identified the role of school administrators as having a positive effect on preventing burnout. Ricken stated:

teachers who are personally growing continue to glow brightly and don't burnout. The supervisor and the supervisory relationship must provide this preventative stimulus (p. 23-24).

Ricken identified the supervisory challenge facing educational leaders as, "burnout prevention, it is the supervisory challenge of the 80's" (p. 24).

Burnout Recovery

Fruedenberger (1982) considered recovery from burnout, possible. He noted that teachers and other professionals can recover from burnout. He indicated that teachers/professionals:

can change even if they are burned out. Given the correct remediation interventions, they can return to their job and again become productive (p. 174).

But teachers returning from burnout will find that the teaching job will be the same, the stressors will still be there, waiting. To assist the teacher in returning to the classroom Frey and Young (1983) identified the role, a vital role, school administrators must assume when helping teachers manage the stress of teaching. Cunningham (1982) identified "the capacity to integrate concern for results with concern for people" as being paramount to the effectiveness of the administrator (p. 22). Cunningham went on to list five skills he felt administrators should possess and should incorporate into the administration of their schools. He identified the following effective ways that school administrators could assist teachers coming back from and in the fight against burnout: (1) shared participation; (2) group decision making; (3) mutual trust; (4) open communication; and (5) consistency of school operation.

However, a teacher's complete, total recovery may be dependent upon the degree of the burnout. Melendez and de Guzman (1983) did not feel that total recovery was possible for the teacher who had suffered burnout to the degree of complete exhaustion. Selye (1974) stated that "complete restoration is probably impossible" when an individual had experienced the final stages of burnout. These people will probably remain in teaching, functioning at a minimal level (p. 29). Farber (1982a) identified that the future problems

resulting from burnout were still unknown. He stated that we do not know "what the long-term social consequences of the vast number of teachers who no longer feel enthused about their work" (p. 26).

Superficial burnout, burnout in the preliminary stages, has been effectively controlled and/or treated. But, the treatment program has not been completed and there has not been any further development. Needle, Griffin, and Svendsen (1981) outlined the need for schools to implement a burnout and stress awareness program aimed at promoting teacher health and reducing stress-related conditions as follows:

teaching effective coping skills and providing social supports that mitigate the effects of stressors on psychological, somatic and health outcome should be included in a program aimed at promoting health and reducing disease (p. 180).

Very few causes of distress have been eliminated from schools, and little effort has been made to minimize the known stressors. Also, total elimination of negative stressors may be impossible, but the major stressors may be minimized. To accomplish this feat, the educational system, the organization, would have to be restructured (Rottier, Kelly, and Tomhave, 1983; Smith and Milstein, 1984). However, this system restructuring has not taken place. In fact, Toffler (1970) supported the restructuring of education but responded negatively toward progress made in schools, when he stated: "our schools face backward toward a dying system, rather than forward to the emerging society" (p. 399).

Teacher burnout, combined with and expanded by the lack of school reorganization represented a critical problem for education in the United States. Teacher burnout will not go away and the problem has received too

much media attention to be simply set aside and forgotten. Cures and preventive measures remain as untested theories for the "dis-ease" called burnout. Local remedies have for the most part failed in assisting burned-out teachers. The problem is increasing. Because of these facts, "staying in the teaching profession is probably the biggest problem facing teachers today" (Melendez and de Guzman, 1983, p. 12).

Chapter 3

Procedures

Introduction

This chapter describes the procedures that were used to conduct the study which identified the frequency and intensity of teacher burnout in isolated, rural public schools in Montana. These schools are often identified by the term "Country Schools" in educational literature.

The study identified the overall extent of teacher burnout for each of the six subscales, depersonalization frequency (DPF) and intensity (DPI), emotional exhaustion frequency (EEF) and intensity (EEI), and personal accomplishment frequency (PAF) and intensity (PAI), on the Maslach Burnout Inventory (MBI) for the various stratifications developed from the teacher profile data sheet. Also, the results of the study provided the investigator with the necessary data to identify the groups within the various stratifications that were significantly different and/or that differed in degree of reported burnout.

This chapter contains the following topics:

1. The Population Description and Sampling Procedures
2. The Definition of the Categories
3. The Method of Organizing Data
4. The Statistical Hypothesis
5. The Analysis of the Data
6. The Precautions Taken For Accuracy

The Population Description and Sampling Procedure

The population of this study included all of the one and/or two teacher public, elementary schools in Montana that had a student enrollment of thirty five or fewer during the 1985-86 school year. For a complete list of schools that meet these criteria, see Appendix A.

The sample did include all teachers identified in the population. The total number (N) of teachers in the population was 184. The population was developed from examination of the 1985 Directory of Rural Independent Elementary Districts Annual Report prepared by The Montana Rural Education Center, Western Montana College, Dillon, Montana. The final list of teachers that made up the population for the study was cross checked for accuracy with information received from the Office of Public Instruction, Helena, Montana concerning the 1985-86 Fall Accreditation Reports, which are self-reports submitted annually by each school district of the state.

Prior to the distribution of surveys, a postcard was mailed to each teacher in the population informing him/her of his/her selection in the study. The dates for sending the notification postcards and the Maslach Burnout Inventory, (MBI) were: the second week of January, 1986, for the postcards; and the last week in January, 1986, for the survey packet, complete with the MBI, instruction sheet, and teacher profile data sheet.

The surveys were coded to identify the non-respondents for follow-up communication. The follow-up communication, sent fifteen days after the original mailing, consisted of a second mailing to each non-respondent, urging them to complete and return the survey packet.

A total of 184 survey packets were mailed to those teachers identified in the population. 124 or 67.4% of the packets were returned within fifteen days. The second mailing resulted in 22 returns or 35% of the original non-respondents. The total return for the survey was 146 or 79.3%. Seven of the returns, 4.7% of the surveys mailed were judged to be not useable by the investigator. There were 139 responses analyzed, 75.5% of the population.

Definition of Categories

This section is divided into the following three subparts: categories; stratifications; and control of contaminating variables.

Categories. The major categories considered in the evaluation of the data gathered by the Maslach Burnout Inventory, (MBI), were as follows: emotional exhaustion; depersonalization; and lack of personal accomplishment. Each of the three aspects of the MBI were measured by a separate subscale. The emotional exhaustion subscale assessed feelings of being emotionally overextended and exhausted by one's work. The depersonalization subscale measured an unfeeling and impersonal response of the teacher toward instruction. The personal accomplishment subscale assessed feelings of competence and successful achievement in the teacher's work with his/her students.

Burnout, when using the MBI, was considered a continuous variable, not a dichotomous variable in which burnout was either present or absent. Therefore, the extent of each respondent's burnout fell on a continuum with a measure from low to moderate to high.

Stratifications. Stratifications for the study included:

1. Age
2. Gender
3. Education
4. Length of career in education
5. Size of the school
6. Travel Time to the office of the teacher's superordinate

Control of Contaminating Variables. The methods utilized for controlling contaminating variables included involving the entire population as the sample, narrowing the scope of the study by limiting the population as stated and utilization of categories and stratifications to identify the sample specifically for statistical investigation.

The Method of Collecting Data. This section describes the various methods and precautions that were incorporated into the data gathering process. The section is divided into the following five subparts: mailed survey packet; selection of the questionnaire; reliability; validity; and method of correction.

Mailed Survey Packet. The MBI, consisted of three subscales, each of which were reported by an aggregated score. The subscales included: (1) emotional exhaustion; (2) depersonalization; and (3) lack of personal accomplishment. Each subscale of the MBI had two dimensions: intensity, which identified the strength of the feeling; and frequency, which identified how often teachers had these feelings. Intensity and frequency on the Maslach Burnout Inventory, (MBI) were reported via six (intensity) and seven (frequency) point Likert scale responses, ranging from very strong to very mild. The survey

packet included in addition to the MBI: a stamped, return addressed envelope; an introductory cover letter; instructions for completing the MBI and a teacher personal profile form.

Selection of the Questionnaire. The Maslach Burnout Inventory, (MBI) was successfully used with urban and suburban teaching populations in different areas of the United States. The MBI was developed in 1979 by Christina Maslach and Susan E. Jackson; both are on staff of the University of California, Berkeley. The MBI was used with the consent of Consulting Psychological Press, Palo Alto, California.

Reliability. Iwanicki and Schwab (1981) conducted internal consistency estimates of the reliability of the subscales of the Maslach Burnout Inventory, reported correlations ranging from a low of .75 to a high of .90 which compare favorably with the .75 suggested as a lower limit of acceptability (Shaw and Wright, 1967).

Maslach and Jackson (1981) reported reliability coefficients ranging from .90 to .71 based on samples that were not used in the original item selections. The personal accomplishment scale was the only scale reported to have a reliability below the .75 suggested by Shaw and Wright.

Validity. The construct validity of the MBI in education was judged to be acceptable by Iwanicki and Schwab (1981) following analysis of a sample of 469 teachers responses. The construct validity was assessed by conducting preliminary factor analysis "using principal components and principal factors approaches with both orthogonal and oblique rotations" (p. 1169). Iwanicki and Schwab (1981), Malanawski and Wood (1984), and Belcastro and Gold (1985) found the MBI, Maslach Burnout Inventory, to be more valid for teachers

than for other professionals in the helping services fields, the original test population that was used by Maslach and Jackson to develop the norms for the test.

Iwanicki and Schwab further tested the validity of the MBI by examining the subscale intercorrelations when teachers were used as respondents. The intercorrelations for teachers ranged from a low of .75 to a high of .94, again within the limits established by Shaw and Wright.

Method of Correction. The data from the MBI was collected and organized by the investigator. All data was checked by a doctoral student who was skilled in the processes of statistical research, for completeness and accuracy.

Methods of Organizing the Data

The teachers' responses were reported according to the various stratifications previously listed within this chapter. These stratified lists were presented in the form of tables and graphs, depicting the data collected from the teachers. Further statistical tables were presented depicting the comparative results as developed by applying various statistical tests and procedures to the data. Comparative and summary tables were presented that represent the data.

Statistical Hypothesis

1. Ho: What percentage of teachers will report burnout in the low, moderate and high classifications on the Maslach Burnout Inventory?

2. Ho: There is no significant difference in the degree of burnout reported by teachers in the age stratifications.
3. Ho: There is no significant difference in the degree of burnout reported by teachers in the experience stratifications.
4. Ho: There is no significant difference in the degree of burnout reported by those working in one teacher and two teacher schools.
5. Ho: There is no significant difference in the degree of burnout reported by teachers with different levels of educational preparation.
6. Ho: There is no significant difference in the degree of burnout reported by male and female teachers.
7. Ho: There is no significant difference in the degree of burnout reported by teachers in different time stratifications from their superordinate's office.
8. Ho: There is no significant interaction between any two of the categories of age, experience, number of teachers, preparation, gender and travel time from their superordinate's office on the exhaustion scale.
9. Ho: There is no significant interaction between any two of the categories of age, experience, number of teachers, preparation, gender and travel time from their superordinate's office on the depersonalization subscale.
10. Ho: There is no significant interaction between any two of the categories of age, experience, number of teachers, preparation, gender and travel time from their superordinate's office on the lack of personal accomplishment subscale.

The Analysis of the Data

This section is divided into the following four subparts: analysis of the surveys; testing hypotheses; levels of significance; and precautions for accuracy.

Analysis of the Surveys. The MBI scores of the respondents were treated as aggregate data. Means and standard deviations of the scores were computed for each of the three MBI subscales: emotional exhaustion; depersonalization; and personal accomplishment. Also the actual numbers of teachers falling into each category was computed. The results were computed using the normative data provided with the MBI test kit (See Table 1, Table 2 and Table 3).

Testing Hypotheses. Hypothesis one was tested against the normative data provided with the MBI test kit (see Table 1). A high degree of burnout was reflected by high scores on both exhaustion and depersonalization subscales and a low score on the lack of personal accomplishment subscale. Moderate degrees of burnout were reflected by moderate scores on the three subscales. A low degree of burnout was reflected by low scores on the exhaustion and depersonalization subscales and a high score on the personal accomplishment subscale. Scores were considered high if they are in the upper third of the normative distribution, moderate if they were in the middle third, and low if they were in the lower third.

Hypotheses two through ten were stated in a format where means could be used to describe the various identified stratifications. Therefore, one-way and two-way analysis of variance, ANOVA were used to determine the "relative

magnitude of variation resulting from different sources and ascertain whether a particular part of the variation is greater than expectation" (Ferguson, 1981, p. 234).

Each hypothesis, two through seven, was divided into three subparts in conjunction with the design of the instrument used in the study. Each subpart was further divided into two scales, frequency of feeling and intensity of the feeling. Therefore, for each hypothesis two through seven, there were six separate one-way analysis of variance, ANOVA tests. Hypothesis eight, nine and ten were stated as multiple hypotheses. Each hypothesis represented fifteen two-way ANOVAs.

Hypotheses two through seven were tested using a one-way analysis of variance. The student Numan-Keuls post hoc procedure was applied to test for significant differences between the means when a significant F was found on the one-way ANOVA tests.

Hypotheses eight, nine and ten contained two independent variables and one dependent variable. The hypotheses were tested for interaction using two-way ANOVA (Ferguson, 1981). When the test for interaction failed to produce significant results, main effects tests were conducted.

Level of Significance. The level of significance for the statistical tests was .05. This level of significance did provide an adequate balance between chance and practical certainty in making a wrong decision because the population was of sufficient size to control a Type II error (Kerlinger, 1973 and Ferguson, 1981).

Precautions for Accuracy

Data from the MBI was transferred to computer forms by professional secretaries. Accuracy of these transfers was checked by the investigator prior to statistical treatment. Statistical computations were performed by the computer at Montana State University, Bozeman, Montana, using the Statistical Package for the Social Sciences (SPSSx).

Chapter 4

Analysis of the Data

Introduction

The data reported in this chapter are arranged according to the order of the original questions in Chapter 1 and the hypothesis list in Chapter 3. Additional data that add clarification to the study and that produced significant results was gathered. The additional data analysis is included following the analysis of hypothesis ten.

The problem in this study was to determine if there was an indication of teacher burnout in the one and two teacher rural, country schools in Montana. The secondary aspect of the study was to determine if certain independent stratifications could be identified where burnout was concentrated.

A total of ten hypotheses were formulated to guide the study. The results of these ten hypotheses are reviewed in this chapter. To assist the reader in interpretation of the data, tables of group means, cell counts, standard deviations and the MBI burnout classification were included. A group data table containing the information described by the hypothesis that was tested, precedes each one-way ANOVA table in the following text.

Table one is a reproduction of the MBI table, Range of Experienced Burnout used to determine the degree of burnout reported by an individual or group. As reported by the authors of the MBI the table is not an exact measure of burnout. At present the authors consider burnout to be high if the scores fall

into the upper third, moderate if they fall into the middle third and low if they fall into the lower third on the continuum presented.

Table 1. RANGE OF EXPERIENCE BURNOUT--MBI SCORES

MBI Subscale	Low (lower third)	Moderate (middle third)	High (upper third)
Emotional Exhaustion			
Frequency	< or = to 17	18 - 29	> or = to 30
Intensity	< or = to 25	26 - 39	> or = to 40
Depersonalization			
Frequency	< or = to 5	6 - 11	> or = to 12
Intensity	< or = to 6	7 - 14	> or = to 15
Pers. Accomplishment			
Frequency	> or = to 40	39 - 34	< or = to 33
Intensity	> or = to 44	43 - 37	< or = to 36

The Personal Accomplishment scale is opposite of the other scales. High scores on the personal accomplishment scales reflect low feelings of accomplishment which correspond to high burnout conditions. The MBI authors strongly suggested that the coding be used for only for comparative purposes and as feedback to the individual respondents rather than for diagnostic purposes. There was insufficient research the purpose of intervention.

Question 1: Will burnout be indicated by rural teachers as a condition of their job?

Hypothesis 1: What percent of the teachers will report burnout in the high, moderate and low ranges according to the Maslach Burnout Inventory, (MBI) classifications?

Data gathered to evaluate the amount of burnout reported by teachers, according to the Maslach Burnout Inventory, (MBI) classification is presented in

Tables 2 and 3. Table 2 shows the percentages of teacher responses obtained for the frequency scales, depersonalization, emotional exhaustion and personal accomplishment used with the MBI. Table 2 also shows the actual number of teacher responses for each of the three frequency scales. Table 3 shows data similar to that described above for the intensity scale.

Table 2. FREQUENCY DATA CONVERTED TO THE MBI CLASSIFICATIONS

	HIGH		MODERATE		LOW	
	(N)	(%)	(N)	(%)	(N)	(%)
Depersonalization Frequency	22	16%	30	22%	87	62%
Emotional Exhaustion Frequency	32	23%	30	22%	77	55%
Personal Accomplishment Frequency	24	17%	40	29%	75	54%

Table 3. INTENSITY DATA CONVERTED TO THE MBI CLASSIFICATIONS

	HIGH		MODERATE		LOW	
	(N)	(%)	(N)	(%)	(N)	(%)
Depersonalization Intensity	19	14%	28	20%	92	66%
Emotional Exhaustion Intensity	19	14%	41	29%	79	57%
Personal Accomplishment Intensity	38	27%	46	33%	55	40%

Result: The personal accomplishment intensity and frequency scales accounted for the greatest number of reports of high and moderate degrees of burnout. Sixty percent of the responding teachers on the intensity scale and forty six percent of the teachers on the frequency scale reported at least moderate feelings of burnout according to the MBI classification. Forty five percent of the responding teachers reported at least moderate degrees of burnout emotional exhaustion frequency scale.

A review of the P - values obtained for the hypotheses two through seven is shown in Table 4. Those areas of significance are noted by an (*). Two, one-way analysis of variance tests are added to the six original hypothesis. The added variables were inservice and the number of hours worked per week. The results of these tests are included, at the end of Table 4.

Table 4 contains the descriptive information for each group. This information is listed under the heading of group data. For example, in the age stratification, 21 - 27 indicates the numerical age limits for that group of teachers. The P - values are divided into six subgroups, depersonalization frequency (DPF), depersonalization intensity (DPI), personal accomplishment frequency (PAF), personal accomplishment intensity (PAI), emotional exhaustion frequency (EEF), and emotional exhaustion intensity (EEI).

Table 4. ONE-WAY HYPOTHESIS REVIEW

HYPOTHESIS	GROUP DATA	P - VALUES FOR THE ANOVA TABLE					
		DPF	DPI	PAF	PAI	EEF	EEI
(2) Age Stratifications	21-27						
	28-38	.0357*	.3040	.2509	.6364	.0091*	.0434*
	39-49						
	50-65						
(3) Experience Stratifications in months	5-32						
	33-74	.4434	.9669	.0242*	.0009*	.3668	.8754
	75-						
4) One and two teacher schools	one room two room	.8633	.9956	.5287	.6102	.4660	.8807
(5) Educational Preparation	BS/BA						
	BS + 15	.5527	.4315	.8794	.4054	.2257	.3462
	BS + 30						
	MS, other						
(6) Gender	female	.7130	.4227	.6943	.5997	.0951	.5129
	male						
(7) Time to Superordinate's Office (minutes)	< 30						
	>30,<60	.3226	.4440	.1633	.4658	.7524	.6831
	>60						
(8) Inservice	this year						
	summer	.0943	.1840	.1454	.2477	.0187*	.0203*
	other						
(9) Hours Worked Per Week	60-						
	50-59	.2100	.1422	.4552	.1830	.0045*	.0058*
	40-49						
	30-39						

The following tables show the results of the ANOVA tests for the data collected. The cell counts, means, standard deviations and the range of indicated burnout (MBI on the table) for each of the subgroups are shown. Test interpretation for the ANOVA table and the MBI table follow each ANOVA table or at a convenient breaking point in the analysis.

Each group's degree of burnout is reported under the heading of MBI on the group data tables that precede the one-way ANOVA tables. The degrees of burnout reported are low, moderate and high. Summary statements about the level of burnout according to Table 3 are also presented with the test results for each hypothesis in the text that follows.

The summary statements for the Maslach Burnout Inventory (MBI) classification data were not always consistent with the statistical findings due to the exactness of the MBI cutoff points, lack of research into the diagnostic ability of the instrument, and the variability or lack of variability of the group means. In situations where the findings of the statistical analysis and the MBI classification conflicted, the reported results addressed the MBI classification for the entire group. The MBI classification results, whether they were used in reporting the results or not, were reported on the data tables for reader convenience and interest.

Question two: What age stratifications will report the greatest amount of burnout?

Hypothesis 2.1: There was no difference between the age stratifications on the Emotional Exhaustion Frequency scale (EEF).

Table 5. GROUP DATA FOR AGE, EMOTIONAL EXHAUSTION FREQUENCY SCALE

GROUP DESCRIPTION		COUNT	MEAN SCORE	S.D.	MBI
GROUP 1,	21-27	30	24.07	12.82	MOD
GROUP 2,	28-38	55	18.44	9.01	MOD
GROUP 3,	38-49	28	14.54	9.77	LOW
GROUP 4,	50-65	25	18.68	11.73	MOD
TOTAL		138	18.91	10.93	MOD

Table 6. ANOVA TABLE FOR AGE, EMOTIONAL EXHAUSTION FREQUENCY SCALE

SOURCE	D. F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	1347.1583	449.0528	4.005	.0091*
WITHIN GROUPS	134	15023.7982	112.1179		
TOTAL	137	16370.9565			

Test: The ANOVA test rejected hypothesis 2.1 at the .05 level. The Student Newman-Keuls post hoc analysis of the data identified group three, those teachers between the age of 39 and 49, as being significantly different, lower, at the .05 level.

Result: There was a significant difference between the means. Group three had a mean value less than the other three groups. The mean for group three fell in the low range of burnout (0 - 17) according to the MBI scale. Groups one, two and four fell into the moderate range (18 - 29).

Hypothesis 2.2: There is no significant difference in the degree of burnout reported by teachers in the age stratifications on the emotional exhaustion intensity scale (EEI), see Table 4, page 52.

Table 7. GROUP DATA FOR AGE, EMOTIONAL EXHAUSTION INTENSITY SCALE

GROUP DESCRIPTION		COUNT	MEAN SCORE	S.D.	MBI
GROUP 1,	21-27	30	29.17	14.41	MOD
GROUP 2,	28-38	55	25.25	11.86	LOW
GROUP 3,	39-49	28	19.71	12.63	LOW
GROUP 4,	50-65	25	25.48	11.43	LOW
TOTAL		138	25.02	12.78	LOW

Test: The ANOVA test below, rejected hypothesis 2.2. The Student Newman-Keuls post hoc test identified group three again as being significantly different. Group three was lower than the other group means.

Table 8. ANOVA TABLE FOR AGE, EMOTIONAL EXHAUSTION INTENSITY SCALE

SOURCE	D. F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	1312.3775	437.4592	2.784	.0434*
WITHIN GROUPS	134	21054.5573	157.1236		
TOTAL	137	22366.9348			

Result: There was a difference between the group means. Group three had the lowest levels of emotional exhaustion on the intensity scale and was also considered to be low according to the MBI burnout classification. Overall the group means for the population were lower than the normed data established for the MBI.

Hypothesis 2.3 and 2.4: There is no significant difference in the degree of burnout reported by teachers in the age stratifications on the personal accomplishment frequency scale (PAF) or on the personal accomplishment intensity scale (PAI).

Table 9 and Table 10 contain the results for the data analysis for hypothesis 2.3. The analysis of the data for hypothesis 2.4 are presented in Tables 11 and 12.

Table 9. GROUP DATA FOR AGE, PERSONAL ACCOMPLISHMENT
FREQUENCY SCALE

GROUP DESCRIPTION		COUNT	MEAN SCORE	S.D.	MBI
GROUP 1,	21-27	30	36.87	7.58	MOD
GROUP 2,	28-38	55	39.29	6.41	MOD
GROUP 3,	39-49	28	40.18	5.70	LOW
GROUP 4,	50-65	25	39.16	6.61	MOD
TOTAL		138	38.92	6.61	MOD

Table 10. ANOVA TABLE FOR AGE, PERSONAL ACCOMPLISHMENT
FREQUENCY SCALE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	179.8439	59.9480	1.383	.2509
WITHIN GROUPS	134	5810.2793	43.3603		
TOTAL	137	5990.1232			

Test: The F test failed to reject the hypothesis 2.3.

Result: There was no difference between the age stratification means on the PAF scale. The overall group mean for PAF, personal accomplishment on the frequency scale fell into the moderate classification.

Table 11. GROUP DATA FOR AGE, PERSONAL ACCOMPLISHMENT
INTENSITY SCALE

GROUP DESCRIPTION		COUNT	MEAN SCORE	S.D.	MBI
GROUP 1,	21-27	30	40.00	7.80	MOD
GROUP 2,	28-38	55	41.36	7.79	MOD
GROUP 3,	39-49	28	41.00	7.80	MOD
GROUP 4,	50-65	25	39.16	6.77	MOD
TOTAL		138	40.59	7.59	MOD

Table 12. ANOVA TABLE FOR AGE, PERSONAL ACCOMPLISHMENT INTENSITY SCALE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	99.1881	33.0627	.569	.6364
WITHIN GROUPS	134	7786.0873	58.1051		
TOTAL	347	7885.2754			

Test: The F test failed to reject the hypothesis 2.4.

Result: There was no difference between the group means for the age stratifications on the PAI scale. All four groups had means that fell into the moderate range of burnout following the MBI classification.

Hypothesis 2.5 and 2.6: There is no significant difference in the degree of burnout reported by teachers in the age stratifications on the depersonalization frequency (DPF) scale, see Tables 13 and 14. The data for hypothesis 2.6 represents the data from depersonalization intensity (DPI) scale, see Tables 15 and 16.

Table 13. GROUP DATA TABLE FOR AGE, DEPERSONALIZATION FREQUENCY SCALE

	GROUP	COUNT	MEAN SCORE	S. D.	MBI
GROUP 1,	21-28	30	7.33	5.47	MOD
GROUP 2,	29-39	55	4.31	4.08	LOW
GROUP 3,	40-49	28	4.43	4.14	LOW
GROUP 4,	50-65	25	5.64	5.91	LOW
TOTAL		138	5.23	4.88	LOW

Table 14. ANOVA DATA FOR AGE, DEPERSONALIZATION FREQUENCY SCALE

SOURCE	D. F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	201.5504	67.1835	2.935	.0347*
WITHIN GROUPS	134	3067.0293	22.8883		
TOTAL	137	3268.5797			

Test: There was a difference in the group means. The ANOVA test rejected hypothesis 2.5 at the .05 level. The Student Newman-Keuls post hoc test identified group one as being significantly different.

Result: There was a significant difference between the means of the age stratifications when considering the DPF scale. Group one had the largest mean and fell into the moderate burnout range. Groups two, three, and four fell into the low range of burnout.

Table 15. GROUP DATA TABLE FOR AGE, DEPERSONALIZATION INTENSITY SCALE

GROUP DESCRIPTION		COUNT	MEAN SCORE	S. D.	MBI
GROUP 1,	21-27	30	8.77	6.61	MOD
GROUP 2,	28-38	55	6.18	6.06	LOW
GROUP 3,	39-49	28	6.75	6.77	LOW
GROUP 4,	50-65	25	8.16	7.45	MOD
TOTAL		138	7.22	6.61	MOD

Table 16. ANOVA DATA TABLE FOR AGE DEPERSONALIZATION INTENSITY SCALE

SOURCE	D. F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	159.3198	53.1066	1.223	.3040
WITHIN GROUPS	134	5820.1585	43.4340		
TOTAL	137	5979.4783			

Test: The one-way analysis of variance for age on the depersonalization intensity scale failed to reject hypothesis 2.6 at the .05 level.

Result: There was no difference between the four groups of means on the DPI scale. The overall burnout classification for the group was below the normed results, but still the moderate classification.

Question 3: Do teachers working in schools with different numbers of teachers have different scores on the six subtests?

Hypothesis 3.1, 3.2, 3.3, 3.4, 3.5, 3.6: There is no significant difference in the degrees of burnout reported by those teachers working in one teacher schools and. those working in two teacher schools on each of the EEF, EEI, PAF, PAI, DPF, and DPI scales, see Table 4, page 52.

Test: In each of the six cases, hypothesis 3.1, 3.2, 3.3, 3.4, 3.5, and 3.6, the F test failed to reject the hypothesis at the .05 level.

The analysis tables for the data pertaining to the one and two teacher rural schools on the EEF, emotional exhaustion frequency are listed in Tables 17 and 18.

Table 17. GROUP DATA TABLE FOR ONE AND TWO TEACHER SCHOOLS, EMOTIONAL EXHAUSTION FREQUENCY SCALE

GROUP DESCRIPTION	COUNT	MEAN SCORE	S. D.	MBI
GROUP 1, One Teacher	89	19.47	11.49	MOD
GROUP 2, Two Teacher	50	18.06	9.84	MOD
TOTAL	138	18.96	10.91	MOD

Table 18. ANOVA TABLE FOR ONE AND TWO TEACHER SCHOOLS, EMOTIONAL EXHAUSTION FREQUENCY SCALE

SOURCE	D. F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	1	63.8204	63.8204	.535	.4660
WITHIN GROUPS	137	16356.9998	119.3942		
TOTAL	138	16420.8201			

Result: There was no difference between the means for one and two teacher schools when using EEF as a dependent variable. The groups means both groups fell into the moderate range of burnout.

Tables 19 and 20 contain the data for one and two teacher schools with EEI, Emotional Exhaustion Intensity as the dependent variable.

Table 19. GROUP DATA TABLE FOR ONE AND TWO TEACHER SCHOOLS, EMOTIONAL EXHAUSTION INTENSITY SCALE

GROUP DESCRIPTION	COUNT	MEAN SCORE	S. D.	MBI
GROUP 1, One Teacher	89	25.18	12.18	LOW
GROUP 2, Two Teacher	50	24.84	13.80	LOW
TOTAL	139	25.05	12.74	LOW

Table 20. ANOVA TABLE FOR ONE AND TWO TEACHER SCHOOLS,
EMOTIONAL EXHAUSTION INTENSITY SCALE

SOURCE	D. F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	1	3.696	3.696	.023	.8807
WITHIN GROUPS	137	22387.8436	163.4149		
TOTAL	138	22391.5396			

Result: There was no difference between the means. The hypothesis was retained. Both of the group means fell into the low range of burnout on the MBI scale.

Table 22 is the ANOVA Table for one and two teacher schools when the PAF scale was used. Table 21 shows the cell counts, means, standard deviations and MBI classifications for the same data.

Table 21. GROUP DATA TABLE FOR ONE AND TWO TEACHER SCHOOLS
PERSONAL ACCOMPLISHMENT FREQUENCY SCALE

GROUP DESCRIPTION		COUNT	MEAN SCORE	S. D.	MBI
GROUP 1,	One Teacher	89	38.66	6.86	MOD
GROUP 2,	Two Teacher	50	39.40	6.11	LOW
TOTAL		139	38.93	6.60	MOD

Table 22. ANOVA TABLE FOR ONE AND TWO TEACHER SCHOOLS,
PERSONAL ACCOMPLISHMENT FREQUENCY SCALE

SOURCE	D: F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	1	17.3929	17.3929	.399	.5287
WITHIN GROUPS	137	5973.8876	43.6050		
TOTAL	138	5991.2801			

Results: There was no difference between the means. The overall group mean for gender on the personal accomplishment frequency scale was in the moderate classification.

Table 24 is the ANOVA table for the one and two teacher schools when the PAI scale was used. Table 23 shows the cell counts, means, standard deviations and MBI classifications for the one and two teacher schools on the personal accomplishment intensity, PAI scale.

Table 23. GROUP DATA TABLE FOR ONE AND TWO TEACHER SCHOOLS, PERSONAL ACCOMPLISHMENT INTENSITY SCALE

GROUP DESCRIPTION		COUNT	MEAN SCORE	S. D.	MBI
GROUP 1,	One Teacher	89	40.31	7.91	MOD
GROUP 2,	Two Teacher	50	41.00	6.97	MOD
TOTAL		139	40.56	7.56	MOD

Table 24. ANOVA TABLE FOR ONE AND TWO TEACHER SCHOOLS, PERSONAL ACCOMPLISHMENT INTENSITY SCALE

SOURCE	D. F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	1	15.0392	15.0392	.261	.6102
WITHIN GROUPS	138	7891.1910	57.5999		
TOTAL	139	7906.2302			

Results: There was no difference between the groups means. Both of the group means for personal accomplishment intensity fell into the moderate range of burnout.

Table 26 is the ANOVA table for the one and two teacher schools when the DPF, depersonalization frequency scale was used. Table 25 shows the cell

counts, means, standard deviations and MBI classifications obtained for the one and two teacher schools. Tables 27 and 28 provide similar data when the DPI, depersonalization intensity scale was used.

Table 25. GROUP DATA TABLE FOR ONE AND TWO TEACHER SCHOOLS, DEPERSONALIZATION FREQUENCY SCALE

GROUP DESCRIPTION	COUNT	MEAN SCORE	S. D.	MBI
GROUP 1, One Teacher	89	5.19	5.13	LOW
GROUP 2, Two Teacher	50	5.34	4.42	LOW
TOTAL	139	5.24	4.87	LOW

Table 26. ANOVA TABLE FOR ONE AND TWO TEACHER SCHOOLS, DEPERSONALIZATION FREQUENCY SCALE

SOURCE	D. F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	1	.7106	.7106	.030	.8633
WITHIN GROUPS	137	3270.9728	23.8757		
TOTAL	138	3271.6835			

Results: There was no difference between the group means. The hypothesis was retained. The group means for the depersonalization frequency fell into the low range on the MBI classification.

Table 27: GROUP DATA TABLE FOR ONE AND TWO TEACHER SCHOOLS, DEPERSONALIZATION INTENSITY SCALE

GROUP DESCRIPTION	COUNT	MEAN SCORE	S. D.	MBI
GROUP 1, One Teacher	89	7.21	7.19	MOD
GROUP 2, Two Teacher	50	7.22	5.41	MOD
TOTAL	139	7.22	6.58	MOD

Table 28: ANOVA TABLE FOR ONE AND TWO TEACHER SCHOOLS,
DEPERSONALIZATION INTENSITY SCALE

SOURCE	D. F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	1	.0014	.0014	.0000	.9956
WITHIN GROUPS	137	5979.5238	43.6462		
TOTAL	138	5979.5252			

Result: There was no difference. The hypothesis was retained. The group means for the DPI scale fell into the moderate range.

Question 4: Do teachers perceive burnout differently if they have differing amounts of teaching experience?

Hypotheses 4.1 and 4.2: There is no significant difference in the degree of burnout reported by teachers with different levels of teaching experience on either the emotional exhaustion scales, frequency or intensity, see Table 4, page 52.

Test: The F test failed to reject either hypothesis for the Emotional Exhaustion scale at the .05 level.

The results of the ANOVA test for the data described by hypothesis 4.1 on the emotional exhaustion frequency scale is shown in Table 30. Table 29 shows the cell counts, means, standard deviations and MBI ratings for the same data. Similar data for hypothesis 4.2 is shown in Tables 31 and 32 for teaching experience on the EEI, emotional exhaustion intensity scale.

Table 29. GROUP DATA TABLE FOR TEACHING EXPERIENCE, EMOTIONAL EXHAUSTION FREQUENCY SCALE

GROUP DESCRIPTION		COUNT	MEAN SCORE	S. D.	MBI
GROUP 1,	5-32 Months	52	20.44	11.66	MOD
GROUP 2,	33-74 Months	32	18.28	10.14	MOD
GROUP 3,	75 + Months	54	17.54	10.26	LOW
TOTAL		138	18.80	10.78	MOD

Table 30. ANOVA TABLE FOR TEACHING EXPERIENCE, EMOTIONAL EXHAUSTION FREQUENCY SCALE

SOURCE	D. F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	2	234.9958	117.4979	1.011	.3668
WITHIN GROUPS	135	15696.7216	116.2720		
TOTAL	137	15931.7174			

Results: There was no significant difference. The hypothesis for teaching experience was retained. The overall group mean for emotional exhaustion on the frequency scale fell into the moderate range on the MBI scale.

Table 31. GROUP DATA TABLE FOR TEACHING EXPERIENCE, EMOTIONAL EXHAUSTION INTENSITY SCALE

GROUP DESCRIPTION		COUNT	MEAN SCORE	S. D.	MBI
GROUP 1,	5-32 Months	52	25.44	13.42	LOW
GROUP 2,	33-74 Months	32	25.22	14.38	LOW
GROUP 3,	75 + Months	54	24.22	11.00	LOW
TOTAL		138	24.91	12.67	LOW

Table 32. ANOVA TABLE FOR TEACHING EXPERIENCE, EMOTIONAL EXHAUSTION INTENSITY SCALE

SOURCE	D. F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	2	43.3275	21.6638	.133	.8754
WITHIN GROUPS	135	21947.6290	162.5750		
TOTAL	137	21990.9565			

Result: There was no difference in the group means. The hypothesis was retained for the emotional exhaustion intensity scale. The group means fell into the low category on the MBI Range of Experienced Burnout classification.

Hypothesis 4.3 and 4.4: There is no significant difference in the degrees of burnout reported by teachers in the experience stratifications on either of the personal accomplishment scales, see Table 4, page 52.

The ANOVA table for the data described by hypothesis 4.3 is shown in Table 34. Table 33 shows the cell counts, means, standard deviations and MBI classifications for the same data. Tables 35 and 36 contains the data for hypothesis 4.4, teaching experience when the personal accomplishment intensity, PAI scale was used.

Table 33. GROUP DATA TABLE FOR TEACHING EXPERIENCE, PERSONAL ACCOMPLISHMENT FREQUENCY SCALE

GROUP DESCRIPTION		COUNT	MEAN SCORE	S. D.	MBI
GROUP 1,	5-32 Months	52	37.81	7.56	MOD
GROUP 2,	33-74 Months	32	41.69	5.92	LOW
GROUP 3,	74 + Months	54	38.48	5.56	MOD
TOTAL		138	38.97	6.59	MOD

Table 34. ANOVA TABLE FOR TEACHING EXPERIENCE, PERSONAL ACCOMPLISHMENT FREQUENCY SCALE

SOURCE	D. F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	2	319.4507	159.7252	3.826	.0242*
WITHIN GROUPS	135	5636.4334	41.7514		
TOTAL	137	5955.8841			

Test: The F test rejected the hypothesis at the .05 level for hypothesis 4.3. The Student Newman-Keuls post hoc test revealed that group two, those teachers who had between 33 and 74 months of experience, were different from the other groups at the .05 level.

Result: There was a difference in the group means. Group two's mean was lower than one and three and it fell into the low category on the MBI burnout scale. Groups one and three had means that placed them into the moderate burnout category.

Table 35. GROUP DATA TABLE FOR EXPERIENCE, PERSONAL ACCOMPLISHMENT INTENSITY SCALE

GROUP DESCRIPTION	COUNT	MEAN SCORE	S. D.	MBI
GROUP 1, 5-32 Months	52	39.48	8.38	MOD
GROUP 2, 33-74 Months	32	44.94	6.00	LOW
GROUP 3, 75 + Months	54	39.17	6.67	MOD
TOTAL	138	40.62	7.56	MOD

Table 36. ANOVA TABLE FOR TEACHING EXPERIENCE, PERSONAL ACCOMPLISHMENT INTENSITY SCALE

SOURCE	D. F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	2	778.0500	389.0250	7.445	.0009*
WITHIN GROUPS	135	7054.3558	52.2545		
TOTAL	137	7832.4058			

Test: The F test did reject hypothesis 4.4 on the PAI scale. The SNK post hoc test again identified group two as being significantly different from groups one and three. Group two was less than groups one and three. Group two was also low on the MBI classification.

Result: The group means were different. Group two, those teachers between 33 and 74 months experience were different and they were also different on the MBI, they scored in the low category on the MBI scale. Teachers in groups one and three had group mean scores that fell into the moderate range.

Hypotheses 4.5 and 4.6: There is no significant difference in the degree of burnout reported by teachers in the teaching experience stratifications on the depersonalization frequency (DPF) and depersonalization intensity (DPI) scales, see Table 4, page 52.

Test: The F tests for 4.5 and 4.6 did not reject the hypotheses. There was no difference in the group means for teaching experience on the depersonalization scales.

Table 38 is the ANOVA table for hypothesis 4.5. Table 37 shows the cell counts, means, standard deviations and Maslach Burnout Inventory (MBI) classifications for the data gathered for hypothesis 4.5. Tables 39 and 40 show

similar data for hypothesis 4.6. Tables 37 and 38 refer to the DPF scale and 39 and 40 to the DPI scale.

Table 37. GROUP DATA TABLE FOR TEACHING EXPERIENCE, DEPERSONALIZATION FREQUENCY SCALE

GROUP DESCRIPTION	COUNT	MEAN SCORE	S. D.	MBI
GROUP 1, 5-32 Months	52	6.96	6.58	MOD
GROUP 2, 33-74 Months	32	7.03	5.64	MOD
GROUP 3, 75 + Months	54	7.28	6.91	MOD
TOTAL	138	7.10	6.47	MOD

Table 38. ANOVA TABLE FOR TEACHING EXPERIENCE, DEPERSONALIZATION FREQUENCY SCALE

SOURCE	D. F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	2	38.7831	19.3916	.818	.4434
WITHIN GROUPS	135	3199.5357	23.7003		
TOTAL	137	3238.3188			

Result: There was no difference between the group means on the PAI, personal accomplishment intensity scale. The MBI classifications were all moderate.

Table 39. GROUP DATA FOR TEACHING EXPERIENCE, DEPERSONALIZATION INTENSITY SCALE

GROUP DESCRIPTION	COUNT	MEAN SCORE	S. D.	MBI
GROUP 1, 5-32 Months	52	6.96	6.58	LOW
GROUP 2, 33-74 Months	32	7.03	5.65	MOD
GROUP 3, 75 + Months	54	7.28	6.91	MOD
TOTAL	138	7.10	6.47	MOD

Table 40. ANOVA TABLE FOR TEACHING EXPERIENCE,
DEPERSONALIZATION INTENSITY SCALE

SOURCE	D. F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	2	2.8545	1.4273	.034	.9669
WITHIN GROUPS	135	5725.7252	42.4128		
TOTAL	137	5728.5797			

Result: There was no difference between the group means on the DPI scale. The overall Range of Experienced Burnout classification for the groups was moderate.

Question 5: Do teachers perceive burnout differently if they have differing amounts of educational preparation?

Hypothesis 5.1, 5.2, 5.3, 5.4, 5.5, and 5.6: There is no significant difference in the degrees of burnout reported by teachers with different levels of educational preparation for scales of emotional exhaustion frequency (EEF), emotional exhaustion intensity (EEI), personal accomplishment frequency (PAF), personal accomplishment intensity (PAI), depersonalization (DPF), and depersonalization intensity (DPI), see Table 4, page 52.

Test: The F test failed to reject any of the hypotheses 5.1-5.6.

The results of the ANOVA test for the data collected for hypothesis 5.1 for educational preparation on the EEF scale is shown in Table 42. Table 41 shows the cell counts, means, standard deviations and MBI classifications for the data tested in Table 42.

Table 41: GROUP DATA TABLE FOR EDUCATIONAL PREPARATION, EMOTIONAL EXHAUSTION FREQUENCY SCALE

GROUP DESCRIPTION		COUNT	MEAN SCORE	S. D.	MBI
GROUP 1,	BA/BS	47	21.47	11.11	MOD
GROUP 2,	BA/BS +15	29	17.83	9.54	LOW
GROUP 3,	BA/BS + 30	49	18.08	11.02	MOD
GROUP 4,	MS, Other	5	13.8	8.14	LOW
TOTAL		130	19.08	10.72	MOD

TABLE 42. ANOVA TABLE FOR EDUCATIONAL PREPARATION, EMOTIONAL EXHAUSTION FREQUENCY SCALE

SOURCE	D. F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	501.7557	167.2519	1.471	.2257
WITHIN GROUPS	126	14328.3135	113.7168		
TOTAL	129	14830.0692			

Results: There was no difference in the group means. The overall classification for emotional exhaustion frequency scale was low for the Maslach Burnout Inventory.

Table 44 shows the results of the ANOVA for the data collected for hypothesis 5.2 for educational preparation on the EEI, emotional exhaustion intensity scale. Table 43 shows the cell counts, means, and standard deviations for the data tested in Table 44.

Table 43. GROUP DATA TABLE FOR EDUCATIONAL PREPARATION, EMOTIONAL EXHAUSTION INTENSITY SCALE

GROUP DESCRIPTION		COUNT	MEAN SCORE	S. D.	MBI
GROUP 1,	BA/BS	47	27.77	13.36	MOD
GROUP 2,	BA/BS + 15	29	24.28	12.13	LOW
GROUP 3,	BA/BS + 30	49	24.41	12.71	LOW
GROUP 4,	MS, Other	5	19.20	8.50	LOW
TOTAL		130	25.39	12.73	LOW

Table 44. ANOVA TABLE FOR PREPARATION, EMOTIONAL EXHAUSTION INTENSITY SCALE

SOURCE	D. F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	540.1369	180.0456	1.114	.3462
WITHIN GROUPS	126	20370.8554	161.6735		
TOTAL	129	20910.9923			

Results: There was no difference in the group means. The overall group mean for the variable of educational preparation on the emotional exhaustion intensity scale was low.

The results of the ANOVA test for the data collected for hypothesis 5.3, education preparation on the PAF scale are shown in Table 46. Table 45 shows the cell counts, means, standard deviations and MBI, Maslach Burnout Inventory classifications.

Table 45. GROUP DATA TABLE FOR PREPARATION, PERSONAL ACCOMPLISHMENT FREQUENCY SCALE

GROUP DESCRIPTION		COUNT	MEAN SCORE	S. D.	MBI
GROUP 1,	BA/BS	47	39.06	6.33	LOW
GROUP 2,	BA/BS + 15	29	38.41	6.42	MOD
GROUP 3,	BA/BS + 30	49	39.02	7.21	LOW
GROUP 4,	MS Other	5	41.00	6.00	LOW
TOTAL		130	38.98	6.60	MOD

Table 46. ANOVA TABLE FOR EDUCATIONAL PREPARATION, PERSONAL ACCOMPLISHMENT FREQUENCY SCALE

SOURCE	D. F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	30.1082	10.0361	.224	.8794
WITHIN GROUPS	126	5638.8226	44.7526		
TOTAL	129	5668.9308			

Results: There was no difference in the group means. The overall group mean for personal accomplishment frequency fell into the moderate classification.

Table 48 shows the results of the ANOVA for the data collected for the hypothesis 5.4, educational preparation on the PAI, Personal Accomplishment Intensity scale. Table 47 shows the cell counts, means, standard deviations and MBI, Maslach Burnout Inventory classifications for the data tested in Table 48.

Table 47: GROUP DATA TABLE FOR PREPARATION, PERSONAL ACCOMPLISHMENT INTENSITY SCALE

GROUP DESCRIPTION		COUNT	MEAN SCORE	S. D.	MBI
GROUP 1,	BA/BS	47	41.98	7.15	MOD
GROUP 2,	BA/BS + 15	29	39.03	8.81	MOD
GROUP 3,	BA/BS + 30	49	40.12	7.43	MOD
GROUP 4,	MS, Other	5	39.80	8.76	MOD
TOTAL		130	40.54	7.71	MOD

Table 48. ANOVA TABLE FOR PREPARATION, PERSONAL ACCOMPLISHMENT INTENSITY SCALE

SOURCE	D. F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	174.2981	58.0994	.978	.4054
WITHIN GROUPS	126	7484.0095	59.3969		
TOTAL	129	7658.3077			

Results: There was no significant difference in the group means. The four means for the personal accomplishment intensity scale fell into the moderate range.

Table 50 shows the results of the ANOVA for the data collected for the hypothesis 5.5, educational preparation on the DPF, Depersonalization Frequency scale. Table 49 shows the cell counts, means, and standard deviations for the data tested in Table 50:

Table 49. GROUP DATA TABLE FOR PREPARATION, DEPERSONALIZATION FREQUENCY SCALE

GROUP DESCRIPTION		COUNT	MEAN SCORE	S. D.	MBI
GROUP 1,	BA/BS	47	6.06	5.05	MOD
GROUP 2,	BA/BS + 15	29	4.72	4.74	LOW
GROUP 3,	BA/BS + 30	49	5.59	5.07	LOW
GROUP 4,	MS, Other	5	3.60	1.67	LOW
TOTAL		130	5.49	4.90	LOW

Table 50. ANOVA TABLE FOR PREPARATION, DEPERSONALIZATION FREQUENCY SCALE

SOURCE	D. F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	50.8540	16.9513	.702	.5527
WITHIN GROUPS	126	3043.6383	24.1559		
TOTAL	129	3094.4923			

Results: There was no difference in the means. The overall group mean for depersonalization frequency fell into the low range on the MBI classification scale.

Table 52 shows the results of the ANOVA for the data collected for the hypothesis 5.6, educational preparation on the DPI scale. Table 51 shows the cell counts, means, standard deviations and MBI classifications for the data tested in Table 52.

Table 51. GROUP DATA TABLE FOR PREPARATION, DEPERSONALIZATION FREQUENCY SCALE

GROUP DESCRIPTION		COUNT	MEAN SCORE	S. D.	MBI
GROUP 1,	BA/ BS	47	7.21	5.94	MOD
GROUP 2,	BA/BS + 15	29	6.31	5.35	LOW
GROUP 3,	BA/BS + 30	49	8.67	8.14	MOD
GROUP 4,	MS, Other	5	6.00	2.00	LOW
TOTAL		130	7.52	6.67	MOD

Table 52. ANOVA TABLE FOR PREPARATION, DEPERSONALIZATION INTENSITY SCALE

SOURCE	D. F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	123.6145	41.2048	.924	.4315
WITHIN GROUPS	126	5620.8547	44.6100		
TOTAL	129	5744.4692			

Result: There was no significant difference in the means. The overall group mean for educational preparation was moderate on the MBI.

Question 6: Will teacher gender affect how they report burnout?

Test: The F test failed to reject any of the hypothesis at the .05 alpha level for the EEF, EEI, PAF, PAI, DPF, and DPI scales of the MBI when gender was the independent variable.

Hypotheses 6.1 and 6.2: There is no significant difference in the degrees of burnout reported by male and female teachers for each of the Emotional Exhaustion scales on the MBI, see Table 4, page 52.

Table 54 depicts the results of the ANOVA test for the data collected for hypothesis 6.1, gender on the EEF, Emotional Exhaustion Frequency scale.

Table 53 shows the cell counts, means, standard deviations and MBI classifications for the data tested in Table 54.

Table 53. GROUP DATA TABLE FOR GENDER, EMOTIONAL EXHAUSTION FREQUENCY SCALE

GROUP DESCRIPTION		COUNT	MEAN SCORE	S. D.	MBI
GROUP 1,	Males	13	14.15	10.02	LOW
GROUP 2,	Females	126	19.46	10.91	MOD
TOTAL		139	18.96	10.91	MOD

Table 54. ANOVA TABLE FOR GENDER, EMOTIONAL EXHAUSTION FREQUENCY SCALE

SOURCE	D. F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	1	331.8262	331.8262	2.826	.0951
WITHIN GROUPS	137	16088.9939	117.4379		
TOTAL	138	16420.8201			

Results: The F test failed to reject the hypothesis. The overall group classification mean was moderate for the EEF scale.

Table 56 depicts the results of the ANOVA test for the data collected for hypothesis 6.2, gender on the EEI, emotional exhaustion intensity scale. Table 55 shows the cell counts, means, standard deviations and MBI classifications for the data tested in Table 56.

Table 55. GROUP DATA TABLE FOR GENDER, EMOTIONAL EXHAUSTION INTENSITY SCALE

GROUP DESCRIPTION		COUNT	MEAN SCALE	S. D.	MBI
GROUP 1,	Males	13	22.85	12.09	LOW
GROUP 2,	Females	126	25.29	12.83	LOW
TOTAL		139	25.06	12.74	LOW

Table 56. ANOVA TABLE FOR GENDER, EMOTIONAL EXHAUSTION INTENSITY SCALE

SOURCE	D. F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	1	70.1330	70.1330	.430	.5192
WITHIN GROUPS	137	22321.4066	162.9300		
TOTAL	138	22391.5396			

Results: There was no difference between the means for hypothesis 6.2. The classification on the MBI Range of Experienced Burnout continuum placed women and men in the low range on the EEI scale.

Hypotheses 6.3 and 6.4: There is no significant difference in the degrees of burnout reported by male and female teachers on either of the Personal Accomplishment scales, PAF, or PAI, see Table 4, page 52.

Table 58 depicts the results of the ANOVA test for the data collected for hypothesis 6.3, gender on the PAF scale. Table 57 shows the cell counts, means, standard deviations and MBI classifications for the data tested in Table 58.

Table 57. GROUP DATA TABLE FOR GENDER, PERSONAL ACCOMPLISHMENT FREQUENCY SCALE

GROUP DESCRIPTION		COUNT	MEAN SCORE	S. D.	MBI
GROUP 1,	Males	13	39.62	6.58	LOW
GROUP 2,	Females	126	38.86	6.61	MOD
TOTAL		139	38.93	6.59	LOW

Table 58. ANOVA TABLE FOR GENDER, PERSONAL ACCOMPLISHMENT FREQUENCY SCALE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	1	6.7751	6.7751	.155	.6943
WITHIN GROUPS	137	5984.5055	43.6825		
TOTAL	138	5991.2806			

Results: The F test failed to reject the hypothesis. The overall group mean was low. The mean exceeded that of the normed group. On the personal accomplishment, PAI and PAF scales, a high score signified a low feeling of accomplishment.

Table 60 depicts the results of the ANOVA test for the data collected for hypothesis 6.4, gender on the PAI scale. Table 59 shows the cell counts, means, standard deviations and MBI classifications for the data tested in Table 60.

Table 59. GROUP DATA TABLE FOR GENDER, PERSONAL ACCOMPLISHMENT INTENSITY SCALE

GROUP DESCRIPTION		COUNT	MEAN SCORE	S. D.	MBI
GROUP 1,	Males	13	41.62	8.50	MOD
GROUP 2,	Females	126	40.45	7.50	MOD
TOTAL		139	40.56	7.59	MOD

Table 60. ANOVA TABLE FOR GENDER, PERSONAL ACCOMPLISHMENT INTENSITY SCALE

SOURCE	D. F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	1	15.9390	15.9390	.277	.5997
WITHIN GROUPS	137	7890.2912	57.5934		
TOTAL	138	7906.2302			

Results: There was no significant difference between the means. Both males and females scored in the moderate burnout range on the personal accomplishment intensity scale.

Hypotheses 6.5 and 6.6: There is no significant difference in the degrees of burnout reported by male and female teachers on either of the depersonalization scales.

Table 62 depicts the results of the ANOVA test for the data collected for hypothesis 6.5, gender on the DPF scale. Table 61 shows the cell counts, means, standard deviations and MBI classifications for the data tested in Table 62.

Table 61. GROUP DATA TABLE FOR GENDER, DEPERSONALIZATION FREQUENCY SCALE

GROUP DESCRIPTION		COUNT	MEAN SCORE	S. D.	MBI
GROUP 1,	Males	13	4.77	4.92	LOW
GROUP 2,	Females	126	5.29	4.88	LOW
TOTAL		139	5.24	4.87	LOW

Table 62. ANOVA TABLE FOR GENDER, DEPERSONALIZATION FREQUENCY SCALE

SOURCE	D. F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	1	3.2408	3.2408	.136	.7130
WITHIN GROUPS	137	3268.4426	23.8572		
TOTAL	138	3271.6835			

Results: Hypothesis 6.5 was retained. There was no significant difference between the group mean for males and females.

Table 64 depicts the results of the ANOVA test for the data collected for hypothesis 6.6, gender on the DPI scale. Table 63 shows the cell counts, means, standard deviations and MBI classifications for the data tested in Table 64.

Table 63. GROUP DATA TABLE FOR GENDER, DEPERSONALIZATION INTENSITY SCALE

GROUP DESCRIPTION		COUNT	MEAN SCORE	S. D.	MBI
GROUP 1,	Males	13	8.62	9.45	MOD
GROUP 2,	Females	126	7.07	6.25	MOD
TOTAL		139	7.22	6.58	MOD

Table 64. ANOVA TABLE FOR GENDER, DEPERSONALIZATION INTENSITY SCALE

SOURCE	D. F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	1	28.0911	28.0911	.647	.4227
WITHIN GROUPS	137	5951.4341	43.4411		
TOTAL	138	5979.5252			

Result: There was no significant difference between the means. The MBI classification chart placed both groups in the moderate range on the depersonalization intensity (DPI) scale.

Question 7: Will distance from the teacher's superordinate's office affect the level of burnout reported by teachers?

Test: The F test failed to reject any of the six hypotheses pertaining to travel time to the superordinate's office on the EEF, EEI, PAF, PAI, DPF, or DPI scales at the .05 alpha level.

Hypotheses 7.1 and 7.2: There is no significant difference in the degrees of burnout reported by teachers in different time stratifications from their superordinate's office on either the EEF, Emotional Exhaustion Frequency or EEI, Emotional Exhaustion Intensity scales for the MBI, Maslach Burnout Inventory, see Table 4, page 52.

Table 66 shows the ANOVA table for hypothesis 7.1, travel time to the superordinate's office on the EEF scale. Table 65 shows the cell counts, means, standard deviations and MBI, Maslach Burnout Inventory classifications for the data tested in Table 66.

Table 65. GROUP DATA TABLE FOR TIME, EMOTIONAL EXHAUSTION FREQUENCY SCALE

GROUP DESCRIPTION	COUNT	MEAN SCORE	S. D.	MBI
GROUP 1, < 30 minutes	43	18.09	9.88	MOD
GROUP 2, > 30, < 60	64	19.69	11.20	MOD
GROUP 3, > 60 minutes	32	18.69	11.85	MOD
TOTAL	139	18.94	10.91	MOD

Table 66. ANOVA TABLE FOR TRAVEL TIME, EMOTIONAL EXHAUSTION FREQUENCY SCALE

SOURCE	D. F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	2	68.5672	34.2836	.285	.7524
WITHIN GROUPS	136	16352.2529	120.2372		
TOTAL	138	16420.8201			

Results: There was no difference in the group means. All three groups fell into the moderate range.

Table 68 shows the ANOVA table for hypothesis 7.2, time on the EEI scale. Table 67 shows the cell counts, means, standard deviations and MBI classifications for the data tested in Table 68.

Table 67. GROUP DATA TABLE FOR TRAVEL TIME, EMOTIONAL EXHAUSTION INTENSITY SCALE

GROUP DESCRIPTION	COUNT	MEAN SCORE	S. D.	MBI
GROUP 1, < 30 Minutes	43	23.67	11.58	LOW
GROUP 2, > 30, < 60	64	25.50	13.16	LOW
GROUP 3, > 60 minutes	32	26.03	13.58	MOD
TOTAL	139	25.06	12.74	LOW

Table 68. ANOVA TABLE FOR TRAVEL TIME, EMOTIONAL EXHAUSTION INTENSITY SCALE

SOURCE	D. F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	2	125.1290	62.5645	.382	.6831
WITHIN GROUPS	136	22266.4106	163.7236		
TOTAL	138	22391.5396			

Result: There was no difference between the means. The overall group classification for travel time on the EEI scale was low.

Hypotheses 7.3 and 7.4: There is no difference in the degrees of burnout reported by teachers in different time stratifications on the personal accomplishment frequency (PAF) or personal accomplishment intensity (PAI) scale for the MBI.

Table 70 depicts the results of the ANOVA test for the data collected for hypothesis 7.3. Table 69 shows the cell counts, means, standard deviations and MBI classifications for the data tested in Table 70.

Table 69. GROUP DATA TABLE FOR TRAVEL TIME, PERSONAL ACCOMPLISHMENT FREQUENCY SCALE

GROUP DESCRIPTION	COUNT	MEAN SCORE	S. D.	MBI
GROUP 1, < 30 Minutes	43	39.37	6.63	LOW
GROUP 2, > 30, < 60	64	37.86	6.43	MOD
GROUP 3, > 60 Minutes	32	40.47	6.68	LOW
TOTAL	139	38.93	6.59	MOD

Table 70. ANOVA TABLE FOR TRAVEL TIME, PERSONAL ACCOMPLISHMENT FREQUENCY SCALE

SOURCE	D. F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	2	157.5309	78.7655	1.836	.1633
WITHIN GROUPS	136	5833.7496	42.8952		
TOTAL	138	5991.2806			

Results: There was no significant difference in the group means. The overall group classification on the MBI was moderate.

Table 72 shows the ANOVA table for the analysis of hypothesis 7.4, time on the PAI scale. Table 71 shows the cell counts, means, standard deviations and MBI classifications for the data tested in Table 72.

Table 71. GROUP DATA TABLE FOR TRAVEL TIME, PERSONAL ACCOMPLISHMENT INTENSITY SCALE

GROUP DESCRIPTION	COUNT	MEAN SCORE	S. D.	MBI
GROUP 1, < 30 Minutes	43	39.95	8.11	MOD
GROUP 2, > 30, < 60	64	40.25	7.24	MOD
GROUP 3, > 60 Minutes	32	42.00	7.53	MOD
TOTAL	139	40.56	7.57	MOD

Table 72. ANOVA TABLE FOR TRAVEL TIME, PERSONAL ACCOMPLISHMENT INTENSITY SCALE

SOURCE	D. F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	2	88.3232	44.1616	.768	.4658
WITHIN GROUPS	136	7817.9070	57.4846		
TOTAL	138	7906.2302			

Results: There was no difference between the means of the three groups on the PAI scale. Each group scored in the moderate range.

Hypothesis 7.5 and 7.6: There is no significant difference in the degree of burnout reported by teachers in different time stratifications from the superordinate's office on the depersonalization scales.

Table 74 shows the results of the ANOVA test for hypothesis 7.5, time on the DPF scale. Table 73 shows the cell counts, means, and standard deviations for the data tested in Table 74.

Table 73. GROUP DATA TABLE FOR TRAVEL TIME, DEPERSONALIZATION FREQUENCY SCALE

GROUP DESCRIPTION		COUNT	MEAN SCORE	S. D.	MBI
GROUP 1,	< 30 Minutes	43	5.07	4.31	LOW
GROUP 2,	> 30, < 60	64	5.84	5.38	LOW
GROUP 3,	> 60 Minutes	32	4.28	4.45	LOW
TOTAL		139	5.24	4.87	LOW

Table 74. ANOVA TABLE FOR TRAVEL TIME, DEPERSONALIZATION FREQUENCY SCALE

SOURCE	D. F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	2	53.9865	26.9933	1.141	.3226
WITHIN GROUPS	136	3217.6969	23.6595		
TOTAL	138	3271.6835			

Table 76 shows the results of the ANOVA test for hypothesis 7.6, time on the DPI scale. Table 75 shows the cell counts, means, standard deviations and MBI classifications for the data tested in Table 76.

Table 75. GROUP DATA TABLE FOR TRAVEL TIME, DEPERSONALIZATION INTENSITY SCALE

GROUP DESCRIPTION	COUNT	MEAN SCORE	S. D.	MBI
GROUP 1, < 30 Minutes	43	6.47	5.36	LOW
GROUP 2, > 30, < 60	64	7.98	7.32	MOD
GROUP 3, > 60 Minutes	32	6.69	6.54	LOW
Total	139	7.21	6.58	MOD

Table 76. GROUP DATA TABLE FOR TRAVEL TIME, DEPERSONALIZATION INTENSITY SCALE

SOURCE	D. F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	2	70.9681	35.4841	.817	.4440
WITHIN GROUPS	136	5908.5570	43.4453		
TOTAL	138	5979.5252			

Results: There was no significant difference in the group means on depersonalization frequency or intensity scales of the MBI. The group means were in the low range for frequency and moderate for intensity.

Two-way Analysis of Variance

The following two-way ANOVA tests represent the three multiple hypothesis 8, 9, and 10. The independent variables listed in each of the hypothesis combine to form fifteen testable pairs. The dependent variable for the fifteen hypotheses are the three scales on the Maslach Burnout Inventory (MBI), emotional exhaustion for hypothesis eight, personal accomplishment for hypothesis nine and depersonalization on hypothesis ten. Each scale is divided into two parts, frequency and intensity.

Two-way ANOVA tests were conducted on each of the fifteen hypothesis. For those ANOVA tests indicating significant interaction or main effects, test interpretations are presented following each of the tables.

Significance on the tables is noted by an (*) to the right of the recorded P - value. The ANOVA tests that produced significant results in either interaction or main effects are listed below. Those tests that did not produce significant differences are contained in Appendix C.

Each of the ANOVA tables contain the data for interaction and main effects. An alpha level of .05 was the criteria used for significance testing. When no significant interaction was found, a test for main effects was conducted.

Table 77. TWO-WAY SIGNIFICANCE TABLE

HYPOTHESIS	TEST	P - VALUES FOR THE ANOVA TABLES					
		DPF	DPI	PAF	PAI	EEF	EEI
8.1, 9.1, 10.1	Interaction	.814	.879	.301	.180	.600	.856
Age and	Age	.061	.207	.144	.900	.009*	.021*
Experience	Experience	.900	.792	.016*	.002*	.980	.800
8.2, 9.2, 10.2	Interaction	.586	.803	.314	.345	.468	.358
Age and Number	Age	.034*	.304	.269	.672	.011*	.045*
of Teachers	Number/Tch.	.577	.777	.619	.791	.637	.958
8.3, 9.3, 10.3	Interaction	.895	.463	.685	.253	.818	.754
Age and Educ.	Age	.034*	.227	.199	.440	.036*	.076
Preparation	Educ. Prep.	.113	.106	.826	.368	.797	.477
8.4, 9.4, 10.4	Interaction	.339	.007*	.277	.441	.541	.185
Age and	Age	.038*	.216	.269	.663	.022*	.052
Gender	Gender	.871	.256	.969	.700	.356	.972
8.5, 9.5, 10.5	Interaction	.665	.037*	.480	.819	.738	.813
Age and	Age	.051	.330	.315	.629	.011*	.041*
Travel Time	Travel Time	.399	.519	.222	.403	.770	.576

Table 77. Continued

HYPOTHESIS	TEST	P VALUES FOR THE ANOVA TABLES					
		DPF	DPI	PAF	PAI	EEF	EEI
8.6, 9.6, 10.6 Experience and # Teachers	Interaction	.907	.865	.553	.459	.535	.286
	Experience	.442	.971	.024*	.001*	.393	.877
	Number/Tch.	.750	.894	.489	.483	.615	.998
8.7, 9.7, 10.7 Experience and Ed. Preparation	Interaction	.493	.622	.785	.334	.868	.830
	Experience	.546	.979	.027*	.002*	.744	.870
	Educ. Prep.	.150	.193	.918	.843	.488	.310
8.8, 9.8, 10.8 Experience and Gender	Interaction	.834	.310	.120	.019*	.627	.352
	Experience	.471	.984	.025*	.001*	.491	.903
	Gender	.883	.391	.881	.736	.152	.576
8.9, 9.9, 10.9 Experience and Travel Time	Interaction	.799	.852	.182	.375	.464	.734
	Experience	.505	.955	.044*	.001*	.392	.889
	Travel Time	.421	.563	.343	.535	.885	.726
8.10 - 10.10 # Teachers Ed. Preparation	Interaction	.990	.753	.262	.432	.965	.902
	Number/Tch.	.920	.756	.622	.440	.688	.950
	Educ. Prep.	.130	.137	.958	.501	.413	.338
8.11 - 10.11 # Teachers Gender	Interaction	.565	.894	.726	.347	.870	.309
	Number/Tch.	.844	.961	.548	.636	.536	.916
	Gender	.705	.425	.727	.624	.106	.520
8.12 - 10.12 # Teachers Travel Time	Interaction	.874	.797	.014*	.099	.737	.743
	Number/Tch.	.987	.994	.401	.463	.475	.978
	Travel Time	.335	.451	.131	.401	.759	.695
8.13 - 10.13 Ed. Preparation Gender	Interaction	.925	.898	.920	.578	.725	.862
	Educ. Prep.	.122	.160	.957	.557	.405	.347
	Gender	.634	.560	.852	.591	.127	.589
8.14 - 10.14 Ed. Preparation Travel Time	Interaction	.832	.900	.167	.124	.111	.332
	Educ. Prep.	.120	.153	.553	.557	.334	.326
	Travel Time	.382	.468	.170	.484	.739	.696
8.15 - 10.15 Gender and Travel Time	Interaction	.190	.279	.518	.489	.299	.277
	Gender	.676	.462	.644	.609	.087	.486
	Travel Time	.315	.467	.162	.472	.692	.663
Age and Inservice	Interaction	.622	.616	.455	.502	.766	.602
	Age	.057	.398	.257	.736	.023*	.081
	Inservice	.384	.243	.148	.306	.049*	.043*

Table 77. Continued

HYPOTHESIS	TEST	P VALUES FOR THE ANOVA TABLES					
		DPF	DPI	PAF	PAI	EEF	EEI
Age and Hours Worked	Interaction	.424	.794	.763	.998	.336	.576
	Age	.033*	.291	.305	.743	.012*	.057
	Hours Worked	.090	.153	.514	.276	.008*	.009*
Experience and Hours Worked	Interaction	.895	.850	.812	.954	.651	.872
	Time Job	.516	.965	.041*	.003*	.563	.886
	Hours Worked	.135	.226	.567	.397	.007*	.008*
# Teachers and Hours Worked	Interaction	.579	.472	.100	.075	.898	.741
	Number/Tch.	.796	.925	.649	.768	.771	.866
	Hours Worked	.097	.156	.481	.189	.006*	.006*
Ed. Preparation and Inservice	Interaction	.765	.602	.873	.254	.840	.921
	Educ. Prep.	.153	.128	.958	.634	.415	.427
	Inservice	.141	.147	.202	.314	.025*	.025*

Question 8: Will age, experience, number of staff, educational preparation, gender, and time from the superordinate's office have an interacting effect on how the teachers report burnout?

The following five hypotheses pertain to the emotional exhaustion scales, emotional exhaustion frequency and emotional exhaustion intensity, for the independent variables of age, experience, number of teachers, educational preparation, gender, and travel time from the superordinate's office. The ten hypothesis combinations of experience and number of teachers, experience and educational preparation, experience and gender, experience and travel time, number of teachers and educational preparation, number of teachers and gender, number of teachers and travel time, educational preparation and gender, educational preparation and travel time and gender and travel time did not produce significant results. The hypotheses for these ten combinations

were retained. ANOVA tables for these ten hypotheses are contained in Appendix C, Tables 108-117.

Hypothesis 8.1-8.5: There is no significant interaction between the categories of age and experience (8.1), age and the number of teachers (8.2), age and educational preparation (8.3), age and gender (8.4) and age and the time to travel to the superordinate's office (8.5) on either of the exhaustion scales.

Results of the two-way analysis for Emotional Exhaustion Frequency and Emotional Exhaustion Intensity for hypothesis 8.1-8.5 are contained in Tables 78-82. The following five ANOVA tables contain the *F* test results for both the frequency and intensity scales. ANOVA results for interaction and main effects are contained in each table.

Table 78. TWO-WAY ANOVA FOR AGE AND EXPERIENCE, EMOTIONAL EXHAUSTION FREQUENCY AND INTENSITY SCALES

Source of Variation (EEF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Age	1330.764	3	443.588	4.027	.009*
Experience	4.516	2	2.258	.020	.980
Two-Way Interaction (EEI)	303.852	4	75.963	.690	.600
Main Effects					
Age	1593.058	3	531.019	3.354	.012*
Experience	70.951	2	35.475	.224	.800
Two-Way Interaction	210.657	4	52.664	.333	.856

Test: There was no interaction. There were main effects for age on both the EEF and EEI scales.

Result: Hypothesis 8.1 was retained. The presence of main effects for age indicates that there was a difference in the group means for age of

teachers. Tables 5 - 8 indicate that group three, the 30 - 39 year old teachers reported a low degree of burnout while teachers in the other three groups reported moderate degrees of burnout. There was no difference in the group means for teaching experience, see Tables 29 - 32 contained in this chapter.

Test: The test for interaction for Table 79 listed on the following page failed to reject the hypothesis at the .05 level. The test for main effects supported the hypothesis. The age of the teachers, as expected, produced a significant P - value.

Table 79. TWO-WAY ANOVA FOR AGE AND NUMBER OF TEACHERS, EMOTIONAL EXHAUSTION FREQUENCY AND INTENSITY SCALES

Source of Variation (EEF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Age	315.420	3	438.473	3.875	.011*
Number/Teachers	25.319	1	25.319	.224	.637
Two-Way Interaction (EEI)	289.218	3	96.406	.852	.468
Main Effects					
Age	1310.217	3	436.739	2.764	.045*
Number/Teachers	.430	1	.430	.003	.958
Two-Way Interaction	514.126	3	171.375	1.085	.358

Result: Hypothesis 8.2 was retained. The main effects tests for the age category indicated that group means for age were different. This is supported by Tables 5 - 8 found in this chapter. Group three was different. The failure to find significant main effects for the category of number teachers is supported by Tables 16 - 20.

Table 80. TWO-WAY ANOVA FOR AGE AND EDUCATIONAL PREPARATION, EMOTIONAL EXHAUSTION FREQUENCY AND INTENSITY SCALES

Source of Variation (EEF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Age	1040.804	3	346.935	2.946	.036*
Educ. Preparation	195.718	4	48.929	.415	.797
Two-Way Interaction (EEI)	696.480	10	69.648	.591	.818
Main Effects					
Age	1137.300	3	379.100	2.344	.076
Educ. Preparation	570.546	4	142.636	.882	.477
Two-Way Interaction	1076.511	10	107.651	.666	.754

Test: There was no interaction. The test for main effects supported the hypothesis for age at the .05 level on the frequency scale.

Results: Hypothesis 8.3 was retained. There was a difference between the group means for age (see Tables 5 - 8) on the frequency scale, as reflected by the main effects. Group three was different. There were no main effects for age on the intensity scale. This lack of significance is probably due to the parameters selected for the if, then statements used in the SPSSx statistical package. The failure to find main effects for educational preparation was expected, see Tables 41 - 44. The educational preparation groups had means that did not differ significantly.

Test: There was no interaction on Table 81 that is listed on the following page. For the main effects tests, gender did not produce significant differences. The F test did identify age at the .05 level on the emotional exhaustion frequency scale but not on the intensity scale.

Table 81. TWO-WAY ANOVA FOR AGE AND GENDER, EMOTIONAL EXHAUSTION FREQUENCY AND INTENSITY SCALES

Source of Variation (EEF)	Squares	Sum of Square	D.F. Ratio	Mean Value	F	P
Main Effects						
Age		1118.752	3	372.917	3.304	.022*
Gender		96.666	1	96.666	.856	.356
Two-Way Interaction (EEI)		139.179	2	69.590	.616	.541
Main Effects						
Age		1244.575	3	414.882	2.649	.052
Gender		.198	1	.198	.001	.972
Two-Way Interaction		536.007	2	268.003	1.711	.185

Result: Hypothesis 8.4 was retained. There was significance for the main effect frequency for age, see Tables 5 - 8. Failure to show significance on the intensity was probably due to selection of the parameters on the if, then statements for the SPSSx statistics package. The lack of main effects for gender was expected, see Tables 53 - 56.

Table 82. TWO-WAY ANOVA FOR AGE AND TRAVEL TIME, EMOTIONAL EXHAUSTION FREQUENCY AND INTENSITY SCALES

Source of Variation (EEF)	Squares	Sum of Square	D.F.	Mean Square	F Ratio	P Value
Main Effects						
Age		1333.861	3	444.620	3.849	.011*
Travel Time		60.604	2	30.302	.262	.770
Two-Way Interaction (EEI)		409.027	6	68.171	.590	.738
Main Effects						
Age		1374.808	3	458.269	2.831	.041*
Travel Time		179.214	2	89.607	.554	.576
Two-Way Interaction		477.745	6	79.642	.492	.813

Test: The F tests failed to show interaction and to find significance for the main effects for travel time to the superordinate's office. There were main effects for age at the .05 level.

Result: Hypothesis 8.5 was retained. There were main effects on both scales for the four age groups of teachers, see Tables 5 - 8. The lack of main effects for time to the superordinate's was also indicated by Tables 65 - 68.

Question 8: Will age, experience, number of staff, educational preparation, gender, and time from the superordinate's office have an interacting effect on how teachers report burnout?

The depersonalization scale had two subscales, frequency and intensity. The question above reflects fifteen separate hypothesis. The four ANOVA tables listed below show those situations where significant interaction or main effects were found. In the instances where there was no interaction or main effects the tables are listed in Appendix C.

Hypothesis 9.2-9.5: There is no significant interaction between the categories of age and number of teachers (9.2), age and educational preparation (9.3), age and gender (9.4), and age and travel time to the superordinate's office (9.5) on either of the depersonalization scales.

Results of the analysis for the data described by hypothesis 9.2 - 9.5 are shown on Tables 83 - 86 respectively. The hypotheses for age and experience, experience and number of teachers, experience and educational preparation, experience and gender, experience and travel time, number of teachers and educational preparation, number of teachers and gender, number of teachers and travel time, educational preparation and travel time, and gender and travel time were retained, see Appendix C.

Table 83. TWO-WAY ANOVA FOR AGE AND NUMBER OF TEACHERS, DEPERSONALIZATION FREQUENCY AND INTENSITY SCALES

Source of Variation (DPF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Age	207.903	3	69.301	2.988	.034*
Experience	7.269	1	7.269	.313	.577
Two-Way Interaction (DPI)	45.014	3	15.005	.647	.586
Main Effects					
Age	162.886	3	54.295	1.223	.304
Number/Teachers	3.567	1	3.567	.080	.777
Two-Way Interaction	44.090	3	14.697	.331	.803

Test: There was no interaction. The F tests for main effects identified significance for age only on the DPF scale.

Results: Hypothesis 9.2 was retained. There was a difference in the group means for the age category on the DPF scale. Tables 13 - 16 in this chapter further explain the differences in the means. The main effects for age on the DPF scale is consistent with the one-way analysis presented on Table 14. The post hoc test indicated that group one was different. Group one, teacher in the 21 - 27 age group had the largest mean and fell into the moderate burnout classification. There were no main effects for number of teachers or for age on the DPI scale, see Tables 25 - 28.

Test: The F test failed to reject the hypothesis for interaction on Table 84, listed on the following page. There were main effects for age on the frequency scale, not on the intensity scale. There were no main effects for educational preparation.

Table 84. TWO-WAY ANOVA FOR AGE AND EDUCATIONAL PREPARATION, DEPERSONALIZATION FREQUENCY AND INTENSITY SCALES

Source of Variation (DPF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Age	206.528	3	68.843	2.975	.034*
Educ. Preparation	176.814	4	44.204	1.910	.113
Two-Way Interaction (DPI)	113.000	10	11.300	.488	.895
Main Effects					
Age	186.175	3	62.058	1.468	.227
Educ. Preparation	330.636	4	82.659	1.955	.106
Two-Way Interaction	415.164	10	41.516	.982	.463

Results: Hypothesis 9.3 was retained. Significant main effects were found only on the depersonalization frequency scale for age, see Tables 13 - 16. There was a difference in the group response of teachers only in their reporting frequency of burnout feelings. The one-way analysis for educational preparation, Tables 49 - 52 did not produce significant differences between the means.

Table 85. TWO-WAY ANOVA FOR AGE AND GENDER, DEPERSONALIZATION FREQUENCY AND INTENSITY SCALES

Source of Variation (DPF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Age	199.089	3	66.363	2.882	.038*
Gender	.610	1	.610	.027	.871
Two-Way Interaction (DPI)	50.233	2	25.116	1.091	.339
Main Effects					
Age	184.342	3	61.447	1.504	.216
Gender	53.071	1	53.071	1.299	.256
Two-Way Interaction	415.835	2	207.917	5.090	.007*

Test: There was interaction on the intensity scale but not on the frequency scale. Main effects testing resulted in significant differences for age on the frequency scale.

Results: Hypothesis 9.4 was rejected on the intensity scale. For intensity group means for Table 85, see Appendix D. The presence of interaction meant that the means for age and gender are not consistent across the scale. The 28 - 38 year old males had lower means than the female teachers on the Maslach Burnout Inventory (MBI) classification whereas the females, as a group scored usually had lower means than the males on the depersonalization intensity (DPI) scale. The main effects for age on the frequency scale were significant. This was expected as the one-way analysis also indicated that there was a difference between the means on the depersonalization frequency scale (DPF), see Tables 13 - 16.

The phrase travel time to the superordinate's office for hypothesis 9.5 was reduced to travel time for convenience of table construction.

Table 86. TWO-WAY ANOVA FOR AGE AND TRAVEL TIME, DEPERSONALIZATION FREQUENCY AND INTENSITY SCALES

Source of Variation (DPF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Age	186.050	3	62.017	2.668	.051
Travel Time	43.012	2	21.506	.925	.399
Two-Way Interaction (DPI)	95.077	6	15.846	.682	.665
Main Effects					
Age	142.629	3	47.543	1.154	.330
Travel Time	54.332	2	27.166	.659	.519
Two-Way Interaction	572.995	6	95.499	2.317	.037*

Test: There was interaction on the intensity scale. There was no interaction on the frequency scale. The F test failed to show the main effects expected on the frequency table.

Results: Hypothesis 9.5 was rejected for the intensity scale. For intensity group means for Table 86, see Appendix D. The group means for age and time from the superordinate's office are not consistent through the table. Those teachers in the 28 - 38 age group usually reported low burnout levels, however those teachers in the 28 - 38 age group that had to travel in excess of 60 minutes to get to their superordinate's office had a higher group mean than did teachers in the other age groups. Also those teachers in excess of 38 years of age living between 30 minutes and one hour from their superordinate's had the highest reported levels of burnout. This group of teachers usually had the lowest levels of reported burnout. The main effects tests failed to produce significance on the frequency scale meaning the group means were not different. However, in Tables 13 - 16 it was established that group one was significantly different. This failure to identify the established significance could be due to parameter selection of the if, then statements for the SPSSx package.

Question 8: Will age, experience, number of staff, educational preparation, gender, and time from the superordinate's office have as interacting effect on how teachers report burnout?

There were fifteen two-way hypotheses on the two personal accomplishment scales, frequency and intensity, that represented the combinations of the independent variables listed above. Two-way ANOVA tests conducted for each of the following hypothesis combinations age and number of teachers, age and educational preparation, age and gender, age

and travel time, number of teachers and educational preparation, number of teachers and gender, educational preparation and gender, educational preparation and travel time, gender and travel time did not produce significant results. Those hypotheses that did not show significant interaction or main effects are represented by ANOVA Tables 129-137 in Appendix C. The six two-way ANOVA tests that produced significance are presented in the following Tables, 87-93.

Hypothesis 10.1, 10.6, 10.7, 10.8, 10.9, and 10.12: There is no significant interaction between the categories of age and experience (10.1), experience and number of teachers (10.6), experience and educational preparation (10.7), experience and gender (10.8), experience and time from their superordinate's office (10.9), and number of teachers and time from their immediate supervisor's office (10.12) on either of the personal accomplishment scales.

Table 87. TWO-WAY ANOVA FOR AGE AND EXPERIENCE, PERSONAL ACCOMPLISHMENT FREQUENCY AND INTENSITY SCALES

Source of Variation (PAF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Age	225.515	3	75.172	1.834	.144
Experience	348.270	2	174.135	4.247	.016*
Two-Way Interaction (PAI)	210.883	4	50.471	1.231	.301
Main Effects					
Age	30.658	3	10.219	.194	.900
Experience	688.607	2	344.303	6.548	.002*
Two-Way Interaction	335.233	4	125.848	1.594	.180

Test: For the ANOVA tests of teaching experience and age on the personal accomplishment scales there was no interaction. There were main effects for teaching experience on both the PAF and PAI scales. There were no main effects for age.

Results: There was a difference in the means for the experience groups on both scales. Tables 33 - 36 present the data for teaching experience. Group two, those teachers that had between 33 and 74 months of experience were significantly different as indicated by the Student Numan-Keuls (SNK) post hoc test. Group two was in the low category and groups one and three in the moderate range. There were no main effects for age, see Tables 9 - 12.

Table 88. TWO-WAY ANOVA FOR TEACHING EXPERIENCE AND NUMBER OF TEACHERS, PERSONAL ACCOMPLISHMENT FREQUENCY AND INTENSITY SCALES

Source of Variation (PAF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Experience	325.360	2	162.680	3.858	.049*
Number/Teachers	20.339	1	20.339	.482	.489
Two-Way Interaction (PAI)	50.220	2	25.110	.596	.553
Main Effects					
Experience	792.900	2	396.450	7.543	.001*
Number/Teachers	25.983	1	25.983	.494	.483
Two-Way Interaction	82.486	2	41.243	.784	.459

Test: There was no interaction. There were main effects reported for teaching experience on both scales. There were no main effects for the number of teachers in school.

Results: Hypothesis 10.6 was retained. There was a difference in the group means for experience. The amount of teaching experience a teacher

had did make a difference in their reporting on the MBI. Group two, those teachers with from about three to six years experience, differed significantly. The failure to find main effects for number of teachers was consistent with previous findings presented on Tables 21 - 24.

Test: For ANOVA Table 89 that follows, there was no interaction. The F test identified the expected main effects for teaching experience on both scales. There were no main effects for educational preparation.

Table 89. TWO-WAY ANOVA FOR TEACHING EXPERIENCE AND EDUCATIONAL PREPARATION, PERSONAL ACCOMPLISHMENT FREQUENCY AND INTENSITY SCALES

Source of Variation (PAF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Experience	323.885	2	161.943	3.710	.027*
Educ. Preparation	40.941	4	10.235	.234	.918
Two-Way Interaction (PAI)	138.678	6	23.113	.529	.785
Main Effects					
Experience	683.509	2	341.754	6.460	.002*
Educ. Preparation	74.315	4	18.579	.351	.843
Two-Way Interaction	367.259	6	61.210	1.157	.334

Results: Hypothesis 10.7 was retained. There was a difference between the group means for teaching experience. Group two was lower than the other groups. The failure to find main effects for educational preparation was consistent with prior findings, see Tables 45 - 48.

Test: On ANOVA Table 90 that follows, there was interaction on the personal accomplishment intensity scale. There was no interaction on the frequency scale. There were main effects as expected for experience on the personal accomplishment frequency scale.

Table 90. TWO-WAY ANOVA FOR TEACHING EXPERIENCE AND GENDER, PERSONAL ACCOMPLISHMENT FREQUENCY AND INTENSITY SCALES

Source of Variation (PAF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Experience	314.417	2	157.208	3.803	.025*
Gender	.925	1	.925	.022	.881
Two-Way Interaction (PAI)	178.426	2	89.213	2.158	.120
Main Effects					
Experience	769.649	2	384.825	7.654	.001
Gender	5.728	1	5.728	.114	.736
Two-Way Interaction	411.747	2	205.873	4.095	.019*

Results: Hypothesis 10.8 was rejected for the intensity scale. For a list of the intensity group means for Table 90, see Appendix D. The presence of interaction on the intensity scale indicates that the group means for experience and gender are not consistent across the table of means. Male teachers usually scored lower than females on the intensity scales except the beginning male teachers who reported higher burnout than their female counterparts.

The significance of the main effect, experience, on the frequency scale indicated the group means were different. Group two had a higher mean which reflected lower feelings of burnout. The lack of main effects for gender was consistent with prior findings, see Tables 57 - 60.

Test: On Table 91 that follows there was no interaction. There were main effects for teaching experience on both personal accomplishment scales. There were no main effects for travel time to the superordinate's office.

Table 91. TWO-WAY ANOVA FOR EXPERIENCE AND TRAVEL TIME,
PERSONAL ACCOMPLISHMENT FREQUENCY AND INTENSITY SCALES

Source of Variation (PAF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Experience	261.726	2	130.863	3.192	.044*
Travel Time	88.398	2	44.199	1.078	.343
Two-Way Interaction (PAI)	259.706	4	64.927	1.584	.182
Main Effects					
Experience	760.246	2	380.123	7.249	.001*
Travel Time	65.838	2	32.919	.628	.535
Two-Way Interaction	223.944	4	55.986	1.068	.375

Results: Hypothesis 10.9 was retained. As expected from tables 33 - 36 there was a difference between the group means for the groups when teaching experience was considered. Group two, those teachers with between 33 and 74 months experience reported the highest mean scores which reflects high satisfaction with their job and low feelings of burnout. Time to their superordinate's office did not produce a significant main effects on either scale, see Tables 69 - 72.

Table 92. TWO-WAY ANOVA FOR NUMBER OF TEACHERS AND TRAVEL
TIME ON THE PERSONAL ACCOMPLISHMENT FREQUENCY AND
INTENSITY SCALES

Source of Variation (PAF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Number/Teachers	29.010	1	29.010	.709	.401
Travel Time	169.148	2	84.574	2.067	.131
Two-Way Interaction (PAI)	362.084	2	181.042	4.424	.014*
Main Effects					
Number/Teachers	30.695	1	30.695	.543	.463
Travel Time	103.979	2	51.990	.919	.401
Two-Way Interaction	266.691	2	133.346	2.358	.099

Test: There was interaction on the frequency scale. There was no interaction on the intensity scale. There were no main effects.

Results: Hypothesis 10.12 was rejected for frequency. For a list of the group frequency means, see Appendix D. The presence of interaction indicates that the means are inconsistent across the table of means for travel time and the number of teachers. Except for the group less than thirty minutes away from their superordinate's office, the teachers that worked in the two teacher schools reported lower frequencies of accomplishment than those teachers that worked alone. Those teachers working in the two teacher schools within thirty minutes of their superordinate's office reported greater frequencies of accomplishment.

The lack of main effects for intensity is consistent with previous findings, see Tables 69 - 72 for travel time and Tables 21 - 21 for number of teachers.

Additional Information, one-way and two-way ANOVA. The following eight Tables, 93 - 100 were included because of the availability of additional data. The data for these analyses were obtained through the collection of additional information on the demographic sheet that accompanied the Maslach Burnout Inventory (MBI) survey. The tables did contribute to the interpretation of burnout as reported by the rural teachers in the various stratifications.

Teacher inservice training is an area identified in the literature as being an effective means of preventing, combating and controlling teacher burnout. Tables 93 - 96 show the data for teacher inservice. The literature also identified the amount of work time a professional puts in on the job as being either a

cause or a result of burnout. Tables 97 - 100 show the data for number of hours per week that the teachers reported working.

Tables 93 through 96 contain the data for teacher inservice on the emotional exhaustion frequency and emotional exhaustion intensity scales.

Table 93. GROUP DATA TABLE FOR TEACHER INSERVICE, EMOTIONAL EXHAUSTION FREQUENCY SCALE

GROUP DESCRIPTION	COUNT	MEANS CORE	S. D.	MBI
GROUP 1, This Year	110	19.85	10.57	MOD
GROUP 2, Last Summer	13	10.85	4.79	LOW
GROUP 3, Other	14	19.36	15.19	MOD
TOTAL	137	18.95	10.98	MOD

Table 94. ANOVA TABLE FOR TEACHER INSERVICE, EMOTIONAL EXHAUSTION INTENSITY SCALE

SOURCE	D. F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	2	946.0630	473.0315	4.101	.0187*
WITHIN GROUPS	134	15454.5793	115.3327		
TOTAL	137	16400.6423			

Test: There was a difference between the means as indicated by the significant F. The Student Newman-Keuls (SNK) post hoc analysis identified group two, those teachers that indicated having inservice training last summer, as being significantly different at the .05 level.

Result: There was a difference between the group means with respect to teacher inservice. Group two, those teachers that had inservice training during the summer prior to the starting of school had the lowest mean score.

Group two was also different on the MBI classification. Group two was low, while groups one and three both reported moderate degrees of burnout.

Table 95. GROUP DATA FOR INSERVICE, EMOTIONAL EXHAUSTION INTENSITY SCALE

GROUP DESCRIPTION	COUNT	MEANS CORE	S. D.	MBI
GROUP 1, This Year	110	26.26	12.38	MOD
GROUP 2, Last Summer	13	15.93	8.52	LOW
GROUP 3, Other	14	24.00	16.15	LOW
TOTAL	137	25.04	12.78	LOW

Table 96. ANOVA TABLE FOR INSERVICE, EMOTIONAL EXHAUSTION INTENSITY SCALE

SOURCE	D. F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	2	1255.5217	627.7609	4.015	.0203*
WITHIN GROUPS	134	20951.2958	156.3530		
TOTAL	136	22206.8175			

Test: The means were different. The Student Numan-Keuls, SNK; post hoc test identified group two as being significantly different.

Results: There was a difference between the means. Group two was less than the other groups. Overall the groups scored in the low classification. The group mean was less than the normed mean established for the MBI.

The following four tables report the data for the number of hours worked each week by the rural teachers. Tables 97 and 98 shows the frequency of

emotional exhaustion for the number of hours worked each week. Tables 99 and 100 shows the intensity of the emotional exhaustion reported by teachers in the various number of hours worked per week stratifications.

Table 97. GROUP DATA TABLE FOR HOURS WORKED, EMOTIONAL EXHAUSTION FREQUENCY SCALE

GROUP DESCRIPTION	COUNT	MEANSORE	S. D.	MBI
GROUP 1, > 60 Hours	26	24.50	13.74	MOD
GROUP 2, 50-59 Hours	60	19.52	10.15	MOD
GROUP 3, 50-49 Hours	49	16.02	9.06	LOW
GROUP 4, 30-39 Hours	4	10.75	7.76	LOW
TOTAL	139	18.96	10.91	MOD

Table 98. ANOVA TABLE FOR HOURS WORKED, EMOTIONAL EXHAUSTION FREQUENCY SCALE

SOURCE	D. F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	1509.6072	503.2024	4.556	.0045*
WITHIN GROUPS	135	14911.2129	110.4534		
TOTAL	138	16420.8201			

Test: There was a significant difference in the means.

Results: There was a difference between the means. Group one and two, those teachers that reported working in excess of fifty hours per week, were different. The teachers that worked more than fifty hours per week scored in the moderate classification of burnout while the teachers that worked less than fifty hours per week score in the low classification.

Table 99. GROUP DATA TABLE FOR HOURS WORKED, EMOTIONAL EXHAUSTION INTENSITY SCALE

GROUP DESCRIPTION	COUNT	MEANS CORE	S. D.	MBI
GROUP 1, > 60 Hours	26	29.81	13.43	MOD
GROUP 2, 50-59 Hours	60	26.80	12.33	MOD
GROUP 3, 40-49 Hours	49	21.35	11.82	LOW
GROUP 4, 30-39 Hours	4	13.50	8.66	LOW
TOTAL	139	25.06	12.74	LOW

Table 100. ANOVA TABLE FOR HOURS WORKED EMOTIONAL EXHAUSTION SCALE

SOURCE	D. F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	1977.7991	659.2664	4.360	.0058*
WITHIN GROUPS	135	20413.7405	151.2129		
TOTAL	138	22391.5396			

Test: The group means for number of hours worked per week were different.

Results: There was a difference between the means. The SNK identified groups one and two, those teachers that worked more than fifty hours per week as being different. The teachers that worked more than fifty hours per week had greater means, they were in the moderate burnout range.

Tables 101 - 107 show the additional two-way analysis that produced significant results. These seven analysis further identify the factors that resulted in teacher burnout.

Test: On the following ANOVA Table, 101, there was no interaction. There were main effects for age on the emotional exhaustion frequency scale

and on both the emotional exhaustion frequency and emotional exhaustion intensity scales for teacher inservice.

Table 101. TWO-WAY ANOVA FOR AGE AND INSERVICE, EMOTIONAL EXHAUSTION FREQUENCY AND INTENSITY SCALES

Source of Variation (EEF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Age	1110.320	3	370.107	3.294	.023*
Inservice	694.578	2	347.289	3.091	.049*
Two-Way Interaction (EEI)	373.432	6	62.239	.554	.766
Main Effects					
Age	1066.758	3	355.586	2.301	.081
Inservice	1000.526	2	500.263	3.237	.043*
Two-Way Interaction	705.910	6	117.652	.761	.602

Results: The presence of main effects was expected, see Tables 93 - 96. Group two, those teachers that did have inservice last summer reported very low degrees of exhaustion while teachers that had inservice in the fall and not at all reported moderate degrees of exhaustion.

Table 102. TWO-WAY ANOVA FOR AGE AND NUMBER OF HOURS WORKED PER WEEK, EMOTIONAL EXHAUSTION FREQUENCY AND INTENSITY SCALES

Source of Variation (EEF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Age	1177.694	3	392.565	3.783	.012*
Hours Worked	1292.619	3	430.873	4.152	.008*
Two-Way Interaction (EEI)	1070.870	9	118.986	1.147	.336
Main Effects					
Age	1146.125	3	382.004	2.570	.057
Hours Worked	1786.980	3	595.660	4.007	.009*
Two-Way Interaction	1130.990	9	125.666	.845	.576

Test: There was no interaction. There were main effects for number of hours worked per week on both the emotional exhaustion intensity and frequency scales and for age on the emotional exhaustion frequency scale.

Results: The failure of the F test to produce a significant value for age on the intensity scale could be due to the if, then, parameter selection for the Statistical Procedures for the Social Sciences (SPSSx) statistical package.

The finding of significant values for the hours worked was expected, see Tables 99 -100. Groups one and two differed significantly from group three and four. Group three and four, those teachers that worked more than 49 hours per week were in the moderate classification on the MBI scale. Groups one and two were low on the MBI burnout classification.

Table 103. TWO-WAY ANOVA FOR AGE AND NUMBER OF HOURS WORKED PER WEEK, DEPERSONALIZATION FREQUENCY AND INTENSITY SCALES

Source of Variation (DPF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Age	200.683	3	66.894	3.007	.033*
Hours Worked	147.926	3	49.309	2.217	.090
Two-Way Interaction (DPI)	205.283	9	22.809	1.025	.424
Main Effects					
Age	165.892	3	55.297	1.262	.291
Hours Worked	235.160	3	78.378	1.788	.153
Two-Way Interaction	237.234	9	26.359	.601	.794

Test: There was no interaction. There were main effects for age on the DPF scale. There were no main effects for hours worked or for age on the DPI scale.

Results: It was expected that there would not be significant results for age on the DPI scale. The finding of significance on the DPF scale is consistent with the one-way analysis performed on age, see Tables 13 and 14. Group one was different. Group one, those teachers between the ages of 21 and 27 fell into the moderate classification of burnout, while the other groups fell into the low burnout classification. The number of hours worked per week did not produce significant results on either scale.

Table 104. TWO-WAY ANOVA FOR TEACHING EXPERIENCE AND NUMBER OF HOURS WORKED, EMOTIONAL EXHAUSTION FREQUENCY AND INTENSITY SCALES

Source of Variation (EEF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Experience	126.672	2	63.336	.577	.563
Hours Worked	1381.537	3	460.512	1.192	.007*
Two-Way Interaction (EEI)	365.038	5	73.008	.665	.651
Main Effects					
Experience	37.782	2	18.891	.121	.886
Hours Worked	1908.525	3	636.175	4.090	.008*
Two-Way Interaction	283.143	5	56.629	.364	.872

Test: There was no interaction. There were main effects for hours worked on both of the emotional exhaustion scales. There were no main effects for teaching experience.

Results: The main effects for hours worked was expected, see Tables 97 -100. Groups one and two, those teachers that worked over 49 hours per week had higher group means and were in the moderate burnout classification while those teachers that worked less than fifty hours per week were low on the

burnout classification scale. The failure to obtain main effects for the various stratifications of teaching experience was expected, see Tables 29 - 32.

Table 105. TWO-WAY ANOVA FOR EXPERIENCE AND NUMBER OF HOURS WORKED, PERSONAL ACCOMPLISHMENT FREQUENCY AND INTENSITY SCALES

Source of Variation (PAF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Experience	281.445	2	140.722	3.278	.041*
Hours Worked	87.365	3	29.122	.678	.567
Two-Way Interaction (PAI)	96.793	5	19.359	.451	.812
Main Effects					
Experience	649.864	2	324.932	6.038	.003*
Hours Worked	160.881	3	53.627	.996	.397
Two-Way Interaction	58.567	5	11.713	.218	.954

Test: There was no interaction. There were main effects for teaching experience on both scales. There were no main effects for the number of hours worked per week on either scale.

Results: The significance for the main effects on the personal accomplishment scales was expected, see Tables 33 - 36. Group two, those teachers with about approximately three to six years experience, were different. The teachers in group two reported accomplishment feeling in the low classification while teachers in the other two groups reported feeling that were in the moderate classification. The failure to obtain a significant difference for hours worked was expected, see Tables 97-100.

Table 106. TWO-WAY ANOVA FOR NUMBER OF TEACHERS AND NUMBER OF HOURS WORKED, EMOTIONAL EXHAUSTION FREQUENCY AND INTENSITY SCALES

Source of Variation (EEF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Number/Teachers	9.634	1	9.634	.085	.771
Hours Worked	1455.421	3	485.140	4.284	.006*
Two-Way Interaction (EEI)	67.202	3	220.401	.198	.898
Main Effects					
Number/Teachers	4.427	1	4.427	.029	.866
Hours Worked	1978.530	3	659.510	4.274	.006*
Two-Way Interaction	192.831	3	64.277	.417	.741

Test: There was no interaction. There were main effects for hours worked on both scales. There were no main effects for number of teachers.

Results: The presence of main effects for number of hours worked on the emotional exhaustion scales, frequency and intensity, was expected, see Tables 97 - 100. Groups one and two, those teachers that worked over fifty hours per week, were different, they had higher group means than did groups three and four, those teachers that worked less than fifty hours per week. Those teachers that worked over fifty hours per week scored in the moderate emotional exhaustion burnout classification.

Test: On the following Table number 107, there was no interaction. There were main effects for teacher inservice on both of the emotional exhaustion scales. There were no main effects for educational preparation.

Table 107: TWO-WAY ANOVA FOR EDUCATIONAL PREPARATION AND INSERVICE, EMOTIONAL EXHAUSTION FREQUENCY AND INTENSITY SCALES

Source of Variation (EEF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Educ. Preparation	469.194	4	117.298	.992	.415
Inservice	902.030	2	451.015	3.814	.025*
Two-Way Interaction (EEI)	322.817	6	53.803	.455	.840
Main Effects					
Educ. Preparation	625.804	4	156.451	.970	.427
Inservice	1219.966	2	609.983	3.781	.025*
Two-Way Interaction	318.454	6	53.076	.329	.921

Results: The presence of main effect for inservice was expected.

Group two, those teachers that indicated having inservice during the summer preceeding school, reported the lowest degrees of burnout.

Table 108 below shows a summary of the significance obtained from the one and two-way analyses performed on the data gathered for this study. The one-way portion of the table has yes/no responses that indicate whether or not a significant F was obtained.

The two-way ANOVA portion of the table has the "no" response to indicate that no significance had been identified. Significant interactions have been identified by (INT) on the table. In cases where main effect were identified, they have been identified be ME(a), ME(e), ME(h), ME(i), and ME(b) indicating main effects for age, ME(a), main effects for experience, ME(e), main effects for hours worked, ME(h), the main effects for inservice, ME(i), and when both there was main effects for both variables, ME(b).

The six MBI scales have been identified as: DPF, depersonalization frequency; DPI, depersonalization intensity; PAF, personal accomplishment

frequency; PAI, personal accomplishment intensity; EEF, emotional exhaustion frequency; and EEI, emotional exhaustion intensity.

Table 108: ONE AND TWO-WAY ANOVA SIGNIFICANCE SUMMARY TABLE

Hypothesis	Maslach Burnout Scales					
ONE-WAY ANOVA'S	DPF	DPI	PAF	PAI	EEF	EEI
Ho-2 Age Stratifications	yes	no	no	no	yes	yes
Ho-3 Exp. Stratifications	no	no	yes	yes	no	no
Ho-4 One and Two tchr. Schls.	no	no	no	no	no	no
Ho-5 Educational Preparation	no	no	no	no	no	no
Ho-6 Gender	no	no	no	no	no	no
Ho-7 Travel Time to the Superordinate's Office	no	no	no	no	no	no
Table 108. Continued						
TWO-WAY ANOVA'S	DPF	DPI	PAF	PAI	EEF	EEI
Ho-8,9,10 Age & Experience	no	no	ME(e)	ME(e)	ME(a)	ME(a)
Ho-8,9,10 Age & # Tchrs.	ME(a)	no	no	no	ME(a)	ME(a)
Ho-8,9,10 Age & Educ. Prep.	ME(a)	no	no	no	ME(a)	no
Ho-8,9,10 Age & Gender	ME(a)	INT	no	no	ME(a)	no
Ho-8,9,10 Age & Travel Time	no	INT	no	no	ME(a)	ME(a)
Ho-8,9,10 Exp. & # Tchrs.	no	no	ME(e)	ME(e)	no	no
Ho-8,9,10 Exp. & Educ. Prep.	no	no	ME(e)	ME(e)	no	no
Ho-8,9,10 Exp. & Gender	no	no	ME(e)	INT	no	no
Ho-8,9,10 Exp. & Travel Time	no	no	ME(e)	ME(e)	no	no
Ho-8,9,10 # Tchrs. & Ed. Prep.	no	no	no	no	no	no
Ho-8,9,10 # Tchrs. & Gender	no	no	no	no	no	no
Ho-8,9,10 # Tchrs. & Tr. Time	no	no	INT	no	no	no
Ho-8,9,10 Ed. Prep. & Gender	no	no	no	no	no	no
Ho-8,9,10 Ed. Prep. & Tr. Time	no	no	no	no	no	no
Ho-8,9,10 Gender & Tr. Time	no	no	no	no	no	no
ADDITIONAL ONE-WAY TESTS	DPF	DPI	PAF	PAI	EEF	EEI
Teacher Inservice	no	no	no	no	yes	yes
Hours Worked Per Week	no	no	no	no	yes	yes
ADDITIONAL TWO-WAY TESTS	DPF	DPI	PAF	PAI	EEF	EEI
Age & Teacher Inservice	no	no	no	no	ME(b)	ME(i)
Age & Hours Worked Per Week	ME(a)	no	no	no	ME(b)	ME(h)
Exp. & Hours Worked/Week	no	no	ME(e)	ME(e)	ME(h)	ME(h)
# Teachers & Hours Worked	no	no	no	no	ME(h)	ME(h)
Ed. Prep. & Teacher Inservice	no	no	no	no	ME(i)	ME(i)

Chapter 5

Summary, Conclusions and Recommendations

Introduction

The purpose of this chapter is to summarize the key points from the previous four chapters and to analyze the information presented. There are three sections in this chapter. The first section contains a summary of the literature on burnout and the findings of the study. The second part presents the conclusions of the study and the final section presents the recommendations.

Summary of the Study

School teachers, especially those in the "Country Schools" have chosen an occupation which requires them to spend the major part of each working day in direct, face-to-face contact with students and other school personnel. The frustrations and other stresses that accompany teaching have caused teachers to question their choice of profession, and to consider alternate careers.

The increasing number and types of stresses associated with our complex society have placed additional pressures on public education in general and upon classroom teachers in particular. These new stresses have had a varied and compounding effect upon school teachers. As a result of

these additional pressures teachers have reported an increased amount of stress associated with their jobs.

This summary of the pertinent literature is subdivided into the five parts. The headings for the parts are: history of burnout and stress; definition of burnout; causes and symptoms of burnout; prevention and treatment of burnout; burnout recovery; and the summary of the research conducted by the investigator.

The following five part narrative is a summary of that literature.

History of Burnout and Stress. Historically, stress has always been associated with the teaching profession. Turch and Brenton reviewed the history of education in the United States with emphasis on job stress. They cited evaluation of teacher's work by laymen ignorant to teaching, miserable salaries, anti-educational platforms espoused by farmers and industry, and the caliber of people entering the profession as being the problems of past and modern public education. The 1929 Boston Dispatch summed the attitudes of people toward education with the following statement, "Teachers should know that it is part of American educational tradition that a teacher should have little or no freedom. She is born to be suppressed and harassed by a system of supervision designed to keep her docile." Brenton felt that there had been little change in the attitude of people toward education since that time.

It was Selye with his "general adaptation syndrome" who was responsible for the popularization of the term stress. But, Selye's theories of stress were not universally excepted. Some researchers have viewed stress as simply an external force while others used a multivariable concept that involved blending the stimulus-response theory with the intervening psychological

factors to form a more encompassing concept of stress. Whether the concept of stress was identified as an external force or as a multivariate concept, virtually all authors considered burnout to be a manifestation of stress.

Definition of Burnout. Burnout has been a term without one universal definition. Jackson compared the definition spectrum of burnout to that of a verbal Rorschach test because the term had an individual meaning for every author. Freudenberger, in 1965 used the term to identify the varied, stress-related behavior patterns professionals in the helping services exhibited if/when they succumb to the pressures of their job.

Most authors in their attempt to define burnout describe the symptoms they associated with the "dis-ease." Burnout definitions ranged from simply going through the motions at work as espoused by Ricken to Hendrickson's circuit overload concept. Weiskoph defined teacher burnout by identifying the following six categories of stress: work overload, lack of perceived success, amount of direct contact with children, staff-child relation, program structure and responsibility for others. Maslach probably has developed the most universally accepted definition when she classified burnout as the "emotional exhaustion syndrome."

Burnout is the result of unmediated distress. The individual or teacher does not or cannot decompress following periods of perceived stress and stress-related involvement. The individual or teacher cannot effectively discuss his/her perceived problems and feelings with colleagues or friends and has a tendency to withdraw from society and restrict his/her focus to self, thereby further compounding their stress-related, burnout causing situation.

Causes and Symptoms of Burnout. Researchers of teacher burnout have attempted to isolate, identify and categorize the causes and symptoms of burnout among school personnel. Historical reviews pertaining to education cited common strands of stress faced by teachers. These stress-related strands were identified by Turch, Brenton, Farber and Miller, Kirst, and Smith and Milstein. The common stress-related strands identified included the salary indexes used in schools, lack of professional support, poorly defined role identification, lack of input into organizational development, lack of career ladders, lack of opportunities for personal and professional growth, poorly prepared and uncaring superordinates, lack of protection in the basic survival areas, poor student attitudes, inappropriate student discipline, conflicting societal expectations, non-supportive parents and administrators, and lack of indirect rewards because of public and media criticism.

Teachers suffering from burnout often exhibited symptoms of detachment and depression (Farber, Hendrickson, Cooper and Marshall, Maslach and Pines, and Weiskoph). Battle fatigue was the term used to describe the symptoms of burnout by Bramhall and Ezell. Maslach, Zahn, and Levitov and Wangberg identified physical distancing as a symptom usually associated with burned-out professionals. The burned-out teachers often isolated themselves because they felt trapped, alone, and unable to talk to colleagues about their feelings or perceived problems.

Defining burnout also included identification of physical symptoms. Hendrickson identified frequent colds, headaches, dizziness, diarrhea, ulcers, colitis, loss of appetite and loss of sexual interest as a few of the possible symptoms burnout victims could exhibit.

Cooper and Marshall, Farber, Farber and Miller, and Maslach and Pines reported burned-out teachers might display anger, anxiety, fatigue, boredom, cynicism, defensiveness and an inappropriate sense of humor while on the job. Burned-out teachers were also reported to have greater incidence of mental illness, absenteeism, substance abuse, marital problems and psychosomatic illnesses.

But, teachers did not respond to the stress-related symptoms in similar or consistent patterns. Some teachers thrived on conditions that caused extreme distress for others. Kyriacou and Sutcliff, Collins, Daley, Farber, Farber and Miller and Fruedenberger reported that the professionals perception of the stressor precipitated their reaction and the degree of burnout.

The symptoms of burnout are related to the professionals perception of the causes. Therefore, identification of burnout characteristics must include investigation into the causes of the person's perceived (dis)stress and observation of the behavior patterns exhibited. The "dis-ease" affects each individual in a unique way.

Prevention and Treatment of Burnout. The prevention of burnout required that the teachers become aware of the stressors related to their job and the effects the stressors were having on them. The programs identified to prevent burnout included: create a teacher support system in the school; develop personal growth systems for teachers; encourage teacher innovation and creativity; change teaching assignments occasionally; team teach units that require reliance on colleagues, keep abreast of educational changes; take time off when needed; encourage teachers to lighten or increase outside commitments; assist teacher to learn decompression activities; improve

communication systems; create realistic expectations; expand involvement and personal relationships in school; and involve parents more in the educational process (Farber, Freudenberger, Hendrickson, Maslach, Smith and Milstein, Reed, Wooten and McCullough, and Zahn).

Treatment and cure procedures for burnout ranged from physical exercise to staying home until they had their act back together. The common threads appearing in the literature on burnout treatment were: get into good physical condition; develop a system of decompression and relaxation; maintain proper nutrition; and develop a buddy system for talking out problems.

Burnout Recovery. A complete recovery was reported to be dependent upon the degree of the burnout. Fruedenberger, Melendez and de Guzman, and Selye felt that complete recovery in some cases was not possible. They felt the burned-out professional could return to work and become a productive employee. But, to remain productive, the teacher had to implement a preventive burnout programs and receive assistance from their superordinate and their school.

Summary of Research. This section will provide a summary of the statistical research presented in Chapter Four of this study. The independent variables for the study were teacher age, teaching experience, teacher preparation, gender, number of teachers in the school, and the travel time to their superordinate's office. Each of the independent variables were expressed in terms of dependent variables for the study which included the three scales on the Maslach Burnout Inventory (MBI), Depersonalization, Personal Accomplishment, and Emotional Exhaustion.

Teachers in group three, those teachers between the ages of 39 and 49 reported significantly different results from the other three groups of teachers with respect to age on the emotional exhaustion scales. The teachers between 39 - 49 years of age reported the lowest group means and were rated as having low degrees of burnout on the MBI, Maslach Burnout Inventory classification scale. The youngest teachers, those in the 21 - 27 age group reported the highest levels of burnout on the MBI classification scale of the four teacher groups. The 21 - 27 year old group fell into the moderate range of burnout on the MBI classification scale.

The study showed that there was no difference in the perceptions of teachers on the personal accomplishment scales when teacher age was a factor. Teachers in the 21 - 27 age group were significantly different on the depersonalization frequency scale. These teachers reported the highest level of burnout. Their group score fell into the moderate range of burnout while the teachers in the other three groups fell into the low range.

There were no significant differences reported by teachers on the depersonalization intensity scale with respect to teacher age. However, there was an interaction between teacher age and gender and between teacher age and travel time to their superordinate's office on the depersonalization intensity scale. Male teachers typically reported higher burnout levels, but the 28 - 38 year old males scored lower on the MBI classification scale than their female counterparts. The teachers in group two, 28 - 38 years of age, reported low levels of burnout except when their school was in excess of 60 minutes from their superordinate's office. In this situation these teachers reported the highest levels of burnout. Teachers over 38 years of age reported higher levels of

burnout when their school was between 30 and 60 minutes away from their superordinate's office. This group of teachers usually reported low feelings of depersonalization.

The study showed that there was no difference in the perceptions of teachers in the teaching experience classifications on either of the emotional exhaustion or depersonalization scales. There was a significant difference between the groups on the personal accomplishment scales. Those teachers having 33 - 74 months of experience reported low degrees of burnout while other teachers with more and/or less experience reported burnout in the moderate ranges.

The study showed that there was no significant difference in the teachers perceptions of burnout for their varying amounts of educational preparation, or between the perceptions of teachers working in one and two teacher schools, or by sex of the teacher, or by the amount of time it took to get to their superordinate's office. There was an interaction between the number of teachers in a school and the amount of time it took the teachers to get to their superordinate's office. Except for the group with less than 30 minutes of travel, teachers working alone reported greater feelings of personal accomplishment than teachers working in two teacher schools. Teachers working in the two teacher schools within thirty minutes travel time of their superordinate's office reported higher frequencies of personal accomplishment than did teachers working alone within the same time stratification. It must be noted that teachers working alone reported consistently greater frequencies of personal accomplishment as the travel time to their superordinate's office increased. There was also interaction between the amount of teaching experience and

gender. Except for beginning male teachers, up to 32 months experience, men reported personal accomplishment perceptions that were less than those of females. Beginning male teachers reported high personal accomplishment feelings while beginning female teachers reported moderate degrees of personal accomplishment. The pattern for the feelings of personal accomplishment for both groups was a steady decline after about six years of teaching experience.

Inservice and number of hours worked were additional variables that were added to the study. Teachers in group two, those teachers that participated in inservice training during the summer preceding the school year reported perceptions on the emotional exhaustion scales that were significantly different from those teachers that had the traditional fall inservice or had no inservice training at all. The teachers that had the summer inservice reported lower burnout perceptions than their colleagues in the other groups.

The number of hours worked per week produced significant differences on both the emotional exhaustion frequency and emotional exhaustion intensity scales. Those teachers that worked more than fifty hours per week reported significantly greater degrees of perceived burnout than did their counterparts who worked less than fifty hours weekly.

Conclusions

The results of the study allowed the investigator to draw the following conclusions:

- 1) Teacher burnout exists within the ranks of the isolated, rural teachers in Montana. As many as 21.6% of the teachers that participated in the study

reported moderate to high degrees of burnout on every subscale of the MBI Range of Experienced Burnout.

2) Over one-half, 54%, of the teachers reported low feelings of personal accomplishment on the frequency scale which reflects a lack of satisfaction with their accomplishments in their schools.

3) Approximately one in four, 23%, of the teachers reported high feelings of emotional exhaustion on the frequency scale. This reflects a feeling of being overextended probably due to rigors associated with their jobs.

4) Over one-third of the teachers, 38%, are simply going through the motions of education. This was reflected by the moderate and high responses on the depersonalization frequency scale. The depersonalization scales indicated a lack of caring, unfeeling and impersonal responses.

6) The younger teachers, those in the 21 - 27 age group reflected highest degrees of emotional exhaustion on both scales indicating that as a group they had greater feelings of exhaustion and felt overextended because of their assignments.

7) The teachers in the 21 - 27 age group also reported the highest degrees of depersonalization on both scales indicating that they were developing an uncaring and unfeeling attitude toward their students.

8) Combining conclusions seven and eight above with the lack of personal satisfaction in their jobs indicated by the 21 - 27 year old teachers indicates that as a group the younger teachers were not as adjusted to working in an isolated rural setting as were the older teachers.

9) The teachers in the 50 - 65 age group had a tendency to feel a lack of personal accomplishment and satisfaction in their jobs as indicated by the

low responses on both of the personal accomplishment scales. This could be attributed to low salaries and the inability to move to a more desired location.

10) The teachers in the 39 - 49 age group reported significantly lower perceptions of emotional exhaustion indicating that they felt comfortable with their assignment and the success they attained with their students.

11) The teachers over 38 years of age whose school was between 30 and 60 minutes away from their superordinate's office are, as indicated by the interaction on the depersonalization intensity and Maslach's and Jackson's definition of depersonalization, a group that have a tendency to feel the stressors of their position which may be passed on as impersonal responses to students and in an unfeeling attitude toward care and treatment of students.

12) The teachers over the age of 38 whose schools are located in excess of 60 minutes away from their superordinates office are as a group the most caring and feeling toward their students.

13) The teachers in the 28 - 38 age group that work in schools in excess of 60 minutes away from their superordinate's office have a tendency to feel the stressors related to their position as indicated by the interaction of age and travel time to the superordinate's office on the depersonalization intensity scale. This finding is supported in the literature in that those teachers about 34 years of age traditionally reported the greatest amounts of dissatisfaction with their positions.

14) Other than the 28 - 38 year old teachers, rural teachers that work in schools in excess of sixty minutes away from their superordinate's office have a tendency to feel more comfortable with their station as indicated by the reported low feelings of depersonalization.

15) Male teachers between the ages of 28 - 38 feel comfortable with their assignment. This finding is contrary to most of the literature. Usually this age group expressed the greatest feelings of burnout. The satisfaction expressed could be the result of personal choice on the part of the male teachers.

16) The male teachers over the ages of 50 working in a rural setting are a group that have a tendency to be more impersonal toward their students and in their teaching as indicated by the high scores reported by this group on the depersonalization intensity scale.

17) The teachers in the one teacher schools feelings of personal accomplishment increases steadily with the increase in time away from their superordinate's office. This feeling may be the result of teacher independence which could be interpreted as self reliance or to an inadequacy of supervisors and supervision in rural schools.

18) Male teachers satisfaction with their jobs and their achievements in their classroom declined steadily with their increase in teaching experience. This may be do to Farber's identification of teachers not developing a sense of community, therefore causing them to constantly feel like outsiders.

19) A rural elementary teacher's educational preparation, the additional training beyond their initial Bachelor's degree training, does not affect their perception of burnout.

The results of the additional variables of teacher inservice and number of hours worked per week allowed the investigator to make the following conclusions.

20) The more hours per week that a rural teacher spends on the job will result in similar increases in emotional exhaustion. Because of the individual perceptions of stress, the longer hours worked may be the cause of the teachers higher reports of emotional exhaustion or the result of burnout.

21) The rural teachers that participated in inservice training during the summer months tend to have lower feelings of emotional exhaustion than do the teachers who had the traditional teacher inservice training in the fall. This may be due to the inappropriateness and/or inefficiency of the fall inservice training provided the teachers. Also, the summer inservice training probably required the teachers to move away from their teaching site. This change of environment plus the inservice training could account for the positive feelings reported by the teachers.

Recommendations

This investigator recommends the following research:

1) This study identified summer inservice as being a possible means of reducing teacher burnout. A study could be conducted to see if inservice training during the summer would have a similar effect on the teacher burnout in the other elementary schools throughout the state. Conclusions could be drawn from the two studies that could lead to improved teacher inservice opportunities for rural educators.

2) A similar study could be conducted with an expanded scope to include all of the (K -8) schools in the state. Such a study could further identify the stress-related strands associated with and inherent to elementary schools in Montana.

3) The investigator recommends that a study be conducted using the teachers who work in excess of 60 minutes from their superordinates office to see if their increased personal satisfaction was due to distance from direct supervision or some other identifiable trait.

4) This study did not address the possible influences that personality of the teacher could have on the reported feelings of burnout. A study could be conducted combining teacher personality and burnout to see if some identifiable personality trait could be identified that correlated highly with reported burnout causing situations.

5) This study identified significant stratifications where high and low levels of burnout were concentrated. A similar study could be conducted using a multiple regression statistical technique to develop a model for predicting potential burnout among rural teachers. This model would be of value to rural school boards and superordinates during the teacher hiring process.

6) This study did not specifically address job satisfaction. A study could be conducted that combines Herzberg's Motivation-Hygiene theory with the concepts of burnout. Such a study could provide the foundation for both preventative and prescriptive cures for teacher burnout.

7) A study should be conducted that looks at teacher/student ratios when multiple, more than two, grades are taught. Such a study could provide information that would lead to reduction of stress resulting from multigrade institutions.

8) The investigator recommends that a study be conducted that looks at teacher salaries in the rural schools of Montana. Such a study could lead to

the development of incentive salary bonuses generated at the state level for educators working in the country schools.

This investigator recommends the following action be taken:

1) This investigator recommends the State Department of Public Instruction implement special programs through which local, rural school boards could address the problem of teacher stress and burnout by providing their teachers the opportunity of stress reduction and rural education management inservice. These programs could assist teachers in identification of the stressors associated with their jobs. The identification of the stressors could lead to teacher initiated programs of burnout prevention.

2) Montana Colleges and Universities should consider developing workshops designed to attract the rural school trustees and rural superordinates, usually the County Superintendent of Schools. These topics should address the current issues in rural education. These workshops could provide valuable training to the rural supervisors which could lead to a better understanding of the uniqueness of teaching in a rural setting and to better, less stressfull, working conditions for rural teachers.

3) Superordinates should make special efforts to keep in contact with those teachers that work in the schools under their supervision. This increased supervision could assist teachers in their personal and educational efforts.

4) School trustees of rural schools could consider paying or incorporating some incentive to their returning teachers for summer inservice training. Such a program should have a positive effect in reducing the effects and incidence of burnout as evidenced by the results of this study.

5) Extra consideration should be given to the amount of time a rural classroom teacher is putting in on the job. In cases where the time on the job exceeds 50 hours, assistance to the teacher should be provided. This program could reduce some of the mundane and routine responsibilities for those teachers thereby providing the teachers with additional decompression time away from their job.

6) Special consideration should be given to male teachers that continue to work in the rural setting. Summer inservice could be one means of combating the feelings of depersonalization males tend to encounter with further experience.

7) Teachers that are interested in teaching in a rural setting should be given the opportunity to student teach in a rural school. This practice teaching experience could be a form of vaccination against the shock of the job experienced by new teachers in a rural setting. This program could also provide an assistance program for the teachers presently working in the rural schools.

8) Consideration should be given by rural school boards and superordinates to hiring teachers between the ages of 28 - 49 to teach in the rural schools because of their indicated satisfaction with their teaching assignments.

9) Caution should be used when hiring teachers between the ages of 21 - 27 for rural teaching assignments because of this groups tendency to become burned-out. Emphasis should be placed upon the persons background and training with respect to rural education.

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APPENDICES

APPENDIX A

LIST OF SCHOOLS

The population for the study consisted of the following one and two teachers schools. The schools are listed by the county.

ONE TEACHER SCHOOLS

<u>COUNTY</u>	<u>SCHOOL</u>	<u>SCHOOL</u>	<u>SCHOOL</u>
Beaverhead	Polaris		
Big Horn	Squirrel Creek	Big Bend	Corral Creek
Blaine	North Harlem Lloyd Bear Paw	Cleveland Cow Island Peoples Creek	Lone Tree Bench Ada
Broadwater	Crow Creek		
Carbon	Jackson	Luther	
Carter	Hammond Albion Ridge	Hawks Home Pine Hill Alzada	Jonhston Plainview
Cascade	Deep Creek		
Choteau	Warrick Benton Lake	Carter	Knees
Custer	Garland Spring Creek Whitney Creek Sy	Trail Creek Cottonwood Moon Creek Sh	Hocket Basin Knowlton Twin Buttes
Dawson	Amo		
Fallon	Fertile Prairie		
Fergus	Brooks King Ayers	Deerfield Hilger Maiden	Cottonwood Spring Creek
Flathead	Pleasant Valley	Olney	
Gallatin	Spring Hill Malmborg	Cottonwood	Pass Creek
Garfield	Indian Creek Sutherland Kester Sand Springs Flat Creek	Big Dry Tree Coulee Benzien Ross	Van Norman Pine Grove Blackfoot Cat Creek

ONE TEACHER SCHOOLS. CONT.

<u>COUNTY</u>	<u>SCHOOL</u>	<u>SCHOOL</u>	<u>SCHOOL</u>
Glacier	Big Sky	Croff Wren	Seville
Hill	Davey	Gilford	Cottonwood
Lake	Elmo	Valley View	Swan Lake
Lewis & Clark	Craig		
McCone	Prairie Elk	Southview	
Meagher	Lennepe	Ringling	Martinsdale
Mineral	Saltese		
Missoula	Sunset		
Park	Cooke City	Springdale	
Phillips	Second Creek Loring	Landusky Tallow	Sun Prairie Zortman
Pondera	Miami		
Powder River	Powderville South Stacy	Bear Creek Horkan Creek	Billup
Powell	Ovando	Gold Creek	
Richland	Three Buttes		
Roosevelt	Mineral Bench		
Rosebud	Rock Springs	Birney	
Sanders	Camas Prairie		
Stillwater	Fishtail	Nye	
Sweet Grass	Bridge		
Teton	Pendroy		
Toole	Nickol		
Valley	Faranuf		
Wheatland	Two Dot		

TWO TEACHER SCHOOLS

Beaverhead	Reichle		
Big Horn	Community		
Broadwater	Toston		
Carbon	Boyd	Edgar	
Dawson	Bloomfield	Lindsay	
Garfield	Cohagan		
Glacier	Babb	Glendale	
Jefferson	Basin		
Judith Basin	Raynesford	Suprise Creek	
Lewis & Clark	Wolf Creek	Auchard Creek	
Liberty	Whitlash		
Lincoln	Rexford	Sylvanite	Yaak
McCone	Brockway		
Park	Richland	Pine Creek	
Phillips	Zortman		
Pondera	Dupuyer		
Powell	Garrison	Avon	
Prairie	Fallon		
Richland	Brorson		
Rosebud	Ingomar		
Silver Bow	Divide		
Stillwater	Molt		
Sweet Grass	Melville	Greycliff	McLeod
Teton	Bynum		
Wheatland	Shawmut		

APPENDIX B

DEMOGRAPHIC SHEET

DEMOGRAPHIC DATA SHEET

Your sex:

- _____ (1) male
_____ (2) female

Your age:

_____ years

Marital status:

- _____ (1) single
_____ (2) married
_____ (3) other, please specify _____

If married, for how long have you been married?

_____ years

If you have children, how many of them are now living with you?

- _____ children live with me
_____ I have no children

How long have you been at your present job?

_____ months (9 months equals one year)

How long have you been employed in teaching?

_____ months (9 months equals one year)

Where do you live while on the job?

- _____ (1) in a district house, at the school
_____ (2) in a district house, in a nearby community
_____ (3) in a nearby community
_____ (4) other, please explain _____

How many hours per week do you put in on your teaching job?

- _____ (1) 60 (or more) hours per week
_____ (2) 50-59 hours per week
_____ (3) 40-49 hours per week
_____ (4) 30-39 hours per week

How often do you travel to a large community, 5000 people or more?

- _____ (1) daily
_____ (2) weekly
_____ (3) twice a month
_____ (4) monthly
_____ (5) other

How many miles is your school from medical (including a hospital) facilities?

_____ miles

How much preparatory education do you have?

- _____ (1) BA/BS
- _____ (2) BA/BA plus 15 quarter hours
- _____ (3) BA/BS plus 30 quarter hours
- _____ (4) MA/MS
- _____ (5) other, please specify _____

When did you last attend an inservice workshop?

- _____ (1) this school year
- _____ (2) last summer
- _____ (3) other, please specify _____

When did you last attend a college or university?

- _____ (1) within the last calendar year (1985)
- _____ (2) within the last two calendar years (1984-1985)
- _____ (3) other, please specify _____

How long does it take you to drive to your Superordinate's or County Superintendent's Office from your school?

- _____ (1) less than thirty minutes
- _____ (2) between thirty minutes and one hour
- _____ (3) over one hour

Do you have non-teaching responsibilities in addition to your teaching assignment? Please check as many as appropriate.

- _____ (1) custodial duties
- _____ (2) minor building maintenance
- _____ (3) minor play ground maintenance
- _____ (4) minor equipment repair
- _____ (5) student transportation, bus driver
- _____ (6) extended student care in inclement weather
- _____ (7) school activity scheduling
- _____ (8) hostile parent involvement
- _____ (9) school nurse, medical records keeper
- _____ (10) community activity facilitator
- _____ (11) requisition of school supplies
- _____ (12) custodian of school supplies and equipment
- _____ (13) custodian of school records
- _____ (14) school disciplinarian
- _____ (15) school curriculum specialist
- _____ (16) school counselor
- _____ (17) student lunch preparation
- _____ (18) other, please specify _____

Please complete this phrase. The most identifying factor(s) of rurality in my job is/are _____

APPENDIX C

ADDITIONAL TWO-WAY ANOVA TABLES

The following tables show the two-way ANOVA tests that did not produce significant results.

Table 108. TWO-WAY ANOVA FOR EXPERIENCE AND NUMBER OF TEACHERS FOR EMOTIONAL EXHAUSTION FREQUENCY AND INTENSITY

Source of Variation (EEF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Experience	221.421	2	110.7111	.942	.393
Number of Teachers	29.868	1	29.868	.254	.615
Two-Way Interaction (EEI)	147.908	2	73.954	.629	.535
Main Effects					
Experience	42.910	2	21.453	.132	.877
Number of teachers	.001	1	.001	.000	.998
Two-Way Interaction	412.063	2	206.031	1.263	.286

Table 109. TWO-WAY ANOVA FOR EXPERIENCE AND EDUCATIONAL PREPERATION FOR EMOTIONAL EXHAUSTION FREQUENCY AND INTENSITY

Source of Variation (EEF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Experience	71.121	2	35.360	.197	.744
Educ. Preparation	414.168	4	103.542	.864	.488
Two-Way Interaction (EEI)	298.736	6	49.789	.415	.868
Main Effects					
Experience	46.204	2	23.102	.140	.870
Educ. Preparation	800.279	4	200.070	1.209	.310
Two-Way Interaction	465.978	6	77.663	.469	.830

Table 110. TWO-WAY ANOVA FOR EXPERIENCE AND GENDER FOR EMOTIONAL EXHAUSTION FREQUENCY AND INTENSITY

Source of Variation (EEF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Experience	166.408	2	83.204	.716	.491
Gender	241.806	1	241.806	2.080	.152
Two-Way Interaction (EEI)	108.776	2	54.388	.468	.627
Main Effects					
Experience	33.356	2	16.678	.102	.903
Gender	51.341	1	51.341	.314	.576
Two-Way Interaction	343.841	2	171.921	1.053	.352

Table 111. TWO-WAY ANOVA FOR EXPERIENCE AND TRAVEL TIME FOR EMOTIONAL EXHAUSTION FREQUENCY AND INTENSITY

Source of Variation (EEF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Experience	222.921	2	111.461	.943	.392
Travel Time	28.823	2	14.411	.122	.885
Two-Way Interaction (EEI)	427.058	4	106.765	.904	.464
Main Effects					
Experience	39.418	2	19.709	.118	.889
Travel Time	106.922	2	53.461	.321	.726
Two-Way Interaction	335.455	4	83.864	.503	.730

Table 112. TWO-WAY ANOVA FOR NUMBER OF TEACHERS AND EDUCATIONAL PREPARATION FOR EMOTIONAL EXHAUSTION FREQUENCY AND INTENSITY

Source of Variation (EEF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Number/Teachers	19.776	1	19.776	.161	.688
Educ. Preparation	486.907	4	121.727	.994	.413
Two-Way Interaction (EEI)	70.394	4	17.598	.144	.965
Main Effects					
Number/Teachers	.651	1	.651	.004	.950
Educ. Preparation	762.084	4	190.521	1.146	.338
Two-Way Interaction	174.416	4	43.604	.262	.902

Table 113. TWO-WAY ANOVA FOR NUMBER OF TEACHERS AND GENDER FOR EMOTIONAL EXHAUSTION FREQUENCY AND INTENSITY

Source of Variation (EEF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Number/Teachers	45.738	1	45.738	.385	.536
Gender	313.738	1	313.738	2.641	.106
Two-Way Interaction (EEI)	3.209	1	3.209	.027	.870
Main Effects					
Number/Teachers	1.836	1	1.836	.011	.916
Gender	68.273	1	68.273	.416	.520
Two-Way Interaction	171.312	1	171.312	1.044	.309

Table 114. TWO-WAY ANOVA FOR NUMBER OF TEACHERS AND TRAVEL TIME FOR EMOTIONAL EXHAUSTION FREQUENCY AND INTENSITY

Source of Variation (EEF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Number/Teachers	62.531	1	62.531	.513	.475
Travel Time	67.278	2	33.639	.276	.759
Two-Way Interaction (EEI)	74.472	2	37.236	.305	.737
Main Effects					
Number/Teachers	.133	1	.133	.001	.978
Time Travel	121.566	2	60.783	.365	.695
Two-Way Interaction	99.463	2	49.732	.298	.743

Table 115. TWO-WAY ANOVA FOR EDUCATIONAL PREPARATION AND GENDER FOR EMOTIONAL EXHAUSTION FREQUENCY AND INTENSITY

Source of Variation (EEF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Educ. Preparation	479.772	4	119.943	1.009	.405
Gender	280.648	1	280.648	2.361	.127
Two-Way Interaction (EEI)	156.901	3	52.300	.440	.725
Main Effects					
Educ. Preparation	743.480	4	185.870	1.126	.347
Gender	48.485	1	48.485	.294	.589
Two-Way Interaction	123.219	3	41.073	.249	.862

Table 116. TWO-WAY ANOVA FOR EDUCATIONAL PREPARATION AND TRAVEL TIME FOR EMOTIONAL EXHAUSTION FREQUENCY AND INTENSITY

Source of Variation (EEF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Educ. Preparation	532.063	4	133.016	1.155	.334
Travel Time	69.679	2	34.840	.303	.739
Two-Way Interaction (EEI)	1541.834	8	192.729	1.674	.111
Main Effects					
Educ. Preparation	757.394	4	189.348	1.173	.326
Travel Time	117.394	2	58.697	.364	.696
Two-Way Interaction	1490.658	8	186.332	1.154	.332

Table 117. TWO-WAY ANOVA FOR GENDER AND TRAVEL TIME FOR EMOTIONAL EXHAUSTION FREQUENCY AND INTENSITY

Source of Variation (EEF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Gender	350.460	1	350.460	2.966	.087
Travel Time	87.201	2	43.601	.369	.692
Two-Way Interaction (EEI)	287.593	2	143.796	1.217	.299
Main Effects					
Gender	79.821	1	79.821	.488	.486
Travel Time	134.817	2	67.408	.412	.663
Two-Way Interaction	424.523	2	212.261	1.297	.277

Table 118. TWO-WAY ANOVA FOR AGE AND EXPERIENCE FOR DEPERSONALIZATION FREQUENCY AND INTENSITY

Source of Variation (DPF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Age	177.181	3	59.094	2.518	.061
Experience	4.940	2	2.470	.105	.900
Two-Way Interaction (DPI)	36.827	4	9.207	.392	.814
Main Effects					
Age	199.494	3	66.498	1.543	.207
Experience	20.163	2	10.082	.234	.792
Two-Way Interaction	51.405	4	12.851	.298	.879

Table 119. TWO-WAY ANOVA FOR EXPERIENCE AND NUMBER OF TEACHERS FOR DEPERSONALIZATION FREQUENCY AND INTENSITY

Source of Variation (DPF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Experience	39.785	2	19.893	.823	.442
Number of Teachers	2.476	1	2.476	.102	.750
Two-Way Interaction (DPI)	4.728	2	2.364	.098	.907
Main Effects					
Experience	2.531	2	1.265	.029	.971
Number of teachers	.778	1	.778	.018	.894
Two-Way Interaction	12.552	2	6.276	.145	.865

Table 120. TWO-WAY ANOVA FOR EXPERIENCE AND EDUCATIONAL PREPERATION FOR DEPERSONALIZATION FREQUENCY AND INTENSITY

Source of Variation (DPF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Experience	28.361	2	14.180	.609	.546
Educ. Preparation	160.116	4	40.029	1.718	.150
Two-Way Interaction (DPI)	126.702	6	21.117	.906	.493
Main Effects					
Experience	1.766	2	.883	.021	.979
Educ. Preparation	261.273	4	65.318	1.547	.193
Two-Way Interaction	186.198	6	31.050	.735	.622

Table 121. TWO-WAY ANOVA FOR EXPERIENCE AND GENDER FOR DEPERSONALIZATION FREQUENCY AND INTENSITY

Source of Variation (DPF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Experience	36.613	2	18.307	.757	.471
Gender	.529	1	.529	.022	.883
Two-Way Interaction (DPI)	8.776	2	4.388	.182	.834
Main Effects					
Experience	1.333	2	.667	.016	.984
Gender	31.373	1	31.373	.740	.391
Two-Way Interaction	100.030	2	50.015	1.180	.310

Table 122. TWO-WAY ANOVA FOR EXPERIENCE AND TRAVEL TIME FOR DEPERSONALIZATION FREQUENCY AND INTENSITY

Source of Variation (DPF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Experience	32.236	2	16.618	.688	.505
Travel Time	42.083	2	21.042	.871	.421
Two-Way Interaction (DPI)	39.944	4	9.986	.413	.799
Main Effects					
Experience	3.970	2	1.985	.046	.955
Travel Time	50.186	2	25.093	.576	.563
Two-Way Interaction	58.835	4	14.709	.338	.852

Table 123. TWO-WAY ANOVA FOR NUMBER OF TEACHERS AND EDUCATIONAL PREPERATION FOR DEPERSONALIZATION FREQUENCY AND INTENSITY

Source of Variation (DPF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Number/Teachers	.245	1	.245	.010	.920
Educ. Preparation	173.580	4	43.395	1.812	.130
Two-Way Interaction (DPI)	7.216	4	1.804	.075	.990
Main Effects					
Number/Teachers	4.201	1	4.201	.097	.756
Educ. Preparation	307.981	4	76.995	1.777	.137
Two-Way Interaction	82.589	4	29.647	.477	.753

Table 124. TWO-WAY ANOVA FOR NUMBER OF TEACHERS AND GENDER FOR DEPERSONALIZATION FREQUENCY AND INTENSITY

Source of Variation (DPF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Number/Teachers	.937	1	.937	.039	.844
Gender	3.467	1	3.467	.144	.705
Two-Way Interaction (DPI)	8.038	1	8.038	.333	.565
Main Effects					
Number/Teachers	.106	1	.106	.002	.961
Gender	28.195	1	28.195	.640	.894
Two-Way Interaction	.781	1	.781	.018	.894

Table 125. TWO-WAY ANOVA FOR NUMBER OF TEACHERS AND TRAVEL TIME FOR DEPERSONALIZATION FREQUENCY AND INTENSITY

Source of Variation (DPF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Number/Teachers	.007	1	.007	.000	.987
Travel Time	53.283	2	26.641	1.103	.335
Two-Way Interaction (DPI)	6.502	2	3.251	.135	.874
Main Effects					
Number/Teachers	.002	1	.002	.000	.994
Travel Time	70.969	2	35.485	.801	.451
Two-Way Interaction	20.087	2	10.044	.227	.797

Table 126. TWO-WAY ANOVA FOR EDUCATIONAL PREPARATION AND GENDER FOR DEPERSONALIZATION FREQUENCY AND INTENSITY

Source of Variation (DPF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Educ. Preparation	176.193	4	44.048	1.859	.122
Gender	5.388	1	5.388	.227	.634
Two-Way Interaction (DPI)	11.133	3	3.711	.157	.925
Main Effects					
Educ. Preparation	290.458	4	72.615	1.675	.160
Gender	14.768	1	14.768	.341	.560
Two-Way Interaction	25.608	3	8.536	.197	.898

Table 127. TWO-WAY ANOVA FOR EDUCATIONAL PREPARATION AND TRAVEL TIME FOR DEPERSONALIZATION FREQUENCY AND INTENSITY

Source of Variation (DPF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Educ. Preparation	177.382	4	44.346	1.871	.120
Travel Time	57.324	2	28.662	1.209	.302
Two-Way Interaction (DPI)	100.565	8	12.571	.530	.832
Main Effects					
Educ. Preparation	300.063	4	75.016	1.7055	.153
Travel Time	67.250	2	33.625	.764	.468
Two-Way Interaction	151.770	8	18.971	.431	.900

Table 128. TWO-WAY ANOVA FOR GENDER AND TRAVEL TIME FOR DEPERSONALIZATION FREQUENCY AND INTENSITY

Source of Variation (DPF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Gender	4.124	1	4.124	.175	.676
Travel Time	54.870	2	27.435	1.164	.315
Two-Way Interaction (DPI)	79.358	2	39.679	1.684	.190
Main Effects					
Gender	23.610	1	23.610	.544	.462
Travel Time	66.487	2	33.244	.766	.467
Two-Way Interaction	111.848	2	55.924	1.288	.279

Table 129. TWO-WAY ANOVA FOR AGE AND NUMBER OF TEACHERS FOR PERSONAL ACCOMPLISHMENT FREQUENCY AND INTENSITY

Source of Variation (PAF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Age	172.573	2	57.524	1.325	.269
Number/Teachers	10.773	1	10.773	.248	.619
Two-Way Interaction (PAI)	155.866	3	51.955	1.197	.314
Main Effects					
Age	90.396	3	30.132	.516	.672
Number/Teachers	4.120	1	4.120	.071	.791
Two-Way Interaction	195.550	3	65.183	1.117	.345

Table 130. TWO-WAY ANOVA FOR AGE AND EDUCATIONAL PREPARATION FOR PERSONAL ACCOMPLISHMENT FREQUENCY AND INTENSITY

Source of Variation (PAF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Age	221.789	3	70.930	1.574	.199
Educ. Preparation	67.585	4	16.896	.375	.826
Two-Way Interaction (PAI)	333.658	10	33.366	.740	.685
Main Effects					
Age	154.413	3	51.471	.906	.440
Educ. Preparation	246.125	4	61.531	1.083	.368
Two-Way Interaction	723.478	10	72.348	1.274	.253

Table 131. TWO-WAY ANOVA FOR AGE AND GENDER FOR PERSONAL ACCOMPLISHMENT FREQUENCY AND INTENSITY

Source of Variation (PAF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Age	172.974	3	57.658	1.326	.269
Gender	.064	1	.064	.001	.969
Two-Way Interaction (PAI)	112.680	2	56.340	1.295	.277
Main Effects					
Age	92.984	3	30.995	.529	.663
Gender	8.762	1	8.762	.149	.700
Two-Way Interaction	96.576	2	48.288	.824	.441

Table 132. TWO-WAY ANOVA FOR AGE AND TRAVEL TIME FOR PERSONAL ACCOMPLISHMENT FREQUENCY AND INTENSITY

Source of Variation (PAF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Age	154.570	3	51.523	1.193	.315
Travel Time	131.326	2	65.663	1.521	.222
Two-Way Interaction (PAI)	239.345	6	39.891	.924	.480
Main Effects					
Age	103.597	3	34.532	.580	.629
Travel Time	108.938	2	54.469	.915	.403
Two-Way Interaction	172.944	6	28.824	.484	.819

Table 133. TWO-WAY ANOVA FOR NUMBER OF TEACHERS AND EDUCATIONAL PREPARATION FOR PERSONAL ACCOMPLISHMENT FREQUENCY AND INTENSITY

Source of Variation (PAF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Number/Teachers	10.790	1	10.790	.244	.622
Educ. Preparation	28.299	4	7.075	.160	.958
Two-Way Interaction (PAI)	233.052	4	58.263	1.316	.268
Main Effects					
Number/Teachers	34.733	1	34.733	.599	.440
Educ. Preparation	195.025	4	48.756	.842	.501
Two-Way Interaction	222.429	4	55.607	.960	.432

Table 134. TWO-WAY ANOVA FOR NUMBER OF TEACHERS AND GENDER FOR PERSONAL ACCOMPLISHMENT FREQUENCY AND INTENSITY

Source of Variation (PAF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Number/Teachers	16.019	1	16.019	.363	.548
Gender	5.401	1	5.401	.122	.727
Two-Way Interaction (PAI)	5.464	1	5.464	.124	.726
Main Effects					
Number/Teachers	13.064	1	13.064	.225	.636
Gender	13.963	1	13.963	.241	.624
Two-Way Interaction	51.597	1	51.597	.890	.347

Table 135. TWO-WAY ANOVA FOR EDUCATIONAL PREPARATION AND GENDER FOR PERSONAL ACCOMPLISHMENT FREQUENCY AND INTENSITY

Source of Variation (PAF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Educ. Preparation	29.724	4	7.431	.163	.957
Gender	1.597	1	1.597	.035	.852
Two-Way Interaction (PAI)	22.473	3	7.491	.164	.920
Main Effects					
Educ. Preparation	176.356	4	44.089	.754	.557
Gender	16.963	1	16.963	.290	.591
Two-Way Interaction	115.753	3	38.584	.660	.578

Table 136. TWO-WAY ANOVA FOR EDUCATIONAL PREPARATION
AND TRAVEL TIME FOR PERSONAL ACCOMPLISHMENT
FREQUENCY AND INTENSITY

Source of Variation (PAF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Educ. Preparation	30.825	4	7.706	.181	.948
Travel Time	153.454	2	76.727	1.797	.170
Two-Way Interaction (PAI)	509.488	8	63.686	1.492	.167
Main Effects					
Educ. Preparation	168.487	4	42.122	.754	.557
Travel Time	81.479	2	40.739	.730	.484
Two-Way Interaction	726.225	8	90.778	1.626	.124

Table 137. TWO-WAY ANOVA FOR GENDER AND TRAVEL TIME FOR
PERSONAL ACCOMPLISHMENT FREQUENCY AND INTENSITY

Source of Variation (PAF)	Sum of Squares	D.F.	Mean Square	F Ratio	P Value
Main Effects					
Gender	9.320	1	9.320	.215	.644
Travel Time	160.076	2	80.038	1.846	.162
Two-Way Interaction (PAI)	57.406	2	28.703	.662	.518
Main Effects					
Gender	15.266	1	15.266	.263	.609
Travel Time	87.650	2	43.825	.755	.472
Two-Way Interaction	83.406	2	41.703	.719	.489

APPENDIX D

INTERACTION MEANS

The table below represents the means for those two-way ANOVA tests that produced significant interaction. Cell numbers are included within the paras.

Table 85, p. 124

GENDER	AGE	21 - 27	28 - 38	39 - 49	50 -
MALES		.00	3.20	8.83	21.50
		(0)	(5)	(6)	(2)
FEMALES		8.77	6.48	6.18	7.00
		(30)	(50)	(22)	(23)

Table 86, p. 125

AGE	TRAVEL TIME	< 30 minutes	> 30, < 60	> 60 minutes
21 - 27		9.60	9.00	6.40
		(10)	(15)	(5)
28 - 38		6.15	4.83	9.18
		(20)	(24)	(11)
39 - 49		3.25	10.19	5.78
		(8)	(11)	(9)
50 -		6.60	10.64	3.67
		(5)	(14)	(6)

Table 90, p. 131

GENDER	EXPERIENCE	< 33 Months	> 30, < 60	> 60 Months
MALES		53.00	43.25	37.43
		(2)	(4)	(7)
FEMALES		38.94	45.18	39.43
		(50)	(28)	(47)

Table 92, p. 133

TEACHERS	TRAVEL TIME	< 30	> 30, < 60	> 60
ONE TEACHER		36.92	38.15	41.16
		(24)	(40)	(25)
TWO TEACHER		42.47	37.38	38.00
		(19)	(24)	(7)

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