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SCHOENEMAN, ROBERT BARTON

THE RELATIONSHIP BETWEEN SELF-CONCEPT AND STRESS OF ELEMENTARY SCHOOL TEACHERS USING TRADITIONAL AND MONTESSORI METHODS OF TEACHING

The Ohio State University

Ph.D. 1981

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FOR CARL AND SARA
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I want to thank my committee for the encouragement which they gave to me. Especially I want to thank my adviser Dr. A. C. Riccio for being available when I needed his support. A special thanks goes to Ms. Gilda Lima for believing that I could complete this work and for always being there as a source of support and comfort. I also thank my friend Dr. DeWitt Davis for his guidance and encouragement. A very special thanks goes to my family for accepting my pursuit of one more goal. Finally, I thank all the beautiful people with whom I have spent the last five years at The Ohio State University. Without these people's encouragement and companionship my task would have been too difficult to endure.
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CHAPTER I
Introduction

For many years teachers have sensed the significance of the relationship of their students' concepts of themselves and their performance in school. Teachers believed that those students who "felt good" about themselves and their abilities were likely to succeed in school. It also appeared that those students who saw themselves and their abilities in a negative way usually failed to achieve. In recent years a number of studies supported this idea that academic success or failure is deeply rooted in a student's self-concept. Building a healthy self-concept has become an objective of contemporary education.

In contrast to this attention to the student's self-concept, little attention has been given to the self-concept of the students' teachers. It has been assumed that the teachers of the students have had a healthy self-concept, even though the basis for this assumption was not readily apparent.

In recent years, the assumption that teachers generally had healthy enough self-concepts to build healthy self-concepts in their students has been made questionable by evidence that teachers are subjected to a variety of stresses that would seem destructive of self-esteem. The evidence is
overwhelming that teachers endure levels of stress that are injurious to their health and destructive of their self-esteem.

Berger (1980) testified before Congress on the four clusters of working conditions and teaching experiences that result in acute stress. The first and most important cluster, dealing with school violence and student discipline, included managing disruptive children, being threatened with personal injury, having a colleague assaulted in school, and being the target of verbal abuse by students. The next most important cluster dealt with such "management" problems as involuntary transfers, teaching in overcrowded classrooms, receiving unfair evaluations, and being required to teach without sufficient books and supplies. The third cluster dealt with the factors enabling teachers to do a good job and included the maintenance of self-control when angry or when teaching students below average in achievement level. The least stressful cluster of conditions dealt with purely pedagogical problems such as preparation of lesson plans, teaching, conferring with parents, and evaluating students. Numerous studies indicate that a significant number of teachers experience stress enough of the time to result in somatic, psychosomatic, and psychological illnesses. Bloch (1978), a psychiatrist, attempted to help 253 classroom teachers who "had symptoms of posttraumatic or combat neurosis as commonly defined" (p. 1191).
Under these conditions it would seem inevitable that many teachers would have trouble maintaining healthy self-concepts. The self-concept has little to do with the actual attributes and characteristics of an individual, but is based on how the individual conceives himself or herself to be. What the individual thinks of him/herself is colored in large part by the actions and opinions of significant others in the individual's environment. For many teachers, the actions and opinions of significant others (students and supervisors) are largely negative.

Brodsky (1977) concluded that prison guards and teachers had the following stressful factors in common: (1) goals or objectives are contradictory, lines of support are ill defined, and there is role ambiguity without hope for improvement; (2) the consumers of the service are uncooperative and unappreciative, or may actually threaten violence to the worker; (3) superiors are in no better position than are subordinates when it comes to coping with basic problems; (4) triggering events occur that make the worker aware of his vulnerability and isolation; (5) the worker is trapped in the job by financial considerations or dedication; and (6) physical and psychological symptoms appear and progress in severity.

The teacher subjected to unrelieved stress is no longer able to function effectively. One of the terms utilized to describe this ineffectiveness among the helping professions is
"burnout." Maslach (1978) has characterized burnout as ... loss of concern for the people with whom one is working. It is characterized by an emotional exhaustion in which the staff person no longer has any positive feelings, sympathy, or respect for clients .... The staff person who burns out is unable to deal successfully with the chronic emotional stress of the job and this failure to cope can be manifested in a number of ways, including low morale, un­inspired performance, absenteeism, and high turnover. (p. 113)

One of the major symptoms of burnout as the result of stress is a loss of self-esteem.

In a review of literature on teachers and stress by Coates and Thoresen (1976) the following conclusions were formulated:

1. Anxiety appears to occur with considerable frequency and is an important concern among beginning and experienced teachers.

2. Teacher anxiety appears to be associated with a variety of personal, social, and physical conditions.

3. The specific effects of teacher anxiety on other teacher behaviors and on student actions remain relatively unknown because of measuring operations employed.

4. Systematic desensitization and instruction in teaching techniques may reduce the teacher anxiety. (pp. 175-176)

Insufficient attention has been paid to the problem of teacher stress as it relates to teachers' self-concepts and performance. The teacher who is habitually subjected to stress in the classroom is likely to become a source of stress for students. The teacher whose self-esteem is destroyed by stresses of the profession is hardly likely to
be able to build healthy self-concepts in his/her students. The teacher subjected to such stresses that physical and mental health are threatened is not likely to be able to perform satisfactorily in any way. At the same time, the same teacher may have excellent credentials and may have been at one time a healthy, enthusiastic, empathetic individual.

The literature has also not dealt adequately with the differences in stress and self-concept between various types of school settings. For example, is the teacher in an open classroom less likely to experience severe stress than the teacher in the traditional classroom who is expected to enforce a stricter form of discipline?

The Montessori teacher acts primarily as a guide, helper, and observer. Children's differences are accepted. There is no effort made in the Montessori classroom to have all the children accomplish the tasks exactly at the same time. In such a system it would seem that many of the principal sources of stress present in the traditional classroom would be absent. Moreover, teachers who are trained in and dedicated to a special method of instruction might well have healthier self-concepts and therefore be less susceptible to the effects of stress.

**Objectives of the Study**

The purpose of this study is to investigate the relationship of teachers' perceived level of stress and their self-concepts. The scope of the investigation includes public
elementary school teachers who use traditional teaching methods in their classrooms and public elementary school teachers who use the Montessori method in their classrooms in school districts of the Central States.

Hypotheses

This study was designed to examine the following hypotheses:

1. There is no significant relationship between teachers' self-concepts and their perceived levels of stress.

2. There is no significant difference between the perceived levels of stress of teachers using the Montessori method in their classrooms and the perceived levels of stress of teachers using traditional methods.

3. There is no significant difference between the self-concepts of teachers using the Montessori method in their classrooms and the self-concepts of teachers using traditional methods.

4. There is no significant relationship between the amount of formal education teachers have and their perceived levels of stress.

5. There is no significant relationship between the amount of formal education teachers have and their perceived self-concepts.

6. There is no significant relationship between the number of years of classroom experience teachers have and their perceived levels of stress.
7. There is no significant relationship between the number of years of classroom experience teachers have and their perceived self-concepts.

8. There is no significant relationship between the classroom racial dominance and teachers' perceived levels of stress.

9. There is no significant relationship between the classroom racial dominance and teachers' perceived self-concepts.

10. There is no significant relationship between the number of students in classrooms and teachers' perceived levels of stress.

11. There is no significant relationship between the number of students in classrooms and teachers' perceived self-concepts.

12. There is no significant relationship between the marital status of teachers and their perceived levels of stress.

13. There is no significant relationship between the marital status of teachers and their self-concepts.

Definitions

For the purpose of this proposal and research the following terms are defined as follows:

1. Stress is the nonspecific response to any demand, including efforts to cope with wear and tear on the body, caused by life at any one time (Selye, 1978).
2. High perceived levels of stress for this research are indicated by high mean scores on the Emotional Exhaustion Scale and Depersonalization Scale, and by low mean scores on the Personal Accomplishment Scale of the Maslach Burnout Inventory.

3. Self-concept is the fullest description of self of which a person is capable at any given time; the person as object of self-knowledge (English & English, 1976).

4. High self-concept for this research is indicated by high mean scores on the nine (9) Positive Scores of the Tennessee Self Concept Scale. Low self-concept is indicated by low mean scores on the Positive Scores of the Tennessee Self Concept Scale.

5. Montessori method is that method of teaching which follows the philosophy and methodology of Dr. Maria Montessori and is recognized by the American Montessori Society or the Association Montessori Internationale.

6. A Montessori classroom is a classroom in which the Montessori method is used by teachers trained in the use of the Montessori method in teaching the pupils and is so designated by the local school board.

7. A traditional classroom is a classroom which is not designated by the local school board as using the Montessori method or being a Montessori classroom.
Limitations of the Study

This study is of 56 teachers in school systems which chose to participate in the study. The subjects were self-selected and thus this study is limited to the degree to which these subjects are representative of the traditional and Montessori teachers in public elementary schools. The study is also limited by the general definition given to traditional teachers as being any teacher other than one using the Montessori method. The generalization of the study is thus limited to the teaching methods used by the traditional teachers of the study and Montessori teachers in public elementary schools. This study is further limited by the degree of the validity of the instruments used to gather the data analyzed in the study. All the instruments are of the self-report variety and thus subject to manipulation by the subject making the report.

Organization of the Study

In Chapter I, "Introduction", the introduction, the objectives, the hypotheses, the definitions, and the limitations of the study are presented. In Chapter II, "Review of Literature", the literature of stress, self-concept, the relationships of stress and self-concept to teachers, and Montessori teachers are reviewed. Chapter III, "Methodology", is a presentation of the population, procedure, instruments, and the analysis of data used in the study. Chapter IV, "Analysis of Data", is a presentation of the data collected,
a demographic description of the teachers of the study, and analysis of the data with respect to the hypotheses of the study. Chapter V, "Conclusions and Implications", is a review of the study with conclusions drawn from the acceptance or rejection of the hypotheses and possible implications of those conclusions.
CHAPTER II
Review of Literature

This review of literature focuses on published materials which are directly pertinent to the major concerns of this study - the relationship between the self-concepts and the perceived levels of stress of public elementary school teachers using traditional and Montessori teaching methods. This review covers the following areas: the nature of stress, stress as it relates to teachers, the nature of self-concept, self-concept as it relates to teachers, Montessori teachers and method as they differ from traditional teachers and method, and a summary.

The Nature of Stress

Stress has been defined in general terms as "any interference which disturbs the functioning of the organism at any level and which produces a situation which is natural for the organism to avoid" (Hinsie & Campbell, 1976, p. 720). A state of stress may be considered to exist when unusual or excessive demands are made on the well-being or integrity of any individual. Because exceptional efforts are required to overcome the threatening aspects of the stressful situation, there exists the risk that "coping capacities will be overwhelmed with the consequences of disturbed functioning, pain or anxiety, illness, or even death" (Korchin, 1976, p. 70).
Stress can be envisaged as the interaction of three related factors. These are the following: the conditions acting on the individual (stressor), the characteristics of the individual undergoing stress (coping resources or ego strength), and the individual's stress reactions (stress responses). A well-prepared student may find examinations stressful while another less knowledgeable in the subject area may consistently score higher grades because of a more relaxed attitude toward testing. A well-conditioned athlete forced to run for his life will find the experience less stressful than the sedentary person. Lazarus (1966) has called attention to the importance of the act of cognitive appraisal which determines threat-value of stress.

Korchin (1965) has identified a number of general classes of stressful situations. These are the following:

1. Uncertainty and understimulation. Highly-motivated or anxious individuals are likely to find particularly stressful situations which are marked by ambiguity, chance, or vagueness. Coping with the new and the unknown has been found to be disturbing to both human and animal subjects in experimental situations. Understimulation has been found to lead to considerable emotional and behavioral disorganization. This disorganization is most marked in cases of extreme lack of sensory stimulation.
2. Information overload. When an organism is flooded with too many intense, competing, and demanding stimuli the capacity to process information tends to break down. Distraction, pressures of time, excessive stimulation, and multiple tasks are examples of situations which can lead to information overload.

3. Physical danger. Existing or anticipated danger to the physical well-being of the organism is a perceived threat which usually results in stress.

4. Ego-control failure. A major function of the ego system is the control of primitive impulses. Threats which result in a failure of this control are commonly considered stressful. Examples might include temptations of any kind. Situations in which the individual is coerced into passivity of powerlessness are similarly stressful because of the loss of a sense of control.

5. Ego-mastery failure. "Ego-mastery" connotes the ability of an organism to move forward toward self-actualization. Thus, a situation may be perceived as stressful when the individual is prevented from mastering new goals or developing and exercising new talents.

6. Self-esteem danger. Any situation in which the individual's view of himself is lowered usually is perceived as stressful.

7. "Other" esteem danger. This source of stress if that type of situation in which the individual is threatened
with the loss of love, affection, or esteem of significant others. Even when the "others" are not particularly significant, the threat of being ridiculed, rejected, or believed unworthy by others may result in a stressful situation.

The reaction of the individual to stress includes both defense and coping mechanisms. Defense implies averting and avoiding stress, while coping implies confrontation and mastery of stress (Korchin, 1976). Selye (1978) has pointed out that stress provides the opportunity for growth as well as the risk of damage to the organism.

Among the defense mechanisms which have been identified by Korchin (1976) are the following: (1) repression, the exclusion of a stressful event from consciousness; (2) denial, the inability to recognize that an event occurred which in extreme cases may appear as delusions or hallucinations; (3) projection, a refusal to recognize one's own motives and the ascription of these motives to others; and (4) sublimation, a method of expressing unacceptable drives and affects by rechanneling them into more acceptable outlets. Of these defense mechanisms sublimation appears as the most satisfactory.

The confrontation and mastery of stress (coping) is usually difficult. Hunter (1977) has pointed out that the development of coping mechanisms may depend on the following factors: (1) the development of effective coping behaviors
through feedback regarding the degree of effectiveness; (2) the predictability of the stressful situation; and (3) the duration or repetition of stressful circumstances.

Attitudes about a person's ability to cope are also shown as important in the area of stress. Research on attitudes (Lazarus, Averill, & Opton, 1974) indicates that most individuals assume one of two general positions when dealing with stressors. They either confront the stressor directly and problem solve, or they cope intra-psychically employing cognitive manipulation.

One of the consequences of the inability to develop adequate coping mechanisms for stress is "burnout." Maslach (1978) has found that burnout:

... involves loss of concern for the people with whom one is working. It is characterized by an emotional exhaustion in which the staff person no longer has any positive feelings, sympathy, or respect for clients .... The staff person who burns out is unable to deal successfully with the chronic emotional stress of the job, and this failure to cope can be manifested in a number of ways, including low morale, uninspired performance, absenteeism, and high turnover. (p. 113)

Stress has also been blamed for the development of a number of forms of illness (Rahe, Meyer, Smith, Kjaer & Holmes, 1964; Holmes & Rahe, 1976; Dohrenwend & Dohrenwend, 1974; Rabkin & Struening, 1976). The "unholy seven" psychosomatic illnesses normally associated with stress are asthma, peptic ulcer, ulcerative colitis, hypertension, thyrotoxicosis, neurodermatitis, and rheumatoid arthritis (Sheehan & Hackett, 1978). The impact of stress is not
limited to these illnesses, but may result in a variety of additional psychological and somatic impairments.

Additional consequences of stress may range from depression to suicide. Various writers have investigated the relationship between specific occupations and the forms and consequences of stress, the most severe of which is suicide (Brodsky, 1977). Some writers have associated stress with severe depression (Paykel, Myers, Dienelt, Klerman, Lindenthal, & Pepper, 1969). Burnout has been found to be a factor in various types of occupations including groups working in isolation such as explorers at American bases in Antarctica (Appley & Trumbull, 1967) and aquanauts working under the surface of the sea (Radloff & Helmreich, 1968), trades involving physical strains or dangers such as underground mining (Gavin & Axelrod, 1977), and helping professions such as mental health workers (Maslach, 1976, 1978; Pines & Kafry, 1978), psychiatrists (Looney, Harding, Blotcky, & Barnhart, 1980), day-care and early education personnel (Duncan, 1980; Maslach & Pines, 1977; Reed, 1977; Freudenberger, 1974), hospital technicians (Calhoun, 1980), nurses (Fields, 1980), medical interns (Siegel & Donnelly, 1978), police officers (Chandler & Jones, 1979), school administrators (Swent, 1978), and school counselors (Parker, 1980).

A number of attempts have been made to relate the reaction to stress to personality type. Freudenberger (1976) found that those who use the work environment as a substitute
for normal social life and those authoritian types who need to be in control of all situations are more likely to suffer from job burnout than are more relaxed or better rounded individuals. In general the number of variables involved (stressor, coping resources or ego strength, and stress responses) do not make this line of research appear particularly fruitful. Significant, however, is the work done on locus of control and stressful situations (Glass & Singer, 1972; Rotter, 1966; Lefcourt, 1976) which has verified that aversive events are experienced in accord with the degree of control that subjects believe they can exercise over those events. Subjects believing they had a chance to control the events were not so effected by the stressful stimuli.

Empirical studies of variables in work settings have yielded the expected results. For example, in helping professions Maslach (1978) found that the more patients a staff member had to service, the less he liked his job. The key factor in this feeling was not so much a matter of overwork, but the belief that it was not possible to do a good job when servicing too many clients.

Stress and Teachers

Considerable research has been directed to the problem of stress as it relates to the teaching profession. Attention has been paid to the characteristics, results, and etiology of stress in the teaching profession.
According to Hendrickson (1979), stress among teachers may result in burnout and then progress to more serious symptoms. In the preliminary burnout phase, teachers may complain about being tired all the time, plagued by insomnia, and physically impaired. They then progress to a condition in which they have frequent colds, headaches, dizziness, and diarrhea.

Newell (1978) concluded that "teaching may be hazardous to your health" (p. 16). The overwhelming majority of 7,000 teachers responding to a questionnaire indicated that they had developed health problems as a result of stresses involved in teaching. Twenty-seven percent of the respondents indicated that they had developed "chronic health problems", such as headaches, allergies, hypertension, and colds while 40 percent reported that they regularly took prescription drugs to treat the health problems created by teaching conditions. Thirty-three percent of the teachers responding to the questionnaire indicated that most of the sick leave they had taken during the year related to stress or tension in the school.

In a smaller poll conducted by Learning (1979), 93 percent of the 1,282 respondents complained of feelings of burnout. Many complained of nervous breakdowns, depression, prolonged exhaustion, colitis, constant headaches, and stomach ailments. One teacher in Lynn, Massachusetts, was forced to spend six weeks in a mental health hospital after a
particularly difficult school year. Many teachers were planning to leave the profession, but some felt they were trapped in it by financial considerations. "Perhaps most poignant were the comments from those who had given up trying to renew themselves, but who were trapped in the classroom by economic circumstances" (p. 77). Typically, single female teachers suffer more anxiety than married female teachers (Powell & Ferraro, 1960), student teachers experience more anxiety than in-service teachers (Singh, 1972), and black student teachers suffer more anxiety than white student teachers (Carter, 1970). The result of this anxiety in teachers has its effect on the teachers' students (Kaplan, 1959).

Ricken (1980) suggests that reality is one of the causes of burnout in the teaching profession. Teachers become aware that they can function with minimum acceptable performance as they no longer need to prove their worth under union contracts. They also realize the lack of effectiveness of their input into the power structure of the district. They must "answer the district's questions, but not question the district's answers" (p. 23). This results in a condition of burnout which exists, as Ricken describes it;

"... when a person is attempting to perform a job by merely going through the motions. The individual continues to function and more than likely still maintains the skills which enabled him or her to originally perform the job, gain employment, and even meet certification requirements". (p. 21)
However, just meeting minimum standards does not support the professional self-image of the individual teacher at a level of work satisfaction at which the individual's work does not suffer.

Hendrickson (1979) defined teacher burnout as "complete exhaustion" (p. 37). "First, things hurt in body and mind; then they actually start to fall apart at school. The teacher feels guilty, incompetent as an educator and, finally, inadequate as a person" (p. 37).

Bloch (1978) studied 253 classroom teachers who were referred for psychiatric evaluation because of varying degrees of psychological stress and physical trauma. Their primary physical complaints included: gastrointestinal disorders, 114; musculoskeletal disorders such as backaches, 34; respiratory disorders including asthma and frequent bronchial infections, 31; headaches, 29; cardiovascular disorders including palpitations and hypertension, 19; skin disorders, 14; and miscellaneous disorders such as hypochondriasis and conversion symptoms, 12 (p. 1191). The author concluded:

These teachers had symptoms of posttraumatic or combat neurosis as clinically defined .... I reviewed the effects of trauma and stress on these patients by applying the guidelines used in studying the survivors of war.... The patients reported on here have shown the same correlation between incidence of symptomatology and factors of stress as was shown in the military studies". (p. 1191)
The bulk of the research has dealt less with effects than with causes and prescriptions for combating the consequences of teacher stress. The following research deals with causes of teacher stress.

The response to stressful situations in teachers has been found (Dunham, 1980) to be determined by the following resources: (1) professional skills, (2) experience, (3) knowledge, and (4) personality characteristics. If through these resources new coping skills are not developed, or coping skills which are developed do not work adequately, frustration is eminent. Associated with this frustration are feelings of inadequacy, loss of confidence, confusion in thinking, and occasionally panic.

Smith (1968) has stated that teacher personality and mental health reflected in the classroom are more important than the teacher's knowledge of the subject matter and methods of teaching. Ineffective teaching is often being attributed to lack of warmth, zeal, sensitivity, or excessive authoritarianism and rigidity.

Fuller (1969b) found that when teachers are under stress their survival concerns increase and take precedence over direct teaching activities thus directly effecting the students. High anxiety teachers use significantly less task orientated behavior with students and administer fewer positive reinforcements (Koon, 1971). These teachers want to remove themselves from all painful situations, all risk-taking
situations. Feelings of negative emotions, uselessness, loneliness, and inferiority decrease these teachers' ability to cope with large amounts of dissonance and anxiety.

The research indicates that the causes of teacher stress have changed over the years. In 1968, a survey of Wisconsin teachers found the respondents complaining about the "large array of menial tasks unrelated to actual instruction in the classroom" (Check, 1971, p. 174). Also reported stressful were outside work, inadequate salaries, overcrowded classrooms, and lack of cooperation from the administration.

A survey undertaken by the National Education Association in 1971 found that one-quarter of the teachers polled complained about large classes, insufficient time for rest and preparation, lack of public support for schools, inadequate salaries, and lack of clerical assistance. A smaller 1971 survey (Gregorc, 1971) found that major complaints included low salaries, few opportunities for personal growth, and inadequate interpersonal relations.

Coates and Thoresen (1976) surveyed research over the years on the causes of teacher stress. In 1939, two major sources of anxiety for teachers were class interruptions and adapting curriculum and materials to meet the needs of individual students (National Education Association, 1939). In the 1950's, the sources of anxiety were the number and type of students, and the inadequacy of school facilities (National Education Association, 1951), and in general class
discipline (Way, 1951; Gabriel, 1957). In 1967, the sources of stress were insufficient time for rest and preparation in the school day, large class sizes, and insufficient clerical help (National Education Association, 1967). Concerns for pupils became the focus in the late 1960's and early 1970's. Stress resulted from the inability of teachers to understand their pupils, to assess their pupils' gains, to determine the teachers' contribution to the pupils' difficulties, and to find time for individuals and remedial work (Olander & Farrell, 1970; Fuller, 1969a, Parsons & Fuller, 1972).

Most recent studies appear to identify a different set of stressful conditions. Earlier studies cited in the preceding paragraphs stressed conditions which made it difficult for teachers to perform as well as they would have liked or which relegated teachers to an inferior socio-economic status. Contemporary teachers tend to complain about violence in the classroom, vandalism, the absence of discipline, problems associated with desegregation and busing, and the inability to receive necessary support from home (Morris, 1979; Madden, 1977; Pratt, 1976).

As stated previously in this paper, Berger (1980) described before the Sub-Committee on Elementary, Secondary and Vocational Education of the Congress on February 6, 1980, four clusters of working conditions and teaching experiences that result in stress. Primary among the clusters was seen
teachers being least comfortable with the "policeman" role and most comfortable when doing what they were trained to do. The witness concluded:

Underlying the various conditions which appear to cause teacher stress is at least one common dimension. That is, many teachers work in circumstances where they are prevented, by one means or another, from taking action to solve serious problems.... Accordingly, stress is not an expression of teacher failure. It is evident that teachers care about their work, but are frequently prevented from working in a professional manner... (p. 5)

Confirming this view on the significance of the various clusters of problems was a study undertaken in Los Angeles (Feshbach & Campbell, 1978) which indicated that the primary stressor for teachers was interaction with children. Less intimidating were problems with time and interactions with supervisors and parents.

If school violence and school discipline are the most stressful aspects of teachers' school experience, it would appear to follow that some schools would be greater stressors than others. Pratt (1976) found a positive relationship between the financial deprivation of the homes of children taught and the incidence of stress among teachers. Moreover, stress increased with the age of children taught in the schools of low socioeconomic students. Because socioeconomic class is a reasonable predictor of school outcomes, it seems reasonable to assume that problems with discipline would be greater in schools where the students predominantly come from deprived homes.
Morris (1979) addressed the same problem from another angle, by studying job satisfaction of teachers in urban and suburban teachers in the Birmingham, Alabama area. Ninety-seven urban teachers and 155 suburban secondary teachers were polled. Urban teachers felt unhappy with the curriculum, believed they were not adequately consulted in planning the teaching schedule, thought the community had insufficient interest in school matters, feared the effects of the growth of drug usage among students, and tended to leave teaching because of problems of discipline. Suburban teachers thought that students today were more disruptive than they were ten years ago, but these teachers did not have the same negative view of many of the aspects of teaching as the urban teachers had.

The second most significant cluster cited by Berger (1980) related to management-teacher problems. Youngs (1978) studied these problems and concluded that compatibility between teacher and principal was an important factor in reducing stress on the teacher. Lack of effective communication within an organization tended to cause staff to view their roles as independent from others. An increase in responsibilities assigned to teachers was also an important stress factor. Furthermore, the students of teachers with high levels of anxiety tended to be more disruptive than students of teachers of low anxiety.
Brodsky (1977) investigated stress in the working lives of prison guards and teachers, and concluded that the following stressful factors were present in both occupations:

1. The job is one in which the goals or objectives are contradictory, lines of support are ill defined, and there is role ambiguity. There is no hope for improvement.
2. The consumers of the service are uncooperative and unappreciative or actually threaten violence to the worker.
3. Superiors are in much the same position as subordinates.
4. A triggering event occurs that makes the worker aware of his vulnerability and at the same time feel isolated.
5. Internal and external forces are present that make it difficult or impossible for the worker to resign.
6. Physical and psychological symptoms appear and progress in severity. (p. 137)

The parallel between prisons and schools is striking in the light of criticism in some of the pedagogical literature that the principal function of the schools is to foster conformity (Rand Corporation, 1971). Postmand and Weingartner (1969, p. 155) wrote that "city schools as they now exist largely confine students to sitting in boxes with the choice of acquiescing to teacher demands or getting out."

Problems of teacher stress appear to be international in scope. Hrynyk (1974, p. 39) wrote of the declining morale of Canadian teachers as a result of the "failure to recognize the increasingly harassing conditions under which teachers work, refusal to trust teachers as professionals, and the failure to establish effective means to teacher influence in
educational policy." In England (Dunham, 1977) and Germany (Dunham, 1980) studies found teachers' energy drained by the necessity of being always on the alert to contain outbreaks of anti-social behavior, to meet student insolence without losing self-control, and to cool tempers of those whose frustration drives them into conflict with their peers. The teachers feeling unequal to this task of learning, disciplinary, and emotional problems experience anxiety, a demoralizing sense of incompetence, and frustration which they cannot express directly in aggressive behavior and often results in psychosomatic disorders. When the stress is too great absenteeism, leaving teaching, early retirement, or sick leave result.

The prevalence of teacher burnout and, even more serious, reactions to stress, has prompted the development of instruments designed to measure the amount of stress in a particular teaching environment. Butefish (1971) developed an inquiry instrument designed to determine the major reasons why teachers leave school. Cichon and Koff (1980) developed The Teaching Events Stress Inventory for the same purpose and in addition, to rank the stressful events in teaching.

Various solutions to the problems of teacher stress have appeared in the literature. A summary of many of the solutions was presented in an article by Hendrickson (1979). They included: (1) retreats with colleagues to share experiences and create a feeling of solidarity; (2) engaging in
activities that stimulate personal growth in areas unrelated to teaching activities; (3) innovative classroom teaching; (4) change grade levels or subject matter; (5) attempt team teaching; (6) take time off when depression strikes or when illness is seen as eminent, and (7) try to lead a fuller life outside of school, leaving the problems of the day in the classroom.

Even though these and other solutions have appeared periodically in the teacher-oriented press, the problem of teacher stress remains a serious one.

**The Nature of Self-Concept**

This section discusses the nature of self-concept and the impact of self-concept on individual performance.

The "self" is defined in two principal senses by most contemporary theorists. The "self" is either a group of psychological processes that govern behavior and adjustment, or an organized collection of attitudes, beliefs, and feelings a person has about him/herself (Coller, 1971). The first meaning of the word is essentially what Horney called the "actual self" or the "empirical self", and which the Psychiatric Dictionary defines as "the psychophysical total of the person at any given moment, including both conscious and unconscious attributes" (Hinsie & Campbell, 1976, p. 690).

Self-concept is normally used to denote the second meaning of self; i.e., the person's attitudes, feelings, perceptions, and evaluations of him/herself as an object.
Other terms used historically for the same idea include James' "me" or "empirical self", Cooleys' "social self", McDougall's "self-regarding sentiment", Jung's "conscious ideal", Adler's "self ideal", Sullivan's "personification", and Munroe's "self-image". Self-concept now appears to have become the accepted term for the self-as-object over these other terms (Coller, 1971, p.2).

A formal definition of self-concept has been offered by Coller (1971, p. 18-19). As broadly conceived, it is "a multidimensional construct that covers and includes the total range of one's perceptions and evaluations of himself. We have as many self-concepts as we have organized sets of attributes and roles or situations. Thus it is not necessarily appropriate to speak of the self-concept or of a person's self-concept, except as a convenience, after that aspect of self-concept under scrutiny has been defined". It does appear possible, but perhaps not particularly fruitful, to speak of a global self-concept.

Many instruments have been designed to measure self-concept (Wylie (1961) reports at least 200 by 1960. Few attempted to measure self-concept as a global concept. One person who studied the measure of self-concept from the global view is Fitts (1965) who in writing about his Tennessee Self Concept Scale stated:

The individual's concept of himself has been demonstrated to be highly influential in much of his behavior and also to be directly related
to his general personality and state of mental health. Those people who see themselves as undesirable, worthless, or "bad" tend to act accordingly. Those who have a highly unrealistic concept of self tend to approach life and other people in unrealistic ways. Those who have very deviant self-concepts tend to behave in deviant ways. Thus, a knowledge of how an individual perceives himself is useful in attempting to help that individual, or in making evaluations of him. (p. 1)

While Fitts attempted to measure self-concept in a global way others measured a variety of different variables related to self-concept. Some of the variables measured were the positive or negative self-concept (Northway & Detweiler, 1956), stability of the self-concept over time (Brownfain, 1956), positive or negative effect of the self-concept (Mason, 1954), discrepancies between self and "ideal-self", and self-acceptance (LaForge & Suczek, 1955), level of satisfaction with various body parts (Secord & Jourard, 1953), and emotional stability and ego-strength (Cattell & Eber, 1962).

Many theorists believe that notions about self and self-in-situation revolves around convictions, thoughts, and beliefs each individual has about him/herself. Early theorists (Spioza, 1901; Epictetus, 1899; Dubois, 1907) wrote about each individual's ideas regarding self and how these ideas led to psychological stress. Adler (1927) wrote about fictitious self statements which distort reality. More recent statements often lead to psychological disturbances. The appraisals which people make about themselves
are that they are either "good" or "bad" (Arnold, 1960). These appraisals of themselves then influence their behavior (Lazarus, 1971).

The importance of how a person views him/herself becomes evident as the individual acts in any situation depending upon how he/she perceives him/herself and how the individual perceives him/herself in each situation (Combs & Snyggs, 1959). It is assumed that better feelings about one's self will promote more adaptive, positive behavior than will negative self feelings.

Coopersmith (1967) stated persons who are higher in self-esteem are more effective in meeting environmental demands than people low in self-esteem. Rogers (1965) and Maslow (1968) write about fully functioning individuals and self actualizing individuals as persons who adapt better to life situations.

In later research Fitts (1972) emphasized the importance of an individual's self-concept as a valid predictor of many aspects of the behavior of the individual. He further showed the self-concept to be correlated with many other variables such as feelings, attitudes, interpersonal behavior, and mental health.

With regards to the self-concept playing a role in the individual's functioning Fitts (1972) has this to say:

The person who has a clear, consistent, positive, and realistic self-concept will generally behave in healthy, confident, constructive, and effective ways. Such
persons are more secure, confident, and self-respecting; they have less to prove to others; they are less threatened by difficult tasks, people, and situations; they relate to and work with others more comfortably and effectively, and their perceptions of the world of reality are less likely to be distorted. (p. 4)

Conversely, whatever diminishes the individual's self-concept makes it more difficult for him/her to function effectively. Hayakawa (1963) has stated that "the basic purpose of all human activity is the protection, the maintenance, and the enhancement not of self, but of the self-concept or symbolic self" (p. 20).

Many studies have borne out this general view of the importance of the self-concept. Kubiniec (1970) obtained results from a study that suggested that self views were excellent predictors of behavior. On the basis of self measurements taken, the investigator was able to predict academic achievement. The higher the self-concept scores, the greater the degree of academic success at various levels of schooling.

Burke (1979) investigated the problem of occupational "locking-in" on self-concept and other physical and psychological attributes. "Locking-in" refers to an individual's perception that he/she has virtually no opportunity to improve his/her situation by moving to another job. The findings indicated that individuals who feel locked-in experience a loss of self-esteem serious enough to require managerial understanding and remedial action.
Self-Concept and Teachers

Relatively few studies have attempted to correlate self-concept with teacher characteristics. Many studies intercorrelate various tests of teacher attitudes, interest, and intelligence, but these studies rarely go beyond description to attempt to compare the characteristics with student outcomes. The teacher characteristics which have been found to strongly effect student outcomes are: clarity of teacher's presentation, variability of teacher's classroom activities, teacher enthusiasm, degree to which the teacher was task- or achievement-oriented or businesslike, and student opportunity to learn criterion material (Rand, 1971). It might be inferred that a healthy self-concept is necessary for a teacher to manifest these characteristics.

It is essential to note that the personal dynamics of the teacher are of the utmost importance, for the processes between the teacher and the student are personal in nature and involve feelings, emotional states, subjective views and personal preferences (Hamachek, 1972). Basic observations of these dynamics show they include: (1) teacher exhibited behavior correlates with student success (Clark, 1967); (2) personality needs are exhibited in overt teacher behavior; (3) differences in teaching lie not in the mastery of methods and procedures, but in the teachers themselves (Bond & Dykstra, 1967); and (4) effective teachers need to possess and to cultivate attributes which will allow them to interact
positively with their students.

Psychologists and educators have become increasingly aware that a person's idea of him/herself, his/her self-concept, is closely connected with how that person behaves and learns (Hamachek, 1971).

The average individual is not particularly well acquainted with him/herself, but remains quite faithful to his/her not-so-accurate image of him/herself and thereby acquires consistency. Throughout his/her life an individual is motivated by the desire to behave in a manner consistent with the symbolic role he/she has accepted as "self". There is a sense in which we all become creatures of our own ideas about ourselves and our compulsion to behave consistently with these ideas. (Gellerman, 1963, p. 184).

The findings of Curtis and Altmann (1977) imply that a teacher's interaction with a student is not solely influenced by the individuality of the student, but also by the self-concept of the teacher. Further, that the higher a teacher's own self-concept is the higher the teacher will regard his/her students. The teacher as a significant other thus influences the student's self-concept. The higher the teacher's self-concept is the higher will be the student's self-concept (Towbridge & Rowson, 1969). It is also seen that the way one acts influences the way in which one perceives him/herself (Shavelson, Hubner, & Stauton, 1976).

It is easily seen that the teacher's self-concept is important in the formation of the student's self-concept as the teacher is very present in the student's environment as a significant other.
A number of studies have found a correlation between self-concept and academic achievement. Brookover (1967) concluded from his extensive research on self-concept and achievement that the assumption of human ability as being the most important factor in achievement is false; attitudes are a more important predictor of achievement in school. Other studies by Fink (1962), Bledsoe (1967), Campbell (1967), and Irwin (1967) have also emphasized the relationship between self-concept and school success.

In considering what qualities teachers must have in order to facilitate growth and learning through self-concept enhancement in students, Hamachek (1971) stresses that teachers "teach what they are, not just what they say. They teach their own self-concept far more often than they teach their subject matter" (p. 208).

Development of "self" as a tool of teaching requires teachers to develop the following: (1) a good sense of "self" - knowing what one believes and how one wants to behave and be perceived; (2) confidence in one's ability; (3) a sense of purpose related to teaching for reasons one can articulate; (4) an ability to relate to others in positive ways (Howsam, 1976).

In order for teachers to effect a positive self-concept in themselves they must feel good about what they are doing. Knoblock and Glodstein (1971) found in their study that some of the teachers had concluded that they must
be unsuccessful at what they were doing, based on the negative and minimal feedback they were receiving from the other adults in the building. The teachers could not have positive self-concepts and effect their students positively because they were not sure that what they were doing was good for the students.

Glasser (1975) states that what the teacher produces must be recognized by others as worthwhile in order that the teacher feel good about him/herself. Most of the recognition which teachers do get is from students as supervisors, administrators, and parents tend to interact only when there is trouble and even then most students don't think it important to give the teacher positive recognition. It is necessary for educational leaders to help teachers develop and maintain positive self-perceptions in order that the teacher perform his/her tasks adequately (Burch & Danley, 1978).

Class size has been found to effect teacher self-concept as does the number of groups of children with which a teacher must deal. Teachers which deal with only one class of fewer students have higher self-concepts and consequently so do their students (Beckner et al., 1978).

First year teachers in general have a lower self-concept due to feelings of inadequacy in fulfilling their tasks, as they compare themselves to more experienced teachers (Combs, 1974). The first year of teaching is seen
as the most difficult and not one which leads to positive attitudinal growth (Earp & Tanner, 1975). In the second year teachers feel better about their ability and themselves and have a more positive self-concept (Applegate & Lasley, 1979).

There have been numerous studies of self-concept as it relates to the performance of student teachers, its importance is in predicting how future teachers may function. It should be noted, however, that these studies do not attempt to correlate self-concepts with the product of the classroom such as improved student outcomes. Generally, the measure of student teacher effectiveness is the relatively subjective one of grades or supervisor ratings.

Garvey (1970) examined the relationship between self-concept and success in student teaching and found that success is influenced by a positive view of one's self, lack of confusion in self-perception, and adjustment. Garvey administered the Tennessee Self Concept Scale to 150 Allegheny College seniors several months prior to their term of student teaching. Those students rated high in student teaching ranked at the higher end of the self-concept scales. The converse was also true.

Campbell and Martinez-Perez (1977) investigated 64 students enrolled in science methods courses in elementary education at Florida International University, also using the Tennessee Self Concept Scale. Significant correlations
were found between achievement scores, attitudes toward science, and self-concept scores. Of all the factors studied, self-concept was the only predictor of achievement.

Noad (1979) used elementary student teachers at the University of Huston Central Campus to explore whether self-concept and educational attitudes were jointly or differentially related to performance. The Minnesota Teacher Attitude Inventory was used to measure educational attitudes while the Adjective Self Description instrument was utilized to measure self-concept. Educational attitudes and self-concept were found to be related to student teacher performance on competencies.

Dobson (1972) used the Tennessee Self Concept Scale to study female student teachers from five state universities in Michigan who were involved in student teaching in residential or public school classrooms for emotionally disturbed children. The study concluded that teachers with a high self-concept are likely to relate well with supervisors and establish a good rapport with disturbed children. Those teachers with a low self-concept were likely to be unsuccessful in establishing a rapport with the children or in relating to the supervisors.

Stress and Self-Concept

It is generally accepted that stress which is not handled effectively can have a destructive impact on the self-concept of an individual. The relationship of stress
to self-concept was described by Lazarus (1966) to lie not in the stressful event alone, or solely in the person, but in the person's perception of the event and the person's appraisal of its effects. First, a stressor is evaluated as to its possible degree of harm to the self. Then the individual's own resources are evaluated and a judgment is made as to the individual's ability to deal with the possible harm of the stressor. Thus the person's self-concept is important in determining the action to be taken as well as in the determination of threat.

Neufeld (1975) in an investigation of Lazarus' views found that stress reactions were less severe when the subject's self-concepts included the resources for dealing with the stressor as internal rather than form an external source. This points to the effect of a positive self-concept as a stress reducing factor.

Pines and Maslach (1978) studied the physical and psychological deterioration of personnel in the helping professions. The higher the educational level of these individuals, the more likely they were to have entered the profession for reasons that had to do with self-fulfillment rather than for financial rewards. When faced with the discrepancies between their expectations and the realities of the job, these professionals may become bitterly disillusioned. Eventually, they may start to question their ability to perform adequately on the job.
Warnath and Sheldon (1976) confirm this progression from disillusionment to a deterioration of self-concept. The disillusionment comes about in part because the client generally is not able to express the sort of reaction to the counselor that makes the counselor feel his efforts have been worthwhile. Moreover, supervisors and employers rarely provide the counselors with the sort of feedback that would enable them to know that they are doing a good job.

Reed (1979) expressed the belief in an article that one of the most effective ways to combat the deleterious effects of stress was to take positive steps to reinforce teachers' healthy self-concepts.

Far too many teachers would agree with Sandy Stein, a former speech therapist in Madison, Wisconsin, who says, "I think what causes burnout is the negative reinforcement people get -- as in, "You're five minutes late" -- rather than an affirmation of what they're doing that's creative, innovative, or right". (p. 69)

One of the principal solutions recommended by Reed is to provide teachers with the positive reassurance that can promote the maintenance of a healthy self-concept.

It also appears from the literature that individuals with a healthy self-concept are more likely to be able to deal with stress more effectively than are individuals with less positive self-concepts. A number of studies appear to support this conclusion.

Doherty (1980) found a positive relationship between self-esteem and performance under stress in a British student
teaching population at the University of Birmingham.
Student teachers with a low self-esteem tended to experience more psychosomatic symptoms, were rated less competent in general as teachers, appeared to experience a higher degree of stress while teaching, and to be absent more often.

Supporting the idea of a relationship of a high self-concept being present when stress is dealt with effectively is Lucas (1972) in a study of a group of VA patients compared to a control group of healthy veterans. The conclusion was that a high self-concept is an important determinate in a person's ability to handle life stresses in a positive way. It was also found that individuals with high self-concepts experience less stress due to imbalance of social situations than do individuals with low self-concepts (Mabel & Rosenfield, 1966).

Murphy (1962) noted that even in childhood an individual's self-concept discriminated between children's coping styles. A positive self-concept was indicative of children who approached a challenge with enthusiasm believing themselves capable; other children exhibited stress doubting their ability; and other children ignored threatening cues insulating themselves against stressors. Studies of adults (Erikson, 1963; Maslow, 1954; Grinker, 1962) indicated attitudes towards stressors are differentiated according to the adult's self-concept in the same manner as those found by Murphy (1962).
Other research supporting a relationship between low stress and anxiety with high self-concept was done using the Tennessee Self Concept Scale (Fitts, 1965; Helbig, 1967; Ornes, 1970; Miller, 1971). One study provided evidence that negative self-concepts are closely related to high anxiety (Harris, 1968).

Montessori Teachers and Method

Maria Montessori (1870-1952) wrote extensively on the intellectual training of children aged three to six years through utilization of sensory-motor methods. Together with the Swiss biologist and psychologist Jean Piaget and the American psychologist Jerome Bruner, she has been one of the principle influences on contemporary childhood education. In her later years she also extended her method and philosophy to include elementary education and the education of adolescents which she referred to as "cosmic" education.

Montessori, Italy's first female physician, focused on the child in developing principles of instruction. Underlying what happens in a Montessori classroom are a number of fundamental principles, of which perhaps the most important is: "The child is in a state of continuous and intense transformation, of body and mind, whereas the adult has reached the norm of the species" (Standing, 1962, p. 8). Other cardinal principles which Standing (1962) relates are: (1) Montessori education is "a method of education through the senses and sense training"; and (2) "education by means of
Montessori found that children passed through nine overlapping sensitive periods of development. These periods and their respective areas of interest are: (1) birth to three years - absorbent mind and sensory experience; (2) 1 1/2 to 3 years - language development; (3) 1 1/2 to 4 years - coordination and muscle development, interest in small objects; (4) 2 to 4 years - refinement of movement, concern with truth and reality, and awareness of sequence in time and space; (5) 2 1/2 to 6 years - sensory refinements; (6) 3 to 6 years - susceptibility to adult influence; (7) 3 1/2 to 4 1/2 years - writing; (8) 4 to 4 1/2 years - tactile sense; and (9) 4 1/2 to 5 1/2 years - reading (Yamamoto, 1972).

Mental development during the preschool years proceeds at a rapid rate and Montessori believed that this period should not be "wasted". During the sensitive periods of growth, the child is particularly sensitive "to certain stimulus modes and, hence, receptive to educational efforts made through the corresponding sense modalities" (Yamamoto, 1972, p. 68). At each of the sensitive periods of growth, the child should be introduced to learning tools designed to facilitate the maximum growth.

Elkind (1967) identified three ideas about childhood education which were somewhat original with Montessori and Piaget.
The first idea is that nature and nurture interact in a dual way. With respect to the growth of abilities, nature provides the pattern and the time schedule of its unfolding while nurture provides the nourishment for the realization of this pattern.... A second idea has to do with capacity and learning. For both Piaget and Montessori capacity sets the limits for learning and capacity changes at its own rate and according to its own time schedule. Finally the third idea is that repetitive behavior is the external manifestation of cognitive growth and expresses the need of emerging cognitive abilities to realize themselves through action. (p. 534-544)

Unlike Piaget, whose work remained mainly experimental, Montessori developed equipment and techniques designed to provide the growing child with the proper nurture at the appropriate time.

The typical Montessori classroom is designed to offer opportunities for constructive work in an atmosphere devoid of unnecessary distractions. The curriculum is divided into three parts: motor education, sensory education, and language. Emphasis is placed on the development of the five senses at the appropriate time. The connection between the three parts of the curriculum is assured by the use of equipment adapted to prepare the child for each part. This equipment was designed to awaken children's interest in learning and to teach a love of learning for its own sake (Montessori, 1964).

Evans (1971) provides an extensive description of educational principles which are related to the preschool level and the elementary level of Montessori training. These include: (1) active involvement on the part of the child -
"learning by doing"; (2) self-selection and pacing of activities by the child; (3) self-correctional character of the materials; (4) a graduated sequence of activities from simple to complex; (5) provision of extraneous cues to facilitate fine discriminations; (6) the contiguity principle in the simultaneous association of sensorial materials and motor responses; (7) isolation of sensory attributes according to modalities; and (8) heterogeneous grouping by age.

Based on the above principles Montessori (1964) felt that learning occurred from a child's natural interest in objects with which he can interact in a constructive way. Her "method has for a base the liberty of the child and liberty of activity" hence the creation of self-selected and self-directed activities within an ordered or "prepared" environment. The liberty accorded to the student allows the student to choose from the didactic materials and thus become a self initiated active learner. The student can work at his/her own rate with the materials which have built-in feedback for the child thus fulfilling Montessori's concept of "autoeducation" (Miezitis, 1971).

Elkind (1979) points out that Montessori puts the child first and her method second. He further points out that she believes that the child has the potential for self-regulated activity, for using materials in such a way as to nourish his/her intellectual growth.
In regard to the use of didactic materials Banta (1966) suggests that the following psychological variables could be derived for the child:

The child should learn good impulse control and ego controls if he learns to persist without distraction while working with interesting materials which teach him something; he should develop positive analytical skills in problem contexts if these learnings are generalizable; his attention span should be facilitated; he should become less dependent if in fact he learns that through his own directed effort he can find pleasure in work; and to mention one more possibility, the child should develop skills related to cognitive and perceptual style approaches of field independence. (p. 5)

Although there is emphasis on the materials and the classroom of the child in the Montessori method and the principles of education, Montessori herself emphasized the development of the child. "The successive levels of education must correspond to the successive personalities of the child. Our methods are oriented not to any principle, but rather to the inherent characteristics of the different ages" (Montessori, 1973, p. 3). The characteristics of the child of 3 to 6 years of age are building of self, seeking and memorizing of facts, absorbency of his environment, and a dealing with the concrete. The characteristics of the child 6 to 12 years of age are seen as building a community, an ability to reason, seeking to understand relationships, and a greater ability to perform abstractions (Jones, 1971).

Montessori believed that the usual elementary education dealt with facts beginning with the most simple and elementary
and proceeded to the more complex and abstract. She felt that students find this boring and force themselves to learn by an act of the will. She, on the other hand, proposed that teaching go from the whole to the parts and by doing this interest could be aroused by first showing the inter-relations of things in the world - a global view of the universe. Curiosity of children would be aroused in this way and a study of detail would follow naturally and with pleasure because one of the normal traits of humans is to use their intelligence and curiosity to explore and discover new things and new ways to use familiar things. This inter-relating of things in the universe is what Montessori referred to as the "cosmic task" (Montessori, 1976).

The task of the teacher for elementary education was seen by Montessori, not as the imparting of knowledge for the sake of learning, but of encouraging learning because it is a feature of human development. The emphasis for the teacher is on a study of human development in order to gain insights into the special needs of the growing individual students in the different phases of their lives (Montessori, 1976). The Montessori teacher has been described by Orem (1970) as a "director of human development" (p. 50).

Miezitis (1971) points out the importance of a Montessori teacher establishing and maintaining a positive interpersonal relationship in a climate of mutual helpfulness and consideration. He states that deductive teaching is
rare and that the Montessori teacher acts as a highly skilled observer and resource person. Among the qualities which the teacher should have are an inclination to experiment and observe children's reactions, imagination, and faith in the child's ability to grow through purposeful activity.

Montessori (1964) describes the teacher as a person who prepares the environment and the materials, observes the children, and experiments.

In this method the lesson corresponds to an experiment. The more fully the teacher is acquainted with the methods of experimental psychology, the better he/she will understand how to give the lesson. Indeed a special technique is necessary if the method is to be properly applied.... The most difficult portion of this training is that which refers to the method of discipline (p. 107).

The teacher must also be aware of his/her limitations in giving lessons. Montessori (1973) states that the teacher should say as little as possible, and that it be only what is necessary and sufficient. The teacher is the link between the child and the material (Orem, 1970). Contrary to the position which many teachers take in the classroom, Montessori (1964) would have the teacher present lessons in such a way that "the personality of the teacher would disappear" (p. 108).

Gardner (1966) likens the Montessori teacher to the therapist approaching a patient. He sees the child's primary autonomy as being from the adult teacher, who in contrast to the usual didactic approach, intrudes him/herself.
into the child's world of discovery in a nonevaluative way, and only when it seems necessary. He further states that "both the therapist and the Montessori teacher assume that optimal learning involves a special kind of personal change" (p. 75).

The role of the Montessori teacher might be summarized as a catalyst in an environment prepared to match the child's inner needs (Orem & Stevens, 1970), "as a guide for the child in his/her execution of exercises, and as an observer of the life and development surrounding him/her" (Montessori, 1967, p. 107).

Almost without exception the research which has been done on the use of the Montessori method of teaching has been done on the preschool education level (Bereiter, 1967; Miezitis, 1971; McMorrow, 1970; Rudominer, 1970; Dreyer & Rigler, 1969; Banta, 1969; Berger, 1969; DiLorenzo et al., 1969; Karnes, 1969; Miller & Dyer, 1970). This research was stimulated by the movement toward early education in the last two decades and compares methods of preschool education with populations of middle-class and disadvantaged children and generally showed children having experienced Montessori preschool education performed at a higher level in school than did the children who did not have the Montessori preschool.

Scirra and Dorsey (1974), however, conducted a longitudinal study of elementary school children who attended
Montessori classes over a six year period. The Montessori-trained children generally scored higher on Metropolitan Achievement Tests than did those children who had received no Montessori training. Their research indicated that the Montessori method was effective over the elementary school years.

Summary

Stress exists when unusual or excessive demands are made on the well-being or integrity of the individual. Stress can be overcome, leading to personal growth, but it is more likely to overwhelm the coping mechanisms with the consequence of disturbed functioning, pain or anxiety, illness, or even death. Stress is complicated because it involves three related factors: the conditions acting on the individual, the characteristics of that individual, and the individual's stress responses.

Teachers are clearly subjected to multiple stresses. Recent studies indicate that the most stressful situations for teachers involve dealing with school violence and student discipline, followed by a variety of "management" problems. These stresses appear to be growing in volume and intensity to the point where teaching is now considered by some to be a "hazardous" profession.

Self-concept is a multidimensional construct that includes the total range of one's perceptions and evaluations
of himself/herself. Self-concept is extremely important to the individual's psychic health and tends to regulate his/her actions. A healthy self-concept results in confident, constructive attitudes, and actions. Destroy an individual's self-esteem and he/she can no longer function effectively.

Stress can attack the self-concept in dramatic ways. Any situation in which an individual's self-esteem is threatened is normally seen as stressful. Studies confirm the common-sense idea that teachers require a healthy self-concept if they are to remain effective.

No studies were found dealing with stress or self-concept of Montessori teachers. Because Montessori teachers approach teaching from a different philosophical set than traditional teachers, it seems likely that factors different from those plaguing traditional teachers would be applicable to the Montessori teachers.

Chapter II was a review of the literature concerning the nature of stress, stress and teachers, and nature of self-concept, self-concept and teachers, stress and self-concept, and Montessori teachers and method. This review was followed by a brief summary of the chapter.
CHAPTER III
Methodology

This chapter is concerned with material pertaining to the methodology of the research conducted for this study. The population surveyed is considered first followed by a description of the procedure used to obtain the data for the research. A description of the instruments used to collect the data for the study is then presented. Finally, a presentation of the method of analysis of the data collected for this study is described.

Population

One hundred and twenty public elementary school teachers were selected from two school districts which have schools using both traditional teaching methods and the Montessori teaching method. Half of the teachers selected from each school district were from Montessori classrooms and half were from traditional classrooms. The teachers from the Montessori classrooms were those who have had formal training in the use of the Montessori method. The teachers from the traditional classrooms were teachers in settings comparable to those of the teachers using the Montessori method only they were not using the Montessori method nor were they trained in the use of that method.
All of the teachers were on the staff of one of two elementary schools in Romulus, Michigan or of two public elementary schools of Buffalo, New York.

Procedure

The procedure for obtaining the data began by soliciting six school districts for permission to survey their teachers for data for this study. Of the six school districts solicited, two replied with a willingness to participate in this study. Each school district selected the two schools which were to participate according to the following criteria:

1. one school would use the Montessori method in teaching its students and the other school would use traditional methods, and
2. both schools would be similar with respect to the number of students and the students' characteristics, such as racial composition, socio-economic status, and student selection.

Contact was then made with the principals of the schools selected and arrangements were made for the distribution of envelopes, stamped and addressed to the researcher, containing the following items: one letter of introduction (Appendix A), one Personnel Data Questionnaire (Appendix B), one Tennessee Self Concept Scale (Appendix C), and one Maslach Burnout Inventory (Appendix D). The distribution was scheduled for the second week of school after the Christmas
holidays. Upon completion of the instruments those subjects volunteering their participation returned the instruments in the preaddressed envelopes. Two weeks following the initial distribution of the instruments a follow-up letter, (Appendix E) was sent thanking those who had participated in the study and encouraging those who had not, to do so. Four weeks following the original mailing of the instruments, the data was considered gathered.

**Instruments**

**Tennessee Self Concept Scale.** The Tennessee Self Concept Scale (TSCS) was chosen as the instrument for measurement of self-concept because of its demonstrated reliability and validity. The TSCS was developed by W.H. Pitts in 1955 in an effort to meet the need for a scale "simple for the subject, widely applicable, well standardized, and multidimensional in its description of the self-concept" (Fitts, 1965). The author of the TSCS based his theoretical base on Maslow's theory of self-actualization (Fitts, 1970).

The TSCS consists of one hundred self descriptive statements which the subjects use to portray their own picture of themselves. The TSCS is self administering for either individuals or groups and can be used with subjects age twelve years or higher and having at least a sixth grade reading level. It is applicable to the whole range of psychological adjustment from healthy, well adjusted people to psychotic patients. The mean time of completion of the
scale is thirteen minutes (Fitts, 1965).

The original pool of self descriptive items was derived from a number of other self-concept measures including those developed by Balester (1956), Engel (1956), and Taylor (1953). Items were also derived from written self descriptions of patients and non-patients. A phenomenological system was developed for classifying items on the basis of what they themselves were saying. This evolved into the two-dimensional, three by five scheme employed on the score sheet. This part of the TSCS contains ninety items equally divided as to positive and negative items. The remaining ten items comprise the Self Criticism Scale. The ninety selected items were chosen unanimously by seven clinical psychologists employed as judges to classify the items according to the three by five scheme as well as item content for positive and negative (Fitts, 1965).

The items of the TSCS produce fifteen categories of self description in terms of the internal frame of reference - identity, self-satisfaction, and behavior. Each of these three categories is scored with five categories of the external frame of reference - physical self, moral-ethical self, personal self, family self, and social self. In addition to these fifteen categories self-criticism is scored yielding a score for self-esteem or social acceptibility.

The standardization group from which the norms were developed was a sample of six hundred twenty-six people from various parts of the country ranging in age from twelve years
to sixty-eight years. There were approximately equal numbers of males and females, Blacks and Whites, representatives of all socioeconomic levels, and educational levels from the sixth grade through doctoral degrees. The normative data was supported by data collected by Sundby (1962), Gividen (1959), and Hall (1964).

The TSCS manual reports test-retest reliability coefficients of all major scores to be between 0.61 and 0.92. This is based on sixty college students over a two-week period. In a study of psychiatric patients using a shortened version of the TSCS a reliability coefficient of 0.88 was obtained (Congdon, 1958). Over long periods of time, a year or more, profile patterns of the same individuals were found to be similar. Intercorrelation of TSCS scores which are logically related show appreciable correlations. Though some categories of the TSCS have overlapping items the major dimensions of self-perception (self-esteem, self-criticism, variability, certainty, and conflict) are all relatively independent of each other (Fitts, 1963).

The validation procedures for the TSCS are four types: (1) content validity, (2) discrimination between groups, (3) correlation with other personality measures, and (4) personality changes under particular conditions. Content validity has been obtained by retaining only items in the TSCS which were unanimously agreed upon by the seven clinical psychologists who were the judges of classification of the
items. This procedure allows the assumption that the categories used in the TSCS are logically meaningful and publicly communicable.

Discrimination between groups is shown when groups which differ on certain psychological dimensions also differ in self-concept as is suggested by personality theory and research. The scores of a group of three hundred sixty-nine psychiatric patients were compared to the non-patients of the norm group and all but three of the scores of the TSCS differed for the two groups at the 0.001 level of significance (Fitts, 1965). Other studies which demonstrate similar patients vs. non-patient differences were done by Congdon (1958), Piety (1958), Havener (1961) and Qayne (1963).

The TSCS has been shown by Huffman (1964) to differentiate between types of disorder as well as degree of disorder within patient groups. Huffman's study dealt with patients clinically diagnosed as paranoid schizophrenics, emotionally unstable, and depressives. Each diagnostic group of the patients was shown by the TSCS to have the characteristics predictable for the three pathologies.

Self theory portrays different behavior as a result of different self-concepts. Delinquents and non-delinquents differ significantly in the predicted direction on all variables on the TSCS except the self-criticism and the distribution scores (Atchison, 1958). Juvenile first offenders, repeated offenders, and a control group scores differed in
the expected directions (Lefeber, 1964). Other studies on
unwed mothers (Boston & Kew, 1964), paratroopers (Gividen,
1959) and alcoholics (Wells & Bueno, 1957) all showed pre-
dictable differences on the variables of the TSCS.

Correlations of the TSCS with the Minnesota Multi-
phasic Personality Inventory (MMPI) based on one hundred-two
psychiatric patients are in the directions which would be ex­
pected from the nature of the scores. The TSCS and the
Edwards Personal Preference Schedule correlations are based
on sixty-six students from three different high schools and
indicate nonlinear relationships between scores on the two
tests (Sundby, 1962).

A correlation of -0.53 was obtained between the total
positive self-esteem score of the TSCS and the Minnesota
Teacher Attitudes Inventory on which a high score indicates
an unhealthy attitude toward children (Quinn, 1957). The
conclusion here is that people with healthy self-concepts tend
to have more desirable attitudes for teaching. The total
positive score on the TSCS has a correlation with Izard's
Self Rating Positive Affect Scale of 0.68 (Wayne, 1963).

It is logical to expect certain life experiences to
effect the self-concept of a person. Positive experiences
would result in a more positive self-concept and negative ex­
periences would result in a more negative self-concept. In
a study using psychotherapy a group of thirty patients were
compared to a control group of patients on a waiting list.
The therapy group changed significantly on retesting in the expected direction on eighteen of twenty-two variables while the control group changed in only two variables (Ashcraft & Fitts, 1964).

A study in which fear and failure were considered a disgrace involving paratroop trainees indicated both the successful group's and the failure group's score as a significant decrease from a pretest before the training. In addition, the failure group showed greater decrease in variables of physical self-worth than the successful group (Giriden, 1959).

Maslach Burnout Inventory. The Maslach Burnout Inventory (MBI) was chosen as the instrument for measurement of stress because of its demonstrated reliability and validity. The MBI was developed by Maslach in an effort to assess the syndrome of burnout postulated from studies of problems of the deteriorating quality of care or service of individuals in human services institutions (Maslach & Jackson, 1979b).

The MBI consists of twenty-five items designed to measure hypothesized phases of burnout syndrome. The items are written in the form of statements about personal feelings or attitudes and based on interview and questionnaire data collected during exploratory research on the feelings and attitudes of burned-out workers. From a preliminary form of forty-seven items administered to a sample of six hundred-five people from a variety of health and service organizations the
final twenty-five items were selected. The criteria for retaining an item were that it have a large range of subject response, a low percentage of subjects responding "never", a high item-total correlation, and a factor loading greater than 0.40 on only one of the four factors of the preliminary form.

Each item is rated on a scale for frequency and a scale for intensity. The frequency scale ranges from one ("a few times a year or less") to six ("every day"). The intensity scale ranges from one ("very mild, barely noticeable") to seven ("major, very strong"). Neither scale is scored if the subject checks a box marked "never" on the frequency scale.

There are four subscales of the MBI. The Emotional Exhaustion subscale contains nine items which describe feelings of being emotionally overextended and exhausted by one's work. The Depersonalization subscale contains five items which describe an unfeeling and impersonal response towards recipients of one's care of service. For these two subscales the higher mean corresponds to higher degrees of experienced burnout. There is a moderate correlation between these two subscales of 0.44 for frequency and 0.50 for intensity. The Personal Accomplishment subscale contains eight items which describe feelings of competence and successful achievement in one's work with people. A lower mean score indicates correspondence to a higher degree of experienced burnout. The correlations of Emotional Exhaustion and Depersonalization with Personal Accomplishment are
relatively low. They are -0.17 (frequency) and -0.05 (intensity) for Emotional Exhaustion and Personal Accomplishment, and -0.28 (frequency) and -0.22 (intensity) for Depersonalization and Personal Accomplishment. The Personal Involvement subscale is an optional subscale of the MBI. It has only three items and is related to high emotional exhaustion. It correlates moderately (0.40 for frequency and 0.44 for intensity) with Emotional Exhaustion and even less (0.14 for frequency and 0.21 for intensity) with Personal Accomplishment and (0.09 for frequency and 0.17 for intensity) with Depersonalization.

The internal reliability of the MBI was obtained from the sample which was used for the factor analysis of the MBI for item selection. It was estimated by Cronbach's alpha coefficient yielding reliability coefficients of 0.76 for frequency and 0.81 for intensity. Split-half reliability coefficients of 0.74 for frequency and 0.81 for intensity were obtained. Internal reliability is, thus, quite high.

Test-retest reliability was performed over a two to four week interval on fifty-three graduate students in social welfare and administrators in a health agency. Reliability coefficients of 0.74 for frequency and 0.63 for intensity were obtained indicating stability of the MBI over time.

Concurrent validity was demonstrated by correlating an individual's MBI scores with behavioral ratings made
independently by a person who knew the individual well. The correlation was also examined which existed between the MBI scores and the presence of certain job characteristics that were expected to contribute to experienced burnout.

The behavioral ratings of one hundred-thirty policemen done by their wives were compared to behaviors predicted using the policemen's MBI scores as a basis. The results were in line with the predictions from the MBI scores (Maslach & Jackson, 1979a). Co-workers rated forty mental health workers who had completed the MBI with results being as predicted by the MBI. A study of the scores of ninety-one social service and mental health workers who completed both the MBI and the Job Diagnostic Survey (JDS) indicated that certain job dimensions were correlated in the predicted directions with the subscores of the MBI. The MBI scores were compared to the JDS scores to see if general job dissatisfaction was the same measure as the burnout measured by the MBI. The correlation accounted for less than 13% of the variance and thus the hypothesis that the MBI measured job dissatisfaction was rejected. A sample of forty graduate students in social work completed both the MBI and the Social Desirability Scale (SD) to see if the MBI was influenced by a social desirability response set with the results indicating that there is no significant correlation (p > .05) between the MBI and the SD.
Construct validity of the MBI was demonstrated by data supporting the hypothesis that burnout would be related to the desire to leave one's job and to have less contact with clients (Barad, 1979). It was also found that the more clients with which one had contact the greater the positive correlation was to the experience of burnout (Maslach and Pines, 1977; Barad, 1979). Finally, it was shown that the hypotheses that a person would have difficulties in one's relationships with people outside of work and in one's relationship with people at work could be predicted from the MBI were supported (Maslach & Jackson, 1979a).

**Personal Data Questionnaire.** The **Personal Data Questionnaire** (PDQ) was designed to gather the necessary demographic information for this study. The demographic information requested included age, sex, race, marital status, dependents, household income, educational background, grade levels taught, present type of school, classroom racial composition, class size, number of staff in classroom, years of teaching experience, and type of Montessori training.

**Analysis of the Data**

The data collected from the three instruments, the PDQ, the MBI, and the TSCS, were analyzed in three parts. The first part consists of a presentation of the data collected from the instruments. This presentation was done by establishing frequencies for the data and investigating the resulting statistics - means, modes, medians, standard
deviations, and percentages.

The second part of the analysis was an investigation of the correlation between the MBI scores and the TSCS scores using the Pearson correlation coefficient. This was done by correlating the scores of the three scales of the MBI, Emotional Exhaustion (EE), Depersonalization (DP), and Personal Achievement (PA) with the Total Positive Scale scores (TPS) of the TSCS. A further analysis was made by correlating the MBI scores with the TSCS scores of the traditional teachers and of the Montessori teachers.

The third part of the analysis of the data was an investigation of the effect of various independent variables from the PDQ on the MBI scores and the TSCS scores. One-way analyses of variance were used to assess the significance of the relationships as was the Pearson correlation coefficient. An alpha level of 0.05 was considered significant.

Summary

This chapter has been a presentation of the population used in the study. The procedures used in choosing the subjects and the procedures used in gathering the data were also presented. The instruments which were used to gather the data of the study were considered in some depth and finally the methods of the analysis of the data were presented. The following chapter will be a more detailed look at the data collected and an analysis of that data.
CHAPTER IV

Analysis of the Data

The findings of the study are presented in this chapter. The data collected from the Personal Data Questionnaire, (PDQ) which describe the subjects of the study, are presented first with the results from the Maslach Burnout Inventory (MPI) and the Tennessee Self Concept Scale (TSCS). The second part of this chapter is the presentation of the null hypotheses in Chapter I and the data analysis for rejecting or accepting these hypotheses. Finally, a brief summary concludes the chapter.

Description of Data

Personal Data Questionnaire data. The data collected from the Personal Data Questionnaire were used to describe the subjects of the study and to compare the two types of teachers, traditional and Montessori, which participated in the study. Figure 1 is a graphical representation of the distribution of the ages of the teachers of the study. Table 1 is an indication of the means, modes, medians, and standard deviations of the teachers' ages by type of teaching methods they use. From Table 1 it can be seen that the mean age of all of the teachers is 35.5 years. Both traditional and Montessori teachers have a mean age which is within 0.3 of
Figure 1: Distribution of the Ages of the Teachers of the Study.
Table 1
Means, Modes, Medians and Standard Deviations of the Ages of the Teachers of the Study

<table>
<thead>
<tr>
<th>Teachers</th>
<th>n</th>
<th>Mean</th>
<th>Mode</th>
<th>Median</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional</td>
<td>28</td>
<td>35.8</td>
<td>34.0</td>
<td>34.0</td>
<td>8.5</td>
</tr>
<tr>
<td>Montessori</td>
<td>28</td>
<td>35.3</td>
<td>27.0</td>
<td>32.8</td>
<td>8.6</td>
</tr>
<tr>
<td>Total</td>
<td>56</td>
<td>35.5</td>
<td>28.0</td>
<td>33.5</td>
<td>8.5</td>
</tr>
</tbody>
</table>
a year of the overall mean. The medians of the two types of teachers, however, indicates that the Montessori teachers tend to be younger than the traditional teachers of the study.

Table 2 represents the 56 teachers of the study by their sex. It can be seen that 8.9% of the 56 teachers are male and the remaining 91.1% are female. Three of the males are traditional teachers and two are Montessori teachers. This low percentage of males is to be expected at the elementary school level as it has been traditionally a female dominated occupation.

Table 3 indicates a breakdown of the teachers by race. It is seen that 91.9% of the teachers are White with four Blacks and one Hispanic teacher. The Blacks are evenly distributed between the traditional and Montessori teachers with the one Hispanic teacher among the Montessorians.

Table 4 indicates the marital status of the teachers of the study. The majority of the teachers are married (66.1%) with divorced teachers (16.1%), single teachers (12.5%), and single with a partner teachers (5.4%), following in descending order. The Montessori teachers of this study are slightly younger, as indicated by Table 1, and have more married teachers among them than do the traditional teachers of the study. The traditional teachers have more divorced members in this study than do the Montessori teachers of the study.
Table 2

Sex of the Teachers of the Study

<table>
<thead>
<tr>
<th>Sex</th>
<th>Traditional</th>
<th>Montessori</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Male</td>
<td>3</td>
<td>10.7</td>
<td>2</td>
</tr>
<tr>
<td>Female</td>
<td>25</td>
<td>89.3</td>
<td>26</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>100.0</td>
<td>28</td>
</tr>
</tbody>
</table>
Table 3

Race of the Teachers of the Study

<table>
<thead>
<tr>
<th>Race</th>
<th>Traditional</th>
<th>Montessori</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Black</td>
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<td>7.1</td>
<td>2</td>
</tr>
<tr>
<td>Hispanic</td>
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<td>0.0</td>
<td>1</td>
</tr>
<tr>
<td>White</td>
<td>26</td>
<td>92.9</td>
<td>25</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>100.0</td>
<td>28</td>
</tr>
</tbody>
</table>
Table 4
Marital Status of the Teachers of the Study

<table>
<thead>
<tr>
<th>Status</th>
<th>Traditional</th>
<th>Montessori</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Single</td>
<td>4</td>
<td>14.3</td>
<td>3</td>
</tr>
<tr>
<td>Married</td>
<td>17</td>
<td>60.7</td>
<td>20</td>
</tr>
<tr>
<td>Divorced</td>
<td>6</td>
<td>21.4</td>
<td>3</td>
</tr>
<tr>
<td>Single with Partner</td>
<td>1</td>
<td>3.6</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>100.0</td>
<td>28</td>
</tr>
</tbody>
</table>
Table 5 indicates the dependents for which the teachers claim a financial responsibility. The largest category is that of being responsible for self only (35.7%). The category with the least percent of the teachers is that of self and children (17.9%). The subjects are evenly distributed among the types of teachers with a variance of only two subjects for any one type.

Table 6 is an indication of the total household incomes which are received in the homes of the teachers. It can be seen by Table 6 that approximately 50% of the teachers have total household incomes in their homes of $30,000 or more. More significant is the fact that 35.7% of each of the types of teachers have total incomes in their homes of $40,001 or more. How much of that total household income is the teachers' is not indicated and thus the share of the total household income for which the subjects are responsible is not known. The distribution of total household income levels is fairly even among the levels indicated and between the types of teachers, traditional and Montessori.

The preceding tables (Table 1-6) have given a description of some of the areas of the teachers' lives outside of the school environment. Tables 7-12 will give a description of some of the areas which are pertinent to the teachers' occupation.
## Table 5
Dependents of the Teachers of the Study

<table>
<thead>
<tr>
<th>Dependents</th>
<th>Teachers</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Traditional</td>
<td>Montessori</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Self only</td>
<td>9</td>
<td>32.1</td>
<td>11</td>
<td>39.3</td>
</tr>
<tr>
<td>Self and Spouse</td>
<td>5</td>
<td>17.9</td>
<td>6</td>
<td>21.4</td>
</tr>
<tr>
<td>Self and Children</td>
<td>6</td>
<td>21.5</td>
<td>4</td>
<td>14.3</td>
</tr>
<tr>
<td>Self, Spouse, and Children</td>
<td>8</td>
<td>28.6</td>
<td>7</td>
<td>25.0</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>100.0</td>
<td>28</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Table 6

Total Household Income of the Teachers of the Study

<table>
<thead>
<tr>
<th>Income</th>
<th>Teachers</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Traditional</td>
<td>Montessori</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>Cum%*</td>
<td>n</td>
</tr>
<tr>
<td>$10,000 or less</td>
<td>1</td>
<td>3.6</td>
<td>100.0</td>
<td>0</td>
</tr>
<tr>
<td>$10,001 - $15,000</td>
<td>4</td>
<td>14.3</td>
<td>96.4</td>
<td>5</td>
</tr>
<tr>
<td>$15,001 - $20,000</td>
<td>1</td>
<td>3.6</td>
<td>82.1</td>
<td>3</td>
</tr>
<tr>
<td>$20,001 - $25,000</td>
<td>4</td>
<td>14.3</td>
<td>78.5</td>
<td>3</td>
</tr>
<tr>
<td>$25,001 - $30,000</td>
<td>4</td>
<td>14.3</td>
<td>64.2</td>
<td>2</td>
</tr>
<tr>
<td>$30,001 - $35,000</td>
<td>2</td>
<td>7.1</td>
<td>49.9</td>
<td>3</td>
</tr>
<tr>
<td>$35,001 - $40,000</td>
<td>2</td>
<td>7.1</td>
<td>42.8</td>
<td>2</td>
</tr>
<tr>
<td>$40,001 or more</td>
<td>10</td>
<td>35.7</td>
<td>35.7</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>100.0</td>
<td></td>
<td>28</td>
</tr>
</tbody>
</table>

*Subjects having at least this household income
Table 7 indicates the amount of years of college the teachers have completed. Table 7 indicates that 50% of all the teachers have completed at least six years of college education. Of the two types of teachers, 68.3% of the Montessori teachers have completed six years of college while only 35.7% of the traditional teachers have completed six years of college.

Table 8 indicates the type of degree obtained by the teachers. The bachelor's degree is required for teachers and thus 100% of the teachers have this degree. The Master's degree is held by 60.7% of all the teachers and by each of the two types of teachers. More Montessori teachers (53.6%) have accumulated credit hours beyond the Master's degree than have the traditional teachers (21.4%). This may be due to the extra hours required for their Montessori teaching certificate.

Table 9 indicates the number of years which the teachers have been teaching and the number of years of teaching in traditional and Montessori classrooms. The mean for the number of years of teaching for the 56 teachers is 9.8 years. The traditional teachers have a mean of 11.3 years for teaching which is 1.5 mean years more than the Montessori teachers' mean of 8.3 years. The Montessori method has only recently been used in the public elementary schools and this would account for this difference. Only one of the present traditional teachers has been a Montessori in contrast to 22 present
Table 7

Years of College Education Completed by the Teachers of the Study

<table>
<thead>
<tr>
<th>Years</th>
<th>Traditional n</th>
<th>%</th>
<th>Cum%*</th>
<th>Montessori n</th>
<th>%</th>
<th>Cum%*</th>
<th>Total n</th>
<th>%</th>
<th>Cum%*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Four</td>
<td>4</td>
<td>14.3</td>
<td>100.0</td>
<td>3</td>
<td>10.7</td>
<td>100.0</td>
<td>7</td>
<td>12.5</td>
<td>100.0</td>
</tr>
<tr>
<td>Five</td>
<td>14</td>
<td>50.0</td>
<td>85.7</td>
<td>7</td>
<td>25.0</td>
<td>89.3</td>
<td>21</td>
<td>37.5</td>
<td>87.5</td>
</tr>
<tr>
<td>Six</td>
<td>7</td>
<td>25.0</td>
<td>35.7</td>
<td>14</td>
<td>50.0</td>
<td>64.3</td>
<td>21</td>
<td>37.5</td>
<td>50.0</td>
</tr>
<tr>
<td>Seven</td>
<td>2</td>
<td>7.1</td>
<td>18.7</td>
<td>2</td>
<td>7.1</td>
<td>14.3</td>
<td>4</td>
<td>7.1</td>
<td>12.5</td>
</tr>
<tr>
<td>Eight</td>
<td>1</td>
<td>3.6</td>
<td>2.6</td>
<td>1</td>
<td>3.6</td>
<td>7.2</td>
<td>2</td>
<td>3.6</td>
<td>5.4</td>
</tr>
<tr>
<td>Twelve</td>
<td>0</td>
<td>0.0</td>
<td>2.6</td>
<td>1</td>
<td>3.6</td>
<td>3.6</td>
<td>1</td>
<td>1.8</td>
<td>1.8</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>100.0</td>
<td></td>
<td>28</td>
<td>100.0</td>
<td></td>
<td>56</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

*Subjects who have attended at least this number of years of college
Table 8

Degrees Obtained by the Teachers of the Study

<table>
<thead>
<tr>
<th>Degree</th>
<th>Teachers</th>
<th></th>
<th>Teachers</th>
<th></th>
<th>Total</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Traditional</td>
<td>Montessori</td>
<td>Total</td>
<td>Traditional</td>
<td>Montessori</td>
<td>Total</td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>Cum%*</td>
<td>n</td>
<td>%</td>
<td>Cum%*</td>
</tr>
<tr>
<td>Bachelor's</td>
<td>2</td>
<td>7.1</td>
<td>100.0</td>
<td>2</td>
<td>7.1</td>
<td>100.0</td>
</tr>
<tr>
<td>Bachelor's plus extra hours</td>
<td>9</td>
<td>32.1</td>
<td>92.9</td>
<td>9</td>
<td>32.1</td>
<td>92.9</td>
</tr>
<tr>
<td>Master's</td>
<td>11</td>
<td>39.3</td>
<td>60.7</td>
<td>2</td>
<td>7.1</td>
<td>60.7</td>
</tr>
<tr>
<td>Master's plus extra hours</td>
<td>6</td>
<td>21.4</td>
<td>21.4</td>
<td>14</td>
<td>50.0</td>
<td>52.6</td>
</tr>
<tr>
<td>Doctor's</td>
<td>0</td>
<td>0.0</td>
<td>0.0</td>
<td>1</td>
<td>3.6</td>
<td>3.6</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>100.0</td>
<td>100.0</td>
<td>28</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

*Subjects having obtained at least this degree level and credit hours
Table 9
Means, Modes, Medians, and Standard Deviations of the Number of Years of Teaching by the Method Used of the Teachers of the Study

<table>
<thead>
<tr>
<th>Methods Used</th>
<th>Traditional</th>
<th>Montessori</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n Mean Mode Median S.D.</td>
<td>n Mean Mode Median S.D.</td>
<td>n Mean Mode Median S.D.</td>
</tr>
<tr>
<td>Traditional</td>
<td>28 11.2 5.0 11.2 6.1</td>
<td>28 11.3 5.0 11.3 6.0</td>
<td>28 11.2 5.0 11.2 6.1</td>
</tr>
<tr>
<td>Montessori</td>
<td>22 7.2 5.0 7.0 3.9</td>
<td>28 8.3 4.0 6.5 4.9</td>
<td>28 8.3 4.0 6.5 4.9</td>
</tr>
<tr>
<td>Total</td>
<td>50 9.7 5.0 9.5 5.5</td>
<td>29 2.6 2.0 2.4 1.5</td>
<td>56 9.8 4.0 10.2 5.6</td>
</tr>
</tbody>
</table>
Montessori teachers who have been traditional teachers.

It is also recalled that the Montessori teachers were slightly younger than the traditional teachers possibly accounting for their fewer years of teaching.

Table 10 refers to the number of students which are in each classroom. Table 10 indicates that the mean for the number of students in the traditional classrooms is 25.9 and the mean for the number of students in the Montessori classrooms is almost three students less at 23.1. The modes of the number of students of the two types of classrooms may be more significant in presenting the difference of the populations of the two classrooms. A traditional classroom of 30 students is the classroom of highest frequency while a classroom of 25 students is the classroom of highest frequency for the Montessori classrooms.

Table 11 indicates that of the traditional teachers 89.3% of those teachers are in classrooms having one teacher, no assistant, while only 21.4% of the Montessori teachers are in such classrooms. Of the Montessori teachers, 67.9% are in classrooms having one teacher and one assistant with only 10.7% of the traditional teachers being in classrooms so attended. One of the 28 Montessori teachers works in a classroom with two assistants and two of the 28 Montessori teachers work in classrooms with another teacher. Of the total number of the 56 teachers, 55.4% work alone while 44.6% of the teachers work with at least one other adult.
Table 10

Means, Modes, Medians, and Standard Deviations of the Number of Students per Classroom Taught by the Teachers of the Study.

<table>
<thead>
<tr>
<th>Teachers</th>
<th>n</th>
<th>Mean</th>
<th>Mode</th>
<th>Median</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional</td>
<td>28</td>
<td>25.9</td>
<td>30.0</td>
<td>28.0</td>
<td>5.9</td>
</tr>
<tr>
<td>Montessori</td>
<td>28</td>
<td>23.1</td>
<td>25.0</td>
<td>24.6</td>
<td>5.8</td>
</tr>
<tr>
<td>Total</td>
<td>56</td>
<td>24.5</td>
<td>30.0</td>
<td>25.3</td>
<td>6.0</td>
</tr>
</tbody>
</table>
Table 11

Number of Teachers per Classroom Occupied by the Teachers of the Study

<table>
<thead>
<tr>
<th>Number of Teachers</th>
<th>Traditional</th>
<th>Montessori</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>One teacher</td>
<td>25</td>
<td>89.3</td>
<td>6</td>
</tr>
<tr>
<td>One teacher and one assistant</td>
<td>3</td>
<td>10.7</td>
<td>19</td>
</tr>
<tr>
<td>One teacher and two assistants</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
</tr>
<tr>
<td>Two teachers</td>
<td>0</td>
<td>0.0</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>100.0</td>
<td>28</td>
</tr>
</tbody>
</table>
Table 12 indicates the racial composition of the students attending the classrooms of the teachers of the study. Only one Montessori teacher was in a classroom which was composed predominately of Black students with none of the traditional teachers in such a classroom. In predominately White classrooms were 60.7% of the traditional teachers and 42.9% of the Montessori teachers. The teachers in the White student occupied classrooms comprised 51% of the total 56 teachers which were the subjects of this study. In the classrooms which were occupied by an equal number of Black students and White students, 35.7% of the traditional teachers and 46.4% of the Montessori teachers teach and represent 41.1% of the total 56 teachers of the study. Only three teachers are in classrooms which are occupied by an equal number of Hispanic students and Black students. One of these teachers is traditional and the other two are Montessori teachers.

Table 13 indicates the type of classrooms of the teachers of the study according to how the students are selected. In the schools which had busing for purposes of desegregation 39.3% of the traditional and 39.3% of the Montessori teachers were the teachers. In classrooms which draw their students from the surrounding neighborhood, 25% of the traditional teachers are employed while only one (3.6%) of the Montessori teachers is so employed. Characteristic of the Montessori teachers is that they are employed in magnet schools and in
Table 12
Racial Composition of the Classrooms of the Teachers of the Study

<table>
<thead>
<tr>
<th></th>
<th>Teachers</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Traditional</td>
<td>Montessori</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Predominately Black</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
<td>3.6</td>
</tr>
<tr>
<td>Predominately White</td>
<td>17</td>
<td>60.7</td>
<td>12</td>
<td>42.9</td>
</tr>
<tr>
<td>Equal Black and White</td>
<td>10</td>
<td>35.7</td>
<td>13</td>
<td>46.4</td>
</tr>
<tr>
<td>Equal Black and Hispanic</td>
<td>1</td>
<td>3.6</td>
<td>2</td>
<td>7.1</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>100.0</td>
<td>28</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Table 13
Types of Classrooms by Student Selection of the Teachers of the Study

<table>
<thead>
<tr>
<th>Classrooms</th>
<th>Teachers</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Traditional</td>
<td>Montessori</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Neighborhood</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>25.0</td>
<td>1</td>
<td>3.6</td>
<td>8</td>
</tr>
<tr>
<td>Busing for Desegregation</td>
<td>11</td>
<td>39.3</td>
<td>11</td>
<td>39.3</td>
</tr>
<tr>
<td>Magnet</td>
<td>10</td>
<td>35.7</td>
<td>16</td>
<td>57.1</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>100.0</td>
<td>28</td>
<td>100.0</td>
</tr>
</tbody>
</table>
this study 57.1% of the Montessori teachers are in magnet schools while only 35.7% of the traditional teachers are in magnet schools.

Few differences are observed from the data which was collected from the Personal Data Questionnaire. The differences which are most significant are differences pertaining to the teachers' occupation of teaching. The number of years of education of the Montessori teachers and the degrees obtained by them exceed those of the traditional teachers by one year of college and extra hours beyond the Master's degree. The traditional teachers have approximately four more years of teaching experience than their counterparts in the Montessori classrooms. The Montessori teachers of this study are more frequently found in classrooms which have at least two adults, eight times as often as are the traditional teachers of this study. These same Montessori teachers are more apt to be found in magnet schools in classrooms which have a more equal balance of students of various races while the traditional teachers among the subjects are found more in classrooms predominately occupied by White students in neighborhood schools.

Tennessee Self Concept Scale data. The responses of the teacher subjects to the TSCS are represented by the mean scores of the Total Positive Scale which is a combination of the eight positive scales of the TSCS. These nine scales are a measure of how the subject sees what he or she
is, how he or she feels about him or herself, and what he or she does. These three categories are further divided into five categories which are represented by the scales of Physical Self, Moral-Ethical Self, Personal Self, Family Self, and Social Self. The Total Positive Scale is the single most important score of the TSCS as it reflects the eight positive scales giving an overall level of self-esteem. It is this Total Positive Scale score which is used in the analysis of the data of the TSCS.

High scores on these nine scales represent positive feelings about one's self. High scores are associated with positive self-confidence, feelings of worth and value, and liking one's self. Low scores are associated with feelings of anxiety, depression, lack of confidence, and doubts of value and self-worth.

Table 14 is a representation of the responses on the TSCS positive scales by the teachers of the study. The total means of all of the scales for the 56 teachers of the study are higher than the norm group in every instance except Physical Self which is only slightly lower for the teachers by 0.1 of a unit of the mean. The mean of the norm group is 345.6 and the mean of the teachers of the study is 363.3.

In considering the means of the traditional teachers and the Montessori teachers, it can be seen that the traditional teachers have a higher mean on every positive scale of the TSCS.
Table 14
Means and Standard Deviations of the Positive Scale Raw Scores on the Tennessee Self Concept Scale of the Teachers of the Study

<table>
<thead>
<tr>
<th>Scale</th>
<th>Traditional n=28</th>
<th>Montessori n=28</th>
<th>Total n=56</th>
<th>Norm Group* n=626</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Positive</td>
<td>367.9 27.8</td>
<td>358.8 38.2</td>
<td>363.3 33.4</td>
<td>345.6 29.9</td>
</tr>
<tr>
<td>Row 1 Identity</td>
<td>131.8 9.5</td>
<td>129.2 10.9</td>
<td>130.5 10.2</td>
<td>127.1 9.7</td>
</tr>
<tr>
<td>Row 2 Self-Satisfaction</td>
<td>118.0 13.3</td>
<td>113.5 16.7</td>
<td>115.8 15.0</td>
<td>103.7 12.8</td>
</tr>
<tr>
<td>Row 3 Behavior</td>
<td>118.1 9.2</td>
<td>116.1 13.7</td>
<td>117.1 11.5</td>
<td>115.0 9.8</td>
</tr>
<tr>
<td>Column A Physical Self</td>
<td>72.1 6.8</td>
<td>71.3 9.4</td>
<td>71.7 8.1</td>
<td>71.8 7.6</td>
</tr>
<tr>
<td>Column B Moral-Ethical Self</td>
<td>76.6 8.3</td>
<td>76.0 7.4</td>
<td>76.3 7.9</td>
<td>70.3 7.1</td>
</tr>
<tr>
<td>Column C Personal Self</td>
<td>70.7 6.6</td>
<td>68.7 8.9</td>
<td>69.7 7.8</td>
<td>64.6 6.9</td>
</tr>
<tr>
<td>Column D Family Self</td>
<td>77.0 7.3</td>
<td>72.8 10.0</td>
<td>74.9 8.7</td>
<td>70.8 7.6</td>
</tr>
<tr>
<td>Column E Social Self</td>
<td>71.5 6.2</td>
<td>70.1 9.0</td>
<td>70.8 7.6</td>
<td>68.1 7.0</td>
</tr>
</tbody>
</table>

*(Fitts, 1965)
The factors which may account for the difference of the means for the two types of teachers may be the traditional teachers' greater number of years in their profession or the type of school and students which they teach. In the presentation of the PDQ it was seen that the traditional teachers were occupying more classrooms of the neighborhood variety and classrooms which were predominately attended by White students. Some of these factors may have allowed the traditional teachers more successful experiences in the classroom which may account for the difference between the TSCS means of the Montessori teachers and the traditional teachers of the study.

Maslach Burnout Inventory data. The MBI was evaluated using the three scales Emotional Exhuastion, Depersonalization, and Personal Achievement. The Emotional Exhuastion scale indicates how a person feels toward his or her work on an emotional and physical level. The Depersonalization scale indicates how a person feels toward the people with whom he or she has contact on his or her job. The Personal Achievement scale indicates what a person may feel he or she has accomplished in his or her work and the satisfaction which he or she has received from that achievement. High degrees of stress and burnout are indicated by high mean scores on the Emotional Exhuastion and Depersonalization scales and by low mean scores on the Personal Achievement scale.
Table 15 indicates the means and standard deviations of the teachers' scores on the MBI and the scores of a norm group. From Table 15 it can be seen that the teachers taken as a group compare similarly to the norm group, but taken separately the traditional teachers' mean on the emotional exhaustion scale is less than the reported mean of the Montessori teachers and the mean of the norm group. In the area of depersonalization both the traditional teachers' and the Montessori teachers' reported means were very similar to each other. In the area of personal achievement the reported mean of the total group of teachers was higher than the norm group's mean. In all, the teachers' reported means were less than the norm group's means in emotional exhaustion and depersonalization, and higher in personal achievement. It should be recalled that more stress is indicated by the higher means on the emotional exhaustion and depersonalization scales and by the lower means on the personal achievement scale of the measuring instrument.

Hypotheses

This section of the chapter is an investigation of the hypotheses presented in Chapter I. The data for these hypotheses are analyzed and the rejection or non-rejection of the hypotheses is made. The investigation includes a statement of the hypotheses, the method of testing it, a conclusion regarding it and a discussion of the conclusion.
Table 15
Means and Standard Deviations of the Raw Scores
on the Maslach Burnout Inventory Intensity
Dimension of the Teachers of the Study

<table>
<thead>
<tr>
<th>Scales</th>
<th>Teachers</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Traditional n=28 Montessori n=28 Total n=56 Norm Group* n=626</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional Exhaustion</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>3.17</td>
<td>3.61</td>
<td>3.39</td>
<td>3.33</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>1.54</td>
<td>1.33</td>
<td>1.48</td>
<td>1.51</td>
</tr>
<tr>
<td>Depersonalization</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>1.97</td>
<td>1.92</td>
<td>1.95</td>
<td>2.13</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>1.22</td>
<td>1.01</td>
<td>1.11</td>
<td>1.52</td>
</tr>
<tr>
<td>Personal Achievement</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>5.27</td>
<td>5.23</td>
<td>5.25</td>
<td>5.02</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>1.31</td>
<td>1.18</td>
<td>1.24</td>
<td>1.12</td>
</tr>
</tbody>
</table>

*(Maslach & Jackson, 1979b)
Hypothesis 1. There is no significant relationship between teachers' self-concept and their perceived levels of stress. The data analyzed for this hypothesis was presented in Tables 14 and 15. Table 14 indicates a mean score for the total 56 teachers of the study on the Total Positive Scale of the TSCS of 363.3 compared to the norm group of 345.6 for 626 subjects. Table 15 indicates the mean perceived stress scores of 3.39 for emotional exhaustion, of 1.95 for depersonalization, and of 5.25 for personal achievement on the MBI for the teachers of the study. The norm group of 626 had 3.33 for emotional exhaustion, 2.13 for depersonalization, and 5.02 for personal achievement.

The analysis of the data for this hypothesis was done by computing a Pearson product moment correlation coefficient to see what relationship the emotional exhaustion score, the depersonalization score, and the personal achievement score of the MBI have with the Total Positive Score of the TSCS. Table 16 indicates that a relationship exists between emotional exhaustion and self-concept of -0.44, between depersonalization and self-concept of -0.49, and between personal achievement and self-concept of 0.30 for the 56 teachers of the study. These relationships are moderate and are significant at the 0.05 alpha level. The hypothesis that no significant relationship exists between teachers' self-concepts and their perceived levels of stress is rejected at the 0.05 level. The negative relationships of emotional
exhaustion and depersonalization with self-concept indicate that a higher self-concept for a teacher correlates with lower emotional exhaustion and depersonalization. The positive correlation of personal achievement with self-concept indicates that a higher self-concept of a teacher correlates with a higher feeling of personal achievement for the teacher.

Although this hypothesis was concerned with the total group of teachers a Pearson coefficient was also computed for the traditional and the Montessori teachers as distinct groups, as is shown in Table 16. The relationships of the traditional teachers and the Montessori teachers of the study were also moderate to substantial for all comparisons with the exception of the personal achievement of the traditional teachers. This relationship was negligible and not significant at the 0.05 alpha level. It was also true that higher self-concepts were related to lower emotional exhaustion and depersonalization, and with higher personal achievement.

**Hypothesis 2.** There is no significant difference between the perceived levels of stress of teachers using the Montessori method in their classrooms and the perceived levels of stress of teachers using traditional methods. In Table 15 it was indicated that the mean score of the traditional teachers on the Emotional Exhaustion Scale was 3.17 and the Montessori teachers' mean score was 3.61. The mean score for the traditional teachers on the Depersonalization Scale was
Table 16
Correlations of the Maslach Burnout Inventory Scores with the Total Positive Score of the Tennessee Self Concept Scale of the Teachers of the Study

<table>
<thead>
<tr>
<th>MBI Scales</th>
<th>Teachers</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Traditional ( n = 28 )</td>
<td>Montessori ( n = 28 )</td>
<td>Total ( n = 56 )</td>
<td></td>
</tr>
<tr>
<td></td>
<td>( r )</td>
<td>( p )</td>
<td>( r )</td>
<td>( p )</td>
</tr>
<tr>
<td>Emotional Exhaustion</td>
<td>-0.35</td>
<td>0.036</td>
<td>-0.50</td>
<td>0.003</td>
</tr>
<tr>
<td>Depersonalization</td>
<td>-0.53</td>
<td>0.002</td>
<td>-0.50</td>
<td>0.004</td>
</tr>
<tr>
<td>Personal Achievement</td>
<td>-0.05</td>
<td>0.401</td>
<td>0.49</td>
<td>0.004</td>
</tr>
</tbody>
</table>

\( r \) = Pearson product moment correlation coefficient
1.94 and for the Montessori teachers it was 1.92. The mean score for the traditional teachers on the Personal Achievement Scale was 5.27 and for the Montessori teachers it was 5.23.

To investigate for significant differences between the mean scores of the stress scales a one-way analysis of variance was performed on each scale. Table 17 indicates that there were no significant differences at the 0.05 alpha level for any of the three scales. The hypothesis that there is no significant difference between the perceived levels of stress of teachers using the Montessori method of teaching in their classrooms and the perceived levels of stress of teachers using traditional methods is not rejected at the 0.05 alpha level of significance.

**Hypothesis 3.** There is no significant difference between the self-concepts of teachers using the Montessori method in their classrooms and the self-concepts of teachers using traditional methods. From Table 14 it is indicated that the mean score of traditional teachers on the Total Positive Scale of the TSCS was 368 and the mean score for the Montessori teachers was 359.

A one-way analysis was executed to test the difference of the two means for significance. Table 18 indicates no significance. The hypothesis that there is no significant difference between the self-concepts of teachers using the Montessori method in their classrooms and the self-concepts of teachers using traditional methods is not rejected at the
<table>
<thead>
<tr>
<th>Variables</th>
<th>Sources</th>
<th>DF</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F Ratio</th>
<th>F Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Exhaustion</td>
<td>Between Groups</td>
<td>1</td>
<td>2484.424</td>
<td>2484.424</td>
<td>4.465</td>
<td>0.058</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>54</td>
<td>30047.336</td>
<td>556.432</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>55</td>
<td>32531.758</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depersonalization</td>
<td>Between Groups</td>
<td>1</td>
<td>1.136</td>
<td>1.136</td>
<td>0.013</td>
<td>0.091</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>54</td>
<td>4843.352</td>
<td>89.692</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>55</td>
<td>4844.484</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal Achievement</td>
<td>Between Groups</td>
<td>1</td>
<td>84.983</td>
<td>84.983</td>
<td>0.688</td>
<td>0.410</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>54</td>
<td>6668.102</td>
<td>123.483</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>55</td>
<td>6753.082</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variable</td>
<td>Source</td>
<td>DF</td>
<td>Sum of Squares</td>
<td>Mean Squares</td>
<td>F Ratio</td>
<td>F Prob.</td>
</tr>
<tr>
<td>-------------------</td>
<td>----------------</td>
<td>----</td>
<td>----------------</td>
<td>--------------</td>
<td>---------</td>
<td>---------</td>
</tr>
<tr>
<td>Total Positive Scale</td>
<td>Between Groups</td>
<td>1</td>
<td>1163.649</td>
<td>1163.649</td>
<td>1.043</td>
<td>0.312</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>54</td>
<td>60223.309</td>
<td>1115.296</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>55</td>
<td>61386.957</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
0.05 alpha level of significance.

**Hypothesis 4.** There is no significant relationship between the amount of formal college education teachers have and their perceived levels of stress. A Pearson correlation coefficient was computed to investigate the relationship of the three scales of the MBI with the years of formal college education which the teachers had completed. The results are shown in Table 19. None of the stress scores was considered to have a significant association with the number of years of formal education of the teachers at the 0.05 alpha level. The hypothesis that there is no significant relationship between the years of formal education of teachers and their perceived levels of stress is not rejected at the 0.05 alpha level. It is important to recall Table 7 in which it was indicated that 87.5% of the teachers were represented in the categories of four, five, or six years of formal education, a range of only three years.

**Hypothesis 5.** There is no significant relationship between the amount of formal education teachers have and their perceived self-concepts. A Pearson correlation coefficient was computed to indicate the possible relationship between the Total Positive Scale score of the TSCS with the number of years of formal education completed by the teachers of the study. The results are shown in Table 20. Table 20 indicates that no significant relationship exists at the 0.05 alpha level. The hypothesis that there is no significant
Table 19

Correlations of the Maslach Burnout Inventory Scores with Years of Formal Education of the Teachers of the Study

<table>
<thead>
<tr>
<th>Scales</th>
<th>r</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Exhaustion</td>
<td>0.12</td>
<td>0.190</td>
</tr>
<tr>
<td>Depersonalization</td>
<td>-0.06</td>
<td>0.321</td>
</tr>
<tr>
<td>Personal Achievement</td>
<td>-0.22</td>
<td>0.052</td>
</tr>
</tbody>
</table>

$r =$ Pearson product moment correlation coefficient
Table 20

Correlation of Total Positive Scale Scores of the Tennessee Self Concept Scale with Years of Formal Education of the Teachers of the Study

<table>
<thead>
<tr>
<th>Scale</th>
<th>r</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Positive</td>
<td>0.03</td>
<td>0.418</td>
</tr>
</tbody>
</table>

$r = \text{Pearson product moment correlation coefficient}$
relationship between the amount of formal education teachers have and their perceived self-concepts is not rejected at the 0.05 alpha level.

Hypothesis 6. There is no significant relationship between the number of years of classroom experience teachers have and their perceived levels of stress. Pearson correlation coefficients were computed to investigate the relationships between the three scales of the MBI and the number of years of teaching experience the teachers had completed. The number of years of teaching experience ranged from one to 28 years for the 56 teachers of the study with a mean number of years teaching of 9.7 years (Table 9). Table 21 indicates that no significant correlations exist between the emotional exhaustion scores, the depersonalization scores, and the personal achievement scores of the MBI of this study and the number of years of teaching of the subjects at the 0.05 alpha level. The hypothesis that there is no significant relationship between the number of years of classroom experience teachers have and their perceived levels of stress is, therefore, not rejected at the 0.05 alpha level of significance.

Hypothesis 7. There is no significant relationship between the number of years of classroom experience teachers have and their perceived self-concepts. A Pearson correlation coefficient was computed to investigate the relationship between the Total Positive Score of the TSCS and the teachers'
Table 21

Correlations of Maslach Burnout Inventory Scores with the Number of Years of Teaching of the Teachers of the Study

<table>
<thead>
<tr>
<th>Scales</th>
<th>r</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Exhaustion</td>
<td>-0.03</td>
<td>0.426</td>
</tr>
<tr>
<td>Depersonalization</td>
<td>-0.09</td>
<td>0.247</td>
</tr>
<tr>
<td>Personal Achievement</td>
<td>0.01</td>
<td>0.459</td>
</tr>
</tbody>
</table>

*r* = Pearson product moment correlation coefficient
years of experience in the classroom. Table 22 indicates that no significant relationship exists between the TSCS scores of the subjects and their number of years of teaching experience at the 0.05 alpha level. The hypothesis that there is no significant relationship between the number of years of classroom teaching experience teachers have and their perceived self-concepts is, therefore, not rejected at the 0.05 alpha level.

**Hypothesis 8.** There is no significant relationship between classroom racial dominance and the teachers' perceived levels of stress. The first step in the analysis of the data for this hypothesis was to regroup the categories of the respondents. Referring to Table 12, it was seen that only one teacher was in a classroom which was predominately Black and only three teachers were in classrooms which were equally Black and Hispanic. These teachers were assigned to the category of equal Black and White students making it a new category of White and minority students. The two categories thus became one of predominately White students and one of relative equal distribution of White and minority students.

Table 23 indicates the mean raw scores of the Emotional Exhaustion, Depersonalization, and Personal Achievement Scales of the MBI of the two categories of teachers. The mean on the Emotional Exhaustion Scale for the teachers of the predominately White classrooms was 3.38 and for the teachers of the classrooms of equal distribution the mean
Table 22

Correlation of Total Positive Scale Scores with the Number of Years of Teaching of the Teachers of the Study

<table>
<thead>
<tr>
<th>Scale</th>
<th>r</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Positive</td>
<td>0.01</td>
<td>0.476</td>
</tr>
</tbody>
</table>

r = Pearson product moment correlation coefficient
Table 23

Means and Standard Deviations of the Scores on the Maslach Burnout Inventory of the Teachers of the Study According to Their Classrooms' Racial Composition

<table>
<thead>
<tr>
<th>Scales</th>
<th>Predominately White Students</th>
<th>Equally Distributed White and Minority Students</th>
<th>Total *Norm Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n=29</td>
<td>n=27</td>
<td>n=56</td>
</tr>
<tr>
<td>Emotional Exhaustion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>3.38</td>
<td>3.30</td>
<td>3.34</td>
</tr>
<tr>
<td>S.D.</td>
<td>1.44</td>
<td>1.55</td>
<td>1.48</td>
</tr>
<tr>
<td>Depersonalization</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>1.99</td>
<td>1.90</td>
<td>1.95</td>
</tr>
<tr>
<td>S.D.</td>
<td>1.13</td>
<td>1.11</td>
<td>1.11</td>
</tr>
<tr>
<td>Personal Achievement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>5.13</td>
<td>5.38</td>
<td>5.25</td>
</tr>
<tr>
<td>S.D.</td>
<td>0.69</td>
<td>0.87</td>
<td>0.78</td>
</tr>
</tbody>
</table>

*(Maslach and Jackson, 1979b)*
was 3.30. The mean on the Depersonalization Scale of the teachers of the predominately White classrooms was 1.99 and the mean of the teachers of the equal distribution classrooms was 1.90. The mean of the Personal Achievement Scale for the teachers of the predominately White classrooms was 5.13 and the mean of the teachers of the equal distribution classrooms was 5.38. The means on the Emotional Exhaustion Scale for both groups of teachers was close to the mean of the norm group of 3.33; on the Depersonalization Scale the norm group's mean was 2.13 and slightly higher than the means for the two groups of teachers; and on the Personal Achievement Scale the means of the two groups of teachers were a little higher than the norm group's mean of 5.02.

A one-way analysis of variance was performed on the means of the two groups of teachers as a test to investigate for possible significant differences between the two groups of teachers. The results of the investigation in Table 24 indicate that the means of the two groups of teachers were not significantly different at the 0.05 alpha level. The hypothesis that there is no significant relationship between the classroom racial dominance and the teachers' perceived levels of stress is not rejected at the 0.05 alpha level.

Hypothesis 9. There is no significant relationship between the classroom racial dominance and the teachers' self-concepts. This hypothesis was tested, as was Hypothesis 8, using the following two categories of classrooms: predominately
Table 24
Analyses of Variance for Maslach Burnout Inventory Scores by the Racial Composition of the Classrooms of the Teachers of the Study

<table>
<thead>
<tr>
<th>Variables</th>
<th>Sources</th>
<th>DF</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F Ratio</th>
<th>F Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Emotional Exhaustion</strong></td>
<td>Between Groups</td>
<td>1</td>
<td>6.338</td>
<td>6.338</td>
<td>0.035</td>
<td>0.852</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>54</td>
<td>9750.195</td>
<td>180.559</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>55</td>
<td>9756.531</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Depersonalization</strong></td>
<td>Between Groups</td>
<td>1</td>
<td>2.379</td>
<td>2.379</td>
<td>0.076</td>
<td>0.784</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>54</td>
<td>1690.598</td>
<td>31.307</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>55</td>
<td>1692.978</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Personal Achievement</strong></td>
<td>Between Groups</td>
<td>1</td>
<td>54.150</td>
<td>54.150</td>
<td>1.412</td>
<td>0.240</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>54</td>
<td>2070.821</td>
<td>38.349</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>55</td>
<td>2124.970</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
White and equal distribution of White and minority. The mean raw score in the Total Positive Scale of the TSCS of the teachers of the predominately White classrooms was 362.4 and for the teachers of the equally distributed classrooms it was 364.3. Both of these means are higher than the norm mean of 345.6 (Table 25).

A one-way analysis of variance was performed on the means of the two groups of teachers as a test of the significance of the difference of the means. Table 26 indicates that no significant difference between the two groups at the 0.05 alpha level is evident. The hypothesis that there is no significant relationship between classroom racial dominance and the teachers' self-concepts is not rejected at the 0.05 alpha level of significance.

Hypothesis 10. There is no significant relationship between the number of students in classrooms and the teachers' perceived levels of stress. Pearson correlation coefficients were computed to investigate the relationships between the three scales of the MBI and the number of students in the classrooms of the teachers of the study. The range of the number of students in the classrooms of the teachers was from seven to 32 students. The mean of the number of students was 24.5 as shown in Table 10.

Table 27 indicates no significant association between the number of students of the classrooms of the teachers of the study and emotional exhaustion, between the number of
Table 25

Means and Standard Deviations of the Scores on the Total Positive Scale of the Tennessee Self Concept Scale of the Teachers of the Study According to Their Classrooms' Racial Composition

<table>
<thead>
<tr>
<th>Classrooms</th>
<th>Predominately White Students</th>
<th>Equal White and Minority Students</th>
<th>Total</th>
<th>Norm Group*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n=29</td>
<td>n=27</td>
<td>n=56</td>
<td>n=626</td>
</tr>
<tr>
<td>Scale</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Positive</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>362.4</td>
<td>364.3</td>
<td>363.3</td>
<td>345.6</td>
</tr>
<tr>
<td>S. D.</td>
<td>32.1</td>
<td>35.4</td>
<td>33.4</td>
<td>29.1</td>
</tr>
</tbody>
</table>

*(Fitts, 1965)*
Table 26
Analysis of Variance of the Tennessee Self Concept Scale Scores by Racial Composition of the Classrooms of the Teachers of the Study

<table>
<thead>
<tr>
<th>Variable</th>
<th>Source</th>
<th>DF</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F Ratio</th>
<th>F Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Positive Scale</td>
<td>Between Groups</td>
<td>1</td>
<td>51.966</td>
<td>51.966</td>
<td>0.056</td>
<td>0.831</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>53</td>
<td>61332.945</td>
<td>1135.795</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>55</td>
<td>61384.910</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 27

Correlations of Maslach Burnout Inventory Scores with the Number of Students in Classrooms of the Teachers of the Study

<table>
<thead>
<tr>
<th>Scales</th>
<th>r</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Exhaustion</td>
<td>-0.01</td>
<td>0.497</td>
</tr>
<tr>
<td>Depersonalization</td>
<td>-0.02</td>
<td>0.445</td>
</tr>
<tr>
<td>Personal Achievement</td>
<td>0.02</td>
<td>0.439</td>
</tr>
</tbody>
</table>

$r = $ Pearson product moment correlation coefficient
students and depersonalization, and between the number of
students and personal achievement at the 0.05 alpha level.
The hypothesis that there is no significant relationship be­
tween the number of students in classrooms and the teachers' per­
cieved levels of stress is not rejected at the 0.05 alpha
level.

Hypothesis 11. There is no significant relationship be­
tween the number of students in classrooms and teachers' per­
ceived self-concepts. A Pearson correlation coefficient was
computed to investigate a possible significant relationship
between the Total Positive Scale of the TSCS, representing the
teachers' self-concepts, and the number of students of the
classrooms. The mean score for the teachers' self-concepts
was 363.3 and the mean of the norm group was 345.6 as indi­
cated in Table 15.

Table 28 indicates no significant association between the
number of students in classrooms with the teachers' self-con­
cepts as measured by their TSCS scores at the 0.05 alpha
level. The hypothesis that there is no significant relation­
ship between the number of students in classrooms and teachers' per­
cieved self-concepts is, therefore, not rejected at an alpha
level of 0.05.

Hypothesis 12. There is no significant relationship be­
tween the marital status of teachers and their perceived
levels of stress. The teachers of the study were represented
in four categories: single, married, divorced, and single
Table 28

Correlation of the Total Positive Scale Score of the Tennessee Self Concept Scale with the Number of Students in Classrooms of the Teachers of the Study

<table>
<thead>
<tr>
<th>Scale</th>
<th>r</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Positive</td>
<td>-0.01</td>
<td>0.478</td>
</tr>
</tbody>
</table>

\( r = \) Pearson product moment correlation coefficient
though living with a partner (partnered). Table 29 indicates the means of these categories.

The single teachers represented 12.5% of the total 56 teachers of the study and had means of 3.90, 2.00, and 5.38 for the stress scales of the MBI of Emotional Exhaustion, Depersonalization, and Personal Achievement respectively. The married teachers of the study represented 66.1% of the total teachers and had means of 3.42, 1.89, and 5.15 for the Emotional Exhaustion, Depersonalization, and Personal Achievement Scales of the MBI respectively. The divorced teachers of the study represented 16.1% of the teachers of the study and had means on the stress scales of 2.77 for Emotional Exhaustion, 1.84 for Depersonalization, and 5.47 for Personal Achievement. The partnered teachers of the study represented 5.4% of the total of 56 teachers of the study and had means on the stress scales of 2.85 for Emotional Exhaustion, 1.95 for Depersonalization, and 5.25 for Personal Achievement. The norms for these scales on the MBI were 3.33, 2.13, and 5.02 for Emotional Exhaustion, Depersonalization, and Personal Achievement respectively.

One-way analyses of variance were executed on the means of the stress scores for each of the four categories of teachers of the study with the results shown in Table 30 indicating that no significant differences were found between the means at the 0.05 alpha level. The hypothesis that there is no significant relationship between the marital status of
Table 29

Means and Standard Deviations of the Scores of the Maslach Burnout Inventory of the Teachers of the Study According to Marital Status

<table>
<thead>
<tr>
<th>Teachers</th>
<th>Single</th>
<th>Married</th>
<th>Divorced</th>
<th>Single with Partner</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n=7</td>
<td>n=37</td>
<td>n=9</td>
<td>n=3</td>
<td>n=56</td>
</tr>
<tr>
<td>Scales</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional Exhaustion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Means</td>
<td>3.90</td>
<td>3.42</td>
<td>2.77</td>
<td>2.85</td>
<td>3.34</td>
</tr>
<tr>
<td>S.D.</td>
<td>1.24</td>
<td>1.39</td>
<td>1.97</td>
<td>1.51</td>
<td>1.48</td>
</tr>
<tr>
<td>Depersonalization</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>2.00</td>
<td>1.89</td>
<td>1.84</td>
<td>2.73</td>
<td>1.95</td>
</tr>
<tr>
<td>S.D.</td>
<td>0.70</td>
<td>1.05</td>
<td>1.48</td>
<td>1.60</td>
<td>1.11</td>
</tr>
<tr>
<td>Personal Achievement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>5.38</td>
<td>5.16</td>
<td>5.47</td>
<td>5.42</td>
<td>5.25</td>
</tr>
<tr>
<td>S.D.</td>
<td>0.84</td>
<td>0.77</td>
<td>0.65</td>
<td>1.25</td>
<td>0.78</td>
</tr>
</tbody>
</table>

*(Maslach & Jackson, 1979b)*
Table 30
Analyses of Variance of Maslach Burnout Inventory Scores
by Marital Status of the Teachers of the Study

<table>
<thead>
<tr>
<th>Variable</th>
<th>Source</th>
<th>DF</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F Ratio</th>
<th>F. Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Exhaustion</td>
<td>Between Groups</td>
<td>3</td>
<td>497.324</td>
<td>165.775</td>
<td>0.931</td>
<td>0.432</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>52</td>
<td>9259.204</td>
<td>178.062</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>55</td>
<td>9756.537</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depersonalization</td>
<td>Between Groups</td>
<td>3</td>
<td>51.517</td>
<td>17.172</td>
<td>0.544</td>
<td>0.654</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>52</td>
<td>1641.462</td>
<td>31.567</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>55</td>
<td>1692.979</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal Achievement</td>
<td>Between Groups</td>
<td>3</td>
<td>59.021</td>
<td>19.673</td>
<td>0.495</td>
<td>0.687</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>52</td>
<td>2065.948</td>
<td>39.730</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>55</td>
<td>2124.969</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
of the teachers and their perceived levels of stress is not rejected at the 0.05 alpha level of significance.

**Hypothesis 13.** There is no significant relationship between the marital status of teachers and their perceived self-concepts. For this hypothesis the groups which were designated in the testing of Hypothesis 12 were used. The means from Table 31 for the Total Positive Scale means on the TSCS of the categories are as follows: single - 369.1, married - 363.2, divorced - 362.1, and partnered - 354.7. The norm group' mean score was 345.6 and lower than the reported means of the four categories of the teachers.

One-way analyses of variance were performed on the means of the categories of the teachers with the results indicated in Table 32. No significant differences were found between the groups' means at the 0.05 alpha level. The hypothesis that there is no significant relationship between the marital status of teachers and their self-concepts is not rejected at the 0.05 alpha level.

**Summary**

In this chapter the findings of the study were analyzed. The descriptive data obtained from the Personal Data Questionnaire were presented and discussed as were the responses to the Maslach Burnout Inventory and the Tennessee Self Concept Scale. The thirteen null hypotheses formulated in Chapter I were investigated with the results that the hypothesis regarding no significant relationship between perceived levels
Table 31
Means and Standard Deviations of the Scores on the Total Positive Scale of the Tennessee Self Concept Scale of the Marital Status of the Teachers of the Study

<table>
<thead>
<tr>
<th>Teachers</th>
<th>Single</th>
<th>Married</th>
<th>Divorced</th>
<th>Single with Partner</th>
<th>Total</th>
<th>Norm Group*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scale</td>
<td>n=7</td>
<td>n=37</td>
<td>n=9</td>
<td>n=3</td>
<td>n=56</td>
<td>n=626</td>
</tr>
<tr>
<td>Total Positive</td>
<td>Means</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>.369.1</td>
<td>363.2</td>
<td>362.1</td>
<td>354.7</td>
<td>363.3</td>
<td>345.6</td>
</tr>
<tr>
<td></td>
<td>S. D.</td>
<td>19.2</td>
<td>35.1</td>
<td>41.9</td>
<td>11.5</td>
<td>33.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>29.1</td>
</tr>
</tbody>
</table>

*(Fitts, 1965)
Table 32
Analysis of Variance of the Total Positive Scale Scores of the Tennessee Self Concept Scale by the Marital Status of the Teachers of the Study

<table>
<thead>
<tr>
<th>Variable</th>
<th>Source</th>
<th>DF</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F Ratio</th>
<th>F Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Positive Scale</td>
<td>Between Groups</td>
<td>3</td>
<td>477.462</td>
<td>159.154</td>
<td>0.136</td>
<td>0.938</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>52</td>
<td>60909.140</td>
<td>1171.330</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>55</td>
<td>61386.602</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
of stress or self-concepts of the teachers of the study was rejected and the hypotheses stating no significant relationships between perceived levels of stress or self-concepts of the teachers and their teaching methods, their years of formal education, their years of experience in the classroom, their classrooms' racial dominance, the number of students in their classrooms, and their marital status were not rejected at the 0.05 alpha level.

In the following chapter are the conclusions of the study, some implications of these conclusions, and some suggestions for further research.
CHAPTER V
Conclusions and Implications

This chapter will include a summary of the study, conclusions drawn from the analysis of the data, some implications following from the conclusions, and some suggestions for further research.

Summary of the Study

Statement of the problem. Stress has become the focus of study for professions interested in the health and welfare of others. The teaching profession is one profession upon which stress has had significant effects. In the review of literature of Chapter II it is evident that teachers have come under considerable stress in recent years due to changes in their professional environment. Desegregation of schools, financial problems resulting in job insecurity, personal abuse from students, and parental dissatisfaction of student progress, are but a few of these concerns. The study of stress in the teaching profession has become important both from the standpoint of its effect on the health of the teachers, but also its effect on the students through the teacher-student relationship.

Additional studies have indicated that self-concepts of teachers is another area of importance to both the teacher
and the student. Many of the same problems which effect the stress under which teachers perform their duties effect the teachers' self-concepts. One important question which this raises is the relationship between stress and the self-concepts of teachers.

According to the literature, both stress and self-concept as they effect teachers play important roles in a student's learning process. Teaching methods have also been given considerable investigation the past few years from the point of interest of how well the students using one method learn in comparison to how well they learn using another method. Under court ordered desegregation, many schools have been compelled to use specific teaching methods with their students. One of these methods is the Montessori method which is in use in some magnet schools. Due to different philosophical points of view between methods used in school systems, it is of interest to know, not only what effect the teaching method had on the students, but also on the teachers' levels of stress and self-concepts.

Statement of the procedure. In light of the literature this study is an attempt to investigate the relationship between perceived levels of stress and self-concepts of teachers working in public schools at the elementary level. The subjects for the study were public school elementary school teachers from two school systems located in the mid-central states. Half of the teachers were using traditional
methods in their classrooms and half of the teachers were using the Montessori method in their classrooms.

The instrument used in this study to measure the perceived levels of stress was the **Maslach Burnout Inventory**. This instrument considered the areas of emotional exhaustion, depersonalization, and personal achievement. To measure the self-concepts of the teachers the **Total Positive Score of the Tennessee Self-Concept Scale** was used. Demographic data was collected using a questionnaire. The data was analysed using one-way analysis of variance and the Pearson product moment correlation coefficient to ascertain the nature of the relationships between the variables. Statistical significance was accepted at an alpha level of 0.05.

Chapter IV of the study presents the findings of the study. The demographic data collected describes the teachers of the study as having the following characteristics:

1. The majority of the teachers of the study were between the ages of 24 years and 40 years. Of the teachers 91% were females and racially, 92% were White.

2. A majority of the teachers were married (66%) with 16% divorced, 12.5% single, and 5.5% partnered. Thirty-five percent of the teachers reported responsibility for only themselves, 26.8% for themselves, a spouse, and children. Those responsible for themselves and a spouse only were 20.3% of the total and for self and children only were 17.9% of the total. The household incomes of the teachers ranged from
under $10,000 to over $40,000. Those having a household income of $40,000 or more comprised 35.7% of the total number of teachers. Half of the household incomes of the teachers were over $30,000.

3. Educationally, 50% of the total number of teachers of the study had at least six years of formal college education. The Montessori teachers were 64.3% of this group while the traditional teachers were only 35.7% of it. Of the Montessori teachers, 52.6% had extra credit hours beyond their Masters degrees while only 21.4% of the traditional teachers had credit beyond their Masters degree. The Montessori teachers had invested more time in their educational credentials.

4. The number of years of experience which the teachers had teaching varied between the two groups of teachers. The traditional teachers' mean number of years teaching was 11.3 and the Montessori teachers' mean was 8.3. For the total group the mean was 9.8 years. While one of the traditional teachers had been a Montessori teacher, 78.6% of the Montessori teachers had been traditional teachers. Of the traditional teachers 89.3% were usually the only adult in their classrooms and of the Montessori teachers 78.6% were usually in classrooms with at least two adults.

5. The traditional teachers had a few more students in their classrooms. The mean number of students for the traditional teachers was 25.9 and for the Montessori
teachers it was 23.1%. The majority of traditional teachers' classrooms (60.7%) were composed predominately of White children and 35.7% were in classrooms of equal racial balance between Black students and White students. The Montessori teachers were approximately equally distributed between the predominately White student classrooms and the balanced classrooms. The two groups of teachers were distributed over the range of classrooms as categorized by student selection. The Montessori teachers were, however in more magnet type classrooms and the traditional teachers were in more neighborhood type classrooms.

6. The self-concepts of the teachers were generally higher than those of the norm group with the traditional teachers' self-concepts higher than those of the Montessori teachers as reported by the means of the testing instrument.

7. The perceived levels of stress varied among the scales of the testing instrument. Emotional exhaustion means were nearly the same for the total number of teachers and the norm group, but varied between the teachers groups. The traditional teachers indicated a somewhat lower mean than the Montessori teachers in the area of emotional exhaustion. The total teachers' groups' means were lower than the norm group's mean in the area of depersonalization and higher than the norm group's mean in the area of personal achievement. On these scales the two teacher groups had similar means.
Each of the thirteen null hypotheses presented in Chapter I were analyzed in Chapter IV with the following results:

1. There was a significant correlation between the perceived levels of stress of the teachers and their perceived self-concepts. The higher they perceived their self-concepts the less they perceived their levels of emotional exhaustion and depersonalization, and the higher they perceived their personal achievement.

2. There was no significant difference between levels of stress as perceived by traditional teachers and Montessori teachers.

3. There was no significant difference between self-concepts as perceived by traditional teachers and Montessori teachers.

4. There were no significant relationships between the teachers' perceived levels of stress and their number of years of formal education, their number of years of experience teaching, their classrooms' racial dominance, the number of students in their classrooms, and their marital status.

5. There were no significant relationships between the teachers' perceived self-concepts and their number of years of formal education, their number of years of experience teaching, their classrooms' racial dominance, the number of students in their classrooms, and their marital status.
Conclusions

From the preceding findings a number of conclusions may be drawn. The first conclusion that is relevant is about the population which is the basis of the study. The demographic data indicate that the subject population was not very diverse. The great majority of the teachers of the study were White females who were married. Racial minorities and males were all but excluded from the subject population. Also related to the representativeness of the population is the size of the sample used. This sample is small due to an unexpected lack of cooperation from school districts which were asked to participate in the study. It is concluded that this study has limited generalizability due to the small sample size and questionable representativeness of the teacher population of the sample.

Just as the data gathered from the teachers showed the population of the study not to be of a very diverse sample, it also indicated that the traditional teachers to be very similar to the Montessori teachers. It is concluded, therefore, that the traditional teachers and the Montessori teachers of the study have similar characteristics as they reported on the Personal Data Questionnaire.

A third conclusion is that the more experienced teachers of the study used the traditional teaching methods rather than the Montessori method. This means that the teachers who used the Montessori method in their classrooms were the teachers
who had not been teaching as long as the traditional teachers, even though their ages were similar. In this study it seems as though teachers were less likely to change to the Montessori method of teaching if they had been teaching for a long time.

A fourth conclusion is that the Montessori teachers were likely to be teachers in magnet school situations. This conclusion is valid for this study due to the school districts' methods of dealing with desegregation through the use of magnet schools. The school districts which develop magnet schools generally provide them as alternative educational situations i.e., a different teaching method, in order to draw students for racial balance.

A fifth conclusion is that Montessori teachers usually work in classrooms in which there is at least one other adult. In the study the traditional teachers reported that they were usually in classrooms as the only adult, but the Montessori teachers reported that they were usually with an adult assistant teacher. This has generally been true in the Montessori movement due to the emphasis on giving each student individual attention.

A sixth conclusion is that the self-concepts of the subjects of the study are at least average or better as compared to the norm group of the **Tennessee Self Concept Scale**. The means of the teachers of the study on the TSCS were somewhat higher than the means of the norm group on all of the
positive scales. The norm group of the TSCS is considered as generally representative of the population of this country.

A seventh conclusion is that the level of stress for the teachers was similar to the Maslach Burnout Inventory's norm group in the three areas measured - emotional exhaustion, depersonalization, and personal achievement. The norm group for the MBI was similar to the teachers in that it was comprised of subjects from the helping professions who had similar demographic data to the teachers.

An eighth conclusion is that the self-concepts of the teachers of the study correlate inversely with their perceived levels of stress. The mean scores of the teachers of the study were shown to be significantly correlated to their perceived levels of stress in an inverse manner in all three areas of the MBI. The higher self-concepts of the teachers were correlated to the lower levels of perceived stress of the teachers.

A ninth conclusion is that there is no significant difference between the perceived levels of stress or the levels of self-concept of the traditional teachers and the Montessori teachers of the study. This conclusion is not surprising as the demographic data collected indicated little or no diversity between the two types of teachers.

The final conclusion from the study is that, based on the findings of the study, the teachers' self-concepts and their
and their perceived levels of stress were not significantly related to their years of formal education, their years of classroom experience, their classrooms' racial dominance, the number of students in their classrooms, or their marital status. This conclusion is of particular interest in that several of these areas are considered by many people as important to levels of stress and self-concept.

Implications

This study was designed to investigate the relationship of perceived levels of stress and self-concepts of teachers. The value of such an investigation is that information which is uncovered is of value to those effected by the teaching profession, namely the teachers and their students. The review of literature by itself indicates that the teaching profession is one of considerable stress. It also indicates that this stress results in physical and mental health problems for the teachers. The findings of this study also indicate the stress of teachers is similar to that of other helping professions which experience considerable burnout from stress. It is reasonable, then, to work for an alleviation of the stress under which teachers function in their work settings. The following implications are a result of considering the conclusions of the study.

1. In recognition of the stress in the teaching profession a periodic evaluation of the levels of stress in teachers
might be initiated using the Maslach Burnout Inventory as was done in this study. Indications of high levels of stress could be followed by an assessment of the teachers' overall situation on the job and off. The possible result of this monitoring would be the location and the removal of unwanted stressors in the teachers' lives.

2. Programs for the prevention of stress could be initiated in order to prevent, rather than cure, the problems of stress. These programs might range from better communications among the staff to recreational opportunities for the release of tensions.

3. The study has shown a relationship between levels of stress and the self-concepts of teachers. Testing of the teachers' self-concepts could be undertaken to indicate each teacher's estimate of his or her self in the area of self-worth. Indications of a low self-concept in a teacher would indicate that that teacher might be susceptible to high stress. Measures could then be taken to alleviate problems arising from this stress.

4. Programs for improving and maintaining adequate levels of self-concept could be provided for the teaching staff. In maintaining adequate levels of self-concepts it is hoped that the teachers' levels of stress will be lower and that there will be less teacher burnout due to stress.

5. Colleges could provide programs in stress management for student teachers before they enter their first year
teaching position. Colleges could also provide programs to help student teachers develop more positive self-concepts. Some states have mandated that student teachers be given training in human relations as a part of their teacher training. These programs often provide a self-concept component as well as components to help increase the enrollee's perceptions of others and to help them deal with others in more humanistic ways.

**Suggested Further Research**

Further research arising from this study may be considered. The following are some suggestions of possible research:

1. The present study used as a population only public school teachers. A possible replication of the study might be made using independent school teachers as a comparison to the public school teachers. The independent school Montessori teachers might also be used as a comparison to the public school Montessori teachers.

2. The methods considered in this study were divided into two categories - traditional and Montessori. Within the category of traditional there are many different approaches to teaching i.e., open classrooms. Further studies could be done using different teachers of different methods than those in this study.

3. The teachers of this study were teachers of regular classes. A further study might be of teachers of classes of special children i.e., classes of children with learning
disabilities or the mentally retarded. The stress involved with these classrooms might exceed that of the classrooms of average students.

4. This study presented only elementary school teachers. A different picture of stress in school might be presented if the study were replicated using high school teachers as the population. The problems presented to teachers of adolescents may involve more personal threats - thus more stress.

5. The teachers of this study were primarily females as they are more present in teaching at the elementary level. A study might be done to concentrate on the males in elementary schools. Of particular interest might be the males self-concepts as compared to the females teaching at this level.

6. This study might also be replicated in such a way as to include a larger proportion of minority teachers. This study might use minority teachers only for use as a comparison with a study of few or no minority teachers.

7. The geographical location of the subjects of this study was the north central states. A different picture of stress may be found in other areas of the United States where different cultural attitudes exist.

8. This study was concerned with the stress of the teaching profession in general and thus did not look for particular stressors or temporary stressors. A study might be undertaken which would have repeated measures at different times of the
school year. The measures may vary if taken at the beginning of the school year, after vacation times, at the end of the school year, or during parent conferences. In doing this type of study particular stressors might come to the surface and be eliminated. Questionnaires asking for information about the teachers' perceptions of various stress producing situations might be helpful here as it has been stated in the literature that it is the view of the situation which is responsible for the stress and not the situation itself. The teachers, themselves, being the best resource for locating the stressors in the teaching profession.
APPENDIXES
APPENDIX A

Introductory Letter

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Dear Colleague:

Any profession which requires the help and care of others in a close relationship, as does teaching, also involves a great deal of stress. I am requesting your assistance in a study of stress and its relationship to self-concept in elementary school teachers. This study is being undertaken in hopes of contributing to the reduction of stress in the teaching profession. This study is to be presented as my doctoral dissertation at The Ohio State University.

Permission has been granted by your local authorities for distribution of data gathering material through your school. Completion and return of this material is considered as your consent to participate in this study. All of the information gathered on the questionnaires is strictly confidential. The questionnaires are to be done by you anonymously. The questionnaires will be coded for purposes of maintaining the sets of each individual. The data will be used collectively and not individually. It is important that you answer the questionnaires completely and honestly. Your participation in this study is voluntary.

Steps of participation:

1. Complete in order using a soft lead pencil:
   (a) Personal Data Inventory
   (b) Tennessee Self-Concept Scale
   (c) Maslach Burnout Inventory

2. Place the identification number found on the return envelope on all questionnaires.

3. Place all three questionnaires in the envelope and return to:
   R. B. Schoeneman
   88 Fitz-Henry Blvd.
   Columbus, Ohio 43214

Please do not staple or fold the questionnaires as some will be computer scored.

Thank you for your generous gift of time to this research.

Sincerely,

[Signature]

R. B. Schoeneman
APPENDIX B

Personal Data Questionnaire
**PERSONAL DATA INVENTORY**

Please record the numbers of your answers on the appropriate line in the right hand column of this paper. There are additional questions on the back of this paper.

1. Age

2. Sex

3. Race: (1) Black  
   (2) Hispanic  
   (3) White  
   (4) Other

4. Status: (1) single  
   (2) married  
   (3) divorced  
   (4) widow or widower  
   (5) single though living with someone of the opposite sex

5. Dependents: (1) self only  
   (2) self and spouse  
   (3) self and children  
   (4) self, spouse, and children

6. Combined household income.

7. Number of years of college education.

8. Degree obtained: (1) Bachelor's degree  
   (2) Bachelor's degree plus extra credit hours  
   (3) Master's degree  
   (4) Master's degree plus extra credit hours  
   (5) Doctoral degree

9. Years taught at grade level: Preschool

10. Years taught at grade level: Grades 1-3

11. Years taught at grade level: Grades 4-6

12. Years taught at grade level: Grades 7-9

13. Years taught at grade level: Grades 10-12

14. Total years teaching.

15. Presently teaching in  
   (1) neighborhood school - no busing  
   (2) neighborhood school - busing  
   (3) magnet or alternative school - pupil selects school
16. Classroom composition in which you teach:
   (1) predominately Black
   (2) predominately Hispanic
   (3) predominately White
   (4) approximately equal distribution - Black and Hispanic
   (5) approximately equal distribution - Black and White
   (6) approximately equal distribution - Hispanic and White
   (7) approximately equal distribution - Black and Hispanic and White

17. Number of students in your classroom.

18. Teachers assigned to the classroom in which you teach:
   (1) one teacher
   (2) one teacher and one assistant
   (3) one teacher and two assistants
   (4) two teachers
   (5) two teachers and one assistant

19. Number of years teaching.

20. Number of years teaching in a traditional classroom.

21. Number of years teaching in a Montessori classroom.

22. Montessori training:
   (1) 3-6 certificate - AMI
   (2) 3-6 certificate - AMS
   (3) 3-6 certificate - other
   (4) 3-6 workshops only
   (5) 3-6 no training

23. Montessori training:
   (1) 6-9 certificate - AMI
   (2) 6-9 certificate - AMS
   (3) 6-9 certificate - other
   (4) 6-9 workshops only
   (5) 6-9 no training
APPENDIX C

Tennessee Self Concept Scale
PLEASE NOTE:

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These consist of pages:

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APPENDIX E

Follow-Up Letter
Dear Colleague:

I want to take this opportunity to thank you for completing and returning the three instruments which were distributed to you for the collection of data for my research on stress and school teachers. I truly appreciate the scarcity of free time which teachers have after completing fifteen years in the field of teaching.

A few sets of instruments have not yet been returned. I ask you to encourage your colleagues who may not have had an opportunity to complete and return their instruments, to do so as each teacher’s data are important.

Thank you for your cooperation.

Sincerely,

R. B. Schoeneman
88 Fitz-Henry Blvd.
Columbus, Ohio 43214
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