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ASPECTS OF CLASSROOM ENVIRONMENT AS RELATED TO THE SELF-ESTEEM OF TEACHERS AND TEACHER STRESS FROM AN ECOLOGICAL PERSPECTIVE

by

Helen Ishofsky

A dissertation submitted to the Graduate faculty in Educational Psychology in partial fulfillment of the requirements for the degree of Doctor of Philosophy. The City University of New York.

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Abstract

Aspects of Classroom Environment as Related to the
Self Esteem of Teachers and Teacher Stress From an
Ecological Perspective

by

Helen Ishofsky

Adviser: Professor Marian Fish

This research sought to study the basic context of formal education, the classroom environment. Specifically, relationships were examined among the classroom environment, and teacher stress and teacher self-esteem. While teacher stress and self-esteem have been previously studied with regard to their relationship to student performance, the present research focuses on the relationship of teacher self-esteem and teacher stress with classroom environment using an ecological approach.

This investigation proposed that teacher self-esteem and teacher stress

would significantly predict classroom environment characteristics. Teacher self-esteem was measured using Coopersmith's Self-Esteem Inventories and teacher stress was measured using Fimian's Teacher Stress Inventory. Further, classroom environment was assessed using the Classroom Systems Observation Scale (Cohesion, Flexibility and Communication) and the Classroom Environment Scale (Involvement, Affiliation and Teacher Support). The predictor of self-esteem was not found to be significant in any of the hypotheses posed. Stress, however, was found to be a significant predictor of Affiliation. This research will add to the theoretical and data based knowledge of classrooms from a systems perspective.

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CHAPTER 1

STATEMENT OF THE PROBLEM

The education system is currently being examined in a highly critical manner with a demand for accountability. Accountability refers to a demand that one measure the effectiveness of, or explore the relationship of relevant variables within the educational system in a systematic, evaluative manner. Educators and researchers in the field of education are being asked to verify the appropriateness and effectiveness of their methods and interventions by providing empirical evidence (Anderson, 1983; DeKetele, 1985). Now, perhaps more than ever before, the classroom is being investigated with an eye toward reform in the context of accountability.

This research seeks to study the basic context of formal education, the classroom environment. Specifically, relationships will be examined among the dimensions of classroom environment, teacher stress and teacher self-esteem. While teacher stress and self-esteem have been studied previously with regard to their relationship to student performance, the present research focuses on the relationship of teacher self-esteem and stress with classroom environment using an ecological approach. Classroom environment, the context in which children learn, is a construct that has been extensively researched. The current research

uses Bronfenbrenner's (1979, 1986) theoretical framework which views the child from an ecological perspective. He contends that to understand a child, one must look within the contexts (or systems) impacting on the child and the interactions within and among such contexts. The classroom, as viewed from an ecological perspective, is seen as an amalgam of systems; the classroom environment is a significant context for its member children. This ecological approach yields a wealth of information and gives a fuller picture of classroom processes than a more linear approach in which the child or teacher is seen as the causal agent (Anderson, 1983; Blom, Lininger & Charlesworth, 1987; Lusterman, 1985). In this study, classroom environment will be examined using two ecological perspectives. The first perspective is that developed by Moos in the area of social climate. This perspective was an elaboration of Lewin's (1935) and Murray's (1981) work. The second ecological perspective is taken from systems theory as developed by Minuchin and elaborated upon by Olson's Circumplex model.

The Moos perspective (1987) views a child as a product of overlapping and interacting social contexts. These contexts constitute what is referred to as social climate. Moos, more specifically, defined social climate as context related variables that are characterized by Relationship, Personal Growth, and System Maintenance dimensions. These dimensions were incorporated in the Classroom

Environment Scale (CES, Trickett and Moos, 1995). The CES was given to the students who participated in the study. This perspective is an extension of the work that was done by Lewin (1935) and Murray (1981) in that specific environmental characteristics are recognized as impacting on the individual. Lewin contends that behavior is a function of personality and the environment; Murray developed this idea further by developing the concept of environmental press, a person's tendency to move toward or away from an environmental (situational) stimulus.

The second ecological approach to the classroom is that of Olson (1983) and was derived from his work with families. Olson's model is based on the work of Minuchin, a family systems theorist and practitioner. Systems theory looks at the interactions among group members rather than focusing on individuals (Nichols & Schwartz, 1991). Such interactions are seen as rule-governed with these rules impacting on the roles and behaviors of the members of the system. The focus is on the patterns of interaction in the child's context. In other words, a systems approach will seek to change the interactional patterns in the context where they occur rather than trying to change the individual child's behavior directly. Olson posits three dimensions of family functioning: Cohesion, Adaptability, and Communication. Although originally applied to families, these

dimensions have been applied to the classroom system (Fish & Dane, 1992). Thus, two ecological models are used in this study to examine classroom environment.

The classroom environment is one of the significant contexts in which students' academic and emotional development occur. Research has demonstrated that different classroom environments have a significant impact on student outcomes in both cognitive and affective areas of performance (Chavez, 1984; Fraser, 1991; Moos, 1987). Classroom environment can be conceptualized as an interactive system with interactions between teacher-student and student-student. Classrooms, students and teachers are affected by variables which interact with each other and predict academic performance (Wang, Haertel & Walberg, 1993).

Social climate theory (Moos, 1987) suggests that characteristics of learning environments (i.e., the classroom environment) should be assessed so as to identify those characteristics that facilitate and encourage positive academic and affective outcomes. A number of variables have been explored in the literature such as teacher acceptance of students (Litterst & Eyo, 1993), impact of students with behavior disorders (DeSouza, & Sivewright, 1993; Shores, Jack, Gunter & Ellis, 1993), shared control between teacher and student so as to encourage student autonomy (Robson, 1992), teacher stress and class size

(French, 1993), collaboration and self-regulated learning (Paris & Newman, 1990) to name but a few.

The current research explores the relationship of two variables, teacher self-esteem and teacher stress, to classroom environment. The variable of teacher self-esteem was selected because the research suggests (Brems, Baldwin, Davis & Namyniuk, 1994) that teacher self-esteem correlates positively with better teaching evaluations by supervisors, larger number of advisees and generating greater enthusiasm about the subject being taught. Teachers with low self-esteem were less open to questions posed by their students and were perceived to be confusing by their students. This study involved 112 tenure-track faculty members of a northwestern university. The subjects ranged in age from 24-65. Four instruments were used in this study. They were the Imposter Phenomenon Questionnaire, Superiority and Goal Instability Scale, Advising Relationship Survey and Teaching Evaluation. These instruments were used to assess feelings of not being deserving of one's successes, the maturity level of self-expression of one's capabilities and self-esteem, faculty-student relationships from the perspective of the faculty member and evaluation of teaching performance from the perspective of a supervisor, respectively. This study concluded that faculty members with high self-esteem tended to have better

teacher evaluations, had a high number of advisees and generated greater enthusiasm about the subject matter than teachers with low self-esteem.

Teacher stress was selected as a variable of interest because the literature posits that there is an inverse relationship between teacher stress and job performance (Blase, 1986; Long & Gessaroli, 1989). For example, teachers who report significant levels of stress were found to employ avoidance strategies in dealing with classroom issues of instruction and behavior management. Teachers who were not significantly stressed used problem solving techniques in dealing with these classroom issues. In addition, there appears to be a direct relationship between teacher stress and teacher absenteeism (Kyriacou, 1980). The greater level of stress experienced by the teacher, the greater the number of days absent. This research assumes that classroom environments can be modified so as to encourage the development of positive academic and social characteristics. Research does suggest that changes in classroom environment appear to have significant impact on student performance (Salvia & Ysseldyke, 1995). This exploration will add to the literature in the field of classroom environment research and lend itself to possible classroom and teacher training interventions. The types of interventions that may be an outgrowth of this research project are cost effective in that the personnel required are already in place in the schools and

universities (e.g., school psychologists, teachers and professors) and might involve, for example, introducing teacher training modules designed to enhance self-esteem and/or stress management.

Teacher stress was the first variable that was investigated. Stress is a response to environmental demands that are experienced as negatively toned emotions (Bensky, et al., 1980; Kyriacou, 1980). Research on teacher stress suggests that it is a significant variable which impacts on teachers (Blase, 1986).

Teacher self-esteem was the second variable that was investigated. Self-esteem is the awareness of self-worth and importance (Kahne, 1996). Self-esteem research in education has focused primarily on the self-esteem of students. The current study explores a far less researched area, that of the self-esteem of teachers and incorporates the concept of teacher stress. Previous research on teacher stress and self-esteem has focused on the relationship between these characteristics and the individual student. This research project examines the relationship of these characteristics to the classroom environment using an ecological perspective.

Two instruments were used to assess classroom environment. The first, The Classroom Environment Scale (CES) (Trickett & Moos, 1995) is a self-report measure that was administered to students in the classrooms selected for study.

Using a questionnaire format, the CES assesses three dimensions of the classroom environment: Relationship dimensions, Personal Growth dimensions, and System Maintenance dimensions. The second instrument that was used to assess classroom environment is the Classroom Systems Observation Scale (CSOS) developed by Fish & Dane (1992). This measure utilizes observational assessments made by trained, objective observers. The CSOS assesses three dimensions of the classroom environment: Flexibility, Cohesion and Communication. The relationship of the scale's dimensions to teacher self-esteem and teacher stress were explored.

The self-esteem of teachers was assessed by Self-Esteem Inventories (SEI) [adult form] developed by Coopersmith (1981). The SEI is a self-report instrument which measures the degree to which a person considers himself or herself competent, successful, significant and worthy. The SEI assesses four factors of self-esteem: General Self, Social Self -Peers, Home-Parents and School-Academic. In addition the SEI yields a Total Self-Esteem Score. Teacher stress was assessed by the Teacher Stress Inventory (TSI), developed by Fimian (1988). The TSI is a self-report instrument which measures the strength of occupational stress experienced by American teachers. The TSI assesses five stress sources and five stress manifestations. The five stress sources are: Time

Management, Work-Related Stressors, Professional Distress, Discipline and Motivation, and Professional Investment. The five stress manifestations are: Emotional Manifestations, Fatigue Manifestations, Cardiovascular Manifestations, Gastronomic Manifestations and Behavioral Manifestations. In addition, this scale yields a Total Stress Score.

In sum, the relationship among the dimensions of classroom environment, teacher stress and teacher self-esteem were examined. If teacher stress and teacher self-esteem significantly predict classroom climate and functioning, then this suggests that techniques for enhancing teacher self-esteem and stress management should be incorporated into teacher training.

CHAPTER 2

LITERATURE REVIEW

This chapter describes the paradigm shift from viewing behavior in terms of individual characteristics to viewing behavior in terms of the context in which it occurs. Two ecological theories, social climate and systems theory are discussed with particular regard to their applications to the classroom. Then, the research on the effects of classroom environment on students' cognitive and affective development is summarized. Finally, research on teacher stress and self-esteem is examined.

Paradigm Shift In The Research

The literature suggests that there has been a paradigm shift away from focusing on student characteristics in isolation to focusing on the interactions that exist within the students' learning contexts (Carlson, 1987; Fish & Jain, 1988; Grotevant & Carlson, 1989; Lusterman, 1985; MacAulay, 1990; Russell, Olson, Sprenkle & Atilano, 1983; Walberg, 1968;). The traditional research model is linear in nature, viewing behavior as originating from one source. This model provides a more limited perspective than later models that take into account the student's context. A more contextual model suggests that there are many sources from which behaviors arise. Of particular importance are the interactions and the

relationships within the classroom. These interactions and relationships constitute the definition of social climate of that classroom.

Social Climate Theory

Social climate theory developed over a period of time. Lewin (1935) made one of the first important theoretical contributions which set the stage for further theory development. Lewin recognized that both environment and personal characteristics contribute significantly to human behavior. He further posited that there is a reciprocity between environment and personal characteristics such that the environment can affect the person and the person can affect the environment. He represented this by the formula, $B = f(P,E)$. This formula states that behavior is a function of the interaction of the person and the environment in which the person exists, thus establishing the importance of context when examining behavior.

Murray (1981) expanded on the work of Lewin. Like Lewin, Murray advanced the notion that behavior should not be looked at in isolation devoid of its context. Murray went on to develop specific concepts to represent situational variables which exist in the environment. One such variable is that of environmental press. Environmental press refers to the situational variable that facilitates or inhibits an individual's achieving a goal. Using Murray's framework,

an individual will seek out environments that are helpful and avoid environments that are harmful. Murray delineated two types of press, alpha and beta. Alpha press is the objective configuration of the environment. Beta press is the interpretive, perceived, configuration of the environment as viewed by the individual.

Moos (1973) incorporated the idea of environmental press into his theory and developed it to form the framework of social climate theory. Moos incorporated Murray's notion that behavior is defined as the reciprocity of the individual's personal characteristics and the requirements of the environment. Moos' perspective adds that there are situational variables that are common across different social contexts. Moos posits that these situational variables can be measured by environmental dimensions (DeKetele, 1985; Moos, 1987; Moos, 1991). Thus, social climate theory attempts to assess situational variables through specific environmental dimensions.

Moos (1991) derived these environmental dimensions through empirical research. He investigated different environments such as psychiatric hospitals, correctional facilities, work settings, schools, and families. Moos and his associates developed item pools through observation of these settings and interviewing their members. This resulted in the development of three

dimensions of social climate that are common across social contexts. These dimensions are: Relationship dimension, Personal Growth/Goal Orientation dimension and System Maintenance dimension. The Relationship dimension examines the level at which people are involved and supportive of each other, and the nature of this support. Trickett and Moos (1995) adapted this dimension in the development of the Classroom Environment Scale, (CES) to include the factors of involvement and affiliation and teacher support. Items reflect student attentiveness, classroom participation, the extent to which students befriend each other and work together, and the extent to which a teacher exhibits help and friendship towards students.

The Personal Growth/Goal Orientation dimension examines the underlying goals of a setting. This dimension includes factors of task orientation and competition. This dimension was adapted for the CES, to include factors that reflect whether the class stays on the subject matter and the difficulty of achieving good grades.

The System Maintenance dimension concerns itself with the structure of the setting. This dimension includes factors of order and organization, rule clarity, control, and openness to change. The CES adapted this dimension to include factors that reflect the results of rule breaking, rigidity of the teacher, and

the extent to which students participate and share in the planning of classroom activities. In addition, Moos expanded upon this research to include "person-environment-fit" research, an area that will be discussed later.

The literature on classroom climate suggests that student's cognitive and affective outcomes are affected by the social contexts with which they have contact (Chavez, 1984; Fraser & Fisher, 1983; Moos, 1987; Solomon, Watson, Delucchi, Schaps & Battistich, 1988; Trickett & Moos, 1974). Majoribanks (1991) and Moos (1976) posit that two major social contexts, the family and classroom environments, impact on children, laying the foundation for investigating the classroom environment. Classroom climate research is a robust area that began with the acknowledgment of the importance of person-environment interactions. Yet research on classroom climate in the 1960's examined person variables (i.e., teacher and student characteristics) with little regard for environmental variables (Chavez, 1984; MacAulay, 1990). In the 1970's classroom climate research began to change. Researchers began to examine classroom climate as a psychosocial environment (Ellett, Loup & Chauvin, 1991; Insel & Moos, 1974; Moos, 1973), an amalgam of interactions which affected the behavior and learning of all those involved (Fraser & Fisher, 1983). Trickett and Moos (1973) developed a model where behavior was seen as

occurring in interactive contexts between and among the participants. The interactions of interest in the classroom would be those between and among students and those between student(s) and teacher.

The research in the area of classroom environment strongly suggests that even the perceptions of classroom climate may be used as a predictor of academic and affective outcomes. Fraser (1991) points out that the research has used high inference measures to predict affective and cognitive student outcomes. The research has used both individual students and class means as units of measure. The literature strongly suggests that student perception of the classroom environment is a valid predictor of motivation, prosocial behavior and student achievement (Fraser & Fisher, 1982; Knight, 1991; Wansart, 1988; Werthamer-Larsson & Kellam, 1991).

Haertel, Walberg & Haertel (1981) conducted a meta-analysis of classroom environment studies. They analyzed 12 studies which involved 823 classes and 17,805 students. They concluded that there is a strong association between student cognitive and affective outcomes and student perception of the classroom environment. Students who perceived their classrooms as having greater cohesiveness, satisfaction, goal direction, and organization, and less friction reported consistent gains in cognitive and affective learning outcomes.

Fraser and Fisher (1982) reported a significant relationship between students' learning outcomes and their perceptions of classroom environment as measured by the Classroom Environment Scale (CES) and the Individualized Classroom Environment Questionnaire (ICEQ). One hundred and sixteen classes, with a composite of 1,083 students were involved in this study. The researchers administered three cognitive and six affective measures at the beginning and end of the same school year. Cognitive outcomes were measured by the Test of Enquiry Skills. Affective outcomes were measured by the Test of Science-Related Attitudes. The CES and the ICEQ were given at midyear. They concluded that a significant relationship existed between student outcomes (affective and cognitive) and their perceptions of the classroom environment. In particular, students in classes with greater involvement, order and organization, and innovation scored better on both the cognitive and affective measures.

In addition to examining student perceptions of classroom environment and their relation to affective and cognitive variables, classroom climate research has also compared and contrasted children's perceptions of the idealized (preferred) and actual classroom environment with teachers' perceptions of idealized and actual classroom environments. The research in this area reveals that teachers tend to see actual classrooms more positively than students (Trickett

& Moos, 1974). Teachers report higher involvement, more teacher support and higher levels of rule clarity, slightly more affiliation, task orientation, competition, order and organization. Students tended to see more teacher control than was reported by their teachers. Both students and teachers reported that they preferred classroom environments that emphasized involvement, affiliation, teacher support, organization, innovation and less competition. Teachers preferred more task orientation and control than their students. These similarities and differences in classroom climate perceptions indicates the potential importance of a fit among students, teachers, and the classroom environment.

Classroom Climate As An Outcome Measure :

Person-Environment Fit

Research cited in the preceding section suggests the importance of a related research area, that of person-environment fit. Moos (1987) posits that the fit between students and classroom environmental characteristics affects student behavior, academic achievement, and development. Fraser and Fisher (1983) posit that students' academic performance and prosocial behaviors increase when there is congruence between the students' preferred classroom environment and the students' actual classroom environment. Students whose idealized classroom environment was high in teacher support, competition, clarity and innovation

achieved better in actual classes with such characteristics. Similarly, students who were placed in organized classrooms and who preferred organized classrooms achieved well and expressed more leisure interest in the subject taught. Finally, the placement of students who preferred an environment that had teacher support in classrooms with high teacher support resulted in better achievement and interest in the subject area that was taught (Fraser, 1991; Fraser & Fisher, 1982).

A review of classroom climate literature reveals that classroom climate has been used as an outcome measure of person-environment-fit. Fraser, Malone and Neale (1989) studied the teaching of mathematics to advanced students. This study was based on research which posits that students perform better in classrooms where there is congruence between their preferred classroom setting and their actual classroom setting (Fraser & Fisher, 1982; Fraser & Fisher, 1983; Short & Short, 1988). This study assessed the classroom environment and shared the results with the classroom teacher. Results indicated that students were dissatisfied with the pace at which the topics were presented. The teacher then initiated a 3 month intervention where each math area was enriched in depth but not in the number of topics presented, thus altering the pace of topic presentation to that preferred by students. After the three month intervention, the classroom environment was assessed again and the gap between the actual and preferred

classroom environment diminished. In addition student performance improved. This provided the teacher with a positive evaluation of the curricula intervention.

Tobin, Treagust, & Fraser (1988) also used classroom climate as an outcome measure. This study investigated exemplary practices of science teachers. Exemplary teachers were chosen by nomination and interview of the person who nominated the teacher. Teachers who were nominated frequently were chosen as exemplary. Twenty teachers were involved in this study. Classroom environment assessment and direct observation methods were utilized. Classroom environments of exemplary teachers were compared with those teachers not chosen as exemplary. This study concluded that exemplary teachers encouraged involvement, provided teacher support as well as order and organization.

Classroom climate, as assessed by students' perceptions, has also been used as a dependent variable to examine curricula interventions, class size and classroom management techniques. Such research suggests that classroom environments that had teacher support, student involvement and rule clarity had fewer student absences, increased academic achievement, and a lower drop-out rate (Moos, 1987; Solomon, Watson, Delucchi, Schaps & Battistich, 1988).

Systems Theory

Systems theory views behavior as the interactional patterns that exist between and among systems. Systems theory was initially used in the field of family therapy. In this application, a systems perspective focuses on the interactions and relationships between and among family members instead of looking at the characteristics of individual members. The use of this perspective in treatment, resulted in improved family functioning (Hazelrigg, Cooper & Borduin, 1987).

Since school and family have been posited as the major influential contexts in a child's life (Majoribanks, 1991), the systems approach has been recently extended to classroom contexts which resemble the family context in many ways. Fish and Jain (1988) describe families and classrooms as being similar in that they are both open systems which are hierarchical in nature. Both of these systems contain boundaries that allow for movement while maintaining the integrity of the system. Both have subsystems comprised of individuals who join together to perform tasks. Conoley (1987) sees both families and classrooms involved with the activities of teaching, nurturing, rewarding, punishing and evaluating. Given these similarities, it appears that a systems approach is well suited in its applicability to classrooms.

As a proponent of systems theory, Minuchin (1974) views children's

behavior not as a symptom, but a product, of a system. Minuchin posited that all systems have structure, or a pattern of interactions that occur within and among systems. These patterns have rules which impact on the roles and behaviors of the members of the system. Minuchin (1974) specifies, "The individual influences his context and is influenced by it in constantly recurring sequences of interaction." (p. 9) Changes in behavior result when the interaction between the person and the context in which the behavior occurs is altered. A systems approach, as applied to the classroom, examines the student-student and teacher-student interactions in the context of the classroom. The literature is replete with research on the functioning of children within family systems. Research on the functioning of children within classroom systems is more recent. Assessing teacher characteristics and examining their relationship with measured classroom environment variables, using a systems perspective, enhances psychologists' and educators' understanding of the interactional processes which occur in classrooms. A systems analysis provides an established theoretical basis for examining classroom environment. It also yields a full picture of the child functioning within context.

The Classroom Systems Observation Scale, (Fish & Dane, 1992) is an observational instrument used to assess classrooms from a systems perspective.

This instrument assesses classrooms from what Murray (1981) defines as an alpha press (i.e., objective) perspective. The CSOS is based on the Circumplex Model of Marital and Family Systems (Olson, 1988; Olson, Russell & Sprenkle, 1989). This model attempts to integrate family systems theory, research and practice and provide a framework for classifying families along three dimensions of functioning: Cohesion, Adaptability and Communication (Barnes & Olson, 1985). Each of these dimensions has been adapted for the classroom and is contained in the CSOS so that the CSOS yields global scores in the dimensions of Cohesion, Flexibility and Communication. The global scores distinguish functional (balanced) from dysfunctional (unbalanced) classroom systems. The CSOS posits that optimal functioning takes place when flexibility and cohesion are balanced. The CSOS provides information based on objective observation and addresses the need for data-based research supporting the importance of a systems approach in the classroom.

Sullivan (1996) is currently analyzing CSOS data that examines the relationship between functional and dysfunctional classrooms and their relationship to personal competencies in children, specifically, self-concept and self-control.

O'Connor & Fish (1997) explored the relationship between teacher

expertise and classroom environment using the CSOS. Of particular interest was the relationship between the classrooms of expert and novice teachers on the CSOS. The research suggested that classrooms of expert teachers had a significantly higher level of flexibility within the balanced range of functioning than novice teachers' classrooms.

Teacher Stress

Teacher stress is a well researched area (Dedrick, Hawkes & Smith, 1981; Fimian, 1988). Inquiry into teacher stress began in the 1930's (Moracco, Danford & D'Arienzo, 1982), and consisted of collecting responses to unstandardized interview questions in order to calculate percentages of those teachers who reported stress. The methodology and instrumentation in this area has greatly improved and has lead to the systematic inquiry of this construct (Boyle, Borg, Falzon & Baglioni, 1995; Pettegrew & Wolf, 1982; Pithers & Fogarty, 1995; Raschke, Dedrick, Strathe & Hawkes, 1985; Schutz & Long, 1988).

According to Kyriacou & Sutcliffe (1978), teacher stress is defined as "a response syndrome of negative affects resulting from the teacher's job." (p. 159). Environmental demands that emanate from the job of teaching and which cause negative affect to occur are considered teacher stressors. This area is of great

concern due to the fact that research suggests there is an inverse relationship between teacher stress and job performance (Kyriacou, 1980; Long & Gessaroli, 1989). The greater the level of stress experienced by the teacher, the poorer that teacher's job performance.

Long and Gessaroli (1989) conducted research in this area. Their sample was comprised of 879 elementary school teachers employed in a metropolitan school district in western Canada. The teachers were surveyed in order to examine the relationships between sources of work-related stress and coping strategies. Four subgroups were formed based on marital status and gender. A multisample multivariate regression analysis was performed using LISREL VI to assess the nature and strength of the relationships among the stressors and the coping strategies within the four subgroups and whether the coping-stress relationships were similar across the four subgroups. The results of this study revealed that when teachers experienced a significant level of stress they tended to use avoidance strategies. Teachers who did not experience a significant level of stress tended to use more adaptive problem solving strategies to deal with these issues (e.g., behavior management and instructional style and evaluation). Teachers who were less stressed tended to seek out the help of others to help them address instructional and/or behavioral management issues.

Research also suggests that there is a direct relationship between teacher stress and absenteeism. Kyriacou and Sutcliffe (1978) examined teacher stress and teacher absenteeism. Sixteen schools were randomly chosen from the Education Authorities Directory with the restriction that they were mixed comprehensive schools having between 900 and 1000 pupils. The final sample consisted of 218 teachers in England. The teachers were asked to fill out a questionnaire dealing with teacher stress. Self-reported teacher stress was correlated with the total number of absences for each teacher. The resulting correlation was found to be significant and positive, so that significant levels of teacher stress corresponded to increased number of absences. Absences appeared to be related to either the avoidance of stress or to somatic problems resulting from stress.

Such research on teacher stress posits that there are identifiable sources of stress in the classroom which the teacher is able to identify and report. Several researchers have attempted to classify teacher stress. In one system, the sources of teacher stress appear to fall into three categories: role related stress, task related stress and work event stress (Long & Gessaroli, 1989; Pettegrew & Wolf, 1982; Schutz & Long, 1988). Role related stress pertains to the degree to which teachers' expectations of their role matches the actual teaching experience. Task

related stress pertains to specific tasks that teachers are called upon to perform as part of their teaching responsibilities (i.e, tasks typically associated with issues of classroom management and instructional issues). Work related stress pertains to specific events that occur during the teaching day. These events are often reflective of time management issues and include sending out and accounting for PTA and municipality forms, attending to clerical matters, and adjusting instruction to inconsistent class sizes due to the coming and going of the student population as a result of relocation.

Fimian's (1988a) model of teacher stress presents a total of 10 factors representing sources and manifestations of stress. Five factors represent sources of stress and five factors represent the manifestation of stress. Sources of stress include: Time Management, Work-Related Stressors, Professional Distress, Discipline and Motivation, and Professional Investment. Manifestations of stress include: Emotional Manifestations, Fatigue Manifestations, Cardiovascular Manifestations, Gastronomic Manifestations, and Behavioral Manifestations. This model is the basis of Fimian's (1988a) Teacher Stress Inventory (TSI).

Research in the area of teacher stress appears to be concerned with the sources of teacher stress, teacher stress and absenteeism, and the effect of teacher stress on instructional style (Blase, 1986; Kyriacou, 1980; Kyriacou & Sutcliffe,

1978; Long & Gessaroli, 1989; Pettegrew & Wolf, 1982; Schutz & Long, 1988). The literature suggests that teacher stress might affect classroom environment by impacting on instructional and affective issues (Blase, 1982; Long & Gessaroli, 1989). An important factor to consider in a teacher's ability to manage job stress, and thus minimize its impact on the classroom, is self esteem (Beer & Beer, 1992; Byrne, 1994).

Teacher Self-Esteem

A number of research studies have been conducted on the variable of self-esteem (Rosenberg, 1979; Staub, 1980; Wigfield & Eccles, 1994). Recently a California-based task force began to study this variable (Kahne, 1996).

Researchers have conceptualized self-esteem in various ways. Coopersmith (1981) defines self-esteem as one's ability to establish and maintain feelings of worth, competency, significance, success and dignity. Demo (1985) posited that self-esteem is a specific part of self-concept and adds that self-esteem may be defined as an individual's sense or experience of self-regard that may not be consistent with the level of self-regard presented to others. Greene and Reed (1992) differentiate self-esteem from self-concept. They posit that self-esteem refers to the self-evaluative part of the self-concept and that self-concept refers to the connotative aspect of self-perception. Coopersmith (1967) and Rosenberg

(1979) describe self-esteem as a global positive or negative self-assessment.

There also appears to be a contextual root to self-esteem. Epstein (1980) found that self-esteem is resistant to change once it is established in a context. He noted that students with high self-esteem, who fail on a test, interpreted their performance as not being reflective of their ability and thus tried again. Conversely, students with low self-esteem, when they did well, attributed their success to luck rather than to their own abilities. Staub (1980) and Greene and Reed (1992) assert that consistency of behavior (e.g., self-esteem) can be demonstrated if the contexts in which the behavior is tested are highly similar. Greene and Reed (1992) administered a test battery which included the Rosenberg Self-Esteem Scale and a self-concept questionnaire developed by Monge in 1973. The sample consisted of 39 full time college students (17 male and 22 female) and 43 non-college students (22 female and 21 male). The results of this study strongly suggest that context affects self-esteem; the college students had higher self-esteem than the non-college students.

One may conclude based on the above, that self-esteem is a global concept , can be viewed as a component of self-concept, and achieves a level of consistency if the situations in which it is assessed are very similar. In addition, the research suggests that it is measurable despite its global nature. Since it is

defined as a self-evaluative variable that may not be conveyed to others, self-report measures appear to be appropriate. The Coopersmith (1981) Self-Esteem Inventory (SEI) will be used to measure self-esteem. The SEI assesses self-esteem by taking into account four factors of self-esteem: General Self, Social Self-Peers, Home-Parents and School-Academic.

Research in the general area of self-esteem suggests that there is a relationship between self-esteem and stress. Abouserie (1994) conducted a study which involved 675 British university students. He concluded that students with high self-esteem were less stressed than those with low self-esteem. Flett, Biggs and Alpass (1995), also found an inverse relationship between self-esteem and stress. In a study involving 52 New Zealand rehabilitation professionals, professionals with high self-esteem were less stressed than those with low self-esteem.

Self-esteem among teachers appears to impact on teaching performance. Brems, Baldwin, Davis and Namyniuk (1994), found that self-esteem correlated positively with better teaching evaluations for a sample of 112 tenure track university faculty. In addition, teachers who had high self-esteem tended to take on more advisees than their colleagues. This study also suggested that teachers with low self-esteem were less likely to be open to questions raised by students,

less likely to instill enthusiasm in their students, and more likely to be perceived as confusing, by their students. Self-esteem, in educational settings has been studied predominantly from the point of view of the student (Maples, 1992; Wigfield & Eccles, 1994). There is a paucity of research in the area of teacher self-esteem as it impacts on the classroom environment from a systems perspective.

Summary

This chapter reviewed the literature pertaining to the classroom environment as seen from an ecological perspective (social climate and systems theory), teacher stress, and teacher self-esteem, as well as possible relations among these variables. Current research reflects a paradigm shift away from the traditional focus on individual characteristics of students and teachers to a focus on the interactions that exist within the learning context (i.e, the classroom) (Carlson, 1987; Fish & Jain, 1988; Grotevant & Carlson, 1989; Lusterman,1985; MacAulay, 1990; Russell, Olson, Sprenkle & Atilano, 1983; Walberg, 1968).

This paradigm shift has encouraged the development and use of measures which assess classrooms from a social climate (Classroom Environment Scale) and/or systems perspective (Classroom Systems Observation Scale). Social climate theory is based on the perspective that views the individual as part of an

amalgam of overlapping environments (Anderson, 1983; Bronfenbrenner, 1986; Bronfenbrenner, 1979). Changes in behavior are seen as an outgrowth of the mutual accommodation between the individual and the environments within which the individual exists. Systems theory was initially developed in the field of family therapy. Minuchin (1974), postulated that all systems have structure, or rule-governed patterns of interaction that occur within and among systems. Changes in behavior, according to this theory, occur when the interaction pattern between the person and the contexts (systems) involved is altered. Research in the area of family therapy suggests that family therapy has improved family functioning (Hazelrigg, Cooper & Borduin, 1987). Fish and Jain (1988) posit that there are many similarities between families and classrooms. Given that family therapy has been found to improve family functioning and that there are many similarities between families and classrooms, it appears that a systems approach is well suited in its applicability to classrooms. In the classroom context, a systems approach would examine the student-student and teacher-student interaction patterns.

Two instruments were used to examine classroom interactions. One of these was the Classroom Environment Scale (CES; Trickett & Moos, 1995) based on the ideas of Lewin (1935), Murray (1981), and Moos (1973). Lewin

established the importance of the reciprocity between environment and personal characteristics with regard to behavior. Murray expanded on this by expressing the importance of the situational variables he identified as environmental press. Environmental press refers to situational variables that facilitate or inhibit an individual in reaching a goal. Moos posited that there are situational variables that are common across different social contexts. Trickett & Moos (1995) developed the CES which has three dimensions: Relationship dimension, Personal Growth/Goal Orientation dimension and System Maintenance dimension. Use of this scale resulted in the expansion of social climate theory to include the importance of the fit between student and classroom environmental characteristics (Moos, 1987). Further, research using this scale concluded that student perception of classroom climate may be used as a predictor of motivation, prosocial behavior and student achievement.

Another instrument used to assess classroom environment is the Classroom Systems Observation Scale (CSOS; Fish & Dane, 1992). It is an observational instrument used to assess classrooms from a systems perspective. The CSOS assesses classrooms from an objective perspective and is based on the Circumplex Model of Marital and Family Systems (Olson, 1988; Olson, Russell & Sprenkle, 1989). The Circumplex model attempts to integrate family systems

theory, research and practice. This model proposes three dimensions of family functioning: Cohesion, Flexibility and Communication. Each of these dimensions has been adapted for the classroom in the CSOS. Research has shown that with regard to expert and novice teachers, expert teachers' classrooms had a significantly higher level of flexibility (within the balanced range of functioning) than novice teachers' classrooms (O'Connor & Fish, 1997). Using the CES and the CSOS provides both subjective and objective information regarding the classroom environment. By providing self-report and objective observer data, an optimum combination is achieved for research and practice (Fraser, 1991).

Teacher stress has potential impact on classroom systems. Teacher stress is viewed as environmental demands that emanate from the job of teaching which result in negative affect. Research suggests that there is an inverse relationship between teacher stress and job performance (Blase, 1982; Long & Gessaroli, 1989). Teachers who reported significant levels of stress were found to employ avoidance strategies in dealing with classroom issues of instruction and behavior management. Teachers who were not significantly stressed used problem solving techniques in dealing with these classroom issues. In addition, research suggests that there is a direct relationship between teacher stress and absenteeism. The greater the level of stress experienced by the teacher, the greater the number of

days absent (Kyriacou, 1980). The sources of teacher stress tend to fall into three categories: role related stress, task related stress and work event stress (Long & Gessaroli, 1989; Pettegrew & Wolf, 1982; Schutz & Long, 1988). The literature suggests that teacher stress might affect classroom environment by impacting on instructional practices and affect.

Teacher stress will be assessed using the TSI (Fimian, 1988a). This measure has a total of ten factors which represent sources and manifestations of stress. Sources of stress include: Time Management, Work-Related Stressors, Professional Distress, Discipline and Motivation and Professional Investment. Manifestations of stress include: Emotional Manifestations, Fatigue Manifestations, Cardiovascular Manifestations, Gastronomic Manifestations, and Behavioral Manifestations.

Self-esteem is a variable that has been shown to impact on a teacher's ability to manage job stress. Self-esteem refers to one's ability to establish and maintain feelings of worth, competency, significance, success and dignity (Coopersmith, 1981). Demo (1985) and Rosenberg (1979) describe self-esteem as a global positive or negative self-assessment. Staub (1980) asserts that self-esteem is stable when assessed in situations that are highly similar. Although self-esteem has also been linked to teacher performance (Brems, Baldwin, Davis &

Namyniuk, 1994), there is a paucity of research studying the relationship between self-esteem and the classroom system.

Self-esteem will be evaluated using the SEI (Coopersmith, 1981). The SEI yields a global score which takes into account the factors of: General Self, Social Self-Peers, Home-Parents, and School-Academics.

CHAPTER 3

PROBLEM STATEMENT

The purpose of the present study is to explore the relationship of teacher stress and teacher self-esteem to the classroom environment using an ecological perspective. This investigation will add to the research on classroom environment and study these specified teacher characteristics and their impact on the learning environment. The classroom environment was assessed using the Classroom Environment Scale (CES; Trickett & Moos, 1995) and the Classroom Systems Observation Scale (CSOS; Fish & Dane, 1992a). The CES assesses the dimensions of Relationship, Personal Growth/Goal orientation, and Systems Maintenance and Change dimensions using children's perceptions of the classroom environment. The CSOS assesses the dimensions of Cohesion, Flexibility and Communication through independent observation. By using both these instruments, both subjective and objective data were obtained for each target classroom. These two perspectives yielded a picture of the specified classroom dimensions as they relate to the variables of interest.

Research Questions

In order to explore the teacher variables of stress and self-esteem and their

relationship to the classroom environment, the following research questions are proposed and will be investigated:

1. Is there a relationship between teacher stress and the classroom environment in terms of the average student responses to the CES scales (Involvement, Affiliation and Teacher Support)?

2. Is there a relationship between teacher self-esteem and the classroom environment in terms of the average student responses to the CES scales?

3. Is there a relationship between teacher stress and classroom functioning as assessed by independent observation in terms of the CSOS scales (Cohesion, Flexibility and Communication)?

4. Is there a relationship between teacher self-esteem and classroom functioning as assessed by independent observation in terms of the CSOS scales ?

Hypotheses

The following hypotheses will be investigated with regard to the the average of student responses to the CES:

HO1: Both self-esteem and stress will be statistically significant predictors of Involvement; but self-esteem will have a positive regression weight and stress will have a negative regression weight.

HO2: Both self-esteem and stress will be statistically significant predictors of Affiliation; but self-esteem will have a positive regression weight and stress will have a negative regression weight.

HO3: Both self-esteem and stress will be statistically significant predictors of Teacher Support; but self-esteem will have a positive regression weight and stress will have a negative regression weight.

The following hypotheses will be investigated with regard to the CSOS:

HO4: Both self-esteem and stress will be statistically significant predictors of Cohesion; further, self-esteem will have a positive regression weight and stress will have a negative regression weight.

HO5: Both self-esteem and stress will be statistically significant predictors of Flexibility; further, self-esteem will have a positive regression weight and stress will have a negative regression weight.

HO6: Both self-esteem and stress will be statistically significant predictors of Communication; further, self-esteem will have a positive regression weight and stress will have a negative regression weight.

CHAPTER 4

METHODOLOGY

Subjects

The subjects of this study were teachers from an urban, inner city, middle school. The population of this school is 63% African-American, 36% Hispanic, and 1% Caucasian. Approximately 60% of the student population live within walking distance of the school. Another 20% of the student population take public transportation and are issued a reduced fare card. The remaining 20% are provided transportation because of their classified disability (e.g., mentally retarded, emotionally disturbed, etc.) The sample consisted of 43 teachers and 776 students. This sample pool was attained by teachers responding to a notice that was distributed to the faculty. This notice outlined the requirements for those who volunteered (filling out self-reports and having their classes observed). Forty-four teachers volunteered out of a possible 70. Once a teacher agreed to participate, notices of consent were sent home to the parents of the students. One class was dropped because a student's parent did not give consent for the student to participate in this study. This resulted in having 43 teachers participate in this study. The teaching experience of the faculty varied from two years to twenty-eight years and is presented in Table 1 and Table 2. The average years of teaching experience of the faculty was

15 years. Thirty-six faculty members were tenured and seven faculty members were not tenured. The classes represented were 32 general education classes, 6 classes for students with learning disabilities, 1 class for students with emotional disturbances, and 4 classes for students with speech impairments. General education classes have between 20 and 32 students. Classes for students with learning disabilities have no more than 15 students. Classes for students with emotional disturbances have no more than 12 students and classes for students with speech impairments have no more than 12 students. The classroom subject areas in this study were: Language Arts (20 classes), Social Studies (8 classes), Music (1 class), Math (11 classes), and Science (3 classes). The data are depicted in Tables 1, 2, and 3. The approximate age range of the students was between 10-13 years of age and the grades sampled were 5th and 6th.

Instruments

The Self-Esteem Inventory (SEI), Adult Form

The Self-Esteem Inventory, Adult Form is a self-report questionnaire comprised of 25 declarative statements. The respondent checks a box labeled "Like Me" if the statement describes the respondent or "Unlike Me" if not. The SEI was developed as a measure of general self-esteem. It taps areas that are relevant to

Table 1

Class Type, Class Size, and Teacher Experience for Fifth Grade Classes

Type	No. of Students	Years of Teaching Experience	Subject Area
G. E.	20	25	L.A.
G. E.	23	23	Music
G. E.	23	25	S.S.
G. E.	21	11	L.A.
G. E.	22	28	S.S.
G. E.	23	20	L.A.
G. E.	22	14	Math
G. E.	21	15	L.A.
G. E.	21	2	Science
G. E.	25	10	L.A.
G. E.	17	1	L.A.
G. E.	24	14	Math
G. E.	22	13	Math
G. E.	26	5	S.S.

Table 1 (con't)

Type	No. of Students	Years of Teaching Experience	Subject Area
G. E.	22	30	Math
S. I.	11	12	L.A.
S. I.	8	27	S.S.
E. D.	9	8	L.A.
E. D.	10	12	Math
L.D.	10	10	Math
L. D.	11	20	L.A.
L. D.	8	28	Math

Note: G .E. = General Education, L. D. = Learning Disability, E. D. = Emotional Disturbance, S. I. = Speech Impaired, L.A. = Language Arts, S.S. = Social Studies

Table 2

Class Type, Class Size, and Teacher Experience for Sixth Grade Classes

Type	No. of Students	Years of Teaching Experience	Subject Area
G. E.	30	2	L.A.
G. E.	23	12	S.S.
G. E.	21	7	Math
G. E.	18	16	Math
G. E.	20	18	L.A.
G. E.	24	18	L.A.
G. E.	18	20	Math
G. E.	18	1	L.A..
G. E.	21	2	S.S.
G. E.	20	19	S.S.
G. E.	22	20	S.S.
G. E.	23	23	L.A.

Table 2 (continued)

Type	No. of Students	Years of Teaching Experience	Subject Area
G. E.	23	12	Science
G. E.	22	1	L.A.
G. E.	21	10	L.A.
L. D.	8	20	L.A.
L. D.	10	14	Math
L. D.	12	9	Science
S. I.	10	5	L.A.
S. I.	8	9	L.A.
S.I.	8	8	L.A.

Note: G. E. = General Education, L. D. = Learning Disability,

E. D. = Emotional Disturbance, S. I. = Speech Impaired

Table 3

Means and Range for Number of Students and Years of Teaching Experience for Each Type of Class

Type	Mean Class Size	Class Size Range	Mean Years of Teaching Experience	Range of Years of Teaching Experience
G.E.	21.7	17 - 30	14	1 - 30
S.I.	9	8 - 11	12	5 - 27
L.D.	10	8 - 12	17	9 - 28

Note: G.E. = General Education, S.I. = Speech Impaired, L.D. = Learning Disability. The one Class for students with emotional disturbances was not included.

school, family, peers, self and general social activities although the Adult Form yields only a Total Score. Investigation of statistical properties (Coopersmith, 1981) indicates test-retest reliability coefficients ranging from .80 to .82 and internal consistency coefficients ranging from .80 to .86. The correlation of total scores on the School Short Form and the Adult Form exceeds .80. This indicates that the Adult Form and the School Short Form produce similar results. Multitrait-multimethod validity was conducted using 104 subjects, and indicated substantial support for convergent and divergent validity of self-esteem. The SEI is a widely used, positively reviewed and well researched measure (Adair, 1984; Johnson, Redfield, Miller & Simpson, 1983;Peterson & Austin, 1985;

Teacher Stress Inventory (TSI)

The Teacher Stress Inventory (TSI) is a 49-item self-report measure of work-related stress experienced by teachers in American public schools. The respondent is asked to rate each item using a 5 point Likert-type scale. The scale varies from "no strength; not noticeable" to "major strength; extremely noticeable." Items produce 10 subscales. Five subscales deal with sources of teacher stress: Time Management, Work Related Stressors, Professional Distress, Discipline and Motivation, and Professional Investment. Five subscales deal with manifestations of teacher stress: Emotional Manifestations, Fatigue Manifestations, Cardiovascular Manifestations,

Gastronomic Manifestations, and Behavioral Manifestations. For the purposes of this study, the Total Stress Score will be used. The TSI has interpretation tables that allow scores to be classified as significantly strong, moderate and significantly weak. Statistical properties (Fimian, 1988) of the TSI are as follows. The internal consistency (alpha reliability) for Total Stress is .93 and test-retest reliability following a two week interval is .99. Factor analysis was conducted using the responses from 3,401 subjects. Varimax and oblique rotations were performed. Ten factors emerged which accounted for 58% of the stress variance, confirming the validity of the ten subscales.

Classroom Systems Observation Scale (CSOS)

The Classroom Systems Observation Scale (CSOS) is a 47-item observational instrument developed to measure classroom environment from a systems perspective. Originally, the CSOS was developed to look at children functioning in the context of their families and classrooms. The CSOS is based on the Circumplex Model of Marital and Family Systems and uses the Clinical Rating Scale (Olson, 1988) as a model. Three dimensions are proposed by this Circumplex Model: Cohesion, Adaptability and Communication. Each of these dimensions was adapted to the classroom by Fish & Dane (1995) and became, Cohesion, Flexibility and Communication. Observations on the dimensions of Cohesion and Flexibility can

be scored from 1 to 4. The scores vary from the behavior never occurring (1) to constantly occurring (4). Observations on the dimension of Communication can be scored from 1 to 6. The scores vary from infrequently (1) to often (6). Each dimension yields a global score.

Statistical properties of the CSOS (Fish & Dane, 1992a) are as follows. Interrater reliability varies from .64 to .85. The test-retest reliability varies from .55 to .77. Construct validity was assessed using a principal components analysis. Varimax and oblique rotations were performed on a sample of 118 observations yielding results consistent with the measure's three dimensions. Descriptions of the three dimensions follows.

Cohesion. This dimension measures supportive behaviors that are demonstrated by students for each other and in relationship to the teacher. Balanced scores on this dimension are indicative of emotional bonding, support, and well-defined boundaries. When appropriate emotional bonding occurs in classrooms, group activities are encouraged and emotional and physical boundaries are respected.

Flexibility. This dimension measures the demonstrated adaptability and modifiability of classroom behaviors. Balanced scores on this dimension are indicative of flexible leadership, consistent discipline including discussion about rules and their consequences, and negotiated classroom rules and roles. A flexible

classroom is one in which roles and rules are typically shared and exchanged.

Communication. This dimension measures the demonstrated exchange of thoughts, feelings and ideas in the classroom. Six concepts constitute the make up of this dimension: listener's skills, self-disclosure, clarity, continuity/tracking, and respect and regard.

Trained observers evaluated individual classrooms using the CSOS. These observers were graduate students in Educational Psychology. Their training included: a meeting on the background and development of the CSOS; viewing six hours of video tape and scoring the protocols of the CSOS under the supervision of the author of the CSOS; observing classes in an elementary school. Further, before the observers participated in the study, their interrater reliability was assessed at .80.

The Classroom Environment Scale (CES)

The Classroom Environment Scale (CES) is a self- report scale that assesses social climate of the classroom in terms of student-student and teacher-student interactions as well as the organizational structure of the classroom. For the purposes of this study, Form S (short form) was used. This version is comprised of 36 declarative statements requiring the respondent to check off a true or false response to each statement. Obtained correlations of the short and long form exceeded .70 which indicates that the short form of the CES yields similar results to the long form.

Statistical investigation (Trickett & Moos, 1995) yielded test-retest reliability ranging from .72 to .90. Internal consistency as assessed by the KR-20 ranged from .67 to .86. Content, construct and face validity are reported as substantiated by research (Moos & Trickett, 1995). The CES is comprised of nine subscales. These subscales reflect three dimensions: the Relationship dimension, the Personal Growth or Goal Orientation dimension, and the System Maintenance and Change dimension.

Relationship Dimension. This dimension assesses student perceptions of student involvement, student affiliation and teacher support. Items reflect student attentiveness, classroom participation, the extent to which students befriend each other and work together, and the extent to which a teacher exhibits help and friendship towards students.

Personal Growth/Goal Orientation Dimension. This dimension assesses the students' perceptions of the emphasis given to finishing planned activities and the degree of competition among students for grades and recognition. Items reflect whether the class stays on the subject matter and the difficulty of achieving good grades.

System Maintenance. This dimension assesses the students' perceptions of the orderliness, clarity of rules, teacher control, and innovation of the classroom. The items reflect the results of rule breaking, rigidity of the teacher, and the extent to

which students participate and share in the planning of classroom activities.

Procedures

The sampling pool consisted of 776 fifth and sixth grade students in general and special education classes and 43 teachers. The students and teachers were those who volunteered to participate in this research. In addition, the teachers and the parents of the students signed informed consent letters. The students who participated signed letters of assent. The study was conducted in June, during the last month of the school year.

A general letter (Appendix A) was distributed to teachers and indicated the nature of the research and requested teacher participation in completing the Self-Esteem Inventory and the Teacher Stress Inventory. In the event that a teacher agreed to participate in the study, parent consent letters (Appendix A) were distributed to students in the class. Parent consent letters were not distributed to the classes in which teachers declined to participate. After parent consent was received, the student was given a student assent letter (Appendix A).

After informed consent was obtained, the teacher completed the Self-Esteem Inventory (Adult Form) and the Teacher Stress Inventory in a confidential manner. This was done so as to reduce the effect of social desirability on responses.

The CES was administered to small groups of students by a School

Psychologist, two trained graduate students and three trained college students who clarified question meaning and issues of readability. The college and graduate students were trained for two hours to acquaint them with the CES, and to discuss how to answer student questions. The teacher was not present so as to decrease the possible effects of social desirability on student responses.

Trained observers assessed functioning in individual classrooms using the CSOS. The trained observers were doctoral students in Educational Psychology. They received six hours of training. This training included watching video tapes of classrooms and then scoring them in the presence of a School Psychologist trainer and going into classrooms on a trial basis, before the actual data for the study was collected. Interrater reliability of .8 or above was obtained before observations were made. All the trained students were blind to the purpose of the study.

Scoring the Instruments

The protocols were hand-scored. The raw data was transferred to a worksheet which identified the participants (i.e., teachers and students) by a code. Names of the participants did not appear on the protocols. The CSOS yielded 3 global scores, Cohesion, Flexibility and Communication. Each subject's CES raw score was converted to a standardized score following the directions given in the manual; class means were tabulated for Affiliation, Involvement and Teacher Support. The

measures of teacher self-esteem and stress level were hand scored according to their respective manuals.

Data Analysis

Multiple regression analyses were used to determine the relationship between the predictor variables of teacher self-esteem and teacher stress and the CES and CSOS scales. More specifically, six regression analyses were performed where the predictor variables were teacher stress and self-esteem and the outcome measures were: Involvement, Affiliation, Teacher Support, Cohesion, Flexibility and Communication, respectively. The data were analyzed as continuous variables.

Table 4

Summary of Scores for Teacher Variables

Variable	Range of Scores Possible	Level	Range of scores Obtained	Number of Teachers
Teacher Self-Esteem	0-100	High	90 - 100	10
		Moderate	7 0- 88	23
		Low	56 - 58	10
Teacher Stress	0-4	High	3.0 -3.1	7
		Moderate	2.0 - 2.7	29
		Low	1.3 - 1.8	7

Note: The data were analyzed as continuous variables.

Table 5

Summary of Scores for Student Perception of Classroom Environment Variables (CES)

Variable	Range of Scores Possible	Level	Range of Scores Obtained	Number of Classes
Involvement	29-74	High	56 -65	15
		Moderate	42 - 50	14
		Low	29 - 39	14
Affiliation	13-73	High	63 - 74	13
		Moderate	50 - 62	16
		Low	38 - 51	14
Teacher Support	19-68	High	60 -68	13
		Moderate	52 - 58	17
		Low	20 - 26	13

Note: Scores based on class means.

Table 6

Summary of Scores for Independent Observations of Classroom Environment Variables Using the CSOS

Variable	Range of Scores Possible	Level	Range of Scores Obtained	Number of of Classes
Cohesion	1-4	High		0
		Moderate	2.0 - 3.0	20
		Low	1.2 - 1.9	23
Flexibility	1-4	High		0
		Moderate	2.0 - 2.9	11
		Low	1.0 - 1.8	32
Communication	1-6	High	5.0 - 5.4	
		Moderate	4.0 - 4.8	
		Low	2.0 - 3.7	

Note: High and low range scores for Cohesion and Flexibility are unbalanced (not optimal). Moderate range scores are balanced (optimal).

CHAPTER 5

RESULTS

Range of scores for the teacher variable, student perception of classroom environment and independent observations of classroom environment are found in Tables 3, 4 and 5.

Six multiple regressions were performed on the data collected. The multiple regressions were calculated to determine whether self-esteem and stress were significant predictors of each of the following: Involvement, Affiliation, Teacher Support, Cohesion, Flexibility and Communication. The results of these multiple regressions will be reported as related to the hypotheses posed.

HO1: Both self-esteem and stress will be statistically significant predictors of Involvement; but self-esteem will have a positive regression weight and stress will have a negative regression weight.

The multiple regression demonstrated that self-esteem and stress were not statistically significant predictors of Involvement.

HO2: Both self-esteem and stress will be statistically significant predictors of

Affiliation; but self-esteem will have a positive regression weight and stress will have a negative regression weight.

The multiple regression demonstrated that self-esteem was not a statistically significant predictor of Affiliation. However, stress had a negative regression weight (-8.4). Thus, for every increase of 1 point in the stress score, the Affiliation score is estimated to decline 8.4 points.

HO3: Both self-esteem and stress will be statistically significant predictors of Teacher Support; but self-esteem will have a positive regression weight and stress will have a negative regression weight.

The multiple regression demonstrated that self-esteem and stress were not statistically significant predictors of Teacher Support.

HO4: Both self-esteem and stress will be statistically significant predictors of Cohesion; further, self-esteem will have a positive regression weight and stress will have a negative regression weight.

The multiple regression demonstrated that self-esteem and stress were not

statistically significant predictors of Cohesion.

HO5: Both self-esteem and stress will be statistically significant predictors of Flexibility; further, self-esteem will have a positive regression weight and stress will have a negative regression weight.

The multiple regression demonstrated that self-esteem and stress were not statistically significant predictors of Flexibility.

HO6: Both self-esteem and stress will be statistically significant predictors of Communication; further, self-esteem will have a positive regression weight and stress will have a negative regression weight.

The multiple regression demonstrated that self-esteem and stress were not statistically significant predictors of Communication.

Additional Analyses

An intercorrelation matrix was computed for the following variables: Self-Esteem, Stress, Involvement, Affiliation, Teacher Support, Cohesion, Flexibility and Communication (Table 6). Included in this matrix are intercorrelations between the two independent variables (Teacher Self-Esteem and Teacher Stress) as well as between the six dependent variables (Involvement, Affiliation, Teacher Support, Cohesion, Flexibility and Communication) and the dependent and independent variables. This matrix reflects a sample of 43 teachers and 776 students. Although there are many significant correlations, the ones that are reported are those which have direct bearing on the hypotheses posed. There is a significant negative correlation between the two independent variables, Teacher Self-Esteem and Teacher Stress. The higher the Teacher Self-Esteem score, the lower the Teacher Stress score. There are significant positive intercorrelations between a number of the dependent variables. In particular, 6 positive correlations were found between the following pairs of dependent variables:

Involvement and Teacher Support .57 $p < .001$

Table 7

The Intercorrelation Matrix of All Variables

	S.E.	Stress	Inv	Affil	T.S. Sup	Coh	Flex	Com
SE	1.000	-.36*	.12	.13	-0.2	.17	.15	.22
Stress		1.000	-.08	-.33*	.038	-.28	-.20	.24
Inv			1.000	.25	.57***	.43**	.40**	.58***
Affil				1.000	.31*	.21	.17	.32*
T.S.					1.000	.41**	.33*	.69***
Coh						1.000	.57***	.69***
Flex							1.000	.51***
Com								1.000

$p < .05$ *, $p < .01$ **, $p < .001$ ***

Note: S. E.=Self-Esteem, Invol=Involvement, Affil=Affiliation, T.S.=Teacher Support, Coh=Cohesion, Flex = Flexibility, Com =Communication. N = 43 teachers and 776 students.

Involvement and Cohesion	**.43 p < .01**
Involvement and Flexibility	**.40 p < .01**
Involvement and Communication	**.58 p < .001**
Affiliation and Teacher Support	**.31 p < .05**
Affiliation and Communication	**.32 p < .05**

Finally, when examining the intercorrelations between the dependent and independent variables, we find that a high level of Teacher Stress is associated with a low level of Affiliation.

CHAPTER 6

DISCUSSION

The present study examined the basic context of formal education, the classroom environment. This research posed six hypotheses. The variables of teacher stress and teacher self-esteem were hypothesized to predict each of the following: Involvement, Affiliation, Teacher Support, Cohesion, Flexibility and Communication. A general discussion regarding the results, limitations, educational implications, and suggestions for future research is presented.

General Discussion

Six multiple regressions were computed to assess the significance of the predictor variables (teacher stress and teacher self-esteem) on the dependent variables (Affiliation, Involvement, Teacher Support, Cohesion, Flexibility and Communication). In general, multiple regression analyses indicated that teacher self-esteem and stress were not significant predictors of the targeted dependent variables. The predictor of teacher self-esteem was not found to be significant in any of the hypotheses posed. Stress was found to be a significant predictor only of Affiliation. For every increase of 1 point in the stress score, the Affiliation score is estimated to decline 8.4 points. This suggests that in classrooms where teachers experience significant stress levels, students will experience difficulties forming friendships and

working with other students. Teacher stress was not found to be a significant predictor in the other hypotheses posed.

In addition to multiple regression analyses, an intercorrelation matrix was computed for the two independent variables (Teacher Self-Esteem and Teacher Stress) and the six dependent variables (Involvement, Affiliation, Teacher Support, Cohesion, Flexibility and Communication). A significant negative correlation between the two independent variables, Teacher Self-Esteem and Teacher Stress, was found. The higher the teacher self-esteem score, the lower the Teacher Stress score. Significant positive intercorrelations between a number of the dependent variables were also noted. In particular, a high Involvement score was associated with high scores on Teacher Support, Cohesion, Flexibility and Communication. Thus, students who experience a high sense of Involvement in the classroom also tend to perceive a high level of Teacher Support. Further, independent observations of classroom environments characterized by elevated levels of Cohesion, Flexibility, and Communication were associated with elevated Involvement scores. In addition, students who have a high level of belonging (as measured by their Affiliation score) perceived high levels of Teacher Support and had classrooms characterized by high levels of Communication. Especially high correlations were found among the three measures of classroom environment as assessed by independent observers:

classrooms either tended to be simultaneously Cohesive, Flexible and offer good Communication, or possessed low levels of all three attributes. Finally, when examining the intercorrelations between the dependent and independent variables, a high level of Teacher Stress was found to be associated with a low level of Affiliation and a low level of Cohesion.

There are several factors that may have contributed to the lack of significant findings for the majority of the proposed hypotheses. One of these factors may have been the school setting. The observed fifth and sixth grade classes were in a middle school that had departmentalized classes. Perhaps the 45 minute class periods did not allow enough time for sufficient development of the outcome variables, so that they could be observed by the independent observers or self-reported by the students. Further, the middle school may place greater emphasis on content and discipline (Blyth, Simmons & Carlton-Ford, 1983; Midgley, Feldlaufer & Eccles, 1989) rather than on the variables chosen for study, resulting in a lack of significance for target relationships.

Another factor may have to do with the timing of the study. The measures used, although psychometrically appropriate, captured perceptions and observations of teachers and students, and the interactions between them, at a particular point in time. This data was collected at the end of the school year when teachers' sense of

self-esteem and stress levels may be impacted by their perceived successes or failures. At the beginning of the year, perceptions may be more optimistic, looking forward to anticipated success and stress levels may be lower after summer vacation. Thus, results may differ depending upon the time of year during which data are collected. Informal conversation with teachers at the end of the study revealed that the end of the year typically makes one confront the reality that not every student was reached, even though that may have been the goal at the outset of the school year. This reportedly affects a teacher's sense of self-esteem. Another factor contributing to the paucity of significant findings involves the sample size. The current sample size was adequate for this study. An increased sample size would have increased the power of the study, thus increasing the likelihood of significant findings.

Another factor that may account for the results of this study may be that there was not enough variability among the observed classrooms. The data suggest that the classrooms that were observed were found to be functioning, overall, in unbalanced (not optimal) range for the factors of Cohesion and Flexibility and in the low to medium range of Communication. This suggests that the variability among classes was low and therefore it may be less likely to find significant results. The data are presented in Table 5.

The use of the Self-Esteem Inventory (SEI, Coopersmith, 1981) may also help explain the results of this study. Although the psychometric properties reported were sound, it may be that the measure may not reflect self-esteem accurately. Specifically, there are 5 subscales and each subscale has 5 items. There may not be enough items in each subscale to adequately reflect the subscale and consequently total self-esteem.

Limitations

The external validity of this research may be limited to demographic groups similar to those involved in this study. Specifically, the subjects for this study were drawn from one urban, inner-city school. Consequently results may not generalize to dissimilar samples of 5th and 6th grade classes or to other age groups.

Another limitation of this study is the self-selection process through which subjects were included in the study. Teachers and students (with parental or guardian permission) volunteered to take part in this research. By taking part in the study, they demonstrated the willingness to give their time and effort to fill out self-reports and be observed. This willingness to participate may not be typical of the general school population.

Educational Implications

This study suggests that classroom environments characterized by high

levels of teacher stress are classrooms in which students may find it difficult to befriend and work with other students. The implication follows that independent student workgroups may not function well in such classrooms. Since the literature (Graybeal & Stodolsky, 1985; Sharan, Ackerman & Hertz-Lazarowitz, 1980; Slavin & Karweit, 1985; Tobias, 1989; Webb, 1982) suggests that classrooms incorporating cooperative learning techniques have greater student achievement levels than classes that do not and that cooperative learning is dependent upon students working together in small groups, it appears that teacher stress may thwart the accomplishment of this goal.

The educational implication of this is that provisions should be made for the teaching of stress reduction on-site and in training programs. This research suggests that the reduction of teacher stress yields a more affiliative classroom which is more conducive to working in small cooperative groups and which may increase student achievement levels.

Suggestions For Future Research

Future research could replicate this study using a population from an elementary school where the classrooms are self-contained. The full day, self-contained classroom may allow greater development of the outcome variables (Involvement, Affiliation, Teacher Support, Cohesion, Flexibility and

Communication).

Another recommendation for future research is the replication of this study with a larger sample size and/or demographic groups. Increased sample size generates additional power, thus increasing the chance for significant findings. In addition, replications of this study using other ethnic groups and school settings would provide greater generalization possibilities.

Further, future research could separate regular from special education classrooms as well as separating classes by subject.

APPENDIX A

TEACHER CONSENT TO PARTICIPATE IN THE RESEARCH PROJECT

Helen Ishofsky

School Psychologist

Middle School 180

700 Baychester Avenue

Bronx, New York 10475

Dear _____,

My name is Helen Ishofsky and I am a graduate student in Educational Psychology at the Graduate School and University Center of the City University of New York. I am currently conducting a research project that examines classroom environment. This information will help educators work more effectively with students. Please take a moment to read about this project to see if you are interested in participating.

If you choose to volunteer, you will be asked to fill out two questionnaires

anonymously. These questionnaires should take no more than fifteen minutes to complete.

Participation in this study is voluntary. You will not be affected in any way if you decide not to participate or withdraw from the study for any reason. The participants in this study will remain anonymous in that their names will not be mentioned in the final research paper.

If you wish to participate, please read and sign the statement below and return this letter in the enclosed envelope. If you would like more information about the study, or if you have any questions, please call me at 718-904-5661. Than you very much for taking the time to read and respond to this letter. Your time and cooperation are greatly appreciated.

Sincerely,

Helen Ishofsky

I agree to participate in the study described above.

_____

Teacher's signature date

APPENDIX A

PARENT CONSENT

Helen Ishofsky

School Psychologist

Middle School 180

700 Baychester Avenue

Bronx, New York 10475

Dear Parent/Guardian,

My name is Helen Ishofsky and I am a graduate student in Educational Psychology at the Graduate School and University Center of the City University of New York. As part of my studies, I am conducting a research project that examines classroom environment. This information will help educators work more effectively. Please take a moment to read about this study to see if you are interested in allowing your child to participate.

Participation is this study is voluntary. If you choose to participate, a school psychologist will ask your child to complete a 36 item questionnaire. This questionnaire will be filled out without identifying your child, other than to state

which class your child is in. The questionnaire will take no longer than ten minutes to complete. The classes will be coded so that confidentiality and anonymity will be maintained.

Be assured that you or your child will not be affected in any way if you decide not to participate or withdraw from the study for any reason. In addition, this study poses no risk to you or your child. The names of the participants in this study will not be mentioned in the research paper. If you would like more information about the study or if you have any questions, please call me at 718-904-5661. Thank you very much for taking the time to read and respond to this letter.

Sincerely,

Helen Ishofsky

I give my child permission to fill out the questionnaire.

_____

Parent's signature date

APPENDIX A

STUDENT ASSENT

Helen Ishofsky

School Psychologist

700 Baychester Avenue

Bronx, New York 10475

Dear _____,

My name is Ms. Ishofsky. I attend classes to learn how to help students do their best in school. I am working on a big project now. I am asking students if they want to help me with my school work.

Do you think you would like to help me with my school work? Only say "yes" if you really want to. It's okay to say, "no."

Let me tell you about what I ask students to do when they choose to help me. I ask them to answer questions about their classroom. Students read sentences about classrooms and then check off whether the sentence is true or false about their classroom. Students will fill out the questionnaire anonymously. This means that you will not write your name on the answer sheet. In addition the work that students

do with me will be kept confidential. That means that I will not tell anyone in school about your answers. Also, when I write my report, I won't mention any of the names of the students who helped me.

If you want to help me with my work, sign your name at the bottom of this letter. If you say "yes," now, you can always change your mind and say "no," later.

Sincerely,

Helen Ishofsky

---

student's signature date

APPENDIX B

SELF-ESTEEM INVENTORIES (COOPERSMITH, 1981)

SAMPLE ITEMS FROM THE SELF-ESTEEM INVENTORIES.

Things usually don't bother me.	Like Me	Unlike Me
I give in very easily.	Like Me	Unlike Me
Things are all mixed up in my life.	Like Me	Unlike Me
My family understands me.	Like Me	Unlike Me

APPENDIX C

CLASSROOM ENVIRONMENT SCALE (TRICKETT & MOOS, 1995)

SAMPLE ITEMS

Students in this class get to know each other really well.	True	False
This is a well-organized class.	True	False
The teacher takes a personal interest in students.	True	False
Students don't feel pressured to compete here.	True	False

APPENDIX D

TEACHER STRESS INVENTORY (FIMIAN, 1988)

SAMPLE ITEMS

	No strength				Major strength
There isn't enough time to get things done.	1	2	3	4	5
My class is too big.	1	2	3	4	5
I lack promotion and/or advancement opportunities.	1	2	3	4	5
I feel frustrated because of discipline problems in my classroom.	1	2	3	4	5
I lack opportunities for professional improvement.	1	2	3	4	5

APPENDIX E
CLASSROOM SYSTEMS OBSERVATION SCALE (FISH & DANE, 1992)
SAMPLE ITEMS

	Never			Constantly
Teacher encourages class to work as a group.	1	2	3	4
Teacher moves around class in response to student need.	1	2	3	4
Teacher accepts student suggestions.	1	2	3	4
Classroom job assignments are rotated.	1	2	3	4
Rules change as needed.	1	2	3	4

APPENDIX F

Summary of Regression Analysis For Variables Predicting Affiliation

Independent Variable	B Weight	Significance
Stress	-8.41	0.03
Self-Esteem	1.04	n.s.

Note: Multiple Correlation = 0.36

Summary of Regression Analysis for Variables Predicting Teacher Support

Independent Variable	B Weight	Significance
Self-Esteem	6.17	n.s.
Stress	0.58	n.s.

Note: Multiple Correlation = 0.22

Summary of Regression Analysis for Variables Predicting Involvement

Independent Variable	B Weight	Significance
Self-Esteem	6.32	n.s.
Stress	4.76	n.s.

Note: Multiple Correlation = .17

Summary of Regression Analysis for Variables Predicting Flexibility

Independent Variable	B Weight	Significance
Stress	4.17	n.s.
Self-Esteem	3.95	n.s.

Note: Multiple Correlation = .31

Summary of Regression Analysis for Variables Predicting Communication

Independent Variable	B Weight	Significance
Stress	3.88	n.s.
Self-Esteem	3.41	n.s.

Note: Multiple Correlation = 0.28

Summary of Regression Analysis for Variables Predicting Cohesion

Independent Variable	B Weight	Significance
Stress	7.38	n.s.
Self-Esteem	3.16	n.s.

Note: Multiple Correlation = 0.35

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IMAGE EVALUATION TEST TARGET (QA-3)

150mm

6"