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DIMENSIONS OF CLASSROOM ENVIRONMENT AS RELATED TO STUDENTS' SELF-CONTROL AND ACADEMIC SELF-CONCEPT

by

JACQUELINE SULLIVAN

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

1998

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This manuscript has been read and accepted for the Graduate Faculty in Educational Psychology in satisfaction of the dissertation requirement for the degree of Doctor of philosophy.

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ABSTRACT

DIMENSIONS OF CLASSROOM SYSTEMS AS RELATED TO STUDENTS' SELF-CONTROL AND ACADEMIC SELF-CONCEPT

by

Jacqueline Sullivan

Advisor: Professor Marian Fish

This study examined the relationship between dimensions of the classroom environment and children's academic self-concept and classroom self-control. A sample of 443 children in 20 fourth, fifth, and sixth grade classes in a suburban school district participated in the study. Classroom environment was assessed using the short form of the Classroom Environment Scale and an observational instrument, the Classroom Systems Observation Scale. Academic self-concept was measured using the Intellectual and School subscale of the Piers-Harris Self-Concept Scale. Self-control was assessed by classroom teachers using the Teachers' Self-Control-Rating Scale. Data were analyzed using a Hierarchical Linear Model. The results indicated that CES dimensions of classroom environment

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were not associated with academic self-concept. Children's ratings of involvement, teacher support and affiliation were significantly related to self-control outcomes. Implications of the findings are discussed in terms of the literature review and practical application of the findings in terms of classroom management.

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For better or worse CUNY has been a part of my entire adult life. I am grateful for the liberating educational experience as an undergraduate at Queens College in 1972, the professional training as a School Psychologist at Queens in 1983 , and finally the discipline of research at the Graduate School in 1998. The people that I have met at CUNY (students and faculty) have changed my life in important ways. Special thanks to Professor Marian Fish and the members of my Committee for their guidance on this project.

Thanks to my children Jon, Ali, and Mat. Your unwavering confidence and sweet encouragement have kept me inching forward. At each hurdle your support has been a celebration of family.

Christopher, another climb complete... the view is spectacular.

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DEDICATION

In memory of my father, Jack Valentino, who died this year

He had a kind heart and a generous spirit

May his legacy be a healthy curiosity and a broad smile

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CHAPTER 1

STATEMENT OF THE PROBLEM

This research investigates classroom functioning and explores how factors within the classroom environment relate to personal competencies in children, specifically self-concept and self-control. The research is an attempt to focus attention on children's social context when assessing their functioning. The framework of this study is based upon the theoretical work of Bronfenbrenner (1979,1986), which views the developing child from an ecological perspective. Two ecological models are used, one from the social climate literature, first conceptualized by Murray and further expanded by Rudolf Moos, and the other, from systems theory based on Minuchin's work (1974) and further expanded by Olson's Circumplex model.

Bronfenbrenner (1979,1986) has conceptualized the experience of the developing child as nested within the framework of overlapping and interacting systems. Moos and his colleagues (1986,1987) view the developing child from a contextual interactional, perspective

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whereby children are shaped by and are continually shaping their environments. Social Climate as conceptualized by Moos can be defined as the situational variables of the environment characterized by relationship dimensions, personal growth dimensions and system maintenance dimensions. Systems theory and social climate theory are ecological approaches which stress the importance of an interactional viewpoint when assessing children's functioning.

The classroom has long been recognized by educational researchers as a critical milieu for individual student's educational and interpersonal development. Classroom environment can be defined as the psycho social context of individual classrooms. For the purpose of this research, classroom environment is conceptualized as an interactive system which focuses on both teacher-student interaction and student-student interaction. Because classrooms and students are characterized by sets of variables which interact with each other, it is beneficial to research dimensions of classroom environments and reciprocal influences with regard to positive student outcomes. There is

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consistent research support indicating that differences in classroom climate mediate a variety of student cognitive and affective variables (Chavez 1984, Fraser 1991, Moos 1987). Walberg, Haertel & Wang (1993) identify classroom environment variables as one of the most critical factors in predicting student's academic performance.

The purpose of this research is to investigate the possible influence of classroom environment on two specific areas of child development: self-control and academic self-concept. The first area of child development to be investigated in relation to classroom functioning is self-control. Self-control has been studied extensively by educators and psychologists (Humphrey, 1982; Kendall, 1979, 1981; Meichenbaum, 1979). Specifically, researchers have looked at how to intervene to instill self-control in children. This has frequently been accomplished using a behavioral approach in social skills training programs. The literature suggests that social skills training is somewhat limited in that few children are targeted and the process can be both costly and time consuming

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(Humphrey, 1982). Also problematic is generalization and maintenance of learned behaviors in dissimilar contexts (Du Paul & Eckert, 1994; Gresham, 1994). Given the limitations of behavioral social skills training, an alternative, the social-environmental approach, has been suggested (Du Paul & Eckert, 1994; Humphrey, 1982). This approach is useful and focuses on manipulating factors in children's primary environments in order to foster self-control.

The social-environmental perspective requires that researchers assess characteristics of learning environments that facilitate positive outcomes. Clarifying the relationship between characteristics of the classroom environment and children's self-control allows for the possibility of environmental modification in terms of providing educational contexts conducive to positive student outcomes. In terms of intervention, this kind of manipulation is cost effective, reaches a larger population and may yield better results with regard to generalization and maintenance of desired behaviors.

The second area of child development to be

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investigated in relation to classroom functioning is academic self-concept. Self-concept is viewed from a cognitive situational perspective (Tesser & Campbell, 1983). Broadly speaking, this approach has been developed by social psychologists and suggests that a sense of self varies as a function of contemporary circumstances. For the purpose of this research, self-concept is conceptualized as a multi-faceted, hierarchical construct, with academic self-concept a contributing variable ultimately helping to shape global self concept (Marsh & Holmes, 1990; Marsh & Shavelson, 1985).

This model suggests that children's experiences are grouped largely around family, school and friends. In self description children use these milieus to describe themselves. Depending on the context children will report a range of responses with regard to self-concept so that a child may have good academic self-esteem but may feel less adequate with regard to physical abilities. Different contexts create varying dimensions for self-concept in such areas as school, social acceptance and physical ability. According to

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the Shavelson model (Marsh & Shavelson, 1985), the multifaceted structure of self-concept is hierarchical in terms of generality with individual experience in a situation at the base of a sense of self and general self-concept at the apex. Academic self-concept is essentially how a child feels about his/her ability to achieve in school and is believed to be more situational in nature than global self concept.

Dimensions of classroom functioning will be assessed from two perspectives: children's perception of classroom environment or an insider's view and independent observation or an outsider's view. Student's perceptions of classrooms will be assessed using the Classroom Environment Scale (CES)(Moos & Trickett, 1987). The CES assesses three dimensions of the classroom environment: relationship dimensions, personal growth dimensions, and system maintenance dimensions. The Classroom Systems Observation Scale (CSOS), (Fish & Dane 1992), a recently developed observational instrument, will be used to assess classroom functioning from an independent observer's perspective. The CSOS assesses cohesion, flexibility,

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and communication dimensions within classrooms. The relationship between CSOS and CES dimensions will be explored and the relationship of scale dimensions to children's self-control and self-concept, will be examined.

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CHAPTER II

REVIEW OF THE LITERATURE

In this chapter social climate theory will be discussed and current research on the effects of classroom environment on children's behavior will be reviewed. Systems theory will also be described. Research on the development of self-concept will be reviewed with emphasis on current research findings concerning self-concept in classroom settings. Finally, self-control in classroom contexts will be discussed as it relates to dimensions of the classroom environment.

Social Climate Theory

In recent years the ability to assess and manipulate human environments has increasingly become an area of importance for psychologists as they attempt to predict and modify human behavior. There is a growing body of knowledge which suggests that situational variables are critical to behavior and account for significant amounts of variance in terms of performance variables and human behavior (Moos 1978, Trickett & Moos, 1973)

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Moos and his associates (1979) believe that information about environmental dimensions is essential for the task of professional psychology. Their work considers social climate in critical milieus such as work, family and classrooms, describing and quantifying various dimensions in an effort to better explain the interplay of contextual factors with individual, personal variables. Environmental manipulation in the form of assessment and rearrangement is viewed as a powerful behavior modification technique toward the end of maximizing certain behaviors and encouraging particular lines of development. Moos (1979) has argued for the systematic description and classification of environments and assessment of their differential costs and benefits.

Current classroom environment research has its origin in the social climate research of Moos. The theoretical perspective for the social psychological framework used by Moos is based on the personality theories of Henry A. Murray. Murray (1981) maintains that if the behavior of an individual is to be understood, one must assess the external environment

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within which the behavior occurs. Environments can be assessed based on the potential harm or benefit that the environment creates for the individual. Individuals will avoid situations perceived to be potentially damaging and will try to connect with environments perceived as beneficial. Central to Murray's theory is the concept of environmental press.

Environmental press can be described as the directional tendency of the environment. For Murray, the notion of press is critical in describing the environment and the interaction between individuals and the contexts they inhabit. Moos (1976,1977,1978) expanded the notion of press and developed a theory of social climate. Essentially this is an attempt to assess variables in the environment in the way that traits are described in personality theory. Moos describes environments as having specific characteristics or dimensions. Varying dimensions create social climates. Human behavior is the result of the interaction between individuals' characteristics and the requirements of the environment.

Murray distinguishes two types of press, Beta

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press and Alpha press. Beta press is the individual's own perception of the environmental situation while alpha press is the "objective" formulation of the environment as can best be determined through detached observation.

Moos, using Murray's notion of "beta press" has developed social climate scales which assess the dimensions of various types of environments including schools and classrooms (Moos, 1976,1977). Moos' theory of social climate proposes dimensions of environments which are common across social contexts. According to Moos, social climates can be described using three relevant dimensions common to all environmental contexts: Relationship dimensions, Personal Growth dimensions and System Maintenance dimensions.

Relationship dimensions assess the degree to which people are involved with and supportive of each other. The Relationship dimension includes such factors as involvement, affiliation, peer cohesion and conflict resolution. The Personal Growth dimension reflects the underlying goals toward which an environment is oriented. This dimension includes factors such as task

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orientation, competition, achievement and interdependence. The System Maintenance dimension has to do with the structure which characterizes a setting. Factors include organization, rule setting, clarity and control.

The three dimensions articulated by Moos are reflected in the three Social Climate Scales developed by Moos and his associates. The scales have been adapted for use in specific settings: the Classroom Environment Scale (CES; Moos & Trickett, 1987), the Work Environment Scale (WES; Moos, 1986), and the Family Environment Scale (FES; Moos & Moos, 1986). Moos has suggested that common dimensions across contexts are a way to form connections between school, work and family settings (Moos, 1986).

Moos' research on social climate led to the development of the CES which conceptualized dimensions of the classroom environment in a way that is theoretically sound and well researched (Fraser,1991). The CES will be used as part of this research to measure classroom environment from what Murray conceptualizes as beta press or an insiders view.

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Moos believes that the fit between student and classroom characteristics accounts for a large part of the variance in student behavior and development. The classroom climate research reviewed below provides evidence of the relationships between dimensions of classroom functioning and students' affective and cognitive outcomes.

Classroom Climate Research

Classroom climate researchers recognize that children are affected by the social contexts which they inhabit (Chavez, 1984; Fraser, 1991). Historically many attempts have been made to conceptualize and to quantify children's primary social matrices. For children the critical milieus are family and classroom learning environments (Marjoribanks, 1991; Moos, 1976; Nelson, 1984; Zelen, 1993). A strong tradition in this research has been the prediction of a variety of student affective and cognitive outcomes based on students' perception of classroom learning environments either using individual students' perceptions, or the mean class perception as the unit of measure.

Earlier trends in classroom climate research

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focused on teacher variables, such as verbal behavior in relation to classroom atmosphere (Chavez, 1984). In 1973, Trickett and Moos proposed a model which specifically assessed psycho social environment. Their model conceptualized the classroom as a social system, including not only teacher-student interaction, but student-student interaction as well. Several high inference measures using student perception have been developed over the last twenty years (Fraser, 1989; Fraser, 1991). There is a strong research base which suggests the usefulness of high inference measures to study classrooms in an effort to predict a variety of student cognitive and affective outcomes.

A meta-analysis by Haertel, Walberg & Haertel (1981) using classroom environment studies provided consistent support for the predictive validity of students' perception of classroom environment as a factor in student outcomes including motivation, achievement and student satisfaction. Haertel, Walberg & Haertel (1981) analyzed 12 studies with data involving 823 classes and approximately 17,000 students. Their findings clearly supported a strong

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association between several student cognitive and learning outcomes as they related to students' perception of the psycho social characteristics of their classrooms. Haertel reports that gains in cognitive and affective learning outcomes were consistently associated with classes which were perceived as having greater cohesiveness, satisfaction, goal direction, organization and less friction.

Fry and Coe (1980), using the Classroom Environment Scale reported an association between several classroom dimensions and motivation to complete academic tasks. The researchers randomly selected 10 students in each of 60 classrooms and administered the Academic Motivation Inventory to them. A second group of ten students was randomly selected from each of the 60 classrooms and the CES was administered. They found that classes perceived to be high in teacher support and involvement had students who reported good motivation and a desire to improve in academic areas. High teacher control and organization were associated with negative feelings regarding school and academic malaise. Task orientated classrooms had students who

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were goal directed and career minded.

In addition to predicting a variety of important educational outcomes, classroom climate research has attempted to compare and contrast children's notions of the ideal classroom with their actual classroom by investigating the difference between students' and teachers' perception of actual and preferred environments. Moos and Trickett (1987) report that teachers tend to see classrooms more positively than students, reporting higher involvement, more teacher support and higher levels of rule clarity. In addition, teachers reported slightly more affiliation, task orientation, competition, order and organization. Students, on the other hand, reported more teacher control than was reported by their teachers. In descriptions of ideal environments, students and teachers prefer emphasis on involvement, affiliation, teacher support, organization and innovation. Teachers preferred more task orientation and control as compared to students and both groups preferred less competition.

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Classroom context as an outcome variable

In addition to predicting student outcomes, classroom environment research has been used to differentiate between various curricula and instructional methodologies. For example, Wright and Cowen (1985) evaluated a social studies peer-teaching program designed for fifth graders. They reported that students participating in the program perceived their classes to be more involved and organized than did peers in the control group. Elevated scores were related to teacher's emphasis on routines, clear student expectations, and increased involvement by students.

Tobin, Treagust & Fraser (1988) studied exemplary practices of science teachers using both qualitative methods involving classroom environment assessment and a more ethnographic approach involving the use of direct observation and field study. Environments of exemplary teachers' classrooms were compared directly to those of less capable teachers. Exemplary teachers classes were clearly discernable based on dimensions of the psycho social environment as

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perceived by students in their classrooms. Exemplary teachers tended to maintain classroom environments which are high in involvement, teacher support, order and organization (Tobin, Treagust,& Fraser 1988).

Students' perceptions of classroom environment have been used in research as dependent variables to investigate classroom characteristics such as class size, curricula variation, classroom management styles and teacher variables. Trickett and Moos (1974) and Moos (1979) demonstrated that high rule clarity, teacher support and student involvement produced students who felt more satisfied and had fewer absences. Students in classrooms viewed as highly competitive felt they learned more in those settings.

Person-environment fit research

Perhaps the most interesting area of research is the person-environment fit literature which suggests that students achieve better when they are in their preferred classroom environment (Fraser, 1983). This approach uses an interactional framework to explore whether educational outcomes are a function of the

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nature of the actual classroom environment and the degree to which behavior is or is not influenced by the match between a student's preference and the actual environment. A good example of this research trend is work done by Fraser and Fisher (1983) which linked better learning outcomes in science when students' preferences were congruent with actual classroom environments. Children who preferred classrooms high in teacher support, competition, clarity and innovation achieved better in classes congruent with those dimensions. Additionally, students who preferred high organization who were placed in highly organized classrooms expressed more leisure interest in the subject taught. The same kind of relationship existed for students who preferred teacher support. Teacher support was more positively related to interest in the subject area taught for those students.

A further refinement of the person-environment fit research has to do with fit across contexts. Both the CES and the CSOS , which will be described below, have parallel forms which attempt to assess family environment. Since children's primary social milieus

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are home and school, attempts to coordinate both environments will ultimately lead to a fuller understanding of children's situation specific behaviors and their general development.

Nelson (1984) and his colleagues investigated the combined influence of family and school contexts on children's development. Cohesive, well-organized families promoted students' peer relationships and scholastic self-concept. Children in families and school settings high in both support and structure had the highest academic self concept.

Zelen (1993) studied the relationship between preadolescents' self-concept and their perceptions of both classroom environment and family environment. Using both the CES and the parallel family form, the FES, Zelen attempted to better understand the effect of both milieus on the development of children's self-concept. Results of this study demonstrated that both the family and the school environment are important factors in the development of pre-adolescent self-concept. Zelen found that for female subjects the strongest predictor of self-concept was family

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relationships, followed by achievement, classroom systems maintenance (i.e., control and organization), and family personal growth. For male subjects the strongest predictor of self-concept was achievement and classroom relationships, followed by family personal growth (i.e., self-sufficiency and intellectual-cultural orientation).

Fraser (1991) has called for research which uses both a student perception measure of classroom environment and an observational technique in one study. There are obvious advantages to both types of assessment. A question and answer format, such as the one used in the CES, is based on students' experiences over time. The format is easy to administer and is economical. Observational scales also have benefits. The use of independent observation assesses the environment from an alpha press perspective. An outsider's view is valuable in that trained observers are used and some bias is avoided. Using both methodologies allows for greater confidence in outcome research as it relates to classroom environment.

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Systems Theory

The social psychological perspective just discussed recognizes the impact of environment on behavior (Moos & Trickett 1987, Murry 1981). Recent paradigm shifts in the assessment literature have stressed relationships as the unit of measure rather than individuals (Carlson & Grotevant 1987; Grotevant & Carlson, 1989; Lusterman, 1985). The current ecological perspective expands further the conceptualization of an individual as part of a network of systems which are interrelated (Bronfenbrenner, 1986). Both social climate research and systems theory stress interactional analysis of behavior with consideration given to situational factors and systems functioning (Bronfenbrenner, 1979; Moos 1976; 1977). Systems theory incorporates an ecological perspective by viewing behavior as a product of the interaction within and between systems.

This is not a new concept. Practitioners in the field of family psychology have used this approach extensively to assess and treat families. Since children's social context consists largely of home and

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school, it is important that practitioners be able to assess these settings in meaningful ways toward the goal of better understanding and helping individual children.

General systems theory is helpful in conceptualizing the different contexts in which children function. Minuchin (1974) has been instrumental in applying systems theory to the assessment of family functioning. This perspective emphasizes the interactional components of systems and the behavior of individuals in context. Systems theory adds a new level of complexity to assessment, providing additional information and allowing for a more integrated intervention approach.

It is only recently that this theoretical perspective has been applied to school settings (Fish & Jain, 1988). Research suggests that families and schools have common functional and structural elements (Conoley, 1987; Moos & Trickett 1987; Zelen,1993). Though there is extensive research regarding children's functioning within family systems, there has been little research using this perspective in school

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settings. Measuring classroom characteristics from a systems perspective and relating those characteristics to student behavior provides educators and psychologists with a working knowledge of the interactional process which evolves in classrooms.

A systems analysis of classroom functioning provides a solid conceptual base and a theoretical framework for understanding children's behavior. The Classroom Systems Observation Scale (Fish & Dane 1992) is an observational tool designed to assess classrooms from a systems perspective using what Murray conceptualizes as an alpha press perspective. The CSOS is a relatively new instrument and will be used in this research to assess classroom environment. Comparisons will be drawn between the CSOS and the CES and both measures will be used to examine the relationship of classroom environment to self-control and self-concept variables in children.

The theoretical basis of the CSOS is grounded in systems theory, specifically, the Circumplex Model of Marital and Family Systems developed by Olson, Russell & Sprenkle (1989). The Circumplex model has been used

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extensively to assess family functioning. The model proposes three dimensions of functioning: cohesion, adaptability and communication. Fish and Dane have adapted those dimensions for classroom use. The CSQS measures dimensions of classroom functioning yielding scores in cohesiveness, flexibility and communication and a global score. The global score discriminates functional from dysfunctional classroom systems. Scores are plotted on an ecomap indicating balanced, healthy functioning or more extreme dysfunctional ranges present in classrooms. The model assumes a curvilinear relationship on the cohesion and flexibility dimensions so that moderate scores on a given dimension are judged to be balanced and functional while extremes on dimensions represent an imbalance and dysfunctional behavior. The communication dimension is a linear scale with high scores representing more functional systems.

Because the CSQS is an observational instrument, it provides information about the classroom environment that is from a different perspective than that obtained using children's perceptions of the environment. When considering specific outcome variables both

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perspectives are valuable and ultimately will yield a clearer picture of which factors are critical to positive outcomes for students.

Self-Concept In Classroom Settings

Theory of self-concept

The development of self-concept in children is a well-researched topic (Wylie, 1979;1989). Self-concept as it relates to academic settings or more simply the influence of school on children's self-esteem is important to educators and has been the subject of systematic inquiry in the past several years (Marsh & Holmes 1990; Piers & Harris 1964; Wylie 1979,1989). Shavelson and his colleagues have worked extensively to clarify the issues surrounding self-concept research and have developed a multifaceted, hierarchical model of self-concept (Byrne & Shavelson 1986). Marsh and Shavelson (1985) define self-concept as a person's perception of himself/herself which is formed through experience with the environment. The concept of self is seen as useful in explaining and predicting how one acts. An important aspect of the model is the cycle in

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which one's perceptions of self are thought to influence the way in which one acts and one's actions in turn influence the way in which self is perceived.

The notion of self from a cognitive situational perspective has been articulated by Kelly and later by Epstein (1973). Kelly (1955) introduced the notion of individuals as "scientists" solving the problems of everyday life. People make and test hypotheses and revise their concepts accordingly. Self-concept is seen as composed of core constructs which maintain identity and peripheral constructs which are less stable. In this framework self constructs function as postulates in a broader self theory which ultimately guides and shapes behavior. In terms of students' behavior, environmental input in specific settings assists students in forming opinions about "self" and that input is eventually integrated into a more stable theory of self.

Other theorists have elaborated and extended this framework. Epstein (1973) postulates a cognitive self theory. Epstein sees self-concept as a conceptual tool which is used through the life cycle to maintain a

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favorable balance of pleasure and pain.

More recently Shavelson and Marsh (1985) have incorporated these theories conceptualizing self-concept as organized, multifaceted, and hierarchical. The hierarchical aspect is consistent with social psychological theories which view self-concept as situation specific. Presumably, as one moves up the hierarchy from specific to general self-concept, facets of the construct become less situational and more stable. It is at the base of the hierarchy where the greatest variation occurs, and it is there that situational variables are greatest. There is extensive research on the plasticity of self-concept as a construct and the interaction of self-concept with situational variables. Shavelson's model allows for situational variability at the lower level of the model but also allows for a more stable self-concept at more global levels.

With regard to educational settings, different levels of specificity have been suggested with global self-esteem distinguished from academic self-esteem. Academic self-esteem is essentially the child's beliefs

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concerning his or her ability to achieve in school. Current research efforts have focused on academic achievement and school climate with regard to academic self-concept (Hoge & Smit, 1990).

Research

Research on classroom environments has consistently found a relationship between self-concept and classrooms that emphasize affiliation rather than competition (Johnson & Johnson, 1979; Slavin & DeVries 1979). Teacher effects on self-esteem have been widely researched and factors such as teacher support, student autonomy, rule clarity and good communication have been related positively to students' self-esteem (Moos & Trickett, 1987).

Nelson (1984) examined the relationship between dimensions of both the classroom and family environments of middle school students as they related to student scholastic self-concept, achievement, and student satisfaction. Classroom environments high in support and structure were consistently associated with high levels of scholastic self-concept and with student

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satisfaction with teachers. Students with the highest levels of scholastic self-concept had both classroom and family environments which provided consistent support and structure.

Teachers who were viewed as supportive and who encouraged student autonomy were associated with high self-esteem in the children studied. Teacher involvement, stress on rules and regulations and innovation were all associated with increased self-esteem in students. Teacher control as a variable was inversely associated with academic self-concept.

More recently, Hoge and Smit (1990) used a longitudinal study of sixth and seventh grade students to examine the effect of school experiences on children's self-esteem. Using a multiple regression analysis, several school variables such as grades, school climate, social habits, and teacher evaluations were used as predictors of children's self-esteem.

Consistent with current thinking on the hierarchical nature of self concept, the authors measured self-esteem at three levels: global, academic and discipline-specific. It is important to note the

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authors finding that different levels of self-esteem clearly have different predictors. The authors found that, overall, school climate and teacher evaluations were associated with self-esteem at the global and academic levels. Grades and student ratings of teachers were important predictors of self-esteem at specific discipline levels. These findings underscore the complexity of the self-concept construct and its multidimensional nature.

When global self-concept is used as a variable in studying classroom environment, the results are less pronounced. Galuzzi, Kirby and Zucker (1980) examined self-concept and students' and teachers' perception of classroom environment. Subjects were 441 fifth grade students and their teachers. Students were administered group tests measuring self-concept. The global score of the Piers Harris Children's Self-concept Scale was used for this measure. The CES was administered to measure both students' perception of the classroom environment and teachers' perception of the classroom environment. Correlations indicated a statistical association between children's self-concept and their perception of

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the classroom on five CES dimensions (Involvement, Affiliation, Teacher Support, Friction, and Satisfaction). Though a relationship was found, correlations were generally low. The authors concluded that despite the weak correlations, findings do indicate that personal variables and situational variables interact in predictable ways.

When children in this study were grouped as to high, medium and low self-esteem, analysis of groups indicated differences in their perceptions of classroom environment. There were significant differences between the way in which low self-esteem children and high self-esteem children viewed their classroom environment. There were also significant differences between the way low self-esteem children and teachers viewed the same classroom. These findings are interesting in that they underscore the reciprocal nature of personal variables such as self-concept and dimensions of classroom environment.

Summary

Over the last several years the construct of self-

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concept has evolved and the dynamics which contribute to the formation of self-concept in children have been explored. Bracken and Mills (1994) point out that self-concept is the most widely studied affective variable in education. Self-concept research (Wylie 1979,1989) has been criticized due to the poor psychometric properties of the measures used and the soft definition of the constructs employed by researchers. Wylie has concluded that equivocal outcomes in self-concept research are largely a function of the poor psychometric qualities of the measures employed. Much of the self-concept research to date has focused on operationally defining self-concept and improving the psychometric qualities of the measures used. With improved understanding of the construct and better measures, future research will yield better results in terms of identifying dimensions which impact on the development of self-concept in children.

Current research suggests the reciprocal nature of environment and self-concept. The multidimensional and hierarchical aspects of self-concept suggest that self-concept is malleable and support the need for further

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research to clarify how ones perceptions of self are formed and how ones perception of self affects the way in which one acts. For children, academic setting is a productive area for this kind of research.

Self-Control in Classroom Settings

Children's disruptive classroom behaviors have been addressed using a variety of theoretical orientations including application of behavioral principles and more recently social skills training. Behavior modification techniques and skills training have been used successfully in teaching social skills, curbing aggressive behavior in children and promoting self-control (Gresham, 1994).

A serious problem in attempting to teach self-control through social skills training is the lack of generalization across situations and the maintenance of responses taught (Du Paul & Eckert, 1994; Kendall & Wilcox, 1979). Review of empirical studies evaluating social skills training programs have highlighted problems with this approach. Du Paul & Eckert (1994), reviewing seven empirical studies evaluating

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maintenance and generalization of the effects of commercially available social skills training programs, found little evidence for generalization and limited results for maintenance of skills taught.

Humphrey (1984) has proposed an alternate approach to developing children's self-control competencies. Humphrey examined the relationship between perception of the class social environment and children's self-control. The author assessed self-control from three perspectives: children's own perception, teacher evaluation and behavioral observations. Subjects were 755 fourth and fifth grade students. The CES was used to measure subjects' and teachers' perception of the classroom environment. Children's views of the environment were strongly associated with self-control. High class order, involvement and rule clarity were significantly related to both behavioral observations and children's ratings of self-control. Children's views of the classroom environment were good predictor variables for children's self report of self-control and teachers ratings of self-control in students. The author suggests the importance of this study in

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determining social environmental dimensions which optimize children's efforts at self-control.

Humphrey notes that there is little research as to the interaction between children's self-control and their primary social environments. The author suggests that children's self-control could be fostered by developing relevant dimensions in their environments or by fitting children to environments conducive to self-control competencies.

The Teachers' Rating Scale (Humphrey, 1984) was developed as a brief rating scale of children's self-control. The scale reflects a cognitive-behavioral conceptualization of self-control. This definition involves two aspects of children's self-control: cognitive (legislative) and behavioral (executive). Active cognitive factors include deliberation, problem solving, planning and evaluation. The self-controlled child is viewed as nonimpulsive. In terms of overt behavior the self-controlled child has the ability to after deliberation execute the behavior that is chosen and inhibit the behaviors that are cognitively rejected (Kendall& Wilcox 1979). Use of both factors in the

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analysis of data is advisable given each may be differentially sensitive to intervention. The goal of classroom environment research is to create environments which enhance children's positive behaviors. This involves a thorough understanding of the targeted behavior and an accurate assessment of the environment of interest.

Du Paul & Eckert (1994) have expanded this approach and suggested that reprogramming the environment may be a critical factor in achieving behavioral change. Environmental factors clearly have a mediating role in social skills acquisition and maintenance. Carey & Stoner (1994) comment that " ... social behavior occurs in the context of relationships between people. A potential problem with many social skills programs is that training and evaluation of students' skills occurs without adequate consideration of the relationships, or social environment, within which those skills are displayed." When assessing self-control, those factors in the environment which promote and support positive outcomes for children need to be identified.

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Summary and Conclusions

The study of classroom environment and its impact on individual children has both applied and theoretical significance. It is also clear that children's self-concept is malleable and that home and school are the two most critical milieus for the development of self-concept in children. It is clear that classroom functioning can be assessed and altered to better meet the needs of children. Traditional intervention has focused on individual children. Interventions which focuses on the systems children inhabit ultimately produce environments which support positive outcomes for children.

In addition to intervention with individual children and their families, quantifying systems functioning is likely to be helpful in predicting student outcomes and in problem solving regarding classroom difficulties. Classroom teachers who are aware of dysfunctional aspects of classroom management should be in a better position to effect change when a systems analysis is introduced. This approach considers

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the functioning of the entire class and takes the emphasis away from the classroom teacher. In doing so attention is focused on the impact of multiple systems on children's behavior. This approach views children as active participants in shaping their environment and in being shaped by it.

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CHAPTER III

PROBLEM STATEMENT

The purpose of the present study is to assess dimensions of the classroom environment and relate those variables to the development of academic self-concept and self-control competencies in preadolescent children. The goal of this inquiry is to add to the classroom environment research by illuminating factors in children's classroom environment which foster the development of self-control and self-esteem. Dimensions of the classroom environment will be measured from two perspectives: a) Children's perception of classroom environment with regard to relationship, personal growth and systems maintenance dimensions b) Independent observation of cohesion, flexibility and communication dimensions. Environments are viewed using children's perspective and independent observation in order to get a more comprehensive picture of classroom dimensions as they relate to the variables of interest.

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Research Questions

In order to investigate contextual factors which may affect students' behavior with regard to self-control and academic self-concept, the following research questions were proposed and investigated:

1. Is there a relationship between dimensions of classroom environment as children perceive it and academic self-concept?
2. Is there a relationship between dimensions of classroom environment as children perceive it and the degree of self-control children demonstrate in class?
3. Is there a relationship between classroom environment as perceived by students and classroom environment as assessed by independent observation?
4. Is there a relationship between dimensions of classroom environment as assessed by independent observation and children's academic self concept?
5. Is there a relationship between dimensions of classroom environment as assessed by independent observation and children's self control in class?

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Hypotheses

The following hypotheses were investigated. The first five hypotheses refer to student measures of classroom environment(CES):

H1. There will be a direct positive relationship between classrooms perceived by students as high in the CES relationship dimension and academic self-concept.

H2. There will be a direct positive relationship between classrooms perceived by students as high in the CES relationship dimension and self-control,

H3. There will be a direct positive relationship between classrooms perceived by students as high in the CES Personal Growth/Goal orientation dimension and academic self-concept.

H4. There will be a direct positive relationship between classrooms perceived by students as high in Personal growth/goal orientation dimension and self-control (cognitive/personal, behavioral/interpersonal).

H5. There will be a direct positive relationship between classrooms perceived by students as high in the CES system maintenance dimension and self-control (cognitive/personal and behavioral/interpersonal).

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The next two hypotheses refer to the independent observation measure CSOS:

H1. The mean academic self-concept score in individual classes will vary as a function of dimension scores of the CSOS. There will be a direct positive relationship between dimension scores of the CSOS (Cohesion, Flexibility and Communication) and academic self-concept.

H2. There will be a direct positive relationship between the mean self-control score for both factors (cognitive/personal and behavioral/interpersonal)of self-control and Total self-control and CSOS dimension scores (Flexibility, Cohesion, and Communication).

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CHAPTER IV

METHODOLOGY

Subjects

The subjects of this study were pre-adolescent students from twenty classes in grades four, five, and six. Subjects are from a suburban elementary school located on the southern shore of Long Island in Nassau County. The community has a population of approximately 19,000, mostly of middle income families. The district is fairly homogeneous with regard to demographic characteristics such as socioeconomic status and racial and ethnic composition. For a full description of the sample population please refer to Table I.
The district includes three elementary schools , one middle school and a senior high school. For statistics regarding teacher characteristics refer to Table 2.

The data are from a sample of 443 students in twenty classrooms in the three elementary schools. The total number of students studied was N=443. The total number of classes studied was N=20. For a description of the sample refer to Table 3.

All children were administered group tests which

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measured academic self-concept and perception of classroom environment. Each class was observed using the CSOS. Teachers in each of the twenty classrooms completed the Teachers' Self-Control Rating Scale for the 443 individual student's in each of the twenty classes. Individual children completed the Classroom Environment Scale (Form S) and the Intellectual and School Status Scale of the Piers-Harris Self-concept Scale: Revised.

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Table 1

DEMOGRAPHIC CHARACTERISTICS OF POPULATION

Variable	% of Total Enrollment
White%	83.4
Black%	5.1
Hispanic%	7.8
Other%	3.8
Annual Attendance Rate	93.2
% Free/Reduced Lunch	9.0
LEP Rate	2.7
Drop-out Rate	0.7
Regents Diploma 94/95	42.4
% To College	90.6

Note. LEP = Limited English Proficiency

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TABLE 2

TEACHER CHARACTERISTICS OF POPULATION

Pupil/teacher ratio	13:1
Annual turnover	6%
Median salary	63,218
Permanent certification	87%
Median years of experience	17
MA/MS+30 or Doc	50%

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Table 3

Description of Sample

Grade	Number of Students	Number of Classes
4	158	7
5	135	6
6	150	7

Note. N=443

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Instruments

The Classroom Environment Scale CES

The Classroom Environment Scale is one of ten Social Climate Scales developed by Moos and Trickett, (1974). The CES is composed of nine subscales that assess the social climate found in school classrooms. It has been used extensively in elementary school settings to measure dimensions of classroom functioning. The scale is designed to measure teacher-student and student-student interactions and the organizational structure of the classroom. The CES has three forms. The Short Form (Form S) was used in this investigation.

The Classroom Environment Scale (Form S) is a self administered true-false questionnaire comprised of 36 items. This instrument has been used extensively in research and has been adapted from the longer ninety item questionnaire. The test-retest reliability has been reported to range from .72 to .90. Internal consistencies were acceptable ranging from .67 to .86. Factor analysis supports the conceptual integrity of each of the factors used in the CES. This study focuses

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on subscale dimensions of relationship, personal growth/goals and systems maintenance. Research indicates that these factors are distinct. Intercorrelations of subtests yielded an average intercorrelation of .27 for individual subscales (Moos & Trickett, 1987).

Intercorrelation of the short and long forms of the CES yielded correlations above .70 indicating that the 36 item CES Short form produces similar results as the long form and is a viable research option. The authors suggest the use of the short form particularly when class means are used as the unit of analysis. The authors report good research support for content, construct, and face validity (Moos & Trickett 1987).

The CES is composed of nine subscales which tap three underlying domains: the Relationship dimension, the Personal Growth or Goal Orientation dimensions and the System Maintenance and Change Dimensions. They are described below:

Relationship Dimension

This dimension measures student involvement, affiliation and teacher support. Items reflect the

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extent to which students are attentive and willing to participate in class, the level of friendship students feel for each other and the amount of help and friendship the teacher manifests. High scores compared to the normative sample reflect children' perception of high student involvement, affiliation and teacher support (Moos & Trickett, 1987).

Personal Growth/Goal Orientation Dimensions

This dimension assesses the degree of emphasis on completing planned activities and aspects of competition for grades, recognition and the degree to which good grades are hard to achieve. High standardized scores compared to the normative sample indicate students' perception of the classroom environment as highly competitive and task oriented.

System Maintenance

This dimension assesses students' perception of how the classroom is managed in terms of order, rule clarity, teacher control and innovation. Items reflect consequences for rule breaking, strictness of teacher, extent to which students' share control and help to plan. High standardized scores compared to the

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normative sample, reflect students' perception of high levels of order, rule clarity, teacher-control, and innovation (Moos & Trickett 1987).

The CES was designed to tap three aspects of the classroom environment. The scale reflects the teachers ability to manage the classroom as well as the degree to which the teacher supports students. The CES is designed to assess student-student relationships as well as teacher characteristics.

The CES is scored using a template which tallies the raw score for each CES subscale. There are nine subscale scores and each has four items. Dimension scores are tallied by summing the subscale scores. Sample items for dimension scales are provided in the appendix.

Classroom Systems Observation Scale CSOS

The CSOS was developed by Fish and Dane (1992). The CSOS (1995) is an observational instrument developed to assess classrooms from a systems perspective. The CSOS was initially developed to assess children in the context of their families and classrooms. In order to do this effectively, the CSOS

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was developed to parallel the Clinical Rating Scale, a measure of familial environment based on the Circumplex Model of Marital and Family Systems (Olson, Russell, & Sprenkle, 1989). The Circumplex Model proposes three dimensions of family functioning: Cohesion, Adaptability and Communication.

Each of these dimensions was adapted to classroom functioning and three dimensions were established: Cohesion, Flexibility, and Communication (Fish & Dane, 1995). Classroom teachers, master teachers and supervisors were used to develop the initial item pool. Experts in the fields of education, family therapy, school psychology and social work participated in item selection.

Preliminary reliability data explored inter-rater and test-retest reliability. Results indicated rates ranging from .64 to .85 for inter-rater reliability and .55 to .74 for test-retest reliability.

Cohesion

This dimension assesses feelings of closeness shared by students for each other and for their teacher

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as well as teacher support. Scores in the balanced range reflect emotional bonding, supportiveness, and well defined boundaries. In classrooms with appropriate emotional bonding, group activities are encouraged, physical and emotional boundaries are respected.

Flexibility

This dimension refers to flexibility within the classroom system. A classroom in the balanced range of functioning exhibits flexible leadership, consistent discipline, flexible roles, and negotiation to resolve conflict.

Communication

This dimension assesses teachers' and students' ability to express thoughts, feelings and ideas. Scores in the balanced range reflect classrooms which promote open discussion, attentive listening, and clarity of message. Balanced scores in this area reflect appropriate listener's skills, speaker's skills, self-disclosure, clarity, continuity and positive regard and respect.

Scoring of the Classroom Observation Scale is done immediately after the observation. The number of checks

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placed under each item is tallied and divided by the number of scored items to obtain dimension scores. Cohesion and Flexibility dimensions are scored 1-4, whereas Communication is score 1-6. Dimension ratings can be plotted on the CSOS Ecomap. The Ecomap provides a visual description of classroom functioning on dimensions of interest. A sample Ecomap is provided in the appendix. Sample items from the CSOS are provided in the Appendix.

Piers-Harris Children's Self-Concept Scale-Revised (Piers & Harris, 1983)

This instrument is an 80-item self-report inventory consisting of declarative statements for which the respondent indicates "yes" if the sentence describes the examinee and "no" if the statement does not describe the examinee. The instrument was developed as a measure of general self-concept in a global sense. It is comprised of factors which reflect how individuals feel about themselves and their general characteristics, as well as social interactions with others, school and physical appearance (Piers,

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1977,1984). Test-retest stability coefficients in a four month interval are reported at .71 to .77 (Piers, 1977). Test-retest reliability coefficients ranged from .42 to .96 and internal consistency coefficients for the total score ranged from .88 to .93 (Piers, 1984) The Piers-Harris is a widely used instrument which has been reviewed positively by the Ninth Mental Measurements Yearbook (Buros, 1972; Wyle, 1974).

The Piers-Harris Children's Self-Concept Scale: Revised (Piers & Harris, 1983) is comprised of six subscales: intellectual and school status, physical appearance, anxiety, popularity, happiness and satisfaction. In addition a global score which sums all responses that are in the direction of positive self-concept provides a global measure of overall self-esteem.

For the purpose of this study the intellectual and school status sections of the Piers-Harris Self-concept Scale: Revised will be used since academic self-concept is the area of interest. The Piers-Harris though widely used in research (Piers 1984, Wylie 1974) is not without critics. Marsh and Holmes (1990) have suggested

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that the Piers-Harris is stronger as a unidimensional measure of overall self-concept and that subtests may not adequately capture the multidimensional aspects suggested by current research.

For the purpose of this research a general screening of children's feelings about competence in school is being assessed. The Intellectual and School Status Scale has been used as a dependent measure of children's academic self-concept. This has been related to variables in students' current classroom placements.

Items are scored in the direction of positive self concept so that the higher the raw score the more positive the child's assessed self-concept. The total raw score is the total number of responses marked in the positive direction. Sample items from the Intellectual and School Status Scale are provided in the Appendix.

Teachers' Self-Control Rating Scale (Humphrey, 1982)

The Teacher's Self-Control Rating Scale is a 15 item scale which describes specific cognitive/personal components and behavioral/interpersonal components of self-control. Items include inquiries about children's

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ability to plan, to self monitor and to interact socially. Overt behaviors such as talking out of turn and being argumentative are also assessed. Teachers are asked to rate children using a one to five scale ranging from never to very often. Items which reflect poor self control are reverse keyed so that higher scores always indicate greater self-control.

The Teachers' Self-Control Rating Scale was factor analyzed based on 763 fourth and fifth grade students. The author of the scale reports two reliable and stable factors which account for 67% of the variance of the scale(Humphrey, 1982). Those dimensions include ten items reflecting cognitive/ personal aspects of self control and five items reflecting behavioral/ interpersonal dimensions of self control. The scales were validated by the author using naturalistic observations. Test-retest reliability based on a two to three week interval ranged from .88 to .94.

The Teacher's Self-Control Rating Scale is reverse keyed so that items describing poor self-control lower scores and high scores indicate good self-control.

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Items are rated on a 5 point frequency scale from never (1) to very often(5). Sample items are provided in the Appendix.

Procedures

Consent for participation in this study was obtained from individual classroom teachers since classrooms were the unit of analysis. All children in classes of each of the participating teachers were then advised of the goals of the research and their participation was voluntary. Names of children were coded as were names of teachers and individual classes. Class rosters were used to assign numbers to students (1 to 443). Protocols were numbered and distributed to students. Completed teacher rating scales were attached to student protocols using the assigned numbers.

Arrangement was made with classroom teachers for time in each class to administer the Short form of the CES and the Intellectual and School subtest of the Piers-Harris Children's Self-Concept Scale to 20 fourth, fifth and sixth grade classrooms. Each of the twenty four possible classes agreed to participate in

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the study. Based on mutually convenient schedules the first twenty classes completed were used in the final data set. This researcher observed individual classrooms on the dimensions of cohesion, flexibility, and communication using the CSOS. Classroom teachers completed The Teacher's Self-Control Rating Scale for each of the 443 students involved in this study.

The CSOS was completed by this researcher in each of the twenty classrooms across schools. The CES was also administered by this researcher when teachers were not present, generally during free time. Teachers were not asked to administer the CES in order to guard against children giving socially acceptable responses regarding classrooms.

Students were administered the Intellectual and School Status subscale of the Piers-Harris Children's Self-Concept Scale and the Classroom Environment Scale (Form S) in small groups (10 to 12 students) in order to adequately answer questions and help in situations where reading level might be problematic. The subjects required about 30 minutes to complete the full battery. Teachers filled out the self-control reports (Teachers'

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Self-Control Rating Scale) while the children were being examined. Classroom observations using the Classroom Systems Observation Scale occurred within two weeks of the initial classroom contact at a mutually convenient time for teachers and researcher. Observations were approximately 45 minutes in duration. This length of time allows for observation of specific activities and for observation in transitions from one activity to another. An attempt was made to observe routines and activities that are fairly typical of the classroom assessed.

Completed testing was hand scored and variables such as grade, gender and dimension scores were collected and analyzed. Dimension scores for each of the twenty classes using the Classroom Systems Observation Scale were obtained and recorded. Teacher self-control (cognitive/personal and behavioral/interpersonal) ratings of children were scored and tabulated by the researcher. Children's self-concept scales were scored.

Class means were tabulated for dimension scores on the Classroom Environment Scale and for subscale scores

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on the Piers-Harris. That data were used in the statistical analysis of this research. Individual student scores were also examined in relation to both self-control variables and academic self-concept levels.

DATA ANALYSIS

A Hierarchical Linear Model (Bryk & Raudenbush, 1992) was used to report results of the current research. The data presented is hierarchical in the sense that there are variables describing individual students and variables describing larger units, in this case classes. When classes are described, it is possible that reported data reflect aggregates of student variables such as average academic self-concept. It is also possible that the aggregate reflects characteristics of the larger structure such as level of cohesiveness. A hierarchical analysis was used in this research in order to examine individual characteristics and characteristics of classes as the structures in which individuals function.

The unit of analysis at Level I is individual

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students. The unit of analysis at Level II is particular classrooms. For the Level I analysis the dependent variables are self-control(cognitive/personal and behavioral/interpersonal) and academic self-concept. The Level I independent variables are dimension scores on the Classroom Environment Scale. For the Level II analysis the independent variables are dimension scores on the CSOS.

The basic research questions investigated were as follows:

A) If one were to investigate the mean academic self-concept score in each class in the district what is the estimate of the grand mean (i.e., the mean of all the class means)?

If one were to consider the mean total self-control score (cognitive/personal and behavioral/interpersonal) in each class in the district what is the grand mean, (i.e., the mean of all the class means)?

If one were to consider the mean total for each factor of the self-control variable (cognitive/personal and behavioral/interpersonal) in each class in the district what is the grand mean ,(i.e., the mean of all

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the class means)?

B) Do individual classes vary about this grand mean, (i.e., is there variability in average scores for the factors investigated over classes)?

C) If we were to consider class means for outcome variables, would these parameters be predictable from classroom characteristics of cohesion, flexibility, and communication? In terms of the Level II analysis is the variance across classes explained by variation in dimension scores of the CSOS?

D) Within each class, are the differences in academic self-concept and self-control (cognitive/personal and behavioral/interpersonal) variables predictable from dimension scores on the CES (Relationship, Personal Growth/Goal, Systems Maintenance)? This is essentially the Level I analysis of the data presented.

E) Are the regression weights for predictors described in (C) constant over classes? If not, do the weights vary as a function of the CSOS dimensions?

F) Are CSOS variables of Cohesion, Flexibility and Communication positively correlated with significant CES predictor variables?

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A series of hierarchical linear models (HLM) were used to investigate the research questions proposed. To investigate (A) and (B) the following model was formulated:

$$Y_{ij} = \beta_{0j} + e_{ij}$$

$$\beta_{0j} = \gamma_{00} + u_{0j}$$

Where:

Y_{ij} = The outcome score (academic self-concept and self-control) for student i in classroom j

β_{0j} = Class mean of Y_{ij} in class j

e_{ij} = Level I residual

This model states that within each class, the student outcome variables investigated (Y_{ij}) are normally distributed with a mean of β_{0j} and a variance of σ^2_e. Furthermore, the class means (β_{0j}) are normally distributed with mean γ_{00} and variance τ_{oo}.

The estimates of γ_{00} for each outcome variable investigated (academic self-concept and self-control) provide the answer to question (A), i.e. they provide an estimator of the grand means. The test of the hypothesis that τ_{00} is equal to zero provides the

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answer to question (B) and addresses the question of variability across classrooms.

In order to investigate question(C), the Level II model ($\beta_{oj} = \gamma_{00} + u_{0i}$) is augmented by addition of the CSOS variables as predictors. To investigate question (D) the CES variables (dimension scores for individual students) were introduced into the Level I model. The HLM model becomes:

$$Y_{ij} = \beta_{0j} + \beta_{1j}(REL) + \beta_{2j}(PG) + \beta_{3j}(SM) + e_{ij}$$

$$\beta_{oj} = \gamma_{00} + u_{oj}$$

$$\beta_{01} = \gamma_{10} + u_{1j}$$

$$\beta_{02} = \gamma_{20} + u_{2j}$$

$$\beta_{03} = \gamma_{30} + u_{3j}$$

Where:

Y_{ij} = Scores on the outcome variables for the i^{th} student in class j

β_{0j} = regression intercept

$\beta_{1j}, \beta_{2j}, \beta_{3j}$ = class slope for CES variables

u_{ij} = residuals

REL = CES relationship dimension

PG = CES personal growth dimension

SM = CES Systems Maintenance dimension

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The Level I regression model describes how outcome variables (academic self-concept and self-control) vary as a function of CES dimension scores for students within a class. The Level II regression models describe how the regression weights in the Level I model vary over the population of classes. Note that each of the CES variable were centered about their overall means. The analyses for question E, involves the addition of terms for the CSOS variables the Level II models for each Level I regression weight.

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CHAPTER V

RESULTS

Twenty classrooms were drawn from the schools within a suburban school district. The total number of students within the classes was N=443. The total number of classrooms studied was N=20.

Children's perceptions of their classroom environment as measured by dimension scores on the Classroom Environment Scale were the primary Level I variables investigated. Classroom characteristics of interest were dimensions of the CSOS specifically cohesion, flexibility and communication. A Level II analysis of these dimensions was planned to determine the impact of CSOS dimensions on classrooms studied.

The basic research involved the following:

A) Estimation of the grand mean for each of the outcome variables, that is academic self-concept and self-control variables. The reported grand means,(i.e.,the mean of all class means), characterize the entire school district in terms of academic self-concept and self-control variables both cognitive and behavioral.

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B) Investigation of whether classes vary about the grand means (i.e., is there variability in average scores across classrooms in terms of academic self-concept and self-control variables?

C) Assuming that the answer to B is positive, can the variance be explained from classroom characteristics of the CSOS (cohesion, flexibility, and communication). If one were to consider class means for outcome variables, as well as an average within class variance, would these two parameters be predictable from classroom characteristics of cohesion, flexibility and communication?

D) On average, are the differences in Level I student variables of academic self-concept and self-control variables within a classroom predictable from student Level I dimension scores (relationships, personal growth, systems maintenance) on the CES?

E) Is there non zero variance in the regression weights for the CES variables (relationships, personal growth, systems maintenance) across classes? If yes are the weights predictable from CSOS variables?

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HLM STATISTICAL ANALYSIS

All HLM analyzes were done using the HLM computer program (Radbash,& Woodhouse, 1996). The results are presented in Table 4, Table 5, and Table 6.

A') The grand mean for academic self-concept was estimated to be 13.37 with a standard error of .22(see Table 4). This does not differ in a practical sense from the mean score reported for the normative sample. The normative sample mean was estimated to be 11.62 with a standard deviation of 3.57.

The grand mean for total self-control was estimated to be 55.86 with a standard error of 1.40. Each factor of the self-control measure was analyzed separately. The grand mean for cognitive self-control was estimated to be 35.07 with a standard error of .94. The grand mean for behavioral self-control was estimated to be 20.93 with a standard error of .51. The range of possible scores for the self-control variables were 0-75, 0-50, and 0-25 respectively. Mean scores did not differ in a practical way from normative data reported for the Teacher Self-Control Rating Scale.

B')Individual classrooms did not significantly

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vary about the grand means for academic self-concept. Variances (τ_{00}) for total Self-control, behavioral self-control, and cognitive self-control were found to be significant upon initial investigation. The third and fourth columns of Table 4 report estimates of τ_{00} and standard errors for these variables.

C') Table 5 reports for self-control variables, estimates of the expected values (γ_{io}) of the regression weights for the CES relationship dimensions, the variances (τ_{ij}) for each weight, standard errors, and significance. Note that the other CES variables show no significance. It is seen that when Level I predictor variables (CES dimensions REL,PG,SM) were introduced, in each case the relationship dimension of the CES (REL) was found to be the only significant predictor for self-control variables (total self-control, behavioral self-control, and cognitive self-control).

D') With respect to self-control and academic self-concept there was not significant variability across classes in terms of regression weights in CES dimension scores (see the τ_{ii} values in Table 5).

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Table 4

HLM ANALYSIS MODEL 1[a] Grand Means

Variable	γ_{00}	SE	τ_{00}	SE
Self-concept	13.37	0.22	.54	.30
Cognitive SC	35.07 *	.94	30.13 *	12.46
Behavioral SC	20.93 *	.51	4.01 *	1.62
Total SC	55.86 *	1.40	30.13 *	12.46

Note. [a] Model 1: $Y_{ij} = \beta_{oj}+e_{ij}$; $\beta_{ij} = \gamma_{00}+u_{0j}$
[b] Significance ($p < .05$) is indicated by an asterisk

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Table 5
HLM Analysis MODEL 2[a] Self-Control Varaibles

	Y_{i0}	SE	τ_{i0}	SE
Total SC				
CES1 (REL)	1.37 *	.41	1.32	.96
Behavioral SC				
CES1 (REL)	.50 *	.12	.09	.09
Cognitive SC				
CES1 (REL)	.90 *	.30	.87	.58

Note. [a] Model 2: $Y_{ij} = \beta_{oj}+\beta_{ij}(rel)+\beta_{ij}(PG)+\beta_{ij}(SM)+ e_{ij}$
$\beta_{ki} = Y_{kj} + u_{kj}$
[b] Significance ($p<.05$) is denoted by an asterisk

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RELATIONSHIP BETWEEN CSOS AND CES DIMENSIONS

Each of the twenty classrooms was observed and rated using the CSOS. Results from the CSOS indicated that on average classrooms fell within the balanced range of functioning. (A CSOS profile can be found in the Appendix). Ratings on the Cohesion dimension indicated that on average classrooms were highly cohesive. On the second dimension, Flexibility, classes on average were structured yet appropriately flexible. On the third dimension, Communication, ratings indicated that classrooms studied were classrooms which facilitate focused communication. The CSOS profile for the sample studied can be found in the appendix. The profile indicates the mean of the twenty classes studied for each of the CSOS dimensions as well as the range of scores.

In order to answer the research question regarding the relationship between dimensions of classroom environment as assessed by independent observation and children's perception of classroom environment correlation between CSOS variables of cohesion, flexibility, and communication with the one

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significant CES variable (relationship dimension) was performed. All correlational analysis were based on class averages rather than individual children's scores. Table 6 summarizes the results of correlations between CSOS dimensions and CES variables investigated. Each of the CSOS dimensions correlated positively with the Relationship CES dimension. The results are reported in Table 6.

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TABLE 6

CORRELATION COEFFICIENTS FOR RELATIONSHIP DIMENSION (CES) AND CSOS DIMENSIONS

Cohesion	.55*
Flexibility	.34*
Communication	.32*

*p<.05, two tailed

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CHAPTER VI

DISCUSSION

This chapter is a summary of research results and a discussion of the implications in terms of the current literature on classroom environment, children's self-control variables and children's academic self-concept. A discussion of the practical applications of the research and suggestions for further research are included. A summary of results is provided followed by a discussion of academic self-concept and self-control variables.

This research explored how factors within the classroom environment relate to children's self-control and children's academic self-concept in academic settings. Dimensions of the classroom environment were assessed using both children's perceptions of classroom functioning and independent observation. The goal of the research was to better understand the psychosocial context of individual classrooms and to explore how different environmental dimensions of classroom systems mediate student outcomes.

Based on the literature review it was postulated

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that dimensions of the classroom environment would affect children's academic self-concept and teacher's ratings of children's self-control. Self-control was conceptualized as having overlapping component factors behavioral/interpersonal and cognitive/personal elements. The data were analyzed for total self-control and component factors separately.

Based on the review of literature, it was expected that children's academic self-concept and teacher ratings of their self-control would be influenced by the children's perception of classrooms on selected dimensions of the Classroom Environment Scale (CES). It was postulated that children's academic self-concept and self-control would be influenced by classrooms perceived to be high in the relationship and personal growth/goal orientation dimension of the CES. Based on the review of literature it was hypothesized that classrooms perceived by students as high in the systems maintenance dimension of the CES would be classrooms where teachers rated the children to be high in terms of self-control variables.

Additionally it was hypothesized that classrooms

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would vary on average in terms of the outcome variables of interest, that is, self-control and academic self-concept and that variability could be explained by differences in Flexibility, Cohesion and Communication as observed using the CSOS measure.

Preliminary Results

In terms of the relationship between student's perception of their classrooms and the three CES dimensions studied none was a significant predictor of academic self-concept. Of the three CES dimensions studied only the relationship dimension was a significant predictor of self-control. Children who perceived their classrooms to be high on relationship factors such as involvement, affiliation, and teacher support were better able to control their behavior in class as rated by their teachers. The relationship predictor was significant for both behavioral/interpersonal and cognitive/personal self-control factors. The relationship dimension was also a significant predictor of the teacher rated Total self-control variable.

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This study utilized a hierarchical, multilevel analysis. Because there was little interclass variability in terms of the outcome variables studied, a Level II analysis of CSOS dimensions was not indicated. There was little variation across classrooms in terms of average self-concept and self-control scores. The homogeneity across classrooms does not support the hypothesis that classrooms vary as a function of CSOS dimensions.

In order to further explore the relationship between children's perception of their classrooms and independent observation a correlation was completed which related the CSOS classroom dimensions of Cohesion, Flexibility and Communication with the relationship dimension of the CES. This is of interest in that the relationship dimension has consistently been linked to a variety of positive student outcomes. All correlational analysis were based on class units rather than individual children. Table 9 summarizes the results of that analysis.

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Dimensions of Classroom Environment and Academic Self-Concept

The study of Self-concept is a complex endeavor and there are several methodological issues which are relevant to the results of this research. The measurement of self-concept as a multidimensional construct complicates the assessment of children's self-evaluation. The debate about the plasticity of self-concept and the hierarchical nature of the construct persists in the literature. Though self-concept is a frequently studied construct in education and psychology, measurement continues to be a significant obstacle in drawing research conclusions (Marsh & Holmes, 1990; Wylie, 1989).

According to Bracken & Mills (1994) over 11,000 research studies involving self-concept were cited in the American Psychological Association's PsycINFO from 1974-1992 (Bracken & Mills, 1994). Bracken & Mills (1994) assessed a variety of self-report, self-concept measurement instruments. A consistently reported finding is that differing definitions of self-concept have created difficulties in drawing research

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conclusions (Wylie 1979,1989) and that equivocal outcomes in self-concept research are largely due to the psychometric limitations of the scales used to measure self-concept (Byrne, 1984; Wylie 1989).

Despite the interest in children's self evaluation, the construct of self-concept has been vaguely defined and poorly assessed. In the case of this research academic self-concept was the variable of interest. Academic self-concept was conceptualized as a student's self evaluation of school experiences as positive or negative. Academic self-concept is formed as a function of the child's experiences in school. An ecological perspective underscores the reciprocal nature of school experiences. Children are forming and and being formed by the environments they inhabit. Experiences in school and in individual classes vary over time and interact in unpredictable ways. If self-concept is seen as composed of core constructs which maintain identity and peripheral constructs which are less stable and more situational in nature (Kelly, 1955), measurement at any one point in time becomes more difficult. The stability of the trait over time

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and the interplay of variables at any given time are problematic in terms of drawing conclusions.

Two additional issues are relevant to this study. One is the self report nature of the self-concept measure used (Piers & Harris 1984). Self report has been used extensively to assess self-concept. The Piers-Harris Self-Concept Scale - Revised is a well researched and often used measure. There are, however, significant concerns when using a self report format with children. The authors caution that the scale is not disguised and scores are subject to conscious and unconscious distortion by children usually in the direction of more socially desirable responses (Piers & Harris,1983). The desire to look "good" is a common occurrence for children. The authors point out that children are less likely to fake negative responses presenting an unfavorable picture of themselves. Negative distortions are less likely to occur and are generally reliable indicators of negative self-attitudes. The tendency for children to give socially desirable responses may have been a factor in this research. There was very little variability across

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classes in terms of scores on the academic self-concept scales. Children generally reported positive feelings regarding performance on academic tasks and reported general satisfaction with school. The self-concept scale was administered in class as part of the children's school day. The desire to present in a positive way may have been increased given the classroom setting.

Another issue of concern regarding responding in socially desirable ways is the actual test format of the Piers Harris Scale. The typical response format for objective measures of self-concept is true/false, yes/no, like me/ not like me. The two choice format encourages socially desirable responding (Harter, 1982).

Future researchers might utilize an alternative format. Harter has proposed a format structure in which the child is asked to decide between two opposing descriptions. The subject is asked which kind of child he or she is most like. Once having made the choice, the child is then asked to determine in a Likert type scale how much he or she resembles the child picked.

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Each item is scored 1 to 4, where one indicates low competency in a particular area. Scores are summed and averaged resulting in subscale scores for perceived competence in specific areas such as cognitive competence, social competence, physical and general self worth. This type of format is attractive because it legitimizes extreme positions. It also focuses entirely on competency as perceived by the child. Particularly in the case of younger children it brings to consciousness extremes and broadens the child's frame of reference before he or she is asked to respond.

In summary two issues regarding measurement are related to this project. The first is the plasticity of the self-concept variable and the difficulty of measuring it at one point in time and the second involves the self report format and the tendency for children to give socially desirable responses.

The results of this study did not indicate a significant relationship between any of the classroom environment variables of interest and academic self-concept. Equivocal results are likely to involve the

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methodological difficulties in measuring academic self-concept discussed above. Despite the methodological difficulties discussed, there is research literature support for an association between classroom environment factors and children's self-concept. A discussion follows.

CES Relationship Dimension

The current study postulated that academic self-concept would be associated with children's perception of classrooms as supportive and involved and high in the relationship dimension of the Classroom Environment Scale (CES). The CES relationship dimension has been defined as the student's perception of the levels of commitment, support and freedom of expression in individual classrooms. There is consistent research support indicating that classrooms which are high in the involvement factor are classrooms which promote positive student outcomes (Moos, 1987). The present study found no significant, association between the relationship dimension and academic self-concept.

The finding is surprising because the literature

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suggests that there is a relationship between classroom environments perceived by children to be supportive and self-concept. (Fraser, 1991; Nelson, 1984; Trickett & Moos, 1973). Classroom environments high in support and structure have been consistently associated with high levels of scholastic self-concept (Hoge & Smith, 1990; Nelson, 1984).

The present study targeted classroom environment as a predictor of academic self-concept. This may be an oversimplification of a more complex interaction. Achievement, cognitive ability, aptitude and an assortment of other variables may impact significantly on children's self evaluations about school. Classroom environment may have more to do with motivation for class work, behavior or attitude toward particular subject areas. Given the research on the hierarchical nature of self-concept it is not unreasonable to conclude that self-concept is a plastic, changeable dimension that is not easily assessed. Different levels of self-concept may have varying predictors at different points in time. The equivocal findings in this study are suggestive of the complex nature of the

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construct and raise questions regarding other factors possibly in combination with classroom environment which contribute to feelings of competency in children in classroom settings.

Another important consideration is the direction of the association between variables of interest. There is some research evidence to suggest that children's perception of their environment may be influenced by their self-concept (Galluzi, Kirby & Tucker 1980). This notion underscores the reciprocal nature of personal variables and children's perception of their environment. The focus of this study was assessment of classrooms as the unit of study. Personal characteristics of individual children may be an interesting way of looking at the reciprocal association between the variables studied.

Galuzzi (1980)and his colleagues found that when children were grouped as to high medium and low self-concept there were significant differences between the way low self-concept children viewed their classrooms. Here again questions are raised regarding other factors possibly in combination with dimensions of classroom

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environment which may be associated with children's views of their own competencies in academic settings.

CES Personal Growth and Systems Maintenance Dimensions

As with the relationship dimension, it was expected that the personal growth dimension and the system maintenance dimension would predict academic self-concept. This was posited based on research which indicated that classrooms which are more organized, where rules are clearly articulated, have students who are more satisfied, and who report higher levels of self-esteem (Moos & Trickett, 1987). Classroom environments high in support and structure have been consistently associated with high levels of scholastic self-concept (Nelson, 1984).

The current research did not support either of these conclusions. Again this study looked only at academic self-concept and did not explore other variables which may in combination with classroom environment contribute to academic self-concept.

In theory, students in task oriented, well structured classes are more likely to receive feedback

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regarding performance. Positive feedback adds to feelings of self-efficacy with regard to achievement. Here again cognitive factors, aptitude, and individual characteristics of children and teachers are critical variables which need to be considered when assessing academic self-concept.

Dimensions of the Classroom Environment and Self-Control

This research using an HLM analysis found a significant association between children's perception of their classrooms as supportive and teacher's ratings of student's self-control. The current analysis identified the relationship dimension of the CES as a within class variable that is predictive of teacher ratings of self-control.

The involvement subscale taps the extent to which students are interested in class activities and participate in discussions. It measures the degree to which students are willing to do additional work on their own and to participate fully in the learning environment. The affiliation subscale taps the level of

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friendship students feel for each other, how well they get to know each other and how much they help and support each other. Teacher support measures the amount of help the teacher offers to students and how open the teacher is with students in terms of both personal friendship and ideas.

This research indicates that involvement, affiliation and teacher support are critical variables in predicting teacher ratings of self-control. Students who perceive their classrooms as high in the relationship factors are better able to control their behavior in class as rated by their classroom teachers. The relationship predictor was significant for both behavioral/interpersonal and cognitive/personal self-control factors. Total self-control was also predicted by the CES relationship dimension. The personal growth dimension and the systems maintenance dimension were not significant predictors of any of the predicted self-control variables studied.

Research examining the relationship between classroom environment and self control variables has indicated a positive relationship between children's

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views of their classroom environment and their self-control (Humphry 1984). Children's perceptions of classrooms as highly ordered and organized have predicted teacher ratings of self-control. Classes judged to be high in terms of involvement and rule clarity were also high in terms of teacher ratings of self-control (Humphrey, 1984).

The current research supported the involvement factor as a predictor of children's ratings of self-control but neither the personal growth nor the systems maintenance dimensions proved to be significant predictors. Analysis of the current data indicated non-significant variance across classes. It is apparent that a large percentage of variance in the outcome measures examined lies within as opposed to between classes. This suggests that future efforts to understand variation in average measures of class structure should investigate causal processes occurring at the individual level as well as the class level of analysis. One interesting area of inquiry would be to investigate the effect of children's characteristics (self-concept, self-control) on ratings of classroom

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environment. To what degree are children's perceptions objective and to what extent is their perception of events dictated by characteristics such as poor self-esteem?

Humphrey's (1984) research suggests that classroom which encourage active and independent engagement in tasks are classrooms where self-control is greatest. The current research supports this finding. The personal growth dimension was not a significant predictor of self-control variables. This dimension measures the intensity of focus in classrooms in terms of task orientation and the degree to which children compete with each other. High competition and goal direction do not appear to be associated with children's self-control. This finding is similar to previous research which indicated lower self-control ratings in classrooms perceived to be highly competitive and goal directed.

Classrooms perceived to be high in the systems maintenance dimensions were not classrooms rated by teachers as being high in self-control. This finding is similar to previous research which indicated lower

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self-control ratings in classrooms perceived to be highly competitive and goal directed (Humphrey 1984).

It is not an uncommon finding that less structured environments produce aberrant behaviors in at risk children (Oleweus, 1980). This research did not support structure and rule clarity as important predictors of self control. Involvement, teacher support and affiliation were key issues with regard to children's ability to control there behavior in class. Both interpersonal and cognitive self-control factors were significantly impacted by the degree of involvement and support perceived by students. Rule clarity, structure, goal setting are all intrinsically positive characteristics in terms of classroom management, but their association to self-control is unclear.

CLASSROOM SYSTEMS OBSERVATION SCALE

It was postulated that classrooms would vary in terms of the outcome variables of interest (academic self-concept and self-control) and that those differences could be predicted by variation in CSOS

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dimension scores of Cohesion, Flexibility and Communication. The data did not support this hypothesis. There was in fact very little variability in class means of outcome variables across classes in the sample studied.

Additionally there was very little variability with regard to CSOS dimension scores (see Table 6). Classrooms ranged from structured to flexible with no classrooms falling within the dysfunctional extremes. Though scores in communication varied, overall scores were high and were indicative of classrooms where focused communication is encouraged. Generally classrooms were highly cohesive and promoted student interaction as well as interaction with the instructor.

A useful approach for analyzing the profile of the sample studied is to plot the Mean dimension scores on the CSOS Ecomap (see appendix). On average classes were balanced and flexibly connected. Given the demographic characteristics of the sample (see Table 1) and the generally high quality of the teaching staff (see Table 2), it is not surprising that most classrooms are balanced and functional. There was definitely a range

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of scores but the extremes are not represented. Note the CSOS profile provided in the index.

The Level II analysis of the data was not completed. In order to proceed to Level II, the HLM Analysis requires variation across classrooms. The homogeneity of the sample studied precluded testing of the hypotheses regarding the CSOS. A larger sample of classrooms drawn from a more varied pool of students and teachers may have produced more between class variability. It was hypothesized that between class variability would be explained by variation in CSOS dimensions. That hypothesis remains untested for both self-control and academic self-concept.

Correlation of CSOS and CES Relationship Dimension

The relationship dimension was a significant predictor of children's self-control. That dimension was positively correlated with each of the CSOS dimensions: Cohesion, Flexibility, and communication(see Table 9). Classrooms which are observed to be highly cohesive are also classrooms which students perceive to be high in involvement,

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affiliation and teacher support. Classroom where communication is facilitated are also classrooms high in the relationship dimension as perceived by students. Additionally, flexibility is positively associated with the CES relationship dimension.

Future research might include associations between each of the CSOS dimensions and the nine subscales of the CES. Items from the Cohesion scale of the CSOS are clearly related to relationship items of the CES. The associations between CSOS factors and the other CES dimensions are less clear.

Limitations

The Short form of the CES was used in order to get a broad picture of several dimensions of classroom functioning. The short version though highly correlated with the long version has a relatively small number of items per factor. Future research might investigate individual dimensions using the entire form and relating those to student outcome variables.

Involvement as a factor is easy for children to recognize. Most children are comfortable with

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statements like "Students in this class get to know each other very well" or "The teacher goes out of his/her way to help students." The questions regarding goal orientation and system maintenance may be less assessable to children and may be less reliably reported. Use of the long form especially with younger children might more accurately tap items of interest.

This research would have been enhanced if there was some control for out of class factors and related variables within classes such as student grades, cognitive ability and teacher characteristics. Self-concept is a complicated concept that is influenced by several variables. Situational factors probably determine self evaluation. Quantifying those factors at any given time is difficult.

Inclusion of student background characteristics, general ability, and cognitive ability need to be controlled statistically in order to examine the true effect of environment on student outcome measures. Affective measures would add to the understanding of the reciprocal processes whereby children shape and are shaped by their environments.

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Implications

Increasing involvement, affiliation and teacher support may augment self-control in children. There is the possibility of optimizing the interaction between children's self-control variables and their social environment. The challenge is to identify environmental supports which augment self-control.

Increasing children's ability to control their behavior is an important goal in terms of classroom management. It is not unreasonable to project that classes with a high degree of self-control are more interactive ,more involved, and more goal directed.

If high perceived student affiliation, teacher support and involvement are related to children's self-control, how can student's perception of affiliation be strengthened? There is a need to develop appropriate and effective interventions for achieving that goal. Teacher training and consultation are necessary to raise awareness of the subtleties of classroom environment factors.

Future Research

An important emphasis for future research is the

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interplay of different variables as they relate to children's perception of classroom environment. This research indicated an association between relationship factors and self-control. The question remains as to how relationship factors interplay with other factors in the classroom environment? Student achievement may be enhanced by emphasis on task performance and system maintenance but when this is carried to an extreme in highly competitive classrooms, results may not be as clear.

Additionally at different grade levels different dimensions may be more important. Relationship may be a critical factor for younger children while children in an Advanced Math class might benefit from an emphasis on goals, task focus, rule clarity and organization. Consideration needs to be given to both content and developmental level of students when evaluating classroom contexts.

Combining qualitative and quantitative methods would have enhanced this research project. Fraser and Fisher (1986) in a model project used the CES with a sample of 22 ninth grade science classes. The project

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involved five steps as follows: assessment, feedback, reflection and discussion ,intervention and reassessment. Intervention was based on CES results and interventions were directly linked to perceived problem areas. Reassessment involved repeat administration of the CES. When tests of statistical significance were applied, it was found that pretest-posttest differences were significant for Teacher Support, Task orientation and Order and organization. This suggests the potential usefulness of using classroom environment instruments to provide feedback to teachers regarding classroom management and as a tool for problem solving in individual classes.

Other researchers have used a variety of ethnographic approaches such as interviews and field observation to supplement objective self-report measures. Clearly this is time consuming but effective in terms of grasping the subtleties of classroom environment research. A reasonable approach is to use objective measures as a starting point to target problem areas followed by interviews, feedback discussion and finally intervention.

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Conclusions

Supportive environments are clearly conducive to a variety of positive student outcomes (Fraser, 1986; Heartel, Walberg & Heartel, 1981; Moos,1987). The current research suggests that children's self-control is at least in part determined by contextual factors. Determining what those factors are and how to manipulate them to best foster positive outcomes in children is the challenge presented to researchers interested in the study of classroom environment.

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APPENDIX

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CLASSROOM SYSTEMS OBSERVATION SCALE

SAMPLE PROFILE

CSOS CLASSROOM COHESION

DISENGAGED	SEPARATED	CONNECTED	ENMESHED

1 1.5 2 2.5 3 3.5 4

SAMPLE MEAN 2.62

RANGE OF SCORES 1.7----------3.23

CSOS CLASSROOM FLEXIBILITY

RIGID	STRUCTURED	FLEXIBLE	CHAOTIC

1 1.5 2 2.5 3 3.5 4

SAMPLE MEAN 2.59

RANGE OF SCORES 1.71----------3

CSOS CLASSROOM COMMUNICATION

LOW		HIGH

1 2 3 4 5 6

SAMPLE MEAN 4.43

RANGE 2.20----------5.38

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SAMPLE ITEMS FOR CHILDREN'S PERCEPTION OF CLASSROOM ENVIRONMENT (Moos & Trickett, 1987)

Relationship Dimension- 12 items

Students in this class get to know each other really well.

Personal Growth/Goal orientation - 8 items

Students daydream a lot in this class.

Systems Maintenance - 16 items

There are very few rules to follow.

Students are asked to put an X in the box indicating statements which are true or mostly true of class. If the statement is false or mostly false students are asked to put an X in the box labeled false.

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SAMPLE ITEMS FOR CSQS (Fish & Dane, 1992)

Cohesion - 20 Items

Teacher uses positive physical contact with students (e.g., hand on shoulder)

Flexibility - 13 Items

Teacher considers circumstances in rule enforcement

Communication - 14 Items

Teacher verbal statements are consistent with nonverbal actions

Based on the number of checks placed under each item a scale value is selected *(sometimes, never, regularly , constantly)*. Scale values are averaged and classrooms are rated on a scale of 1-4 for Cohesion and Flexibility and 1-6 for Communication.

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SAMPLE ITEMS FOR SELF-CONCEPT MEASURE (Piers & 1984)

Intellectual and School Status Cluster - 17 items

I am smart. (Y)

My classmates in school think I have good ideas.(Y)

The total raw score is the total number of responses scored in the positive direction. Items are scored in the direction of positive self-concept so that more positive scores indicate more positive assessments of self.

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SAMPLE ITEMS FOR SELF CONTROL MEASURE (Humphrey, 1982)

Behavioral/Interpersonal Self-Control - 5 Items

Gets into arguments or fights with other children

Talks out of turn

Cognitive/Personal Self-Control - 10 Items

Plans ahead what to do before acting

Anticipates the consequences of his/her actions

Items are rated are rated on a five point frequency scale from never to very often. Items describing poor self-control are reversed keyed so that high scores reflect good self-control.

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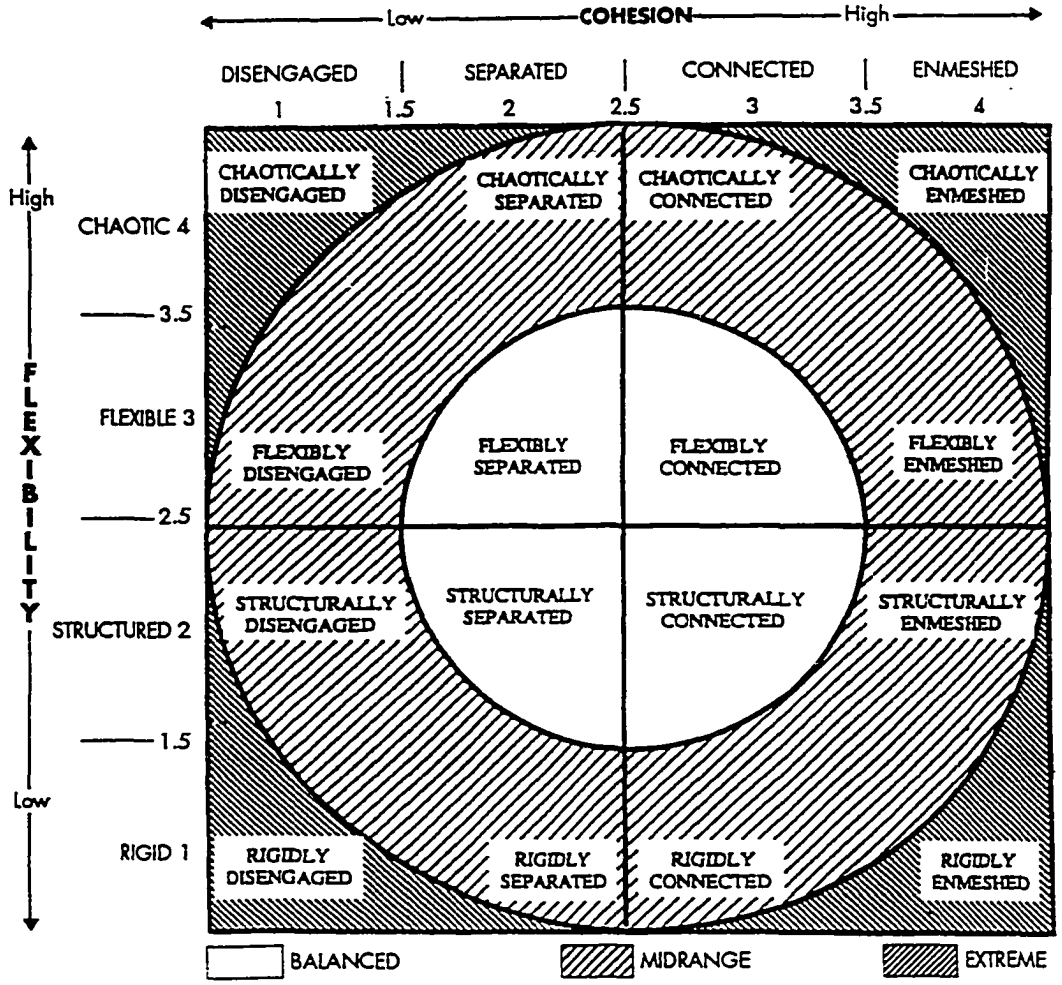
CSOS ECOMAP

(Adapted from *The Circumplex Model of Marital and Family Systems*, D.H. Olson)



RATER _____

CLASS _____ GLOBAL COHESION _____

DATE _____ GLOBAL FLEXIBILITY _____

PRE/POST _____ GLOBAL COMMUNICATION _____

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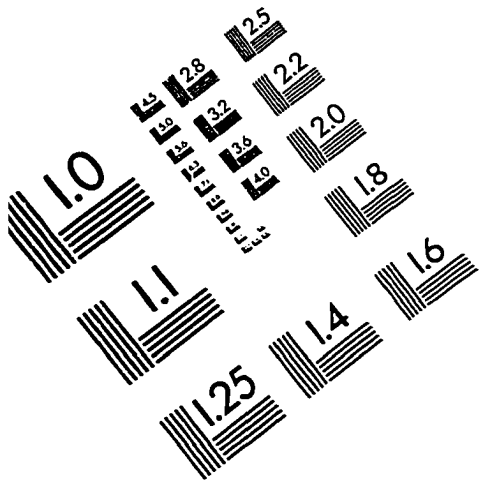
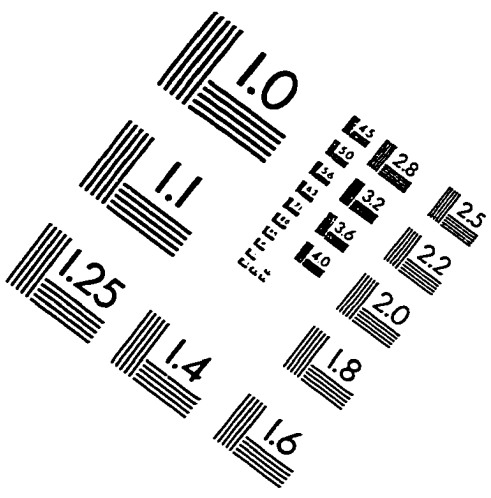
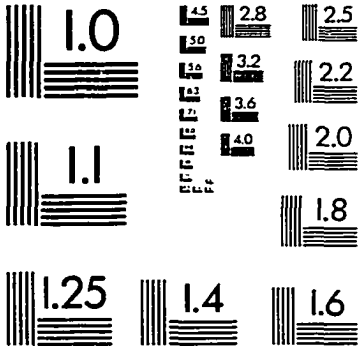
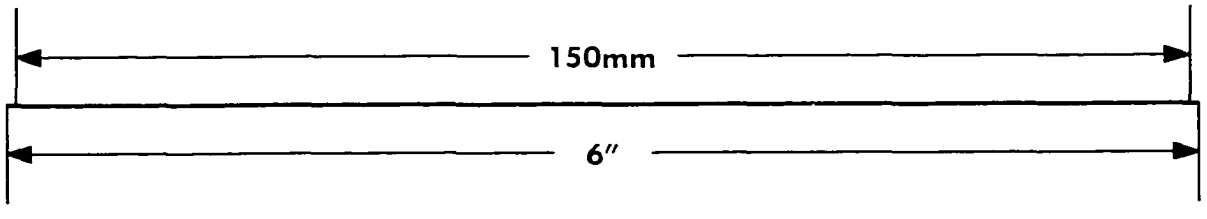
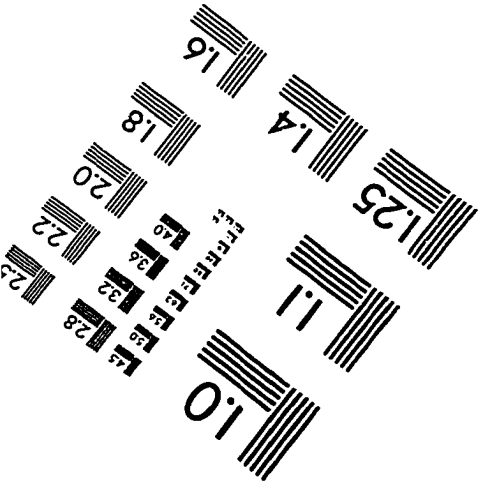
IMAGE EVALUATION TEST TARGET (QA-3)

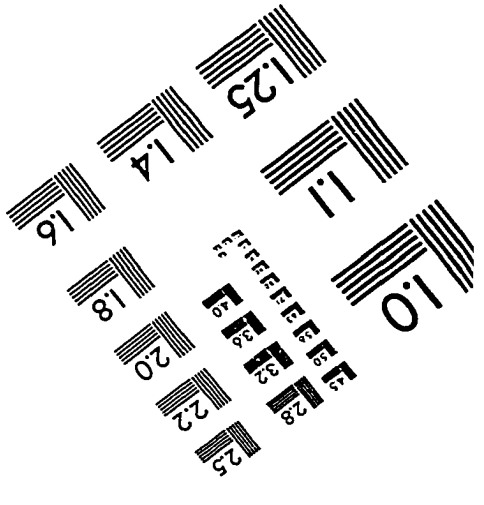












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