

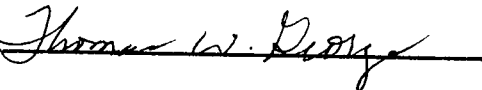
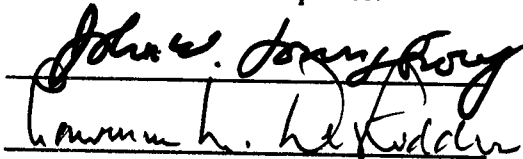
To the Graduate Council:

I am submitting herewith a dissertation written by Cary Owen Sutton, entitled "An Examination of Teacher Satisfaction Using School Averages Data and LISREL." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Education, with a major in Educational Psychology.



Schuyler Huck, Major Professor

We have read this dissertation
and recommend its acceptance:



Accepted for the Council:



Associate Vice Chancellor and
Dean of The Graduate School

AN EXAMINATION OF TEACHER SATISFACTION USING
SCHOOL AVERAGES DATA AND LISREL

A Dissertation
Presented for the
Doctor of Education
Degree
The University of Tennessee, Knoxville

Cary Owen Sutton
December 1993

DEDICATION

This dissertation is dedicated to my parents

Mr. Alfred Owen Sutton

and

Mrs. Helen Mehrhoff Sutton

who provided me with many valuable lessons about happiness and life.

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ABSTRACT

This study attempted to explain associations among school-level contextual, relational, and teacher satisfaction variables. A large southeastern school district comprised of 149 separate regular school campus' at the elementary, middle, and high school levels provided the setting for this study. School averages data were aggregated by campus for all variables included in the study. School-level contextual variables included measures of student self concept, student performance, student behavior and the degree of impediments to teaching in the school as measured by selected items on a teacher survey. Relational variables included measures of teacher satisfaction, teacher cohesion and teachers' attitudes toward the administration of their schools.

Structural equation modeling, particularly the LISREL statistical software package, was employed as the technique for analysis. The .10 level of statistical significance was chosen for the critical test which determined the degree of correspondence between the model-generated and observed data matrices. The null hypothesis was not rejected at this level. This finding indicated correspondence between the two matrices and suggested that influential paths of association had been successfully estimated.

Results demonstrated that relational variables predict teacher satisfaction moreso than other variables. Teacher cohesion and teachers' views of the administration played significant roles in predicting the level of expressed teacher satisfaction. The contextual variables of student behavior and impediments to teaching likewise predicted teacher satisfaction. Student self concept was revealed to be an insignificant predictor of other variables.

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CHAPTER I

INTRODUCTION

The public is concerned about the level of productivity and performance of America's schools (Gallup, 1989). This perception, that America's schools are inadequate, has been a part of the debate over public education since Sputnik, or, perhaps, its origin can be traced to a point when America's marketplace became progressively more influenced by foreign enterprise following World War II. The answer to the question of when the public became concerned is minor when compared to the undisputed fact that a very real problem exists. A Nation At Risk (National Convention on Excellence in Education, 1983) identified the need for reform and confirmed public suspicions of a growing problem through the presentation of critical performance indicators for American education which could be seen as steadily declining with each passing year.

Although educator, business, community, and federal, state, and local governmental groups have focused on one problem only to refocus on another problem and have, in general, failed to reach consensus on what to do to improve American education, one acknowledgement throughout has been the role of the teacher in the classroom as an integral part of any solution to the problem (National Education Association, 1967; National Education Association, 1987). In Report Card on School Reform: The Teachers Speak (1988), the authors state

...whatever is wrong with America's schools cannot be fixed without the help of those already in the classroom....To talk about recruiting even better students into teaching without examining the circumstances that discourage teachers is simply a diversion. (p. 11)

Lightfoot (1983) adds

It is their closeness to students and their direct engagement in the education process that makes teachers the primary adult actors in schools and the critical shapers of institutional goodness. (p. 334)

The American public's perception of teaching as a career choice has likewise declined. As with any career choice, becoming a teacher and remaining in the teaching profession has advantages and disadvantages. But as other professions have alternately increased and decreased in popularity over time, teaching as a profession has instead become steadily less and less desirable. Gallup (1984b) reports that over the past 20 years and, primarily, during the decade of the 1970's and into the early 1980's, the American public's regard for the occupation of teaching had markedly fallen. Gallup (1984b) disclosed that approximately 75 percent of all individuals included in a 1969 random sample from the general population expressed approval regarding their children's possible future choice of education as a career option (p.34). By 1983, however, that figure had fallen to 45 percent (p. 34).

Teachers themselves have noticed problems among the ranks of their profession and have identified many factors they consider responsible for their profession's overall decline in regard. In a survey conducted by Metropolitan Life (1985a), about 90 percent of the teachers sampled said that more respect from the general population for their occupation would boost teacher holding power and decrease defections to other occupations (p. 18). In another survey of former teachers who left education for other occupations, 17 percent indicated they had done so because of the lack of respect accorded teachers (Metropolitan Life, 1985b, p. 20). Also, an amazing 64 percent reported the prestige associated with teaching was far less than what they had expected before entering the profession (Metropolitan Life, 1985b, p. 21). Societal respect and acknowledgement was also

examined in yet another Gallup poll survey of teachers (Elam, 1989). The respondents' tasks in this survey concerned the ranking of occupations by "prestige" and "contribution to society" categories. It was found that teachers ranked their profession as last in prestige but first in contribution (p. 792). In short, although teachers felt they provided many essential, necessary services, acknowledgement and recognition for these efforts were few. A big difference exists between what teachers think they should receive and what they think they actually do receive.

The material rewards of teaching have also been examined via national surveys of teachers. Plisko (1984) determined that average salaries of teachers has actually decreased since 1970 when after-inflation estimates were considered in the calculations. Ashton and Webb (1986) reported that blue-collar occupations, which did not require comparable levels of educational preparation, have actually caught up with and, in many cases, exceeded remuneration levels for teachers. These effects have impacted teachers' views of the material benefits associated with teaching (Metropolitan Life, 1985a). Optimistically, 94 percent of teacher respondents said the effects of salary increases would result in more holding power for the occupational field of teaching (p. 18). But realistically, among those teachers who also declared they were "seriously considering leaving" the profession for a new occupation, only 12 percent reported the teaching profession was on the same material benefits level as their desired occupation (p. 47).

Metropolitan Life (1985a) surveys also provided data about the attractiveness of education as a profession from the standpoint of non-material benefits to teachers. Sixty-eight percent of the teachers polled declared vacation benefits were an advantage the teaching profession had over other occupations (p. 47). Also, nine percent of the teachers remarked

that teacher schedules and working hours were good, positive reasons for remaining in the profession (p. 48).

These trends and observations of American education over the last three decades have been clearly delineated:

- The American public is becoming more and more skeptical about the productivity and performance of the educational system;
- The American public of the 1980's regarded teaching as a profession as less desirable when compared to public views during the 1970's;
- Polls of teachers describe *respect* as lacking for the occupation of teaching and many former teachers have said they left the profession for that very reason;
- Teachers themselves regard the teaching profession as high in contribution to society, but low in prestige;
- Teacher salary levels have steadily declined over the last decade relative to other occupations;
- On a positive note, most teachers regard working hours and summer vacations as desirable features of the teaching profession when compared to other occupations.

With these trends as a backdrop, proposed reforms in the 1980's have focused on efforts to change American education in wholesale fashion. For example, reform reports published in the 1980's have refocused research interests on the individual school and its attendant setting characteristics as the context for teaching (Boyer, 1983; Carnegie Foundation for the Advancement of Teaching, 1988; Carnegie Forum on Education, 1986; Darling-Hammond, 1984; Goodlad, 1984; National Commission on Excellence, 1983;Sizer, 1984). These

reports extensively detail the need to consider how the environment of the school interacts with quality teaching. Instead of addressing the usual agenda of increasing requirements for teacher certification or setting higher and more exacting standards for teachers in one form or another to increase quality in American education, these reports majoritively direct our attentions to the school setting and how the best and brightest teachers may be attracted and remain in the profession. These new considerations for a school's setting or environment were confirmed by McLaughlin and Talbert (1990) after an extensive review of research. They described effective teaching as

...the product of individual attributes and the settings in which teachers work and learn to teach. (p. 2)

They also assert that the necessary conditions for effective teaching practices may be largely determined by

...how teachers think and feel about what they do. (p. 3)

These attitudes about their work lives were characterized as the product of the context in which teachers teach.

A search of the ERIC system for the years 1980 through 1992 resulted in 14,188 citations dealing with teacher attitudes and satisfaction. This impressive body of research work was aimed at answering the question of what can be done to improve American education through an examination of the roles and coresponding attitudes of its teachers. Lipsky (1980) acknowledges that teachers heavily influence the implementation of school programs and policy, and play a central role in transforming new ideas into practice. Knowledge about how teacher attitudes and satisfaction are formed to develop the critical

amount of commitment needed to "create" the transformation of ideas into practice constitutes the bulk of the 14,188 citations mentioned (Kottkamp, 1990). This ever growing body of literature on effective schools and their practices, relationships among teachers, commitment, productivity and the school context, only serves to underscore the value of teachers' felt sense of satisfaction as one important facet in changing America's schools for the better.

Overview of the Problem and Structural Model Development

Situational context variables related to teaching in a large school district and measures of teacher satisfaction, teacher cohesion, and teacher views of the administration served as the focus for this study. These variables were chosen because of their important implications for a new understanding of teacher satisfaction as assessed within the situational contexts of impediments to teaching, student performance, student self concept, and student behaviors. The variables chosen for analysis in this study were intentionally selected because of their relationship to theoretical topics in the literature surrounding studies of teacher satisfaction and measures of school context. Although considerable research work has already been done in these areas, no studies have been attempted of this nature which collectively analyzed these selected variables simultaneously.

Additionally, this study also provided other variations which were regarded as significant departures from previous studies. Foremost among these departures was the use of individual school averages data as the unit of analysis. Consequently, only in large school districts, would any study of this type become a possibility simply because the number of campus' would be too small for meaningful research purposes in small districts. A second departure from other studies which have been conducted concerns the nature school averages data itself. Because data from both students and teachers could be assembled and

aggregated by individual school, it was possible to link the averages for both groups. This provided a unique amount of flexibility for research purposes and encourages new, creative explorations of existing school district data base files. Finally, using the school's average as the unit of analysis was intentional. Measurement errors have doomed many fine research efforts. With school averages, measurement errors were considered to be less problematic.

Should this exploratory attempt prove successful, the possibility for additional school averages data base file analyses of this type would only be bound by the number of distinct variables which comprise those files and the theory behind the analyses. The student data base file accessed for this study contained 2,116 distinct elements. The other file used in this study, the teacher data base file, was smaller. This file contained 1,767 distinct pieces of information.

Structural equation modeling, specifically the LISREL statistical program (Joreskog and Sorbom, 1989), was chosen as the method of analysis. Traditional research designs would characterize the variables of teacher satisfaction, teacher cohesion and teachers' views of the administration as criterion or dependent variables; in contrast, the variables impediments to teaching, student performance, student self concept and student behaviors would be termed predictor variables. In terms of structural equation modeling, predictor variables may be termed exogenous variables and criterion variables may be termed endogenous variables. By specifying and constraining certain structural estimates within the model, one can achieve an understanding of causal paths among the variables chosen for study. Ultimately, correct specifications of structural equations also allows one to demonstrate that data generated by the model match the observed data which are being subjected to analysis. This one concept, by itself, completely determines the value and integrity of the causal

paths selected by the researcher. Should the data generated by the model not match the observed data, the causal paths selected by the researcher were inadequately specified and not suitable for drawing any conclusions among the variables comprising the analysis set.

This study may aptly be termed exploratory, but only in the sense that the specification of causal paths was based upon the objective of improving the model's fit with the observed data. As mentioned, the variables chosen for analysis were intentionally selected, as these variables related to critical issues of teacher satisfaction within the context of school settings.

A Review of the Literature: Correlates and Causes of Teacher Satisfaction

This review of the literature was aided by the annotated bibliography published by Powell and Beard (1986). This publication identified several studies which related to teacher satisfaction.

Teacher satisfaction was revealed as the major focus of numerous studies. Accordingly, the number of operational definitions for teacher satisfaction has been enormous. Lortie (1975) describes satisfaction in behavioral terms as the choice of teaching when given a second opportunity to choose a career. Belasco and Alutto (1972) define satisfaction behaviorally as remaining among the ranks of the teaching profession, although other opportunities for employment exist. Other authors have followed more traditional lines and defined teacher satisfaction in affective terms by saying teacher satisfaction is an "*emotional* response" to job related factors. For example, Locke (1976) stated that satisfaction was a "pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences" (p. 1300). Finally, Porter (1973) conceives satisfaction as

"the difference between what a person thinks he should receive and what he feels he actually does receive" (p. 64).

Whatever may be the nature of the operational definition , causal sequencing issues have beset investigations of teacher satisfaction since the 1930's when it was assumed that job satisfaction was the necessary precursor to job performance. This means that satisfaction on the job results in better performance and better performance loops to increase satisfaction which, in turn, raises performance even higher. The standard rule of thumb, even today, may be one in which educators regard satisfaction as a predictor of other good things which will inevitably happen at some point - increase teacher satisfaction and student performance will rise as measured by achievement tests. This popular conception, however, has been contested in studies which demonstrate that satisfaction's influence on performance is neither direct or simple (Brayfield and Crockett, 1955). In fact, other authors have shown that performance preceeds satisfaction (Lawler and Porter, 1967; Lawler, 1973). Much of what has been done recently, however, has been focused on identifying the predictors or causes of satisfaction (Metropolitan Life, 1984, 1988).

Among teachers, several variables or measures of other hypothetical constructs have surfaced as able predictors. The physical location of a school and the grade levels served by the school were shown to predict satisfaction. Metropolitan Life surveys (1984, 1988) revealed inner city and urban schools typically were associated with low satisfaction measures among teachers. These same surveys also demonstrated greater satisfaction among elementary teachers when compared to their high school counterparts. Another Metropolitan Life (1987) survey revealed that good parent relations were positively associated with teacher satisfaction.

Administrative Variables Related to Teacher Satisfaction

Sweeney (1981) , in a study which operationally defined satisfaction as the fulfillment of Maslow's needs categories, found that trust among teachers and the principal predicted satisfaction. Other administrative or leadership variables likewise have been found to predict satisfaction. Conley, Bacharach and Bauer (1989) revealed that positive supervisory behaviors on the part of principals significantly predicted higher satisfaction among teachers. Participatory decision making has also demonstrated a positive effect on satisfaction in studies conducted by Schneider (1984) and Belasco and Alutto (1972).

Holdaway (1978), in a descriptive study of 801 teachers in Alberta, Canada, found that satisfaction was most prominently related to interactions with students and not with administrative practices. He suggested that principals should stay out of the way and help facilitate teacher satisfaction by focusing on those matters which did influence satisfaction, namely teachers' interactions with their students. Rossmiller (1988), however, presents evidence which shows that the school's principal plays additional significant roles in determining teacher satisfaction. This study showed that the administration's management style influenced teacher satisfaction in traditional school settings by serving as a "buffer" between teachers. Louis and Miles (1990) demonstrate similar findings to those provided by Rossmiller. They conclude that the principal's actions can serve to influence satisfaction by spreading a common vision of the school among teachers.

Grassie and Carss (1973) measured leadership as a combination of consideration and trust from the Organizational Climate Description Questionnaire. These authors revealed that, indeed, various aspects of leadership and the administration do relate to teacher job satisfaction. However, Bhella (1982) offers conclusions which do not support Grassie and

Carss (1973). In a study of 132 teachers from ten rural high schools in the state of Oregon, the conclusion was reached that teacher satisfaction was not related to the administrative dimensions of the study. Both administrative dimensions, the principal's Concern for Production dimension and the Concern for People dimension, were measured with the Principal Leadership Style Questionnaire. Sergiovanni (1967), in an earlier study, conducted on 71 randomly selected teachers in Monroe County, New York, published results which obliquely confirmed the findings of Grassie and Carss (1973). He found that factors associated with teacher satisfaction were different from those which produced dissatisfaction. Satisfaction was found to be more a consequence related to the work of teaching itself, but was unrelated to the direct effects of effective administrative behavior. Conversely, dissatisfaction *was* related to the conditions of work. The conditions of work variable in this study was a composite of individual factors, supervisory behavior, interpersonal relationships, and other job related factors. Satisfaction was only related to effective administrative behavior in that effective administrative behavior established the conditions to produce an environment where satisfaction could occur.

Student Performance Measures Related to Teacher Satisfaction

Performance of students and views of job performance have been identified in many studies as potent predictors of teacher satisfaction. Sergiovanni's (1967) study concluded that effective personal performance cannot be separated from satisfaction, and that satisfaction depends on personal performance. Two earlier studies also found a connection between satisfaction and the achievement of students. Koura (1963) found that satisfaction was associated with increased student performance levels. In these studies, however, satisfaction was characterized as the antecedent of performance.

Gamoran and Berends (1987) regarded satisfaction as the outcome of student performance in their study of high- and low-track students. They found that teachers have better attitudes, in general, when working with high-track students. The results of their work did not directly correspond to teacher satisfaction measures, just preferences regarding the types of students with whom they would like to teach.

Sweeny's (1981) study of high school teachers did target satisfaction as the major outcome variable of interest and used measures of student performance as predictor variables. Results demonstrated that lower satisfaction scores were associated with low performance levels of students. The work of Prawat, Byers and Anderson (1983) evidenced findings similar to those found by Sweeny (1981). Teachers felt the largest sense of satisfaction when students demonstrated achievement. Their finding of increased satisfaction was most prominent among low ability students.

In this review of the literature, no studies were found which included teacher satisfaction and student performance measures obtained from different population sources. Generally, only one instrument was employed. Scores for teachers' sense of satisfaction and scores for teachers' sense of student performance were calculated from differing sets of items comprising the same instrument. Not one study included teacher scores and student scores obtained from teachers and students, respectively.

Student Self Concept and Teacher Satisfaction

Because students who possessed high self concepts had confidence in their abilities to master difficult achievements, their responses to frustration and failure were remarkably different from students with low self concepts (Crandall, 1969; Eccles, Adler and Meece,

1984; Parsons and Ruble, 1977). These studies partially demonstrate that students possessing high self concepts will tenaciously struggle to achieve in face of the setbacks and frustrations caused by failures.

These findings, however, have not been confirmed by all researchers, and suggest that self concept will predict achievement. Just the reverse has been noted in the work of Calsyn and Kanny (1977) and Harter and Connell (1984). In particular, the structural equation modeling study conducted by Harter and Connell (1984) revealed self concept as largely accounted for by achievement. Additional causal modeling studies conducted by Shavelson and Bolus (1982) and Newman (1982) also found no evidence to support the theory of self concept variation predicting variation in achievement.

What these studies, as an aggregate, may have revealed is that motivational differences may accompany students with differing levels of self concept. How these motivational differences affect teacher satisfaction is not totally clear. One plausible model for understanding the effects of self concept and possible motivational differences among students in terms of their persistence to achieve in the face of failure directs our attention to Lortie (1975). Lortie regards the classroom as the center of the teacher's world, and the major source of satisfaction extracted from this world involves the relationship between teacher and student during the activity of teaching and learning. Holdaway (1978) confirms Lortie's contention that teachers exact satisfaction from the acts associated with actually teaching students. Research studies linking student self concept and teacher satisfaction are not plentiful, however. Although certain authors have mentioned the possibility of self concept affecting satisfaction through motivational differences in students, these linkages have not been confirmed in the literature.

Student Behavior and Teacher Satisfaction

In a study conducted at the school level, Conley, Bacharach, and Bauer (1989) found the absence of behavioral problems and learning problems to be positively associated with higher levels of teacher satisfaction. These findings applied to both elementary and secondary level teachers. In a Dade County, Florida, study of teacher preferences regarding the various types of students they would most like to teach, Kottkamp, Provenzo, and Cohn (1986) show that teachers prefer respectful, hardworking students. Stern and Keislar (1977) also assert that "teachers generally prefer students who are conforming, obedient, compliant, quiet, studious, and passive" (p. 69).

Sergiovanni (1974) emphasized the need to understand dissatisfaction as related to interpersonal behaviors among teachers and students. He stressed that superior relationships between teachers and students may or may not predict teacher satisfaction, but that poor relationships will result in considerable dissatisfaction on the part of the teacher. Holdaway (1978), although not in complete disagreement with Sergiovanni, found that the general behavior of students in the classroom was reported by only 85 percent of the teachers as satisfactory (p. 36).

Teacher Cohesion Variables Related to Satisfaction

Teachers are profoundly influenced by other teachers, administrators and students, and the quality of the relationships they establish (Chase, 1991). Chase identified these relationships as three separate constructs in her structural equation study of teacher satisfaction. One prominent construct in her study measured the degree to which the administration realized the problems faced by teachers. The total effect of this one

construct alone was staggering in terms of its predictive power on teacher satisfaction, commitment and engagement constructs. Another powerful predictor was found in a construct she termed collegiality. This construct measured the degree to which teachers could depend on other teachers to help them, even though it was not a part of their regular job requirements to do so. The construct also measured the degree of solidarity teachers may sense in terms of a common mission. The total structural effects of the collegiality/solidarity construct was, likewise, quite powerful, as it substantially predicted perceptions of the degree of engagement among school staff. The third construct measured how capable teachers regarded their students to be and the degree to which teachers sensed that student attitudes hindered their ability to learn. This construct, which might be aptly characterized by the label *capabilities*, demonstrated strong predictive effects on teachers' sense of efficacy, commitment and satisfaction.

In a largely descriptive study which was unrelated to other studies reported in this section, Fletcher and Payne (1982) examined reported stressors and strains among 148 school teachers in the United Kingdom and found that 95 percent of the teachers considered encouragement from colleagues as a major source of satisfaction (p. 273).

Teacher cohesion, defined as collegiality, and stimulating interactions among teachers may provide a basis for improving the total quality of teachers' work lives. Professional interactions have been found to increase a felt sense of companionship, intra-school responsibility for instruction, and interpersonal regard (Little, 1984; Miles, Louis, Rosenblum, Cippollone, and Farr, 1986; Newman, Rutter, and Smith, 1988).

Louis and Miles (1990) also point out that alienation was a consequence of incongruent values and goals among teachers. Cohn, Kottkamp, McCloskey and Provenzo (1987) and

Metz, Hemmings and Tyre (1988) warn that goal congruence was undermined when schools deflect focus away from the agreed upon cognitive/affective goals for students. How alienation among teachers affects teacher satisfaction was not revealed in these studies.

Respect from other teachers, colleagues, administrators and members of the community heavily influenced teacher satisfaction according to Firestone and Rosenblum (1988). Berry, McCormick and Buxton (1989) contend further that public debates over ill-trained teachers and other real or imagined problems had tarnished the attractiveness of education among current students. Deming (1982) postulated that most attempts to identify the root causes of problems shortsightedly focus on specific persons or organizational departments without proper recognition being given to the system in which the person or department must contend with others. Deming offered additional insight by saying most organizations find it an easy matter to place blame on specific persons and hold them responsible for the problem. When this easy-to-do sort of problem-solving technique occurs, Deming predicts that whatever the ultimate finding might be, the very process itself has a demoralizing effect on other persons in the system simply because the real problem usually rests within the system itself and everyone knows it. Deming concludes that all people within an organization must be treated favorably in all matters of mutual concern and respect or problems in morale, satisfaction, production, and efficiency will inevitably surface.

Impediments to Teaching Which Relate to Satisfaction

Factors which prevent teachers from carrying forth with the actual activities of teaching, communicating, planning and cooperating, concomitantly have unwittingly removed teachers' sources for satisfaction. Sufficient supplies and an orderly work environment

were stated by Cohn, Kottkamp, McCloskey and Provenzo (1987) as factors which affect the quality of teachers daily work experiences. Cooke, Kornbluh, and Abramis (1982) report that many simple procedural problems experienced by teachers can be easily remedied, and that effective reorganizational efforts within schools would increase the quality of their work lives. Holdaway (1978), for example, reports that almost 60 percent of the 801 randomly sampled teachers in his study cite inadequate preparation time as a condition within their schools which prompts their dissatisfaction (p. 37). Large class size was also frequently reported as a source of dissatisfaction as were the number of hours of non-teaching duty. Conley, Bacharach, and Bauer (1989) conducted a study which showed that career dissatisfaction was related to the routinization of teachers' work lives.

CHAPTER II

DATA AND METHODS

Population

All data employed in this study originated from the Broward County Public Schools (BCPS), Fort Lauderdale, Florida, student and teacher data base files. The data specifically pertain to the 1988-89 and 1989-90 school years, and were compiled by this author.

During the period of this study, the BCPS was the eighth largest school system in the United States of America, with an enrollment of 189,141 students in grades kindergarten through twelve for the 1989-90 school year. Table I presents enrollments by ethnic origin for the two years of this study.

TABLE I
STUDENT ENROLLMENT DATA BY SCHOOL YEAR

Ethnic Origin	School Year	
	1988-89	1989-90
Black	47,438	48,966
White	103,661	104,701
Hispanic	25,142	28,988
Asian/Pacific Islands	4,901	5,213
American Native	1,212	1,273
TOTAL	182,354	189,141

These enrollment figures include only students whose primary school of record was a regular school campus. Special Centers and Exceptional Student Education (ESE) campus' were not included. However, ESE students who attended regular schools and whose primary ESE classification included Gifted, Speech/Hearing, or any student classified part-time Specific Learning Disability or Educable Mentally Handicapped were included.

The teacher population examined in this study consisted of all kindergarten through grade twelve teachers and guidance counselors who were full-time or continuing contract employees, and who were employed on a regular school campus. Substitute teachers were not included. Exceptional and Special Center campus' were excluded from data summarizations. In total, teachers and students from 149 campus' were involved.

In general, the population of students and teachers forming the sample for this study was not regarded as characteristic of other large school districts in the state of Florida. It must be remembered that the BCPS is only one school district. The school district manifested specific characteristics, such as, overcrowded schools, multi-lingual students, steadily increasing enrollments in specific areas of the district, and rising enrollments of foreign-born, multi-cultural students. The district also implemented school-based management practices, provided comprehensive training opportunities for all personnel, had centralized administrative offices, maintained a distributed data management network, and enjoyed strong, consistent leadership by its superintendent for the years of this study. These characteristics may not be regarded as typical of other large metropolitan school districts in the state of Florida or elsewhere. Consequently, the teacher and student measures secured for analysis should not be associated with other school districts, as contextual differences would inevitably seem to be pronounced.

Measurement Variables

Former studies of teacher job satisfaction, morale, efficacy, and teacher attitudes in general (Tellenback, 1982; Chase, 1991) have focused on a variety of related measures as predictor variables. Accordingly, 20 variables were originally targeted for possible use in this study. These variables were measured in like fashion for the two years of this study and were aggregated by campus. These variables included:

- school mobility,
- percent of free and reduced lunch fee participants,
- percent of internal and/or external suspensions,
- percent of students two or more years averaged for grade placement,
- percent of students repeating a grade from the previous year,
- student attitudes toward school,
- student attitudes toward teachers,
- student self concept,
- percent of parent visits to school,
- student attitudes about school discipline practices,
- student attitudes regarding their teachers,
- student basic battery achievement test scores,
- student composite intelligence quotient scores,
- teacher attitudes regarding cohesion among teachers,
- teacher attitudes concerning the administration of their schools,
- teacher attitudes concerning their students,
- teacher attitudes regarding impediments to the successful execution of their work,
- school enrollment, and

- the percent of days students were in attendance prorated for the 180 day school calendar year.

A regression study which centered on teacher attitude variables as criterion variables and the remaining variables as predictor variables eliminated eight of the original 20 variables for future use. The objective of this preliminary study was to identify possible colinearities among the predictors and the criterion variables. Three additional variables were excluded from the study because of measurement problems which resulted in inaccurate polychoric and polyserial correlations with the remaining variables. As all variables were considered to be a continuous variables, a matrix of Pearson product-moment correlations was also calculated. Examination of these correlations supplemented the regression study and aided decisions regarding which variables should be dropped from further consideration.

Colinearity among variables originally planned for use was a major problem to the successful execution of this study. Because each of the targeted variables was aggregated across all students and teachers comprising each campus, the correlation among variables was extraordinarily high. It was not surprising to find correlations as high as $\pm .80$ among variables when they were initially thought to be much lower. For example, the correlation between the percent of free and reduced lunch fee participants and student achievement scores was $-.91$.

The elimination of variables through the regression study was rendered prior to the initial structural modeling analysis and, as mentioned, three other variables were dropped because of polychoric correlational problems during actual structural equation analyses. Specifically, these variables were recoded from their original continuous metric because of their abnormal kurtosis or skew distributions. For example, the school attendance variable was found to be leptokurtic among elementary schools, but less so among high schools.

This artifact was thought to be, at least, partially responsible for likely variable interactions among other variables when subjected to structural modeling analysis. Consequently, this variable was removed. Also removed was the free and reduced lunch fee participants variable, for this variable exhibited a radical skew. Attempts to recode these continuous level measurement variables into ordinal variables was not successful, as many missing categories were found once polychoric correlations were calculated. Several different recode schemes were employed before these variables were finally discarded.

Four additional variables were eliminated from final structural modeling analyses because of colinearity problems which resulted in maximum likelihood beta and gamma coefficients that exceeded the value of 1.0. Attempts to use these variables in LISREL by combination or as multiple measures of structural constructs were also unsuccessful. These variables were:

- school mobility,
- student intelligence quotient scores,
- student attitudes about their school, and
- teacher attitudes concerning their fellow teachers.

Seven variables of the original 20 comprised the final set of variables subjected to structural modeling analysis. Basic data by structural modeling construct category are shown in Table II. These data were aggregated by school and the results averaged for all individual campus'. The variable labeled SELF represents the percent of positive student responses to selected student survey items. The variable BEHAV in Table II is the percent of students receiving school suspensions. The variable PERFORM shows average achievement levels. Prior to aggregation by campus, achievement scores were transformed to have a mean of 50 and a SD of 10 for individual students. The variables labeled IMPED, SATIS,

COHES, and ADMIN were each measured on a five point Likert scale. These measurements relate to specific teacher survey items. Scale values ranged between 1 and 5 with large numbers expressing positive responses to the items comprising the scales. Although teacher survey items were both negatively and positively worded, the averages listed in Table II were calculated by using data which were recoded such that a 5 meant the most positive response.

TABLE II
FINAL STRUCTURAL EQUATION MODELING VARIABLES

Variable Name	Label	N	Mean	SD
Exogenous or Predictor Construct Variables				
Student Attitude About Self	SELF	149	78.6	2.9
Percent External/Internal Suspension	BEHAV	149	5.0	7.0
Student Achievement, Battery	PERFORM	149	51.1	4.3
Teachers View About Impediments	IMPED	149	3.0	.4
Endogenous or Criterion Construct Variables				
Teacher Satisfaction	SATIS	149	3.6	.3
Teacher Cohesion	COHES	149	3.8	.6
Teacher Views of Administration	ADMIN	149	3.7	.5

Although 149 scores or cases were summarized by variable in Table II, thousands of student and teacher scores were present in the BCPS's mainframe data base files prior to aggregation by mainframe Statistical Programs for the Social Sciences (SPSS) software. Again, Table II provided the unweighted averages for all 149 schools involved in the study after the data were aggregated by individual campus. The number of individual scores aggregated into school averages was provided in Table III by variable label.

TABLE III
NUMBER OF STUDENT AND TEACHER SCORES BY VARIABLE LABEL

Variable Label	Number of Students	Number of Teachers
SELF	60,927	
BEHAV	62,779	
PERFORM	61,416	
IMPED		7,142
SATIS		7,102
COHES		7,312
ADMIN		7,217

The largest difference between the number of individual scores, by variable, concerned the BEHAV variable in contrast to SELF and PERFORM. BEHAV's school average was based on almost 2,000 more students than SELF and almost 1,400 more students than PERFORM. BEHAV included all students in grades three through nine who demonstrated at least 100 days of membership for the last school record for the school year. This unforeseen initial data processing criterion insured that a greater number of scores would be summarized for BEHAV.

The variable SELF was conceived from selected items which were contained in the Annual Student Survey (see Appendix A). This survey was administered annually to all students in grades three through nine. The items which contributed to the scale SELF were:

- item 12 - People like me;
- item 13 - I like being the way I am;
- item 14 - There is very little I can do to make people like me;
- item 15 - I am a happy person;

- item 16 - I worry a lot;
- item 17 - I feel good about myself;
- item 18 - I wish I could be someone else; and,
- item 19 - I laugh a lot.

The response scale required students to respond either *Yes* or *No* to each item. A subsequent recode of the items resulted in all positive responses being coded 1 and negative responses coded 0. Individual item scores were then added together and divided by the number of items such that the resultant score indicated the proportion of positive responses to the eight items. The summation of item scores to achieve the composite score demanded that *each* item be responded to on the part of the each student. Accordingly, any student who did not answer all of the items was dropped from the aggregate average for the variable. In total, 794 students or 1.3 percent of all students considered were excluded for this reason.

Cronbach's α (Cronbach, 1951) was applied to the recoded item data before the composite score was calculated. This procedure, when applied to dichotomous data, is equivalent to the Kuder-Richardson 20 formula. Coefficient alpha was found to equal .91, which indicated an acceptable level of internal consistency among the items. This result also demonstrated that the items comprising SELF were measuring a unidimensional scale. Further analysis of item-total correlations revealed no one item was deviant from the others. No one item was found to have an item-total correlation lower than .71 or higher than .94.

The variable BEHAV was formulated to measure the incidence of student behaviors which resulted in suspensions from normal school activities. Suspensions occur because student behaviors are deemed unacceptable by teachers and school-based administrators, and

constitute a violation of the agreement reached at the beginning of each school year between the student and the school regarding unacceptable behaviors. This agreement is constituted when each student and parent signs an annual contract form to acknowledge that they understand student responsibilities regarding conduct and dress, and also understand the consequences for unacceptable student behavior as outlined in the Code of Student Conduct. Historically, behaviors such as manifest disrespect for teachers and fighting among students constitute the majority of student suspensions.

All student suspensions were coded on the BCPS's mainframe data base files as these data were necessary to satisfy Florida Department of Education reporting requirements for all districts receiving state funds in the state of Florida. Two types of suspensions were coded: internal school suspensions and external suspensions.

Any student who received either of these codes was recoded with the value of 1 and all remaining students received the code 0. Consequently, the value of 1 indicated the student had received at least one suspension of either type during the school year. Students who received multiple suspensions during the course of the school year were not accorded a value beyond 1. Too few students received multiple suspensions to warrant additional values beyond the value of 1. The variable BEHAV, consequently, showed individuals as receiving at least one suspension of either type or none at all.

The variable PERFORM resulted from the administration of the Iowa Tests of Basic Skills (ITBS) to all students in grades three through nine. Expanded scale scores for the Basic Composite subtest were used to establish local norms for the district, as a whole, for the first year the ITBS was administered, the 1986-87 school year. During this first year, all Basic Composite scale scores were transformed such that, at each grade level, the resulting

scores evidenced a mean of 50 and a standard deviation (SD) of 10. This conversion between the ITBS, Basic Composite, expanded scale score and the local norm scale was then subsequently applied to each successive year's expanded scale scores, such that comparisons were easily made between the current year's scores and scores which comprised the base year.

The variables IMPED, SATIS, COHES, and ADMIN relate to the Districtwide Teacher Survey which was administered on an annual basis to all school-based annual and continuing contract teachers and guidance counselors (see Appendix B). The procedures for administration of the survey appear in Appendix C and were developed such that anonymity of response was certain. Administrators were not present during the administration of this survey nor were individuals identified in any way. The only identification of any sort was the school in which the survey was administered.

Items comprising the scales SATIS, COHES, and ADMIN were first identified via image factoring techniques outlined by Kaiser and Caffry (1963). Obliminial rotation methods revealed four factors which accounted for 40.1 percent of all variation among item scores. However, the factor scores for these four dimensions were, regrettably, highly correlated and judged unsuitable for use in this study as a group. The scores for one dimension, which was principally comprised of items which measured teachers' views of their students, was colinear with two other identified dimensions. Accordingly, the offending dimension consisting of student items was dropped from the study.

Consequently, raw score scales consisting of items from three of the four factor analysis dimensions (i.e., COHES, SATIS, and ADMIN) were constructed. A fourth scale,

IMPED, was formed by selecting four unique, additional items which were not included on any of the three former scales.

The scale COHES was judged to measure teachers' views of other teachers in the school; the degree of common purpose, cooperativeness among teachers, willingness to perform tasks, and overall spirit of engagement in the school were factors which comprised this scale. Cohesion among teachers was consequently identified as the principal measure of these items.

The scale titled SATIS was regarded as a measure of teacher satisfaction. The items comprising this scale measured personal accomplishment, morale, and the degree of pleasure exacted from teaching in the school, as well as the intent to change professions.

The scale ADMIN measured teachers' views of the administration within the school. These items focused on productive faculty meetings, harmony between the administration and faculty, the degree to which teachers were consulted about important matters by the administration, communication, and participatory decision-making.

The remaining scale, IMPED, was formed by selecting four items from the Districtwide Teacher Survey. These items were designed to measure the degree of impedance teachers perceived to the successful attainment of their major mission, teaching students. Noise level in the school, unnecessary requirements, too much paperwork and the supply of instructional materials were hinderences measured by the scale IMPED. Table IV presents the actual item statements, by constructed scale, for all items which were used from the Districtwide Teacher Survey. Cronbach's alpha for each scale was also displayed.

TABLE IV
DISTRICTWIDE TEACHER SURVEY –
ITEM STATEMENTS COMPRISING THE VARIOUS SCALES

Item Statement	Cronbach's Alpha
COHES - Teacher Cohesion	.91
#2 Teachers at this school show a lot of school spirit. #3 Teachers at this school feel a strong sense of purpose about what we are trying to accomplish. #4 Teachers at this make school work interesting. #6 There are too many dissatisfied teachers at this school. #12 The morale of the teachers at this school is high. #21 I like the teachers at this school. #29 Teachers at this school accomplish their tasks willingly. #39 There is too much friction between teachers at this school.	
SATIS - Teacher Satisfaction	.83
#14 I am giving serious consideration to leaving this profession. #22 My sense of accomplishment at days end is often low. #27 It is a pleasure to teach at this school. #36 My morale is high.	
ADMIN -Teachers' views of the administration	.90
#8 Our faculty meetings are usually productive. #9 Communications between the faculty and administration are good at this school. #13 Teachers at this school are consulted about matters which are important to them. #15 There is harmony between the administration and faculty at this school. #19 I receive administrative support in matters of classroom discipline. #40 I feel that I am receiving adequate help from administration. #43 Faculty participation in decision making is encouraged at this school.	

TABLE IV (CONTINUED)

Item Statement	Cronbach's Alpha
IMPED - Teachers' Perceptions of Impediments	.84
#10 This school is too noisy.	
#16 I have too much paper work.	
#41 Teachers at this school are adequately supplied with instructional materials.	
#44 Many unnecessary requirements interfere with my teaching.	

Each of the teacher survey items used an ordinal five point Likert scale. Because item statements were deliberately worded in a negative or positive direction, items were recoded prior to analysis such that 1 expressed the most negative response to the item and 5 the most positive response to the item. Scores for the individual items were then summed and divided by the number of items comprising the scale. If individual responses were not attempted to all items comprising the scale, the summation of item scores was not completed and the data for the individual teacher discarded for that scale. In total, 249, 289, 79, and 174 teachers were excluded for the scales IMPED, SATIS, COHES, and ADMIN, respectively. Although the scales of IMPED and SATIS consisted of fewer items than the other scales, more teachers were excluded because of missing item scores. This contradictory circumstance was not readily understood. Only one explanation for this result was apparent to this author, items #22, #36, and #44 all measured very individualized expressions. Perhaps anonymity was not regarded as certain by some teachers and they elected not to respond to "play it safe." Nonetheless, for any one scale,

fewer than four percent of all teachers were excluded because of the complete item data requirement.

Data Aggregation and File Construction

Two files were subjected to data aggregation: student data base files containing the variables SELF, BEHAV, and PERFORM, and the teacher data base file containing the variables IMPED, SATIS, COHES, and ADMIN. Procedures for aggregation to the individual school level were identical for all files. First, preliminary data screening of the variables was conducted through frequency distributions, skew and kurtosis statistics. Second, the data were aggregated by individual school. Finally, reports of the aggregated files were made. All of these procedures were executed on the BCPS's IBM 3090 mainframe computer with SPSS software.

Individual school averages data were then entered on an IBM expanded 386 PC where the ASCII files required by LISREL were generated and transferred to LISREL. Data entry procedures were doubly verified before the ASCII files were generated.

PRELIS Processing

PRELIS was developed as a companion software package to serve as a preprocessor for LISREL. In addition to data screening features, the package also serves as a convenient means for transferring ready-to-analyze data matrices to LISREL. In this study, PRELIS served in both capacities.

Raw ASCII files containing the aggregated variable data were read by PRELIS and summary data were generated. Inspection of these data revealed abnormalities in the variable BEHAV which required attention before further use.

The skew index for BEHAV was found to equal 1.435. Skews for the remaining six variables ranged between -.5 and .5, and were considered acceptable. However, since LISREL requires variables which are multinormally distributed, BEHAV was recoded into an ordinal level variable consisting of five categories.

All variables were originally conceived to be continuous and plans called for a covariance matrix or Pearson correlation matrix analysis of the seven variables. By declaring BEHAV as an ordinal variable in PRELIS, polyserial correlations were generated for all six correlations in which BEHAV was one of the two variables in the bivariate correlation. All remaining correlations were Pearson product-moment correlations.

BEHAV passed preliminary efforts at data screening unscathed because it exhibited a moderate skew and was not colinear with other variables under consideration. However, in this final stage of data preparation for LISREL, it was identified as a possible source of future trouble and, consequently, was recoded and declared an ordinal variable in the final PRELIS run.

PRELIS prepared the correlation matrix for the final analyses with LISREL through use of the PM option. This option in PRELIS allowed the calculation of both polyserial correlations and product-moment correlations in one matrix. Table V presents the final correlation matrix for all LISREL variables. The number of individual scores which were correlated in this table equalled 149, the number of individual campus' involved.

TABLE V
FINAL CORRELATION MATRIX BY VARIABLE LEVEL

VARIABLE LABEL	SATS	COHES	ADMIN	SELF	BEHAV	PERFORM	IMPED
SATS	1.00						
COHES	.82	1.00					
ADMIN	.77	.74	1.00				
SELF	.25	.28	.17	1.00			
BEHAV	-.49	-.54	-.38	-.03	1.00		
PERFORM	.31	.40	.19	.68	-.30	1.00	
IMPED	.57	.59	.44	.31	-.46	.43	1.00

Model Specification

LISREL demands specification of all the concepts or latent variables in the model. These latent variables are specified in three basic matrix equations. Two of the equations concern the measurement of latent variables. The third matrix equation specifies the effects among all latent variables. The structure matrix which specifies causal paths among measured latent variables was of primary interest in this study.

All latent variables in LISREL are classified as exogenous or endogenous. Endogenous latent variables (i.e., dependent variables) are predicted or “caused” by other variables in the model. If a latent variable may be assumed to be the *effect* of other variables and not the *cause* of other variables in the model, that concept or latent variable may be classified as an endogenous variable. On the other hand, if a latent variable may be assumed to cause other concepts or latent variables rather than be caused by them, that latent variable may be classified as an exogenous variable (Hayduk, 1987). In structural equation modeling studies, it is common practice to use the words “cause,” “effect,” “influenced,” and “impacted” to describe associations among exogenous and endogenous variables. However, experts in methods for research designs do not support the use of these words in structural equation modeling studies, and this fact should be known to the reader. Of course, on the other hand, many structural equation modeling experts are at ease with the use of these words in their studies. This study follows the precedent established in previous structural modeling studies and makes liberal use of the words mentioned above. Nevertheless, following precedent in this study does not constitute an endorsement of structural equation modeling as a vehicle to establish causation.

Exogenous variables and the measurement variability associated with these variables are not explained by LISREL. Instead, exogenous variables are used to explain or predict fluctuations or variability among endogenous variables. In structural equation modeling studies, it is the "causal" network or path among endogenous variables, and the causal paths from exogenous to endogenous variables which are of interest. The specifications of these paths constitute what is termed the structural model.

Unfortunately, unclear distinctions between exogenous and endogenous variables cause one form of model misspecification. This study regarded contextual variables as exogenous because the intent was to understand teacher satisfaction within a school's setting or context. Further, effective teaching and satisfaction may very well be largely determined by the setting in which the teacher must work (McLaughlin and Talbert, 1990).

Hayduk (1987) provides further clarification

A model is misspecified if the contribution of a true common cause to the covariance between two variables is modeled as a direct or indirect effect between those variables or if an incorrect causal sequencing is used.
(p. 150)

The first part of Hayduk's statement describes the proper role of endogenous structural construct variables. Any true endogenous variable modeled as an exogenous variable will result in one form of model misspecification. Her statement also implies that for any construct in which some question remains regarding proper classification, that construct should be classified as an endogenous variable. In this study, contextual variables, or the settings in which teachers worked as measured by student characteristics and school-level impediments to teaching, were regarded as exogenous variables. This study classified the variables, SELF, BEHAV, PERFORM, and IMPED as exogenous variables; whereas, the

variables SATIS, COHES, and ADMIN served as endogenous variables. The second part of Hayduk's statement above may be assisted by the following additional comment

A routinely useful strategy is to determine the time order in which the values of the relevant variables appear. If a variable's values are determined before the values of some other variable, an unambiguous causal specification occurs. The later appearing variable cannot possibly cause the earlier appearing variable. (p. 148)

Accordingly, the exogenous variables SELF, BEHAV, PERFORM, and IMPED represented school averages data from the 1988-89 school year. The variables SATIS, COHES, and ADMIN came from the administration of the Districtwide Teacher Survey during the 1989-90 school year. It should be noted that the administration of this survey occurred during November of 1989. The data used to measure the exogenous measures were collected during the spring of 1989. Thus, a period of five months separated endogenous measures from exogenous measures. Although this separation in time between exogenous and endogenous variables was viewed as a strategy which was consistent with the advice proposed by Hayduk, this one criterion by itself was not regarded as important to deciding which constructs should be modeled as exogenous or endogenous. Theory and the results from previous studies seemed the most sensible route.

A Priori Declarations

Structural equation modeling departs from most hypothesis testing procedures in that *failing-to-reject* the null hypothesis is the desired outcome. Comparing an observed data matrix, S , with a matrix implied by the structural and measurement equations, Σ , determines the *fit* of the model (Bollen, 1989). If important effects are omitted, the *goodness-of-fit* of the model's implied matrix will not create a matrix, Σ , which matches S (Hayduk, 1987).

LISREL calculates a χ^2 likelihood ratio which assesses the match between Σ and S, and also provides a probability based upon the model's associated degrees of freedom whenever maximum likelihood methods of estimation are employed. Given the concept of *goodness-of-fit*, adopting the nominal or conventional .05 level of significance is not a strong assertion that the model's implied matrix matches the observed matrix. This is not particularly strong evidence that a model fits the data because 95 times out of 100 times, one would fail-to-reject the null hypothesis of different matrices and assume the model fits the data. Adopting a more stringent level of significance, say, .20, prescribes a greater chance that the null hypothesis will be rejected.

The predetermined level of significance for the χ^2 (squared) *goodness-of-fit* statistic in this study was .20. Although the power of χ^2 increases dramatically, given large sample sizes and correspondingly larger degrees of freedom, this study's small sample size (N=149) will result in only a few degrees of freedom for the essential test of the match between Σ and S. Hence, the debate concerning the power of χ^2 and the number of degrees of freedom issue seems trivial here.

LISREL also provides an *adjusted goodness-of-fit* index defined by Tanaka and Huba (1984). Essentially, this statistic ranges between 0 and 1 with larger values signifying a better match between Σ and S. For example, the value of one would imply a perfect fit between the model implied matrix, Σ , and the observed matrix, S. Unfortunately, no commonly agreed upon value is available for guidance. Nonetheless, a value of .90 or higher for the adjusted goodness-of-fit statistic was chosen for this study. This was based upon studies of similar intent conducted by Tellenback (1982) and Chase (1991).

Finally, only standardized beta coefficients which were significant at the $p < .05$ level were included in final model specifications for determining predictive paths. Significance was determined by dividing the standardized coefficients by their respective standard errors. If this value exceeded ± 1.96 , the coefficient was judged worthy of inclusion when determining causal paths. The value of 1.96 relates to standard areas under the normal curve tables, and prescribes a 95 percent confidence interval around the estimated beta coefficient.

CHAPTER III

RESULTS

Apart from the constraints imposed by the selection of the exogenous and endogenous variables which related to theoretical issues surrounding teacher satisfaction, the determination of significant causal paths was exploratory and based upon model improvement indices provided by LISREL. During the first LISREL run, the degrees of freedom was intentionally chosen to be one. This was done such that as many possible paths of causation could be examined at one time. Causal path parameters with probability estimates above the specified $p < .05$ level of significance were eliminated and new paths *freed or fixed* for examination. The determination of either *freeing* or *fixing* causal paths was also accomplished via LISREL's model modification indices. Associated probabilities and model modification indices were used in complementary fashion before a final judgment was made to either fix or free a coefficient. However, at no time during this *exploratory footwork* was the variable SATIS allowed to predict other constructs without being allowed to be predicted by those constructs. This was done because the intent of this study was to determine the predictors of satisfaction. This conceptualization was regarded as consistent with other studies which have recently conducted to determine the predictors of teacher satisfaction (Metropolitan Life, 1984, 1988; Chase, 1991). Another imposed constraint concerned the variable SELF. This variable was never allowed to *cause* the variables ADMIN or COHES, as little theoretical evidence was available to warrant these paths as significant. Also, the initial classification of exogenous and endogenous variables was never changed. This procedure of assessing paths of causation by *freeing*

and *fixing* coefficients continued until it was impossible to improve the fit of the model to the data.

Figure 1 depicts the initial model tested. In this model SATIS was allowed to predict COHES and COHES was allowed to reciprocate. ADMIN was also allowed to predict both SATIS and COHES. The exogenous variable SELF was only allowed to predict SATIS and no other endogenous variables.

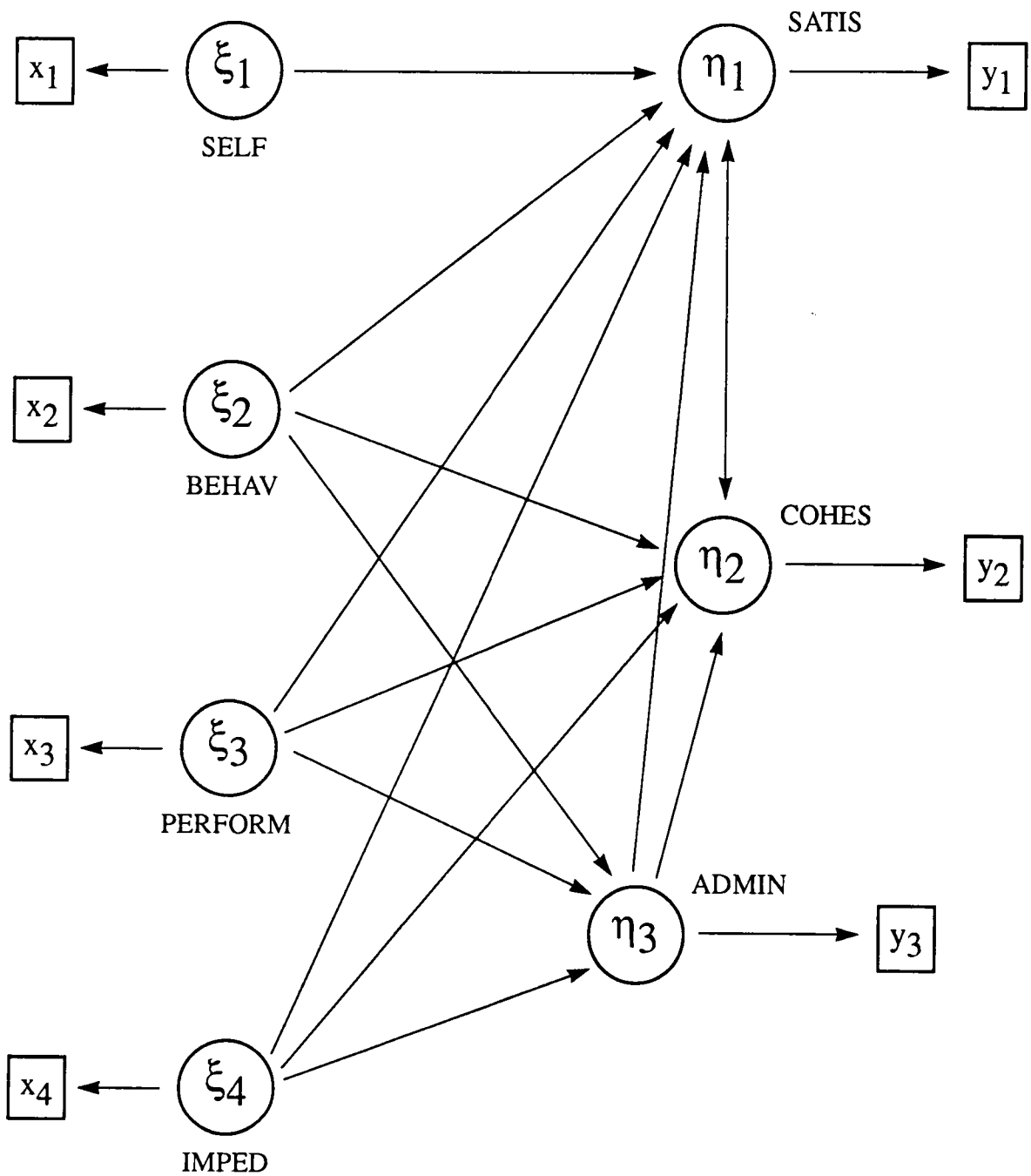


Figure 1. Initial Causal Path Model

The structural and measurement equations corresponding to Figure 1 are provided in Figure 2 below. The causal path structural equation is identified as (1.1). Measurement equations for the endogenous and exogenous variables are identified by (1.2) and (1.3), respectively.

$$\begin{bmatrix} \eta_1 \\ \eta_2 \\ \eta_3 \end{bmatrix} = \begin{bmatrix} 0 & \beta_{12} & \beta_{13} \\ \beta_{21} & 0 & \beta_{23} \\ 0 & 0 & 0 \end{bmatrix} \begin{bmatrix} \eta_1 \\ \eta_2 \\ \eta_3 \end{bmatrix} + \begin{bmatrix} \gamma_{11} & \gamma_{12} & \gamma_{13} & \gamma_{14} \\ 0 & \gamma_{22} & \gamma_{23} & \gamma_{24} \\ 0 & \gamma_{32} & \gamma_{33} & \gamma_{34} \end{bmatrix} \begin{bmatrix} \xi_1 \\ \xi_2 \\ \xi_3 \\ \xi_4 \end{bmatrix} + \begin{bmatrix} \zeta_1 \\ \zeta_2 \\ \zeta_3 \end{bmatrix} \quad (1.1)$$

$$\begin{bmatrix} y_1 \\ y_2 \\ y_3 \end{bmatrix} = \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} \eta_1 \\ \eta_2 \\ \eta_3 \end{bmatrix} + \begin{bmatrix} \varepsilon_1 \\ \varepsilon_2 \\ \varepsilon_3 \end{bmatrix} \quad (1.2)$$

$$\begin{bmatrix} x_1 \\ x_2 \\ x_3 \\ x_4 \end{bmatrix} = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} \xi_1 \\ \xi_2 \\ \xi_3 \\ \xi_4 \end{bmatrix} + \begin{bmatrix} \delta_1 \\ \delta_2 \\ \delta_3 \\ \delta_4 \end{bmatrix} \quad (1.3)$$

Figure 2. Structural Equations Corresponding to the Initial Model

This model yielded $\chi^2 = 2.42$, $p = .12$ with 1 degree of freedom. The adjusted goodness-of-fit index equaled .878. Model modification indices suggested that β_{21} and β_{23} become fixed and that β_{32} be freed. Further runs also confirmed the need to fix γ_{34} .

Figure 3 presents the structural equations for the final model. The causal path structural equation is identified as (2.1). Measurement equations for the endogenous and exogenous variables are identified by (2.2) and (2.3) respectively.

$$\begin{bmatrix} \eta_1 \\ \eta_2 \\ \eta_3 \end{bmatrix} = \begin{bmatrix} 0 & \beta_{12} & \beta_{13} \\ 0 & 0 & 0 \\ 0 & \beta_{32} & 0 \end{bmatrix} \begin{bmatrix} \eta_1 \\ \eta_2 \\ \eta_3 \end{bmatrix} + \begin{bmatrix} \gamma_{11} & \gamma_{12} & \gamma_{13} & \gamma_{14} \\ 0 & \gamma_{22} & \gamma_{23} & \gamma_{24} \\ 0 & \gamma_{32} & \gamma_{33} & 0 \end{bmatrix} \begin{bmatrix} \xi_1 \\ \xi_2 \\ \xi_3 \\ \xi_4 \end{bmatrix} + \begin{bmatrix} \zeta_1 \\ \zeta_2 \\ \zeta_3 \end{bmatrix} \quad (2.1)$$

$$\begin{bmatrix} y_1 \\ y_2 \\ y_3 \end{bmatrix} = \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} \eta_1 \\ \eta_2 \\ \eta_3 \end{bmatrix} + \begin{bmatrix} \varepsilon_1 \\ \varepsilon_2 \\ \varepsilon_3 \end{bmatrix} \quad (2.2)$$

$$\begin{bmatrix} x_1 \\ x_2 \\ x_3 \\ x_4 \end{bmatrix} = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} \xi_1 \\ \xi_2 \\ \xi_3 \\ \xi_4 \end{bmatrix} + \begin{bmatrix} \delta_1 \\ \delta_2 \\ \delta_3 \\ \delta_4 \end{bmatrix} \quad (2.3)$$

Figure 3. Structural Equations Corresponding to the Final Model

Notice that in the final structural equation (2.1), SATIS is not allowed to predict other endogenous variables, and that both ADMIN and COHES were free to predict SATIS. This fact is represented by fixed values of 0 in the matrix where β_{21} and β_{31} estimates would normally appear. Also, COHES was allowed to predict ADMIN, but ADMIN was not allowed to reciprocate. This, too, is signified by a 0 where the coefficient β_{23} would

normally appear. Figure 3 also shows that IMPED was not allowed to directly predict ADMIN. This is revealed by the 0 in matrix where the coefficient γ_{34} would normally appear. In Figure 3, all structural coefficients which were removed and *fixed* with zeros were not evaluated by LISREL. In short, their respective causal paths were *not* estimated. Actual coefficient entries in the matrices identified by their respective subscripts were estimated, however. The values of 1 comprising the diagonal elements of the two lambda matrices in (2.2) and (2.3) also were fixed, but with a 1 rather than a 0. This feature allowed the contributions of the exogenous variables, in terms of predicting the endogenous variables, to be weighted equally. By specifying 1 for all exogenous variables, the relative contributions of one exogenous variable could be directly compared to another exogenous variable without scale differences obscuring the comparison.

Figure 4 on page 41 presents the causal path diagram for the final model. Standardized beta coefficients are provided on the directional lines to indicate the degree of influence one variable was found to exert on another. Significance levels are also provided as an accompaniment to the coefficients. Bold lines indicate significant causal paths. All coefficients are actual; disattenuated path coefficients are not presented in the figure.

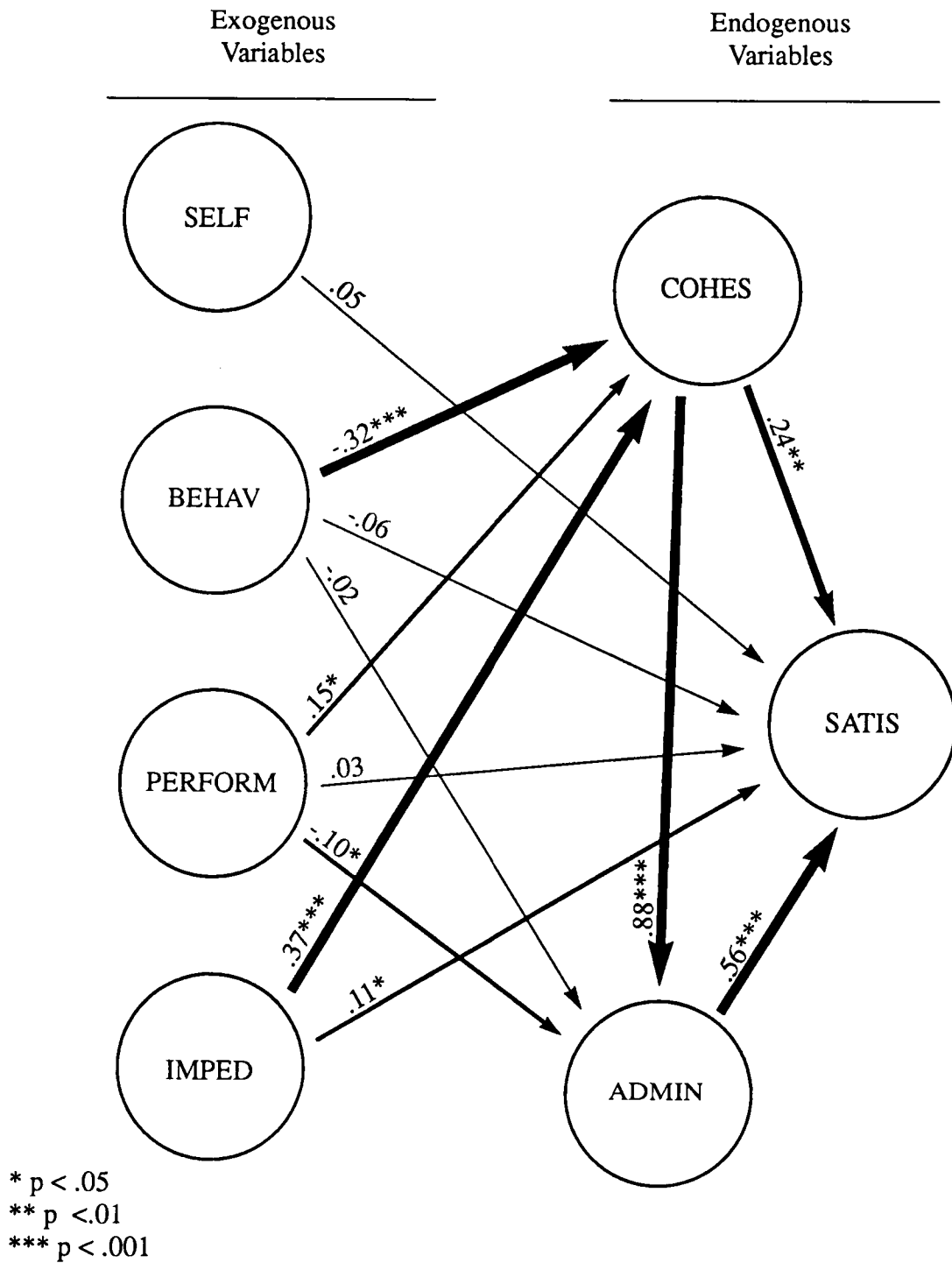


Figure 4. Standardized Beta Coefficients for the Final Model

For this model, $\chi^2 = 3.58$, $p = .31$, with 3 degrees of freedom. Also, the adjusted goodness-of-fit index was equal to .938. Thus, the model evidenced a reasonably good fit to the data, and the null hypothesis that $\Sigma = S$ was not rejected.

An interpretation of Figure 4 must describe the powerful influence COHES has throughout. First, several variables significantly predict COHES, and then, in turn, COHES influences ADMIN and SATIS. Based upon this finding, it would seem that, in terms of teacher satisfaction or SATIS, all one would need to do is devise programs or methods to influence the degree of cohesion among teachers in a school and one has made dramatic strides in solving the problem of low teacher satisfaction, not to mention views of the administration in a school. While, no doubt, the finding in Figure 4 certainly suggests that this would be one very good starting point, additional inspection of LISREL's output concerning total effects may be prudent.

The direct effects are those summarized by the arrows in Figure 4. However, constructs may influence other constructs indirectly through their influences on intermediary constructs. The construct IMPED was one good example. IMPED was found to have a direct influence on SATIS, a change of 1.00 SD units in IMPED produced a .11 SD unit change in SATIS. However, IMPED also influenced COHES which influenced SATIS. IMPED also influenced SATIS by routing additional influence through COHES to ADMIN to SATIS.

Table VI displays the standardized total effects for all predictor constructs in the model. The total effects reported are the combined direct and indirect effects for any construct in the model, exogenous or endogenous.

TABLE VI
STANDARDIZED TOTAL EFFECTS OF PREDICTOR CONSTRUCTS

Predictor Construct	Criterion Construct		
	SATIS	COHES	ADMIN
COHES	.735***		.880***
ADMIN	.560***	NE	
SELF	.048	NE	NE
BEHAV	-.310***	-.322***	-.302***
PERFORM	.025	.147*	.032
IMPED	.381***	.374***	.329***
Criterion Construct r^2	.768	.453	.732

NE = Not estimated

* $p < .05$

*** $p < .001$

The criterion construct r^2 's reveal the percentage of variability in construct scores which were accounted for by other constructs in the model. Table VI revealed COHES played a major role by influencing both SATIS and ADMIN dramatically. ADMIN was also shown to be a potent predictor of SATIS. Also, notice that the effect of ADMIN on SATIS has not changed from the effect size reported in Figure 4. The effect size remained unchanged because ADMIN influenced SATIS uniquely and no other construct in the model.

Another finding of note in Table VI involved the construct BEHAV. In Figure 4, BEHAV was portrayed to have minimal, non-significant negative effects on both ADMIN and SATIS. That is, as behavior problems increased, there was only a slight tendency on the part of teachers to express diminished satisfaction and perceive the administration in a less favorable light. These findings in Figure 4, however, failed to reveal what was revealed in

Table VI: the substantial negative effect BEHAV exerted on both SATIS and ADMIN after being indirectly routed through COHES. Obviously, student behaviors which result in suspensions from normal school activities influences how the administration of the school functions from the teachers' standpoint. Likewise, student behavior also effects the degree of expressed teacher satisfaction with their jobs.

A similar finding concerned the construct IMPED. Normally one would charge the leadership or administration of the school with the responsibility for removing obstacles from teachers work lives which prevent them from discharging their responsibilities. Nevertheless, in Figure 4, IMPED was *not allowed* to become directly predictive of ADMIN. This surprising development was the direct consequence of applying LISREL's model modification indices to specify either the *freeing* or *fixing* of causal paths. To achieve the necessary *fit*, the direct path between IMPED and ADMIN was fixed, and therefore not estimated. This consequence should not detract from what Table VI reveals: IMPED is predictive of ADMIN through its indirect effect on COHES. Both BEHAV and IMPED were revealed in Table VI to have important consequences for all criterion constructs, including teacher satisfaction. Increases in student behaviors which are construed as disruptive by teachers and the schools were associated with lower satisfaction scores, lower appraisals of the school's administration, and lower teacher cohesion scores. Removing impediments to teaching produced the opposite effect: Fewer impediments to teaching was related to higher satisfaction, favorable views of the administration, and increased teacher cohesion.

The total effects of PERFORM were specifically related to COHES. This finding was surprising because SATIS was unaffected. Student performance was not revealed to be a

predictor of teacher satisfaction. Finally, the construct SELF was not predictive of other constructs in the model in any substantive way.

Major Findings

Although only a few constructs out of many theoretically important constructs were included in this study of teacher satisfaction, these major conclusions were, nonetheless, revealed:

Teacher satisfaction was predicted by a complex interrelated matrix of factors which included impediments to their jobs, student behavior, the leadership of the school, and, most importantly, how well teachers fit together in a school and cooperate, communicate, and feel respect for one another. Teacher cohesion, as defined by this study, certainly involves relational constructs, but also how well the teachers in the school actually succeed in pulling together in a common mission.

The degree of attraction to other teachers in the school unequivocally also plays a major role in this matrix. Interpersonal attraction and the level of felt dissatisfaction on the part of other teachers in the school seem important adjuncts to the overall sense of satisfaction with their jobs as teachers.

Figure 4 lead us to believe that only impediments to teaching, and teacher and administrative relational factors may be involved in the prediction of teacher satisfaction: that the school-level contextual variable of student behavior did not play a substantive role.

Nevertheless, Table VI underscored the value of student behavior as an important, albeit indirect, factor which influenced teacher satisfaction.

Impediments to teaching, such as a noisy environment, excessive paperwork, unnecessary tasks, duplication of effort, and the supply of ample instructional materials also played an important role in predicting teacher satisfaction. Impediments to teaching was regarded as a school-level contextual variable in this study, and was found to be directly and indirectly associated with teacher satisfaction. Fewer impediments to teaching resulted in increased teacher satisfaction via both direct and indirect routes. The indirect effects were routed through teacher cohesion which in turn influenced teacher satisfaction. This indirect finding of association through teacher cohesion may very well mean that the removal of impediments provides teachers with the extra *time* to cooperate, plan, and relate to others. The extra time provided for these activities may also indicate that these activities promote feelings of satisfaction among teachers.

Another powerful predictor of teacher satisfaction involves teachers views of the administration. Shared decision making in the form of faculty participation may, indeed, play a major role in predicting teacher satisfaction. Communication and harmony between the faculty and the administration of the school also contributed to this finding.

Administrative assistance regarding student discipline problems, as well as the perceived level of help from the administration regarding other

matters, may also largely determine the sense of satisfaction teachers experience with their jobs.

CHAPTER IV

DISCUSSION

What is so crucial about job satisfaction that everyone immediately becomes concerned at the very mention of its absence? Does the lack of satisfaction mean an organization is inept and bound to falter? Could the lack of satisfaction portend the beginning of change, a difficult time period in the life of an organization or an individual? Among teachers, satisfaction acts as a barometer which measures the health, energy and attractiveness of their isolated little worlds in which the acts of teaching are played before an audience of students (Lortie, 1975).

In this study, teacher satisfaction was carefully portrayed as an affective state which included measures of teachers' preferences to remain in the teaching field, their level of morale, their overall sense of accomplishment and their expressed pleasure regarding teaching in their schools. Teachers serve as the basis through which all critical work must be done to achieve effective schooling. But still it seems that many of the changes proposed for education make scant mention of the central role teachers play or their satisfaction with the aggregate of what they are required to do. Teachers are not like pieces on a school's chessboard, to be moved by one whim after another, in an attempt to shore-up flagging defenses, or to establish offense, or to be sacrificed in the interests of winning the "game." Teachers feel they do not reap the rewards they rightly deserve, but also feel powerless to change the order of the game. Accordingly, as teachers have become viewed more and more like movable objects and less and less like valuable resources for effective change, their isolated little worlds have become less satisfying (Maeroff, 1988).

This study has attempted to demonstrate the importance that contextual variables play in determining teacher satisfaction, as well as the importance of relational constructs. Certain contextual variables related to student characteristics were found to exert considerable influence on teachers' expressed level of satisfaction. Specifically, it was found appropriate to consider their effects on teacher satisfaction by describing their influences through intermediary relational constructs. Student behaviors which resulted in suspension from normal school activities was found to exert little direct influence on teacher satisfaction. However, student behaviors predicted ($p < .001$) teachers' views of the degree of cohesion among teachers in a school. A negative relationship was found. As student suspensions rose, the expressed level of teacher cohesion fell. Further, teacher cohesion, in turn, was found to be strongly associated with teacher satisfaction ($p < .001$). Ultimately, student behavior was found to be significantly related to teacher satisfaction via the intermediary construct of teacher cohesion ($p < .001$). An indirect path of association between student behavior and teacher satisfaction was revealed.

These findings were hardly surprising as teacher cohesion was defined, in part, by the individual's perceived level of dissatisfaction among other teachers in the school. Teacher dissatisfaction has been shown to be strongly predicted by student behaviors in a study conducted by Sergiovanni (1974). Further confirmation of this finding may be found in a study conducted by Conley, Bacharach, and Bauer (1989). They found, conversely, that the absence of behavioral problems was related to increased teacher satisfaction.

The results of this study's causal path modeling which were depicted in Figure 4 revealed other possible indirect paths of association for student behaviors and teacher satisfaction. As described above, because teacher cohesion directly influenced teacher satisfaction, any negative effects exerted by other constructs on teacher cohesion could be "passed on" to

individual teachers' expressions of personal satisfaction. Please note that teacher cohesion influenced views of the administration, as a significant, positive relationship was found. It was entirely possible that student behavior was also negatively associated with teachers' views of the administration through negative association with teachers' views of cohesion. Proceeding one more step, this negative association with teachers' views of the administration may have been passed along to teacher teacher satisfaction. To summarize, rather than one intermediary construct which intervened between student behavior and teacher satisfaction, it was entirely possible that two intermediary constructs may have been involved.

This description of the effects of student behaviors presents a complicated pattern, but insights as well, into teacher satisfaction. It was reasonable to conclude that teacher satisfaction rose and fell as views of other teachers' satisfaction similarly rose and fell. Teachers interact with one another and depend on one another for support, and also see themselves in the same circumstances as others. When student behaviors become a problem in the school, teachers view the cohesiveness among teachers as lacking. Teachers also regarded the administration less favorably. These findings suggest that the impact of student misbehavior was felt among teachers as a threat to the cohesiveness of the group, that the integrity of the group as a functioning relational whole suffered.

Teachers also regarded the administration less favorably because a primary responsibility of the administration is to provide for adequate structure and leadership in the school which addresses student misconduct. Any administrative structure which does not adequately "control" the problem results in diminished views of the administration as an effective adjunct to the teachers' world of teaching students and interacting with their colleagues.

It is hypothesized that teachers' satisfaction is therefore diminished when they view the administration of their schools as ineffectual and powerless to deal with the problem of student misbehavior. Several studies have shown that job satisfaction was a critical indicator of administrative effectiveness (Campbell, 1977; Hoy and Miskel, 1987; Locke, 1976). Goodlad (1984) also demonstrated that teachers would much prefer to work in schools where the administration was viewed as influential, powerful and capable enough to handle problems which affect teachers' work lives.

Laying the entire problem of student misconduct on the doorstep of the school's administration is shortsighted, however. School-level administrations are also bound by the policies established by local school boards. Local school boards can mistake political expedience for effective practice and place school-based administrators in a "no-win" position. These situations are simply legion. Supra-school factors, such as the outside influences of school boards, must also be acknowledged as contributing to the issue of teacher job satisfaction. In light of developments surrounding hiring and firing practices and salary issues, this statement does not appear to be risky or ill-conceived. Local school boards effect policies which impact everyone in the school and set the boundaries in which all school personnel must comply or face repercussion. Precise estimation of these supra-school effects was not within the province of this study. On the other hand, to portray school-level administrative policy and actions as totally responsible for dealing with the problem of student misbehavior would not represent reality well. Other entities certainly have a stake in the issue.

Table VI demonstrated the total effects student misbehavior exerted on teacher satisfaction. Through the influence student behavior exerted on teacher cohesion and views of the administration, every increase of one unit's change in student misbehavior ultimately

resulted in a -.31 unit decrease in teacher satisfaction. Student misbehavior significantly predicted teacher satisfaction ($p < .001$).

Although the literature did not detail much in the way student self concept may relate to teacher satisfaction, some studies have questioned the role of motivational differences which were assumed present between students with high and low self concepts. Although self concept scores did significantly correlate with teacher satisfaction scores ($r = .248$), the predicting construct of self concept played insignificant roles throughout. Further, it was not assumed self concept would influence teacher cohesion or views of the administration, as the literature review revealed no studies which had documented these relationships. Consequently, self concept was never allowed to predict either of those constructs. The final model's *fit* confirmed these suspicions. Had the effects of self concept been present, yet not estimated, the structural model would not have matched the data. Instead, χ^2 would have been significant and LISREL's modification improvement indices would have revealed the need to estimate these paths of influence. This was not the case on either account.

Schools recognize students for exemplary performance in the form of honor rolls, valedictorian and salutatorian awards, blue ribbons for academic fairs, special recognition from the principal, certificates, plaques, tee shirts, pizza and ice cream parties, public address announcements, and scholarships. Teachers, no doubt, relish seeing awards for performance bestowed on their students. But while these recognitions seem plentiful, usually only a small percentage of a school's population is affected. Other non-recognized students in the school have performance levels, too. Student performance was found to play a role in the overall configuration of influential paths, however. Conceptually, student performance was regarded as one contextual variable which was expected to associate with

teachers' views of other teachers, teachers' views of the administration and teacher satisfaction, as well. Nevertheless, structural analyses revealed that only teachers' views of other teachers was associated with student performance. Student performance did not predict, in terms of overall effects in the model, either teacher satisfaction or views of the administration. Student performance did associate with teachers' views other teachers in the school, or teacher cohesion. This finding was sensible. The construct of teacher cohesion was partially a measure of how teachers in the school performed their jobs of actually teaching students. The higher the level of student performance, the more regard teachers felt toward other teachers. Teachers may have sensed that other teachers were indeed fulfilling their intended job functions. Nonetheless, it was surprising that high student performance was not related to teacher satisfaction. The work of Sweeny (1981) and Prawat, Byers and Anderson (1983) was not confirmed by this study. Although the student achievement test measure evidenced a correlation of .314 with the teacher satisfaction measure, this correlation alone did not mean that student performance was an influential path of association for predicting teacher satisfaction.

Student performance is seen as the very reason for education and teaching. Good teachers produce good students, superior schools are models of efficiency and "graduate" academically well-equipped students. These tenants were not in question in this study. They seem inevitable truths. What was in question was the premise that student performance, when pitted against other formidable factors, could be a necessary and sufficient condition to predict teacher satisfaction. These analyses revealed that other constructs, primarily relational constructs, overwhelmed any effect student performance may have had on teacher satisfaction.

Impediments to teaching, in the form of few supplies, unnecessary requirements, poor physical environments, and excessive paperwork was found to influence teacher satisfaction in direct fashion. The happier teachers felt about the lack of impediments, the greater their satisfaction with work. Impediments also influenced teachers' views of other teachers in like fashion. The overall total effects attributed to impediments to teaching, as depicted in Table VI, was decisive and resoundingly large ($p < .001$). Impediments to teaching significantly affected all other endogenous measures directly or indirectly. The most significant finding regarding impediments was the indirect nature of its influence on both satisfaction and the views of the administration via teacher cohesion. Both of these indirect effects were significant beyond the .001 level. (Indirect effects and their corresponding standard errors were not displayed in any tabled data. Regardless, the significance levels reported in text were calculated in the same fashion as other effects which were included in Table VI and Figure 4.) These findings not only made sense in an informal way, but also confirmed the work of Cohn, Kottkamp, McCloskey and Provenzo (1987). They found that teacher satisfaction was related to orderly environments which were amply stocked with materials. What was not shown by these authors, however, was how impediments influenced teachers' views of the degree of cohesion felt among teachers and the degree to which the administration was viewed as effective and responsible for removing nuisance factors from their daily work lives.

Teachers have been employed to perform the work of teaching students, but spend much time performing meaningless tasks such as bus duty, overseeing restroom behaviors, monitoring the cafeteria and the halls, copying materials, and placing calls to parents to schedule appointments - tasks that could be performed by persons in the school who are not required to have college degrees as a prerequisite for employment. The Carnegie Forum on Education and the Economy Report (1986) revealed that approximately 10 to 50

percent of the average teacher workday involves non-instructional duties of this type. It is no small wonder that administrative actions to remove these nuisance factors from teacher work lives result in a view of the administration as efficient, effective and in control. Removing these obstacles allows teachers to spend more time performing meaningful instructional activities with students, but to also pursue other activities for which there is so little time afforded during the course of the normal school day. Planning instructional activities, interpreting measures of student performance, sharing useful strategies with other teachers, coordinating services for students with guidance departments, and attending seminars for professional growth are all examples of professional activity which increase in likelihood given sufficient time. These activities empower teachers and help them to realize their importance. It helps them to realize they are leading the professional lives they thought they would when first choosing education as a career. Administrative policies can make these possibilities a reality through minuscule changes in the basic organizational structures of their schools. Those that see to this necessary business are viewed as effective teacher and student-oriented administrations. Those administrations increase teacher satisfaction.

In this study, the causal path regarding the effect of impediments to teaching for the administrative construct was routed through the intervening construct of teacher cohesion. The intervening construct, in this instance, may simply mean that this was the way in which progressive administrations make things happen. Teachers' views of other teachers as cooperative, sharing, likable, professional, and "on task" with the necessary business at hand is one way of explaining why communications are good between teachers and the administration, why faculty meetings are productive, and why harmony exists between the faculty and the administration. The effect of removing impediments to teaching may serve as a catalyst by promoting these behaviors among school personnel at all levels.

Indirect effects aside, the predictive power of impediments to teaching may be viewed best through the total effects which were presented, again, in Table VI. Impediments to teaching was revealed to, directly or indirectly, influence all endogenous constructs in the study. The effects were statistically significant beyond the .001 level. (Indirect effects and their corresponding standard errors were not displayed in any tabled data. Regardless, the significance levels reported in text were calculated in the same fashion as other effects which were included in Table VI and Figure 4.) As a major predictor of quality administrations, what was not clear among these findings was simple. It was impossible to determine whether impediments to teaching as a predictor of teachers' views of the administration would only occur when teacher cohesion was present. Did the removal of the direct predictive path, which was required to achieve the final model's *fit*, signal that only in the presence of teacher cohesion would the removal of impediments positively influence teachers' views of the administration? Or, said another way, does the predictive power of impediments depend on teacher cohesion to predict teachers' views of the administration. In this study, the answer was affirmative. It was dependent.

To summarize, the indirect effects of impediments to teaching were dramatic. The satisfaction of teachers was increased when impediments were removed from their work lives. This influence on satisfaction was realized through increased teacher cohesiveness and views of the administration as responsible for allowing teacher cohesiveness to flourish and effectively foster harmony and communication between the faculty and the administration. The removal of impediments or fewer impediments also directly effected teacher satisfaction without intervening constructs playing any sort of a moderating role. These findings were persuasive and suggest that almost any attempt which proves

successful in removing nuisance activities from teacher work lives will result in profound changes in practically every aspect of teacher attitudes.

Although student behavior, student performance, and impediments to teaching have shown relationship in one way or another to teacher satisfaction, the relational construct of cohesiveness demonstrated primary responsibility. Teacher cohesiveness was both directly and indirectly predictive of teacher satisfaction. Figure 4 revealed the direct effect to be significant at the .001 level and beyond. Its indirect effect through the intervening construct of the administration was, likewise, significant beyond the .001 level. (Indirect effect statistics were separately calculated from LISREL output, but were not presented.)

Maeroff (1988) stated that, in overcoming the crisis in education, we must address the issue of teachers' empowerment, that teachers "must feel better about themselves " (p.19). Maeroff described teaching as "isolationist work" (p. 23). The need to capitalize on the power of cooperative behavior, teaming, shared decision-making and increased influence over what teachers do were seen as a few ingredients which work to break the cycle of isolationism and low morale. Jwaideb (1984) concurred by offering that most schools structures are built on one-to-one relationships with little or no incentive to integrate behavior. Given this structure, she asserted that teachers have a tendency to travel their own separate paths. When separate paths were followed, little attention is accorded to organizational standards or to improving the functioning whole of the school as an organization.

In this study, teacher cohesion affirmed these basic premises to increasing teacher satisfaction. When teachers viewed other teachers as resources, friends, colleagues and partners, teacher satisfaction increased. Participatory decision making, control over policy

and the increased power to influence all aspects of schooling were regarded as *modern* movements within schools which were consistent with the findings of this study. These movements were seen as the responsibility of the school's administration, a construct within the structural model of this study which "teamed" with teacher cohesion to provide more satisfying and professional teacher work lives.

These conclusions about the relational constructs with this study's structural model have definite, real implications for education today. Teachers must "feel their own influence" at work in all forms of cooperative behavior which makes their schools more the product of their efforts. Teachers must also fulfill their objective.

To receive and be received, to care and be cared for: these are the basic realities of human living and its basic concern. (Noddings, 1984, p.173)

Team-building is viewed as one method to begin the development of supportive structures within schools which facilitate the human and social aspects of how teachers relate, communicate, support and care for one another.

Administrators, too, should be mindful of the need to allay their fears that teachers will unite against them if they are accorded more opportunities to make decisions possibly contrary to their own. Administrators should encourage all forms of teacher participatory decision-making in their schools. Each administrator should act as a catalyst to insure that every incidence of cooperative behavior is positively reinforced. The administration must accept the role of leadership as one which exists to help teachers acquire more power over their classrooms, not less.

The administration should also be alert to the "minor" inconveniences of obstacles or impediments to teaching. These impediments can be removed through reorganizational actions in the school. The objective of these actions should be simple: place the teacher in the classroom and support teachers' needs. Copying papers and other trivial matters which limit the time teachers may spend on planning, decision making, and sharing should be reassigned to other personnel.

Limitations of This Study

Throughout this study the words "causal," "influences" and "related" have been used liberally without proper emphasis. Although endogenous constructs were separated from exogenous constructs in time, true causation should not be assumed. Structural equation modeling is a technique for analysis and, as such, is not a true experimental design nor is it intended to be. The findings of this study are regarded as worthy of future examination with true experimental designs, where the issue of what causes what may be aptly decided. For example, one strategy might be to incorporate two measures of the variables included in this study separated in time. Between time 1 and time 2, change the impediments to teaching in a school. Only in this fashion may one gain a truer sense of the influence one variable may impose on another.

Aggregation bias was regarded as a significant threat to the integrity of this study. In brief, aggregation bias *can* produce positive correlations between any two negatively correlated variables which have been aggregated. This result is possible simply because the unit of analysis is changed by the aggregation procedure: For example, prior to aggregation, individuals' scores are correlated, but after aggregation individual schools' averages are correlated. This study carefully examined the direction of the relationship between all

bivariate correlations prior to and after aggregation. Directional differences were not revealed for any one bivariate correlation.

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APPENDICES

APPENDIX A

STUDENT SURVEY

Instructions: Read each item carefully. If you agree with the item, if your answer is YES, then fill in the circle marked A on your answer sheet. If your answer is NO, fill in the circle marked B on your answer sheet.

1. I like going to this school.
2. Being in this school makes me feel good.
3. I think this is a good school.
4. I like to stay home from school.
5. Most students like going to this school.
6. I feel happy about this school.
7. I would like it if I never had to come back to school again after today.
8. My parents visited school this year due to problems I've had with my school work.
9. My parents visited school this year because of problems I've had in conduct.
10. My parents visited school this year for reasons other than problems I've had.
11. Do you think of yourself as someone who is able to do most things well?
12. People like me.
13. I like being the way I am.
14. There is very little I can do to make people like me.
15. I am a happy person.
16. I worry a lot.

APPENDIX A (CONTINUED)

17. I feel good about myself.
18. I wish I could be someone else.
19. I laugh a lot.
20. I am afraid to make mistakes.
21. I worry too much about what other people think of me.
22. The only way for me to be successful is if I am very lucky.
23. I am very good at making friends.
24. Are you afraid to say no when your friends dare you to do something bad?
25. This school is too noisy.
26. The discipline at this school is too strict.
27. Too many students misbehave at this school.
28. The rules at this school are fair.
29. I feel safe from crime at this school.
30. Most of my teachers make my school work interesting.
31. We spend too much time at this school waiting around with nothing to do.
32. Dropping out of school is a mistake.
33. Most of my teachers give fair grades.
34. Most of my teachers like this school a lot.
35. I plan to graduate from high school.

APPENDIX B

ANNUAL DISTRICTWIDE TEACHER SURVEY

Directions: Evaluate each statement below for accuracy. Use the first 50 items on PART 1 of the green answer sheet to record your judgements. With pencil, bubble:

- | | | |
|-----|---|--------------------|
| [A] | = | strongly agree, or |
| [B] | = | agree, or |
| [C] | = | uncertain, or |
| [D] | = | disagree, or |
| [E] | = | strongly disagree. |

1. Students at this school are achieving up to their capabilities.
2. Teachers at this school show a lot of school spirit.
3. Teachers at this school feel a strong sense of purpose about what we are trying to accomplish.
4. Teachers at this school make school work interesting.
5. Teachers at this school understand what is expected of them.
6. There are too many dissatisfied teachers at this school.
7. The discipline at this school is too strict.
8. Our faculty meetings are usually productive.
9. Communications between the faculty and administration are good at this school.
10. This school is too noisy.
11. I think this is a good school.
12. The morale of the teachers at this school is high.
13. Teachers at this school are consulted about matters which are important to them.

APPENDIX B (CONTINUED)

14. I am giving serious consideration to leaving this profession.
15. There is harmony between the administration and faculty at this school.
16. I have too much paperwork.
17. Teachers at this school need to raise their expectations of student performance.
18. Students at this school spend too much time waiting around with nothing to do.
19. I receive administrative support in matters of classroom discipline.
20. Parent involvement at this school is low.
21. I like the teachers at this school.
22. My sense of accomplishment at days end is often low.
23. I feel safe from crime at this school.
24. Most parents only visit the school when a problem exists.
25. The rules for students at this school are fair.
26. Too much is expected of remedial/compensatory students at this school.
27. It is a pleasure to teach at this school.
28. Too many students misbehave at this school.
29. Teachers at this school accomplish their tasks willingly.
30. Expectations for student performance at this school are too high.
31. There is a strong sense of loyalty among the teachers at this school.
32. Teachers leave the building as soon as possible at the end of a school day.

APPENDIX B (CONTINUED)

33. Teachers at this school give fair grades.
34. Student morale at this school is good.
35. Students like going to this school.
36. My morale is high.
37. I do not receive enough recognition for my efforts at this school.
38. Classroom instruction at this school is generally well-organized and efficient.
39. There is too much friction between teachers at this school.
40. I feel that I am receiving adequate help from administration.
41. Teachers at this school are adequately supplied with instructional materials
42. Students at this school have poor study habits.
43. Faculty participation in decision making is encouraged at this school.
44. Many unnecessary requirements interfere with my teaching.
45. More can be done to academically challenge students at this school.
46. Students need and should have more supervision and discipline than they usually get.
47. My school is as good as any in the district.
48. Parents expect too much from teachers.
49. My students will not learn regardless of how hard I try.
50. On the whole students are working hard at this school.

APPENDIX C

PROCEDURES FOR THE DISTRICTWIDE TEACHER SURVEY

Specific Marking Directions: Record all information and opinions on the green answer sheet. It is very important that you write the name of your school and bubble your school number in the spaces provided on the answer sheet. Also, please indicate your sex by bubbling female or male. Do not write your name or bubble your teacher number anywhere on the answer sheet.

Use the first 50 items in PART 1 of the answer sheet to record your opinions to survey items. Bubble:

- (A) for strongly agree,
- (B) for agree,
- (C) for uncertain,
- (D) for disagree, and
- (E) for strongly disagree.

After completing the survey, each respondent should place their answer sheet in the school mail envelope to be returned to the Research Department. Please return all materials, used or unused, to the Research Department.

Survey Administration: All teachers and guidance counselors (except substitute teachers) should independently complete the survey during a faculty meeting, or in any convenient school setting. It is very important to the Research Department that survey items are not discussed before the survey is administered. Each member of the faculty should provide their own independent opinion.

This survey must be administered such that anonymity of response is certain. Also, administrators should not be present during survey administration. No one should attempt to tabulate results at the school level. Results for an individual school are provided by the Research Department only upon the principal's request.

Statement of Purpose: One very important purpose of this survey is to measure changes in teacher attitudes. The 50 survey items were selected to measure objectives common to many innovative programs, such as PIP, Dropout Prevention, Coalition of Essential Schools, and many others. These objectives include improving teacher morale, increasing parent participation and improving discipline. Honest, thoughtful responses to survey items will be appreciated and do contribute to the evaluations of these programs in a substantial way.

VITA

Cary Owen Sutton was born in Astoria, Oregon on October 31, 1944. His father's military career required the family to move several times when he was very young. When he was five years old the family permanently settled in rural Illinois. He attended the public schools there and graduated from Roodhouse High School in 1962. Following graduation he moved to Florida, where he worked and attended night classes in the community colleges there. In 1971 he received a Bachelor of Arts from Florida Atlantic University. In 1978 he received an Educational Specialist's degree. He re-entered the University of Tennessee in September of 1991.

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