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Factors Associated with Parent Involvement
in the
Middle Grades

by
James D. Leiderman

A Dissertation
Presented to the Graduate Committee
of Lehigh University
in Candidacy for the Degree of
Doctor of Education
in
Educational Leadership

Lehigh University

1996

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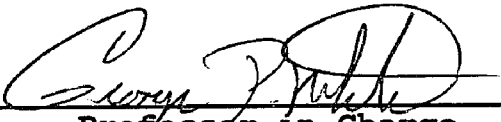
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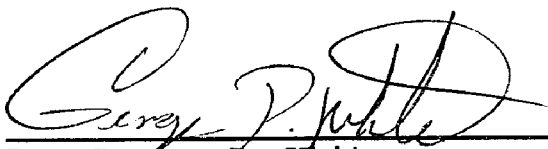
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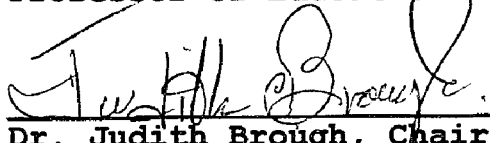
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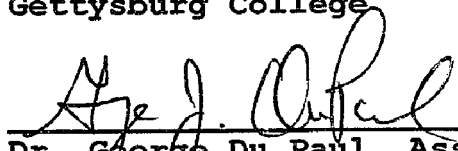
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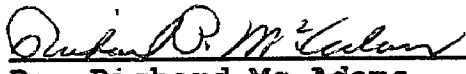
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TABLE OF CONTENTS

	PAGE
ABSTRACT.....	1
CHAPTER	
I. PURPOSE AND RESEARCH QUESTIONS.....	4
Need for the Study.....	12
Purpose.....	16
Questions.....	17
Definitions.....	22
Limitations.....	26
II. REVIEW OF LITERATURE.....	29
Why Study Parent Involvement?.....	30
Benefits for Students.....	31
Benefits for Parents.....	40
Benefits for Teachers and Schools.....	42
Models of Parent Involvement.....	44
Factors Associated with Parent Involvement.....	48
Organizational Factors.....	50
Administrative Factors.....	54
Parent Involvement in the Middle Grades.....	64

	Summary.....	76
III.	METHODOLOGY	
	Introduction.....	80
	Population and Sample.....	82
	Survey Instrument.....	87
	Instrument Validation.....	89
	Survey Procedures.....	93
	Data Analysis.....	97
IV.	PRESENTATION AND ANALYSIS OF DATA.....	109
	Data Collection.....	110
	Comparison of Responding School to the Sample and Population.....	115
	Profile of Responding Schools.....	120
	Data Analysis.....	125
	Frequency of Examples and Categories of Parent Involvement.....	126
	Positive and Negative Influences.....	134
	Differences in Perception about Parent Involvement.....	140
	Factors Influencing Parent Involvement..	154
	Differences Between Stronger and Weaker Parent Involvement Schools.....	161
	Identifying Outlier Schools.....	162

Relationship of Factors and Categories of Parent Involvement.....	166
Stronger Parent Involvement Schools.....	169
Weaker Parent Involvement Schools.....	175
Sample Schools.....	181
Comparison of Principals' Experience in Education and School Enrollment.....	188
Comparison of Grade Configuration.....	195
Comparison of School Type.....	197
Comparison of Principals' Certification.....	199
Similarities and Differences of SPI and WPI Schools.....	201
Summary of Findings.....	207
 V. DISCUSSION AND CONCLUSIONS.....	 216
Interpretation of Findings.....	218
Significance of the Study.....	258
Recommendations for Future Research.....	267
Conclusion.....	272
 REFERENCES.....	 276

APPENDICES

A	Public School Districts in SE Pennsylvania.....	302
B	Public Middle Grade Schools in SE Pennsylvania..	307
C	Stratified Random Sample Schools.....	313
D	Validation Exercise # 1: Factors thought to affect parent involvement.....	319
E	Validation Exercise #2: Categories and Examples of Parent Involvement.....	328
F	Correspondence to Schools.....	335
G	Survey Instrument.....	346
H	School Enrollment / Number Surveys Sent.....	353
I	ANOVA Tables (f23...f65)	357
J	Multiple Regression Tables.....	382
K	Factors Ranked for Categories.....	401
L	Comparison of SPI, WPI, and SMPL by Category....	408
VITA.....		421

LIST OF TABLES

TABLE:		PAGE
1	Sample Schools by Grade Configuration.....	87
2	Symbols and Coding of Data.....	98
3	Matched Examples and Categories of Parent Involvement.....	99
4	Multiple Regression Analysis.....	105
5	Multiple regression Analysis on Outlier Schools.....	106
6	Distribution and Return Rate of Surveys.....	111
7	Comparison of Population, Sample and Responding Schools.....	115
7a	Chi-square Analysis for School Type.....	117
7b	Chi-square Analysis for Grade Configuration.....	118
7c	Chi-square Analysis for Enrollment.....	120
8	Coordinator's Final Report: Summary Data.....	121
9	Rating Frequency of Occurrence for Examples of Parent Involvement.....	127
10	Ranking Examples of Parent Involvement.....	129
11	Examples of Parent Involvement Ranked as Occurring Frequently.....	130
11a	Examples of Parent Involvement Ranked as Occurring Infrequently.....	131
12	Mean Frequency for Categories of Parent Involvement.....	132

13	Ranking Categories of Parent Involvement.....	133
14	Factors Perceived to Have a Positive Influence by Group.....	136
15	Factors Perceived to Have a Positive Influence across Groups.....	137
16	Factors Defined.....	138
17	ANOVA Table: Overall Rating of PI.....	143
17a	Scheffe Test: Overall Rating for grade configuration of the school.....	143
18	ANOVA Table: Co-Teaching.....	145
18a	Scheffe Test: CT for Respondent Type.....	145
19	ANOVA Table: Co-Support.....	146
19a	Scheffe Test: CS for Respondent Type.....	147
19b	Scheffe Test: CS for Grade Configuration.....	147
20	ANOVA Table: Co-Decision Making.....	148
20a	Scheffe Test: CD for Respondent Type.....	149
21	ANOVA Table: Co-Communications.....	150
21a	Scheffe Test: CC for Respondent Type.....	150
22	ANOVA Table: Co-Learning.....	151
22a	Scheffe Test: CL for Respondent Type.....	151
23	Factors Having Significance for Main Effect Respondent Group.....	156
23a	Factors Defined.....	157

24	Pairing of Groups with Significant Differences.....	158
25	Factors Having Significant Differences for Main Effect Grade Configuration.....	158
26	Boundaries of First and Fourth Quartiles....	163
27	SPI Schools / Fourth Quartile.....	163
27a	SPI Schools	164
27b	WPI Schools / First Quartile.....	164
27c	WPI Schools	165
28	Multiple Regression Equations.....	167
29	Multiple Regression: SPI Schools Overall Rating of PI.....	170
30	Multiple Regression: SPI Schools Co-Communications.....	171
31	Multiple Regression: SPI Schools Co-Support.....	172
32	Multiple Regression: SPI Schools Co-Decision Making.....	173
33	Multiple Regression: SPI Schools Co-Teaching.....	174
34	Multiple Regression: SPI Schools Co-Learning.....	175
35	Multiple Regression: WPI Schools Overall Rating.....	176
36	Multiple Regression: WPI Schools Co-Communications.....	177
37	Multiple Regression: WPI Schools	

	Co-Decision Making.....	178
38	Multiple Regression: WPI Schools Co-Support.....	179
39	Multiple Regression: WPI Schools Co-Teaching.....	180
40	Multiple Regression: WPI Schools Co-Learning.....	181
41	Multiple Regression: SMPL Schools Overall Rating.....	182
42	Multiple Regression: SMPL Schools Co-Communications.....	183
43	Multiple Regression: SMPL Schools Co-Decision Making.....	185
44	Multiple Regression: SMPL Schools Co-Support.....	186
45	Multiple Regression: SMPL Schools Co-Teaching.....	187
46	Multiple Regression: SMPL Schools Co-Learning.....	188
47	Principals' Experience Questions.....	189
47a	Principals' Experience Mean Years.....	190
47b	Mean Enrollment (SPI, WPI, API, SMPL).....	190
48	Discriminant Function Analysis Model #1.....	191
49	Discriminant Function Analysis Model #2.....	192
50	Discriminant Function Analysis Model #3.....	193
51	Discriminant Function Analysis Model #4.....	194

52	Grade Configuration of Schools.....	196
52a	Chi-square Analysis for Grade Configuration.	196
53	School Type (Name).....	199
53a	Chi-square Analysis for School Type.....	199
54	Principal's Certification.....	201
54a	Chi-square Analysis for Principal Certif....	201
55	Discriminating Factors of SPI Schools.....	247

FIGURES

Figure	Page
1 Comparison of Schools Configured (5,6,7,8) and Schools Configured (7,8,9) for Co-Support and Overall Rating.....	153
2 Comparison of Group by Category Rating.....	154

ABSTRACT

Parent involvement in education is associated with benefits for students, schools, and parents; however, it decreases as students progress through school, with decreases noted at the middle grade level. This study describes the frequency with which examples and categories of parent involvement are perceived to occur, identifies factors perceived as having a positive influence on parent involvement, and compares outlier middle grade schools to identify discriminating characteristics of stronger parent involvement schools.

From a random sampling of middle grade schools in southeastern Pennsylvania, sixty-two schools submitted surveys from the principal and at minimum two teachers and two parents. The survey instrument used Likert like response scales to collect perceptions concerning the frequency by which examples of parent involvement occur, the overall rating of parent involvement, and the degree of influence specific factors are perceived to have on parent involvement.

The data were analyzed using: (a) ANOVA, to

compare mean school and group ratings; (b) standard multiple regression analysis, to identify the relative contributions which factors are perceived to have for the prediction of the frequency of occurrence of categories of parent involvement and for the overall rating of parent involvement; (c) discriminant function analysis, to identify factors which discriminate between outlier schools; and (d) Chi-square, to compare demographic data.

Several conclusions were elicited from this study: (a) Parent involvement in the middle grades is traditional, i.e., communications between home and school and parental support are perceived as occurring frequently while parent involvement in decision making, in activities designed to help parents learn about their child, and in activities designed to assist parents to help their children at home are perceived as occurring infrequently; (b) School personnel and parents reported statistically different perceptions regarding the frequency of occurrence of categories of parent involvement with noteworthy differences existing between the perceptions of parents and teachers; (c)

Factors associated with middle grade school principals and teachers are perceived as having a positive influence on parent involvement in middle grade schools; and (d) The comparison of outlier schools allowed for the identification of discriminating characteristics of stronger parent involvement schools.

CHAPTER ONE

PURPOSE AND RESEARCH QUESTIONS

Educators, researchers, politicians, and citizen groups have recognized the value of parent involvement in education. James Coleman (1966) in his study "Equality of Educational Opportunity" resolved that family background and the home's effective support of education were important factors affecting student achievement, more so than school curricula and expenditures on facilities and materials. Benjamin Bloom (1986) emphasized the importance of parent involvement by saying that schools could greatly improve learning by involving parents in their children's education. The U. S. Department of Education published *A Nation at Risk* in 1983. Referring to parents, this report urged:

"You bear a responsibility to participate in your child's education. You should encourage more diligent study and discourage satisfaction with mediocrity and the attitude that says 'let it slide'; monitor your child's study habits; encourage your child to take more demanding rather

than less demanding courses; nurture your child's curiosity, creativity and confidence; and be an active participant in the work of the schools.

... 'as surely as you are your children's most important teachers, your children's ideas about education and its significance begin with you.'"

(p.35)

During its Parent Involvement Summit of 1991, the National PTA pronounced that the quality and magnitude of parental involvement in public schools must become a national priority (Sommerfeld, 1992). In a national survey, teachers ranked strengthening parents' roles in their children's learning as the issue that should receive the highest priority in public education policy over the next few years (Louis Harris and Associates 1993). The Council of Chief State School Officers (1989) established a similar position; "If our nation is to progress toward a goal of a 100% graduation rate by the year 2000, we must take every possible step to strengthen the resources of the family and connect them to the schools." (p.iii) The Bush administration unveiled, *AMERICA 2000: An Education Strategy* in April 1991. This proposal called on the

assistance of parents, "In their schools, their communities, their homes ---as helpers, as examples, as teachers, as leaders, as demanding shareholders of our schools --- to make the AMERICA 2000 strategy work --- to make this land all that it should be." (P.28)

In 1994, the U.S. Congress enacted Goals 2000: Educate America Act. Title I of this act established National Education Goals. Parent and community support and involvement are integral to the success of this initiative. Goal number (8) PARENTAL PARTICIPATION states that "By the year 2000, every school will promote partnerships that will increase parental involvement and participation in promoting the social, emotional, and academic growth of children." (Sec. 102, 8, A) The objectives of this goal are: (a) Every state will develop policies to assist local schools and local educational agencies to establish programs for increasing partnerships that respond to the varying needs of parents and the home, including parents of children who are disadvantaged or bilingual, or parents of children with disabilities; (b) Every state will actively engage parents and families in a partnership which supports the academic work of children at home

and shared educational decision making at school; and

(c) Parents and families will help to ensure that schools are adequately supported and schools and teachers are accountable. Under the requirements of this act, states, in their improvement plans, are to describe strategies detailing how state educational agencies will involve parents and other community representatives in planning, designing, and carrying out their plan. The Act recognizes that educational reform is a job schools cannot do alone. Parents, businesses, community organizations, and public and private agencies providing services and support for families and children must be part of community wide efforts. By ratifying GOALS 2000: EDUCATE AMERICA ACT, the U.S. Congress responded to the recommendations of parents and educators by mandating states to act appropriately. An understanding of the issues associated with parent involvement in education is critical for school systems as they begin to develop plans to meet this mandate.

Educational researchers and theorists report that there appears to be a positive correlation between parent involvement in the education of children and

educational benefits for students, parents, and school personnel (Becker & Epstein, 1982; Comer, 1986; Henderson, 1986; Epstein, 1991; Henderson & Berla, 1994). While benefits from parent involvement exist, research findings suggest frequency of parent involvement decreases as children progress through school (Epstein, 1991; Epstein & Dauber, 1989; Epstein & Connors, 1992; Dauber & Epstein, 1989; Henderson, 1987; National Commission on Children, 1991; Rutherford, Billig, & Kettering, 1992; Henderson & Berla, 1994; Zill & Nord, 1994).

Researchers offer several reasons for the decrease in parent involvement that occurs as children progress through school. Leitch and Tangri (1988), suggest that schools and parents share the blame for the decline since schools may create barriers and parents may be apathetic and/or intimidated by educators and the complexity of education. Schools may be perceived as highly bureaucratic, and parents may feel their chances of influencing educators are insignificant. Sommerfeld (1992), reporting the results of a survey conducted by the National PTA, explains 90% of the 4,800 members who responded to the survey indicated that lack of time was

a barrier to parent involvement. Also, 25-32% of the respondents identified several other obstacles; namely, feelings of intimidation, lack of understanding, no knowledge of the process of involvement, and lack of child care at school.

Yet another obstacle to parent involvement may be that many parents today seem unsure how to help their children learn (National Commission on Children 1991). This is unfortunate since parents also report they are willing to spend time helping their children with learning activities at home if teachers would provide more guidance (Epstein 1987; Henderson, Marburger, & Ooms 1986).

Zill and Nord (1994), using data from the U.S. Department of Education, National Center for Education Statistics, 1993, National Household Education Survey, note that the family characteristic most closely associated with parent involvement is the parents' educational level. They report that higher income families and families in which both of the child's biological or adoptive parents are present in the household show higher levels of involvement (pg.45).

While barriers to parent involvement exist,

schools use different parent involvement practices to provide opportunities for involvement. Traditional forms of involvement include home to school communications, participation by parents in school meetings, and parent attendance at school events. To meet the needs of the changing family, new approaches to parent involvement deserve consideration. For example, parent education workshops may be offered by the school during evenings or on weekends. Electronic voice mail systems may be employed to ease home school communications, and homework hot lines for parents and students may be developed to provide information and timely assistance on assignments (Rutherford, Billig, and Kettering, 1992). Such creative uses of technology that reach beyond traditional limits offer new possibilities for building partnerships with parents (Bauch, 1990).

While factors associated with school and students' families affect parent involvement, so may developmental traits of middle grade children. The years of schooling between elementary school and high school, which typically service children aged 10-14 years, are often called the middle grades. The first

type of middle grade schools, i.e., junior high schools, were created to "bridge the gap" between the nurturing programs of elementary schools (grades K-6) and high schools (grades 7-12) (Lounsbury, 1992, p. 5). The more current rationale emphasizes the need to create an educational program especially designed for the 10-14 year old child (George & Alexander, 1993; Clarke & Clarke, 1993). Designing successful parent involvement programs and activities for children in the middle grades requires consideration of factors associated with the developmental needs of middle grade children, their relationship with significant adults, the school philosophy, and the way the school is organized.

Many middle-level educators recognize that early-adolescence is a time of dramatic and sometimes traumatic changes (Carnegie Corporation, 1992; Ames, 1994; Maehr & Anderman, 1993). The most obvious changes involve physical and sexual development, but other changes are occurring in cognitive, social, and emotional development. Being more aware of the unique characteristics of early adolescents has motivated educational researchers to define purposes and

practices of middle level schools (Clarke & Clarke, 1993). In the 1980's several reports called for middle grade programs to be more responsive to the needs of early adolescents (Carnegie Task Force on Education of Young Adolescents, 1987; National Association for Secondary School Principals, 1985; Superintendent's (California) Middle Grade Task Force, 1987; NMSA, 1982).

Recognizing the importance of parent involvement in education and the unique needs of early adolescents should motivate middle grade educators to reflect on current philosophy and practice and also to examine promising programs in other schools. Schools that have been successful in developing a partnership with parents may afford valuable information about facilitating this relationship.

Need for the Study

Parent involvement decreases as students progress from elementary schools to secondary programs, particularly in academic areas and in opportunities for meaningful involvement (Epstein, 1992; Louis Harris Associates, 1987; Zill & Nord, 1994). As students

enter adolescence, many parents begin to lose touch with their children's schools and therefore with their children as students (George & Alexander, 1993). This trend is a concern to middle grade educators who consider parent involvement an important characteristic of a model middle school (Berla, 1992; Ornstein, 1992). While research has been directed at parent involvement in the elementary grades, the middle grades have received less attention. The paucity of research conducted at this level is often noted, and additional research is encouraged (Berla, 1992; Chrispeels, 1992; Epstein, 1987; Epstein & Becker, 1982; Henderson & Berla, 1994; Mergendoller, 1993; Powell, 1989; Wentzel, 1994). Middle grade education is an appropriate level to study parent involvement. The research indicates there is a decline in parent involvement in education after the elementary school years, and the decline is most noteworthy at transition points, as when elementary students enter middle grade schools (Epstein & Connors, 1992).

Many schools and school districts have not worked to carry out parent involvement programs systematically (Epstein, 1991; Olsen, 1992). While educators

understand the importance of involving parents, few have translated their understanding into plans or their plans into practice. While parent involvement may not have the appeal of other in-service training topics, it may have a greater long term pay off for all concerned (McAfee, 1987). Certainly, a planned, systematic program for parent involvement is warranted.

Research on parent involvement which is specific to the middle grade level is minimal. Evidence of this can be gleaned from a recent summary of research by Henderson and Berla (1994); *The Family is Critical to School Achievement*. Their review summarizes 39 studies that have taken place since their previous publication in 1987; *The Evidence Continues to Grow*. This most recent summary reviews studies describing parent involvement issues at the preschool, elementary, and high school settings. There is not one reference to the middle grades, middle school, intermediate school or junior high school in this update.

The inference, that minimal research specific to the middle grades, has been conducted is further supported by the lack of evidence presented in the National Middle School Association's monograph,

Involving Families, (Meyers, 1992), which was described as a comprehensive review of research. And finally, Rutherford (1992), in a review of the research literature on parent and community involvement and literature related to the middle grades states, "The paucity of research on parent involvement in the middle grades illustrates what little is known about programs and practices that specifically benefit children during these critical years of their development." (pg. 67).

The lack of a broad research base on parent involvement in the middle grades and the wide spread interest in this area, make it a prime area for research. A number of research topics have been specified by researchers. Henderson (1994), calls for researchers to find out how educators can be better prepared to understand and address the critical role families and community organizations play in improving student outcomes. She also asks for research to identify policies -- federal, state, and local -- which promote or inhibit the development of comprehensive and successful family-school-community partnerships (pg. 17). Rutherford (1992), calls for additional research directed toward: middle grade education, based on

specific roles as schools/families/communities join together to benefit students; both quantitative and qualitative analyses of the context and processes of developing, planning and implementing middle grade school/family partnerships and parent involvement programs; and on the strategies to forming middle grade school/family partnerships and the strategies used to meet those challenges (pg. 68).

Berla (1992), in a personal communication, commented that research in middle grade education is needed and that an investigation of the influences of school organization and the principal would be beneficial to the field.

Purpose

The purpose of this study is to identify factors which parents, teachers, and principals perceive as having a positive influence on parent involvement in middle grade schools. This study will identify outlier middle grade schools, i.e., schools rated as having stronger or weaker parent involvement as perceived and reported by parents, teachers, and principals, to identify discriminating characteristics of stronger

parent involvement schools. Information obtained from respondents will describe the frequency of occurrence of examples of parent involvement as well as the degree of influence specific factors are perceived to have on parent involvement in middle grade schools. The reflective middle grade school principal, district administrator, or policy maker interested in creating conditions conducive to improving parent involvement may find these data useful for school improvement efforts. Data from this study will identify areas for future research.

Research Questions

This study will add to what is currently known about parent involvement in the middle grades by attempting to answer the following research questions. The questions are followed by statements of expected findings resulting from this investigation.

1. With what frequency do different types of parent involvement occur in middle grade schools?

It is anticipated that parents, teachers, and principals will report Co-Communications and Co-Support

to be the categories of parent involvement which are perceived as occurring most frequently. It is expected that Co-Teaching will be identified as the category perceived as occurring least frequently. Such findings will provide partial support for the hierarchical model of parent involvement proposed by Janet Chrispeels (1992). In Chrispeels model, Co-Decision Making, is slotted at the top of the hierarchy.

2. What factors are perceived to have a positive influence on parent involvement in middle grade schools?

An examination of factors associated with the principal, teachers, and the organizational context of middle grade schools, is expected to yield findings suggesting that factors from each are perceived to facilitate parent involvement. The effective schools' research of the 1970's stated clearly that the principal of a school plays a key role in the school's success. In this study principals will be perceived as having a positive influence on parent involvement. Specifically, factors associated with the principal which are expected to be perceived as influencing

parent involvement are: (a) the principal holds expectations for teachers in regard to parent involvement, (b) the principal possesses strong interpersonal skills, (c) the principal is interested in building parent involvement, and (d) the principal is open to suggestions from parents.

In support of the work of Epstein (1986), Epstein and Becker (1982), Epstein and Dauber (1989), and Epstein and Connors (1992) it is expected that factors associated with teachers: (a) the teacher's willingness to involve parents, (b) the teacher's interpersonal skills, and (c) the teacher's communications skills will be perceived as facilitating parent involvement. A parent's primary direct contact point with a school is the child's teacher. The success or failure of this relationship will have a significant bearing on the parent's feelings about the school.

Epstein (1984), reported that if schools had to choose only one policy to stress, the most payoff for the most parents would come from teachers involving parents in helping children learn at home. Since parents may be unaware of school or district policy associated with parent involvement, it is questionable

if this will be perceived as a positive influence for all three groups. However, it is expected that teachers and principals will perceive the importance of policy and will perceive it as influential.

3. What factors are perceived to have a negative influence on parent involvement in middle grade schools?

In schools which rank as having weaker parent involvement, factors associated with principals, teachers, and the organizational context of schools will be perceived as having a negative influence on parent involvement. This negative influence may be associated with traits that create barriers to parent involvement, e.g., poor communication, defensiveness, or making parents feel uneasy, unwelcome or unimportant.

4. Are there differences in the way parents, teachers, and principals perceive parent involvement in middle grade schools?

Parents, teachers, and principals will not report significantly different perceptions of overall parent

involvement. However, parents, teachers, and principals will rank categories of parent involvement differently, in terms of frequency of occurrence, and these differences may be attributed to lack of information or understanding of the organization and operation of the schools.

5. What factors differentiate stronger parent involvement schools from weaker parent involvement schools?

In stronger parent involvement schools the principal will be viewed as providing leadership for parent involvement, i.e., working in a proactive manner to build parent involvement. Principals in stronger parent involvement schools will have more years of experience in middle grade education, and the principal will be perceived as: (a) holding expectations for teachers to work cooperatively with parents, (b) possessing strong interpersonal skills, (c) working cooperatively with the school's parent organization, and 4) being interested in building parent involvement. Teachers in stronger parent involvement schools will be perceived as: (a) being willing to involve parents, and

(b) having received training for working with parents. Schools which rank as stronger parent involvement schools will be perceived as: (a) assigning each student an advisor, (b) organizing into smaller more personal units or teams, (c) making parents comfortable when visiting, and (d) providing parents with information about the curriculum.

Definition of Terms

Administrative factors - includes actions, activities, and practices of the administrator, e.g., existence of policy, expectations for parent involvement, contract language specific to parent involvement, in-service training for working with parents, budgetary allocation, communications, parent involvement programs, and staffing

Advisor-Advisee Program - matches each student with an adult who knows him or her well and who is in a position to give individual attention (Ames, 1994). This may be called a teacher-advisor program.

Elementary School - typically the first level of schooling in a school system. Grade arrangements vary, but typically the arrangement is k-5 or k-6.

Family - the most significant adults in a child's life. A family may be thought to involve all those who provide child care (Davies, 1987). In addition to natural parents, adoptive parents, or guardians, a family may include grandparents, aunts, uncles, brothers, sisters, or even neighbors.

Interdisciplinary Team - a combination of teachers from different subject areas who plan and conduct instruction for particular groups of pupils. The aim of interdisciplinary teaming is to promote communication, coordination, and cooperation among subject matter specialists. (George & Alexander, 1993)

Intermediate Unit - "The intermediate unit is defined as the middle echelon of a three echelon state education system in Pennsylvania (school district, IU, and state Education Department) which provides consultive, advisory or educational program services to school districts. The function of the IU is to provide ancillary services necessary to improve the state system of education. Intermediate unit programs are to be developed according to the needs of the school districts served by the units." (PSBA, 1987. pg. 105)

Middle Grade School - For this study, a middle

grade school was defined as a school which has a combination of the grade levels five through nine, and it must include grade seven. Schools which include either grade four or ten were excluded from the study. Middle grade schools meeting this description were found to have the following grade configurations: (a) 5-7, (b) 5-8, (c) 6-7, (d) 6-8, (e) 6-9, (f) 7-8, and (g) 7-9. These schools were titled as intermediate, middle, and junior high schools.

Middle School - the level of schooling between the elementary program and the high school program designed to bridge the gap in development between childhood and adolescence.

Organizational Factors - describe the organizational context of the school, including school size, community type, grade arrangement, grouping practices, conference arrangements, pupil teacher ratio, advisor advisee programs, etc.

Outlier Schools - As used in this study, outlier schools are those responding schools which rank in the first and fourth quartiles when schools are rank ordered by overall rating of parent involvement.

Parent involvement (in education) - the actions of

parents, adult family members, or guardians of students concerning the child's formal education. See types of parent involvement.

Policy - Policy refers to written statements that are officially approved by the Board of Education to guide decision making, describe acceptable procedures and practices, and establish expectations for performance. Administrative support for policy refers to administrative actions that provide the necessary resources to facilitate the implementation and maintenance of the policy.

Types of Parent Involvement - The various ways in which parents connect with their children's schools. For this study a definition of parent involvement has been adapted from the work of Janet Chrispeels (1992), which identifies five distinct categories as follows:

LEVEL I Co-Communicators: Two way communication;

newsletters, bulletins, voice mail, parent teacher conferences; progress notes; parent surveys.

LEVEL II Co-Supporters: Parents as spectators, school

volunteers, or chaperons. The school supports parents by serving as liaison for community

resources. Parents raise funds for school projects.

LEVEL III Co-Learners: Workshops, back to school

nights, orientation sessions, and descriptions of the curriculum, all designed to educate parents about the school, the curriculum, and their child. Teachers learn about their students' cultures and interests.

LEVEL IV Co-Teachers: Home learning activities,

tutoring at home, homework accountability systems, and home reading programs. The school coordinates home learning activities.

LEVEL V Co-Decision Makers: School governance

committees. Planning or problem solving conferences. Parents are involved in decision making affecting students.

Limitations of the Study

1. Parent involvement may be recommended or mandated by state and federal regulations for special education and Chapter I programming. In this study there were no controls for these conditions.

2. This study utilized a self-administered survey.

This type of survey may present a problem to respondents who have questions about items. Careful editing and clarification exercises were used to reduce ambiguity. Self report also assumes participants will respond carefully and honestly. It will be difficult to determine if the schools follow all procedures for the random selection of teachers and parents. Two mechanisms will be used to find out what took place, i.e., the coordinator's report and random phone calls to 15% of the responding schools.

3. This study was conducted during April and May, 1995. While surveying educators and parents near the end of the school year allowed respondents to reflect on their experiences for the current school year, schools reported that this is a busy time of the year and many schools reported that they would not participate due to the lack of available time.

4. In order to collect background data about schools and respondents and their perceptions about categories and factors of parent involvement, the questionnaire

became lengthy. Respondents may not have taken sufficient time to complete the survey carefully. An average administration time was determined from the third validation exercise, and the respondents were advised about the average administration time. The ease of completing the questionnaire was addressed by using Likert type questions and multiple choice responses.

5. Parent and teachers who agree to participate in this study by completing and returning the survey may have more positive views on parent involvement than those who are unwilling to participate.

6. In studies which examine success in school, socioeconomic issues may be major factors. This study purposefully does not collect socioeconomic data on families or communities or data on parents' educational level. Rather, this study focuses on factors which can be manipulated by educational decision makers in school improvement efforts.

CHAPTER TWO

REVIEW OF LITERATURE

Educational research literature that discusses parent involvement in education is extensive. Studies can be found which examine parent involvement at the elementary, middle, and high school grade levels. Most of this research appears to have been conducted at the elementary school level and has been used to make generalizations about parent involvement at the middle level. Research specific to the middle grades did not appear until the mid-1980's (Myers, 1992). This review will examine the literature on parent involvement in general and will describe research conducted on specific levels of schooling. Particular attention will be given to middle grade education throughout this review.

This chapter is organized into five sections. The initial section outlines the benefits of parent involvement and presents a rationale for the study of parent involvement as a key factor in the school improvement process. Section two presents several parent involvement models with particular attention

paid to the work of Janet Chrispeels (1992). The third section explores factors associated with school administration which may affect parent involvement. An examination of factors associated with the organizational context of schools, which may influence parent involvement, is presented in section four. Finally, in the fifth section, attention is given to parent involvement in the middle grades. Unique features of this level of schooling are described, and an attempt is made to answer the question; What does research, specifically conducted at the middle grade level, tell us about parent involvement?

Why Study Parent Involvement?

Efforts to improve quality and productivity in education have focused on different aspects of the educational process, e.g., raising standards for teachers, students and administrators; enhancing the curriculum; improving instructional methodology; and applying technology. There is growing recognition, however, of the need to create a context that facilitates teaching and learning, one in which parents are partners in promoting the growth and development of

students (Moles, 1982; Epstein, 1984; Walberg, 1984; Comer, 1986; Bloom, 1986; U.S. DOE, 1983; Peterson, 1989; Sommerfeld, 1992; CCSSO, 1989; Wang, 1993). Such an effort will connect schools in meaningful ways with the most salient people in the lives of children, their parents and immediate family members. The ability of school leadership to benefit students by facilitating this relationship is the focus of this review.

Few educators would need formal research results to be convinced that parents significantly influence their children's learning. However, an examination of research may offer insight into how those involved with schools, namely policy makers, administrators, teachers, and parents, may collaborate to improve parent involvement. In the following sections, benefits accrued by students, parents, and teachers are examined.

Benefits for Students from Parent Involvement

Researchers have identified favorable relationships between parent involvement in schools and desirable results for children. The Coleman Report (Coleman et al., 1966) noted that the home learning

environment may account for a significant portion of school achievement variability. This study suggested that family background, attitudes including self-concept, and a sense of control over one's environment, are related to children's achievement in school. The significance of Coleman's work was the resultant widespread recognition that families are important in the lives of children.

Henderson (1987), in a summary of parent involvement research, reported that parent involvement of almost any type improves student achievement, especially in minority and low-income students. In a follow-up report, Henderson and Berla (1994) state,

"The evidence is now beyond dispute. When schools work together with families to support learning, children tend to succeed not just in school, but throughout life. In fact, the most accurate predictor of a student's achievement in school is not income or social status, but the extent to which that student's family is able to:

- 1) Create a home environment that encourages learning,
- 2) Express high (but not unrealistic) expectations for their children's achievement and

future careers, and 3) Become involved in their children's education at school and in the community." (pg. 1)

Other researchers comment that students who have parents involved in their schools do better in their academic subjects than students whose parents are less involved (McLaughlin & Shields, 1987; Stevenson & Baker, 1987; Henderson, 1987; Jacobs, 1983; Comer, 1984).

Studies that have examined parent involvement in the elementary grades describe benefits for students. For example, Herman and Yeh (1983), in an exploratory study examined 250 elementary schools in California. Using path analysis, they investigated the relationships among a number of school variables including: school communication, parent awareness, parent influence, parent participation in school, teacher-parent relationships, socioeconomic status, parent satisfaction, teacher satisfaction and student achievement. The relationship between parent participation in school and school achievement was reported as .26 where $\alpha = .01$ indicates significance. They concluded that parent involvement

in the second and third grade studies was related to both parent satisfaction and student achievement. With regard to parent satisfaction, they found that parents' perceptions of their influence in decision making and the perceived quality of parent teacher relationships are positively related to parent satisfaction at .27 and .13 respectively. An interesting finding was a negative relationship between school-home communication and student achievement ($-.35$). They suggest that schools may imply that parents are called upon and reports are generated when children are performing poorly. They recommend that parents be given a voice in decision making and that an environment be created where parents feel important and comfortable. They suggest parent involvement related to communications may be fostered through school outreach programs or efforts to show concern for parents by providing information.

While there are few studies that specifically examine the impact of parent involvement in the middle grades, existing research suggests there are benefits at this level as well. For example, the positive impact of parent involvement was shown in NELS:88, The

National Education Longitudinal Study of 1988; which examined family characteristics and the level of parent involvement reported by parents of students who were in eighth grade in 1988. There was some indication that parental involvement was related to whether or not students scored below the basic level in reading or math proficiency. Parental involvement, however, was strongly related to whether or not a student dropped out of school between 8th and 10th grade. This was especially true for low-SES students. (Horn & West, 1992) .

Research has been conducted on the effects of specific home learning activities used with middle grade students. Epstein and Herrick (1991) examined the implementation process and reactions of middle grade students and their parents to Summer Home Learning Packets. The packets were designed to provide students with opportunities for continued learning over the summer, to improve parent involvement in their children's education, and to improve school and family communications. Results suggest that families who received the packets in the mail were highly appreciative of the schools' efforts and interest in

children. Some students, particularly students who were marginal in skills, did better than anticipated in the fall if they had completed more school activities over the summer. Students who worked with parents were found to have completed more learning activities.

Researchers have examined the impact of parent involvement beyond the elementary and middle grades. Coleman and Hoffer (1982) report that students in private and Catholic high schools perform better in terms of verbal and math achievement than students from comparable backgrounds in public schools. Using data from the 1982 National Center for Education Statistics (NCES), Coleman and Hoffer add additional conclusions, including, that students who attend private and Catholic schools are more likely to graduate, and they are more likely to enroll and stay in college. The authors suggest these differences stem from the relationships between families and schools. They highlight differences in parent involvement activities between public, Catholic, and private schools. The percentage of parents involved in four of five types of activities, i.e. parent teacher conferences, PTA meeting, visiting classes, and volunteer work, was

lower for public schools than for both Catholic and private schools. Public schools had a greater degree of involvement when the school needed to be contacted if the student had a problem. They suggest, for the private schools studied, that the difference may be explained by the process of selecting the school and by parent income. For the Catholic high schools, they conclude the difference is less easily explained since they feel populations of Catholic and public high schools are similar. The authors suggest that the differences may be attributable to the sense of community surrounding the Catholic schools. Coleman (1987) also attributes a lower drop out rate in Catholic and private high schools, as compared to public high schools, to the existence of a greater sense of community or social capital in the Catholic school community (pg. 38). A sense of community or social capital in the raising of children means the norm, the social network, and the relationships between adults and children that are of value for the child's growing up (pg. 36).

Other researchers have examined long term benefits for parent involvement. Henderson (1988), McCormick

(1989), and Horn and West (1992), report parent involvement helps decrease the student dropout rate.

Dornbush and Ritter (1988), report findings of a study conducted by high school principals interested in learning more about family structure and processes. The study collected survey data from students, parents, and teachers from six San Francisco Bay Area High Schools. They report that parent attendance at school events designed for parents was associated with higher grades regardless of the level of parent education. They report that parents interpret this finding as a way parents actively demonstrate values expressed verbally and that parent participation in these activities creates opportunities for communicating with children. They report that participation is related to family structure, with the highest participation shown by families containing both natural parents. Interestingly, teachers who participated in this study reported that they did not feel they could affect change in parents' ability to work with children at home. This suggests that those with responsibility to improve parent involvement at the high school level may need to find ways to give teachers skills and

confidence for working with parents.

Using data from the 1980 High School and Beyond (HS&B) national survey conducted by the National Center for Educational Statistics, Eagle (1989) analyzed the relationship between achievement of high school students and characteristics of students' families. Achievement was defined as students' enrollment in post secondary education and attainment of a college degree. After identifying that students' educational attainment was strongly associated with SES, Eagle more closely examined characteristics of family background. Her data suggest that several aspects of family background, namely; having a place in the home to study, the existence of family reading activity, and parent involvement during high school (defined as: frequency of talking to teachers, parent involvement in planning for post-high school activities, and parent monitoring of school work) were closely related to students' achievement. Overall, Eagle's findings demonstrate the importance of parents' educational level and family affluence on students' post secondary attainment, even when aspects of the home environment were taken into account. Using multivariate analysis, Eagle regressed

post secondary educational attainment on five components of SES, namely, (a) family income, (b) father's occupational status, (c) household possessions, (d) father's education, and (e) mother's education, and five variables representing environmental factors, i.e., (a) make-up of the household, (b) mother's work status, (c) reading to children during early childhood, (d) having a special place in the home for study, and (e) parent involvement during high school. Seven independent variables were found to make a contribution to postsecondary attainment. All but the degree of parent involvement in high school dealt with social background issues. Eagle concludes, "It appears that parents of any social class can contribute to their children's postsecondary educational attainment by monitoring educational progress during high school." (p.12)

Benefits for Parents

Researchers highlight several ways parents benefit from their involvement in their children's education. From their survey of parents of first through fifth grade students in Maryland, Epstein and Becker (1982)

found that teachers' frequent use of parent involvement practices improved parents' knowledge about their child's instructional program. When teachers built more parent involvement into their program, parents were more aware of the teacher's efforts, received more ideas from the teacher, knew more about their child's instructional program, and rated the teacher higher in interpersonal skill and overall teaching quality (Epstein, 1986). Parents who became more involved in their children's learning reported feeling more positive about their abilities to help their elementary aged child, and they rated their children's teachers as better instructors (Epstein, 1984, 1986, 1991; Becker & Epstein, 1982; Dauber & Epstein, 1989; Epstein & Dauber, 1989).

In their survey of parents from eight inner city elementary and middle grade schools, Dauber and Epstein (1989), report that parents are emphatic about wanting schools and teachers to advise them about how to help their children at home at each grade level. Parents believe that schools need to strengthen practices such as giving parents specific information about their children's major academic subjects and what their

children are expected to learn each year. Parents want to help their children and want information and guidance from the school.

Benefits for Teachers and Schools

If teachers have an interest in accomplishing school goals and teaching effectively, they too benefit from improved parent involvement. Many teachers believe parent involvement at home could be an important contributor toward achieving the goals they have set for themselves and their students (Becker & Epstein, 1982; Louis Harris Associates, 1993). When teachers use parent involvement activities their attitude about parents becomes more positive, and they are more likely to involve parents when making decisions concerning curriculum development and instructional strategies (Epstein & Becker, 1987). When teachers hold positive attitudes about parent involvement, they are more willing to seek out training to improve their skills for working with parents, and they are more likely to use a variety of parent involvement strategies (Becker & Epstein, 1982; Purnell & Gotts, 1985).

Epstein and Dauber (1989) surveyed teachers from eight inner city elementary and middle grade schools to examine general patterns and connections between teacher attitudes about parent involvement, school programs, and the actual practices teachers use. Results of the study suggest that teachers who promote parent involvement identify the value of holding conferences and communicating with parents. Teachers generally agree that parent involvement is important for student success and teacher effectiveness (Nathan & Radcliffe, 1994; Purnell & Gotts, 1985). Epstein and Dauber (1989) also found that teachers were more sure about what they wanted from parents than what they wanted to do for parents. Almost all teachers reported that they expected parents to fulfill responsibilities, including teaching their children to behave, knowing what children are expected to learn each year, and helping children with homework. Few teachers had comprehensive programs to help parents attain these skills. Programs and practices were stronger in schools where teachers perceived that their colleagues and the parent population felt strongly about the importance of parent involvement.

Comer (1984) suggests that the climate of a school can be improved through parent involvement. He describes parent involvement programs in elementary schools in New Haven, Connecticut, where he observed decreased conflict and apathy in the school and a more positive climate. The improvements were attributed to improved parent involvement.

Schools as a whole benefit from improved parent involvement. When a school's staff and parents share common beliefs about the importance of parent involvement strong programs and practices develop. (Dauber and Epstein, 1989).

Being aware that parent involvement benefits students, teachers, and parents has motivated educators to examine parent involvement carefully. Developing an understanding of parent involvement dynamics may help educators to effectively plan and facilitate parent involvement in schools.

Models of Parent Involvement

Many theoretical models that describe either types, forms or categories of parent involvement have been proposed. Gordon (1977) suggested three models

for building the home school relationship: (a) the family impact model, in which the school reaches out to the home through home visits or other communication technique; (b) the school impact model, in which parents are involved in the school as volunteers or in parent advisory committees to change the school so that it is more responsive to the needs of the home; and (c) the community-impact model, in which the resources of the larger community focus on facilitating a community home-school partnership.

Davies (1987) described four categories of parent involvement: (a) Coproduction or partnership; which refers to those activities, individual and collective in school or at home, which contribute to school efforts to instruct pupils more effectively and raise pupil achievement; (b) Decision Making; referring to opportunities for parents to be involved in making decisions about their child's education; (c) Citizen Advocacy; referring to all types of advocacy that assist or influence a class, student, or a position on a matter; and (d) Parent Choice; referring to tuition tax credits, open enrollment plans, alternative public schools, and magnet schools.

Other researchers have classified parent involvement by roles, levels, or types of involvement. Chavkin and Williams (1989) refer to six parent roles: (a) audience, (b) home tutor, (c) program supporter, (d) co-learner, (e) advocate, and (f) decision maker. Encouraging schools to continue to reach out to parents, Berger (1991) identified five levels of involvement in which the degree of parent involvement ranges from an active partnership to a passive supporter: (a) parent as an active partner and educational leader at home and school, (b) parent as a decision maker, (c) parent as a school volunteer or paid employer, (d) parent as a liaison between home and school to support homework, and (e) parent as a supporter of the educational goals of the school.

Epstein and Connors (1992) present a framework of six major types of involvement. They suggest their categories are generic; therefore, specific practices must be tailored to various educational levels to respond to the changing characteristics and needs of students and the school's organization. The types of involvement in their framework are: (a) Basic Obligations of Families, which refers to schools

providing parents with information on child rearing and parenting; (b) Basic Obligations of Schools; (c) Involvement at School; (d) Involvement in Learning Activities at Home; (e) Involvement in Decision Making; and (f) Collaborations and Exchanges with the Community.

Stating that schools and families need to be connected in a variety of ways, Chrispeels (1992) presented a conceptual framework for describing how the school, home and community must work together. Her model implies that parent involvement has a hierarchical configuration with co-communications the basis for other types of involvement. Therefore, more fundamental types of parent involvement exist in higher types and would occur more frequently. Higher or more complex types of involvement may therefore involve fewer parents and may require more skill on the part of parents. (Chrispeels, 1992; National Commission on Children, 1991). The types of involvement in her model include: (a) co-communication, two way communication between the home and school; (b) co-support, parents and school personnel promoting learning at home and in school; (c) co-learners, school personnel and parents

attending and conducting workshops to provide information and increase understanding; (d) co-teachers, school personnel assisting parents to teach children through home learning packets, tutoring, homework organization and home reading programs; and (e) co-decision making, school personnel and parents collaborating on committees to make educational decisions. The co-communicator role serves as the foundation for all the other roles. Without solid two-way communication, other partnership efforts may fail. Chrispeels suggests that nearly all parents need to be involved as co-communicators and co-supporters at some point in the school year.

Henderson (1988; 1994) notes that research on parent involvement, while strongly favoring the need, is far from complete or conclusive. She calls for research to identify forms of parent involvement that are most appropriate for students in middle, junior high and high schools (pg.151, pg.17).

Factors Associated with Parent Involvement

Where schools and parents once may have felt a joint responsibility to join forces to educate

children, increasingly it appears that parents are willing to delegate more of the responsibility for education to schools (Comer, 1986). Whether this stepping aside is a result of apathy, intimidation, or ignorance is unclear. What is clear, however, is that if schools are to become more effective, parent involvement in education must be improved. Leadership from individual schools, school systems, parents and the greater community, is needed in this effort.

In this section administrative and organizational factors are presented which have possible application for facilitating parent involvement in middle grade schools. In the first of two sections, factors associated with the organizational structure of schools are examined, i.e., the way the school is scheduled, the number of teachers per pupil, grouping practices, availability of time for parent contacts, availability of phones, the existence of specific parent involvement programs, and the climate of the school. In the second section factors associated with the administration and management of schools and school districts are considered. Included here are administrative issues associated with the district's central administration,

e.g., the existence of policy, in-service training, budgetary allocations, and personnel decisions. Also considered are factors associated with attributes and actions of middle grade school principals including: leadership, management, communication skills, planning skills, and interpersonal skills.

Organizational Factors

Elementary schools enjoy more parent involvement than do secondary schools (Epstein, 1983, 1986, 1992; Dauber & Epstein, 1989; Louis Harris Associates, 1987). Parents report that teachers at the elementary level are more effective than teachers in middle grade schools at involving them in their children's education at school, on homework, and generally in all types of involvement (Dauber & Epstein, 1989). In the typical elementary school, each teacher works with a single group or class of students and is therefore the primary contact person from the school for the parents of students in that classroom. In the middle grades students typically have several teachers. It is therefore less likely that parents will develop as strong a relationship with middle grade school teachers

as they may have had in elementary school programs (Epstein & Dauber, 1989). Some middle grade schools consider this issue and attempt to replicate the smaller, more personal learning environment of the elementary school by organizing groups of students into smaller, more personal learning units or interdisciplinary teams. In this arrangement, teams of teachers are responsible for a community of students (Ames, 1994). Teams may be composed of three to five teachers who collaborate to deliver the core educational program to a group of students. Members share information and insights and have the responsibility to make decisions to meet the needs of their students (Carnegie Corporation, 1989). Parent teacher conferences may be arranged so that all of a student's academic teachers are present.

The application of advisor-advisee or teacher advisor programs allows middle grade schools to provide students and parents with a key contact person at the school (Case, 1992). The main purpose of advisor-advisee programs is to bring adults into close relationship with students (Ames, 1994; Ellis, 1990). Advisor-advisee programs are encouraged by the National

Middle School Association which states:

"Each young learner needs an adult who knows him or her well and is in a position to give individual attention. Therefore, the middle school should be organized so that every youngster has such an adult, one who has special responsibility for the individual's academic and personal welfare. Home-base or advisor-advisee programs which provide individuals with regular opportunities for interaction with a small group of peers and a caring environment fill this need." (1992, pg. 19) .

The messages a school sends to parents may influence the degree to which parents are willing to make a commitment to the school. Dauber and Epstein (1989) note, "Regardless of parent education, family size, student ability, or school level (elementary or middle school), parents are more likely to become partners in their children's education if they perceive that the schools have strong practices to involve parents at school, at home with homework, and at home on reading activities." (pg. 8) When parents believe the schools are doing little to involve them, they

report doing little at home. When parents perceive that the school is doing many things to involve them, they are more involved at home and in school. The sincere interest, support, and involvement of teachers will be needed since they work directly with parents. There are strong implications here for administrators to provide faculties with opportunities to understand the research base and to develop skills needed to plan and carry out parent involvement initiatives.

The attitude held by a school's staff concerning parent involvement may be considered a dimension of the school's culture, or fundamental belief structure and practice. All schools have cultures, but successful schools have cultures aligned with their vision of quality schooling (Sergiovanni, 1991). Comer and Haynes (1991) suggest that parent involvement programs instituted in traditional bureaucratic and inflexible school environments are less likely to yield positive results than those that are part of a more collaborative organizational structure. Sergiovanni (1991) feels it is possible to nurture and domesticate the desirable culture through strong leadership. (pg. 108)

A school's climate or degree of openness to parents may affect parent involvement. The degree to which parents feel welcome when visiting a school may influence their interest in returning. A climate that makes parents feel valued may increase their willingness and desire to become actively involved (Henderson, Marburger & Ooms, 1987; Nester, 1989). A school's climate is largely shaped by the effective interpersonal leadership of the school principal, and a favorable climate, combined with effective leadership, is essential for school improvement and sustained school effectiveness. (Sergiovanni, 1991 pg. 217) Therefore, the school's climate not only affects the way parents feel about the school and their willingness to become involved, but also the climate establishes the conditions within the school that will allow a change or innovation, such as parent involvement, to become institutionalized.

Administrative Factors

By the nature of their responsibilities, school administrators play an important role in promoting parent involvement within individual schools and the

entire school district. The building principal may be the single most important factor in school improvement (Hodgekinson, 1983) and in building strong parent involvement (Hester, 1989). While the literature on parent involvement is relatively silent about the influence of specific leadership skills on parent involvement, the influence of building level leadership on general school effectiveness is recognized (George, Stevenson, Thomason & Beane, 1992, Epstein, 1987).

Several researchers suggest roles and responsibilities for middle grade school principals that may facilitate parent involvement. Principals need to be aware of the research that shows positive benefits for everyone who works closely with parents (Epstein, 1984). This knowledge base may help principals to nurture school conditions, practices and programs that facilitate parent involvement. Epstein (1987) suggests actions administrators can take to facilitate parent involvement including: (a) influencing the types of basic information sent home, (b) assisting teachers as they attempt to deal with differently structured families, (c) providing support for in-service training for working with parents, (d)

acknowledging teachers' efforts in ratings, (e) collecting and distributing research and development findings, (f) coordinating and documenting all efforts within the school to evaluate school efforts, (g) encouraging teams to work together, (h) providing small grants to teachers or teams to create materials, and (i) coordinating official recognition programs for teachers and parents (pg.129).

The value educational decision makers give to parent involvement may affect the degree of parent involvement that takes place within schools. Chavkin and Williams (1987) reported results of a survey conducted by the Southwest Educational Development Laboratory (SEDL) to obtain information about the attitudes of parents, school board presidents, and superintendents toward parent involvement. They speculated that there may be misconceptions by administrators and parents that may hinder the development of a collegial relationship for the improvement of schools and education. Interesting comments from their findings include: Administrators support the general idea of parent involvement, but when they were asked specific questions about their

attitudes they reported the most support for involving parents in traditional ways and less support for roles that require shared decision making. Parents, on the other hand, expressed strong support for shared decision making. They found that more than 70% of superintendents and school board presidents believe it is a school district's responsibility to provide a policy and guidelines for involving parents in education. This study suggested that the existence of written policy encourages parent involvement, and that policy is related to increased parent involvement activities at a variety of school levels. A follow-up study identified and described essential elements of promising parent involvement programs; namely the existence of written policy and administrative support for parent involvement programs (Williams & Chavkin, 1990). Similar support for policy development in the area of parent involvement is espoused by Epstein (1984), Davies (1987), and Chavkin (1992) who consider policy and administrative support for policy critical elements of a successful parent involvement initiative.

The development of policy and the delineation how a district will facilitate parent involvement may be

necessary because schools are resistant to change (Davis, 1987). As for parent involvement, goals may be vague, responsibilities may be divided among many key players, and past practice and the informal norms of schools may make influencing change difficult (Davies, 1987). This situation creates tremendous odds for a change effort to overcome. A strong endorsement, in the form of policy, coupled with a strategic plan of action to guide the change effort, may appreciably increase success possibilities.

Another study which demonstrates the influence of policy on parent involvement was conducted by Epstein (1984). This survey of elementary grade school teachers, principals, and parents identified teachers who stood out from others in their use of parent involvement. Epstein proposed that there may be district level policies that enable, encourage, and reward teachers who emphasize particular types of parent involvement, and she concluded that schools may benefit most by stressing policy that encourages parent involvement in children's education in the home.

Parents' lack of participation may be due to their lack of information about school routines, activities,

and opportunities (Comer, 1986; Dauber & Epstein, 1989). Parents want information about school expectations, routines, and events regularly (Epstein, 1986; Dauber & Epstein, 1989; Epstein & Connors, 1992; Epstein & Herrick, 1991). Parents believe that schools need to strengthen practices such as giving parents specific information on their children's major academic subjects and what their children are expected to learn each year (Dauber & Epstein, 1989). Parents may be reluctant to help their children as they advance beyond elementary school because they feel inadequate with the subject matter. Schools can help parents feel more confident by offering opportunities to meet with teachers to discuss the curriculum and to learn strategies for working with their child at home. Meetings to educate parents about the school's curriculum, routines, and expectations can be conducted by teams, grade levels, or the school as a whole.

The type, form, frequency, and purpose of information sent to students' homes is under the direct influence of the principal (Epstein, 1987). The principal can influence the type of information received by parents by requiring parents and students

to sign forms acknowledging they have read policies and procedures. Information sent to the home can be organized to ensure parents have the information necessary to understand programs, procedures, and policies. Many messages from school tend to be negative and this often results in parents developing negative feelings about the school (Moles, 1982).

While schools will need to continue to express concerns, this can be accomplished in a positive way allowing parents to maintain dignity and not alienating them from future contacts. By considering the logistics of communicating with parents, the principal influences decisions about when conferences are scheduled, the languages in which information is distributed, and the capability for parents to communicate with the school at all times, including after hours through voice mail or a phone answering system. Principals can promote the importance of establishing effective communications between home and school by expressing expectations and standards to the faculty. If expectations are defined, the principal can organize the resources of the school to help teachers to fulfill them.

As students advance through school other methods of communication may be necessary. An example of two way communication that deserves consideration is the systematic use of telephoning. Purnell and Gotts (1985) report telephoning is one of the most prevalent forms of communication used to report problems. Chrispeels (1992) cites a middle grade school where teachers make two positive phone calls for each call registering a complaint or concern. This type of communication started with just a few teachers, but as others saw the benefits it became an accepted school practice. The school's PTA has supported the practice by funding additional phones. Telephones may be used to conduct surveys or to distribute information and announcements through phone chains or voice mail systems.

When students are involved in school activities, their parents are more likely to attend (Chrispeels, 1992). To engage more parents as supporters at school events, schools need to find ways to involve more students. This observation has been demonstrated at the elementary school level where it is a frequently used technique. Many middle grade schools provide

frequent opportunities for students' participation through intramural activities. Scheduling games and programs to coincide with the schedules of working parents may increase the size of the audience.

Schools may adopt specific programs designed to involve parents in learning activities in their homes. The amount of information, encouragement, and guidance provided by the school to structure the activity is related to the level of parent involvement accrued from the activity (Dauber & Epstein, 1989). Teachers are key factors in the success of parent involvement programs. Programs and practices are stronger in schools where teachers see that their colleagues and the parents of their students value parent involvement (Dauber & Epstein, 1989 and 1991).

A proactive approach for building a strong parent involvement program may involve hiring school personnel possessing the capability to work collaboratively with colleagues, parents and community members (Comer, 1987). Middle grade school principals can look for opportunities to influence hiring criteria emphasizing a candidate's interpersonal skill and philosophy concerning parent involvement. Comer suggests such

criteria should be as important as their mastery of academic content and teaching methods.

Systematic and ongoing staff development for teachers is an important part of a school improvement program to enhance student learning (Chrispeels, 1992; Harnett, 1991; Nathan & Radcliff, 1994). Purnell and Gotts (1985) report that teachers feel their training to work with parents is not adequate, but they do not feel hampered by this and are not sure more training would help them do a better job. Others feel differently, and suggest that schools and districts will need to assume the responsibility for training teachers through in-service offerings since teacher preparation programs provide little pre-service training on parent involvement issues (Greenwood & Hickman, 1991; Stallworth & Williams, 1981; Chavkin & Williams, 1988; Nathan & Radcliffe, 1994). Although teacher certification requirements in many states mention the importance of working with families, very few require extensive course-work or in-service training in working with families (Radcliffe, Malone, & Nathan, 1994). This training will include information about research on parent involvement and successful

models, skills for effective communication, and techniques for conferring with parents. Harnett (1991) calls for teacher education programs to provide opportunities for prospective middle level educators to learn how to direct parent involvement in the schools and to plan and conduct parent teacher conferences.

Training appears necessary for administrators and support personnel as well as for teachers. School administrators need a strong knowledge base as they exercise leadership for parent involvement in their schools. Participation in training along with teachers will enhance their skill for working effectively with parents and it displays their commitment to the school initiative. Support personnel have important contacts with parents. Frequently, their initial contacts provide parents with their first impression of the school. The confidence and skill gained by support personnel who receive training to work with parents may influence the quality of their interactions, first impressions, and the general climate of the school.

Parent Involvement in Middle Grade Education

In this section, research directly related to the

middle grade level is reported. The purpose of this section is to demonstrate what is known and what needs to be learned about parent involvement in the middle grades.

Rutherford (1992), reported on changes proposed for the organization of middle grade schools by the New York State School Board Association (1987). The Association identified four factors that inhibit parent involvement at the middle grades, namely: (a) logistical matters, in that departmentalization may be intimidating to parents since in elementary schools children typically have one teacher, (b) the location of the school may inhibit parent involvement since the middle school may be out of their neighborhood or some distance away from their home, (c) the curriculum of the middle grade school may inhibit parent involvement since parents may lack the skills necessary to help their child with homework, and (d) the larger size of middle grade schools may appear intimidating or confusing.

Epstein and Dauber (1989), report from their survey of middle and elementary inner city school teachers, that teachers in self-contained classrooms

are more likely to make more frequent and diverse contact with parents than teachers in teamed or departmentalized programs. They may feel more in control and familiar with a small number of parents or more fully responsible for the students' school programs, including home learning activities. This suggests that the organization of the school may matter. In a companion study, Dauber and Epstein (1989) report that parent involvement programs in elementary schools are stronger, more positive, and more comprehensive than those for children in middle grades.

Epstein and Herrick (1991) used home learning packets over the summer months with students entering seventh and eighth grade. The packets contained school work geared to their curriculum. The packets were mailed home and students were told they would be tested when they returned to school. They reported that those students who worked with their parents completed more activities and that completing the packets had a moderate effect on student performance, particularly for students with marginal skills.

Dietz (1992) surveyed all middle grade school

principals in Wisconsin to study parent involvement practices in Wisconsin middle level public schools. The study was designed to determine the extent to which parent involvement practices in Wisconsin's middle grade schools are consistent with the five part model of parent involvement proposed by Joyce Epstein of John Hopkins University. This study also investigated the relationship between characteristics of the school and principal and the Epstein model. Dietz found that the predominant type of parent involvement which was reported involved "basic obligations of parents and the basic obligations of schools". Basic obligations of parents refers to the responsibilities of families to ensure children's health and safety; to the parenting and child-rearing skills needed to prepare children for school; to the continual need to supervise, discipline, and guide children at each grade level; and to the need to build positive home conditions that support school learning and behavior appropriate for each grade level. Basic obligations of schools refers to the communications from school to home about school programs and children's progress. Schools vary the form and frequency of communications such as memos,

notices, report cards, and conferences, and greatly affect whether the information about school programs and children's progress can be understood by all parents. Dietz reported that parent involvement through decision making and school governance and parent involvement in home learning activities occurred with less frequency than parent involvement through the process of providing information to parents about parenting or about the school and its programs. He indicated that the least prevalent practice was the involvement of parents as volunteers.

Dietz identified characteristics associated with principals related to parent involvement practices. While he made a general statement that background characteristics were of limited value in explaining the five types of parent involvement in Epstein's model, he noted several points of interest. The years served as a principal in the current school showed some significant differences for Type 1 (Basic obligations of parents) and Type 4 (parents helping their children at home with school work) involvement practices, and principals with 9-12 years of total experience had a significantly higher Type 1 mean. Also, he reported

that principals with higher levels of education had significantly higher means for Type 3 (parent volunteers at school) and Type 5 (parent involvement in school governance) parent involvement. Interestingly, Dietz noted that years of experience as an assistant principal, years as an elementary teacher and years as a guidance counselor did not produce any significant differences with any type of parent involvement. He also noted there was no significant difference between male and female subjects in the study.

Dietz identified several school characteristics related to parent involvement. The characteristic showing the greatest difference in means across the five types of parent involvement in Epstein's model was the area served by the school. Rural districts were significantly lower than suburban or urban districts for all practices excepting Type 4. Other characteristics for which significant differences were found include: (a) the percentage of families belonging to the parent organization, (b) the percentage of teachers and staff sending home positive messages about students, and (c) the percentage of staff providing help and direction to parents to help students with

class work. Interestingly, several characteristics were examined but produced no significant mean differences in relation to any type of parent involvement including: (a) the percentage of families on free or reduced lunch and (b) the frequency of the school newsletter.

Steinberger (1992), using case study research, examined the development of relationships between three sets of parents and staff members at a large urban junior high school. The study was designed to reveal how personal and organizational factors influence the alliances among parent, child, and school staff members and how these alliances, in turn, influence learning outcomes. A cross-case analysis was used to identify relationship enhancers and inhibitors, patterns reflected in relationship dynamics, and themes emerging from outcomes. Several conclusions have relevance for this study: (a) Parents and school staff perceive themselves as sharing common goals, but for the most part these goals, as well as their strategies of intervention, are broadly defined; (b) School policies and practices regarding promotion and retention, grading and reporting and attendance, for example, put

constraints on the use of time, the flow of information, the access to communication channels and the availability of individuals; and (c) The outcomes of a positive relationship between parent and school staff include the parent becoming more knowledgeable about school programs and teacher expectation; the desire, on the part of the parent, to become more involved in school activities; and, in some instances, the possibility of expanding learning opportunities for all children through greater collaboration with community agencies. Positive parent-school staff relationships, however, do not always lead to the parent becoming more involved in the daily monitoring of the young adolescent's schoolwork, nor do they always influence student academic performance in ways that parents and school staff anticipate.

Paulson (1994) studied the influence of parenting style and parent involvement on the achievement outcomes of early adolescents. The subjects of the study were ninth graders and their parents. Achievement was measured using the adolescents' self-reported grades from the most recent grading period. Parent involvement was measured using a 22 item scale of

parent involvement which contained three subscales: (a) values toward achievement, (b) interest in school work), and (c) school functions. Two fifteen item subscales scales for parental demandingness and permissiveness were used to measure parenting style. Analyses were run for adolescents' and parents' reports for maternal and paternal parenting, and the analyses were run separately for boys and girls. Hierarchical multiple regression analysis demonstrated that five parenting characteristics were positively related to student achievement for both boys and girls: (a) demandingness, (b) responsiveness, (c) values toward achievement, (d) interest in schoolwork, and (e) involvement in school functions. This analysis allowed all five subscales to be examined simultaneously to determine the proportion of variance of achievement explained by the combination of variables. The results indicated that values toward achievement and involvement in school functions predicted unique proportions of the variance in achievement outcome beyond the other parenting characteristics. Parental values toward achievement consistently predicted the greatest proportion of variance in achievement outcome

in this study.

George and Shewey (1994) authored a monograph published by the National Middle School Association to help fill the frequently noted research void in the middle school movement. Using case study research, data from 108 schools were analyzed to identify effective practices. Several conclusions reached by the authors pertain to the involvement of parents in middle grade schools. In regard to the statement, "A strong parent program that encourages both involvement and support for all parents has contributed to the long term effectiveness of our middle school program", the authors found that 68% of the respondents responded "Mostly Yes", 25% responded "Mostly No", and 7% responded "No Response." The authors noted, "Formal parent advisory groups, site-based management, newly targeted communication efforts, official parent coordinator positions, regular parent visitation days, parent clubs, forums, and special classes - all of these devices, plus a new community importance placed on volunteerism, helped to account for strong parent connections to many of the middle schools in this survey" (George & Shewey, 1994, p. 78). To the

statement, "A shared decision-making model which is formal, systematic, and provides authentic collaboration between and among teachers, administrators, parents, and students, has contributed to the long-term effectiveness of our middle school program", the respondents responded: 73% "Mostly Yes", 15% "Mostly No", and 12% "No Response". These findings were qualified by the authors with the comment, "There has been, according to these reports, much less success in regularly and effectively involving students, parents, and community members. When such a procedure was implemented effectively, the results are incontestably positive" (George and Shewey, 1994, p. 99) .

Rutherford and Billig (1995) examined school/family partnerships in the middle grades (grades 6 to 8). Using case study research to study nine schools, they focused on three areas: comprehensive district-wide programs, school restructuring, and adult/child learning programs. Noting the uniqueness of each of the nine sites, they synthesized their findings across the sites to develop a set of eight "lessons." The themes for these lessons are:

- 1) The stakes are high and immediate for everyone in the middle grades.
- 2) Challenges can become opportunities for parent/family involvement.
- 3) Relationships are the essence of middle-grade family and community involvement.
- 4) Responsibility and decision making are shared by a broad array of players including the child.
- 5) Sustained parent/family involvement and community involvement depend on active advocacy by leaders.
- 6) A system of supports for front-line workers is critical to parent/family involvement.
- 7) Families need connections to the curriculum.
- 8) Schools need connections to the community.

The authors noted the importance for visionary leadership and that even schools serving "at risk" populations can support changes in teaching and learning to improve parent involvement.

Summary

Parent involvement in education has been associated with benefits for students, parents, and schools. These benefits appear both interrelated and mutually supportive since benefits for students may also benefit parents and schools, and benefits for parents and schools may ultimately benefit students. In regard to benefits for students, parent involvement has been associated with higher academic achievement, higher post secondary educational attainment, higher grades, and a lower high school drop out rate. Parents are perceived to benefit when their involvement provides them with an improved knowledge of their children's educational program, when they develop more positive feelings about their ability to help their children, and when they feel more positive about their children's teachers as instructors. Just as parents benefit when children are more successful in school, schools benefit when children are successful in their school experiences and when parents develop more positive and productive relationships with schools. Also in regard to benefits for schools, parent involvement has been associated with: (a) teachers

developing more positive attitudes towards parents, (b) a greater likelihood that the school will involve parents in decision making, (c) teachers seeking training for working with parents, and (d) the development of a positive school climate. Parent involvement in education has potential to benefit students, parents, and schools and therefore deserves consideration as an area of focus for school improvement initiatives.

To discuss parent involvement, researchers and theorists describe dimensions of parent involvement as types, forms, or categories of parent involvement. One model of parent involvement, proposed by Chrispeels (1992), includes the categories: (a) Co-Communications, (b) Co-Support, (c) Co-Learning, (d) Co-Teaching, and (e) Co-Decision Making. In this model the categories are arranged in a hierarchial fashion where the complexity of parent involvement increases with upward movement through the hierarchy while at the same time the frequency or amount of involvement decreases at higher levels. Such a model may be useful to educators seeking to better understand ways and means of improving parent involvement since it describes

categories of parent involvement which may be influenced by the school.

While the responsibility for being involved in a child's education resides with parents, schools may be considered responsible for creating conditions which embrace parents as partners in the education of children. The responsibility for facilitating these conditions within schools may reside in school leadership. School district leadership and school building leadership must work in a proactive way to create conditions within schools and a common philosophy which values parents in the educational process.

To be proactive in promoting parent involvement, school leadership needs to be knowledgeable about factors under their control which may have a positive influence on parent involvement. Such insight may be gleaned from perceptions of parents, teachers, and principals as well as by studying schools where parent involvement is perceived to be strong.

The related literature on parent involvement in education suggests that in general parent involvement decreases as grade level increases. It is also

reported that parent involvement is associated with benefits for students, parents, and schools throughout all levels of schooling. Decreases in parent involvement are quite noticeable when students enter the middle grades. An examination of parent involvement at this level suggests research specific to this level of schooling is needed.

Chapter three describes a research study developed to investigate parent involvement in the middle grades. The study is designed to collect data from parents, teachers, and principals at the middle grade level with the intent of identifying factors perceived to influence parent involvement as well as discriminating characteristics of stronger and weaker parent involvement schools. The results of this study may be useful to educators working to create conditions within schools which will promote stronger parent involvement.

CHAPTER THREE

METHODOLOGY

Introduction

Research suggests that an inverse relationship exists between advancement through grade levels in education and degree of parent involvement (Epstein, 1992; Epstein & Becker, 1982; Epstein & Dauber, 1989). This would not seem to be a universal phenomenon since elementary, middle level, and high schools may have strong or weak parent involvement programs. The identification of schools where parents, teachers, and principals report the existence of stronger parent involvement and the subsequent analysis of factors thought to affect parent involvement may allow the researcher the opportunity to identify discriminating factors which the educational decision maker can use in efforts to improve parent involvement and ultimately the effectiveness of educational programs.

The purpose of this study was to ascertain the perceptions of parents, teachers, and principals in regard to factors which affect parent involvement in public middle grade schools in southeastern

Pennsylvania. Particular attention was given to schools which reported having stronger and weaker parent involvement and to the identification of factors which were reported as having positive or negative influences on parent involvement. Specifically, the study answered the following questions:

1. With what frequency do different types of parent involvement occur in middle grade schools?
2. What factors are perceived to have a positive influence on parent involvement in middle grade schools?
3. What factors are perceived to have a negative influence on parent involvement in middle grade schools?
4. Are there differences in the way parents, teachers, and principals perceive parent involvement in middle grade schools?
5. What factors differentiate stronger parent involvement schools from weaker parent involvement schools?

This chapter describes the methods and procedures employed in this study. In essence, this section

defines the population, the sampling procedures, the survey instrument, the survey procedures for the collection of data, the data analysis, and the limitations of the study.

Population and Sample

The population for this study consisted of the parents of middle grade students, middle grade school teachers, and middle grade school building principals associated with public middle grade schools in southeastern Pennsylvania. Southeastern Pennsylvania was defined as including school districts within the following Intermediate Units: 12, 13, 14, 16, 20, 21, 22, 23, 24, 25. This area includes the following counties: Adams (12), Berks (14), Bucks (22), Chester (24), Delaware (25), Lancaster (13), Lebanon (13), Lehigh (21), Montgomery (23), Monroe (20), Northampton (20), and York (12). While the county of Philadelphia qualifies as a southeastern county, it was not included in this study in large part due to its size and organization. A listing of all school districts in the population is included in APPENDIX A.

For this study, a middle grade school was defined

as a school which has a combination of the grade levels five through nine, and it must include grade seven. Schools which include either grade four or ten were excluded from the study. Middle grade schools meeting this description were found to have the following grade configurations: (a) 5-7, (b) 5-8, (c) 6-7, (d) 6-8, (e) 6-9, (f) 7-8, and (g) 7-9. These schools were titled as intermediate, middle, and junior high schools.

The twelve county target area of southeastern Pennsylvania was found to have 143 public school districts (see APPENDIX A). Twenty school districts in this area did not have a middle grade school meeting the proposed definition and therefore were excluded from the population. In most cases districts without a qualifying school contained either two levels of schooling, i.e., elementary and secondary or their middle grade school contained grade four. One hundred twenty-three (123) districts were found to have one or more middle grade schools meeting the proposed definition. From the 123 school districts having at least one middle grade school meeting the definition, a total of 177 middle grade schools were identified for inclusion in the population for the study (see APPENDIX

B) .

A stratified random sampling procedure was used to identify a random sample of the population. The stratification of the schools was based on their grade configuration, i.e., whether a school was composed of grades (5,6,7) or (6,7,8), etc. The decision to stratify on grade configuration was made for two reasons. First, grade configuration may be an organizational factor affecting parent involvement. During data analysis outlier schools were compared on this factor. Secondly, as organizational data on the schools were gathered, the schools clustered into several grade configurations. Using a stratified random sampling technique helped ensure that the sample was representative of the population. In this study an attempt was made to sample 65% of the population. APPENDIX C provides a listing of the sample schools.

Several factors were considered when the decision was made as to the number of schools which were needed for an appropriate sample size. "No specific rules on how to obtain an adequate sample have been formulated, for each situation presents its own problems. If the phenomena under study are homogeneous, a small sample

is sufficient. But, if the units are variable, as many educational phenomena are, a much larger sample is necessary" (Van Dalen, 1973 pg. 320). Van Dalen goes on to suggest three factors which need to be considered to determine the size of the sample: the nature of the problem, the type of sampling design, and the degree of precision desired. Wiersma (1991) concurs that it is difficult to set the sample size and cautions that the researcher must consider all the costs including the element of time (pg. 264). Wiersma adds, that generally increasing sample size enhances statistical precision, but cautions that increasing sample size is not necessary to attain adequate representation. He states that the method of sampling with the characteristic of random selection is the important determiner of attaining adequate representation.

Since the survey technique used was complex, it was advisable to over-sample because of the likelihood of substantial nonresponse or nonparticipation. To allow for nonresponse a decision was made to over sample by including 65% of the population schools. A proportional sampling technique was used to help in the event the response rate was lower than expected. A

proportional sampling technique enables one to achieve greater representativeness in the sample thereby allowing for a smaller sample (Van Dalen, pg. 322).

The proportional technique used involved: (a) stratifying the schools by grade level configuration, (b) computing the proportion of schools per stratum in comparison to the total schools in the population, and (c) using this proportion to compute the number of schools from each stratum to include in the sample. Table 1 shows the number of schools in each stratum, the proportion in the population and the number of schools from each stratum included in the sample.

To select specific schools for the sample, a random selection procedure was used. Where the number of schools in a stratum was less than ten, the names of the schools were placed on slips of paper, and a number of slips, equivalent to the desired proportional allocation, were drawn randomly. For strata where the number of schools was greater than ten, an alphabetical listing of the schools was created with the first school listed numbered as one. The desired number of schools were selected using a table of random numbers.

Table 1

Sample Schools Stratified by Grade Configuration

I Stratum
 II Grade Combinations
 III Number of Schools in Population = #S
 IV Proportion to Population (P) = #S / 177
 V No. Schools Included in Sample = P * (177 * .65)

I	II	III	IV	V
1	7,8,9	31	.175	20.14 = 20
2	7,8	18	.1016	11.69 = 12
3	6,7,8,9	5	.0282	3.248 = 3
4	6,7,8	94	.5310	61.073 = 61
5	6,7	5	.0282	3.248 = 3
6	5,6,7,8	22	.1242	14.29 = 14
7	5,6,7	2	.0112	1.299 = 1
(total)		177		114

Survey Instrument

The survey instrument was completed by principals, teachers, and parents representing each school in the sample population. Three forms of the survey instrument were used. The forms were color coded and clearly marked on the first page to eliminate confusion. The questions on the first page of each form of the survey varied in terms of the information requested, which were specific for parents, teachers, and the principal. The remaining sections of the instrument were identical on all forms of the survey.

A label was affixed to the first page of each survey to codify the specific school and category of respondent. Only the researcher was able to interpret the code to identify the source school of a survey. Confidentiality was assured since names of schools and districts were not used in data interpretation. Following the completion of the study all surveys will be destroyed to further ensure that data from individual schools will not be used. The raw data will be maintained by the researcher for a period of five years on computer diskette. The diskette is housed in a locked file cabinet.

The survey instrument has four sections (see APPENDIX G): (a) Section A gathered personal and professional data specific to each category of respondent; (b) In Section B respondents rated examples of parent involvement (items 1-21) in terms of how frequently they are perceived to occur in their middle grade school. The ten point Likert like scale used in this section ranges from "does not pertain" to "very frequently"; (c) In Section C (item 22) respondents rated the overall parent involvement in their middle grade school. The nine point Likert scale used ranges

from "weak" overall parent involvement to "exceptional" overall parent involvement; and (d) In Section D respondents rated the effect of specific factors (items 23-65), i.e., the degree of influence positive or negative the factors are thought to have on parent involvement in their middle grade school. The nine point scale used in this section ranged from "very negative influence" to "very positive influence" with, five, meaning "no influence or do not know".

Instrument Validation

To develop the instrument, several validation exercises were conducted. The exercises were designed to: (a) establish agreement on terminology, (b) establish agreement as to how specific examples of parent involvement are commonly associated with categories of parent involvement, (c) identify factors thought to affect parent involvement, and (d) clarify the format of the survey instrument.

Validation exercise #1 (see APPENDIX D) established agreement on a set of factors identified as having an effect on parent involvement. The respondents for this exercise included sixteen regular

education teachers, fourteen parents, two principals, two counselors, and two psychologists. The respondents indicated whether or not they felt that a given factor had an effect, positive or negative, on parent involvement. This multiple choice activity required respondents to circle "yes", "no", or "not sure". The respondents identified items for which the wording was unclear. The percentage of "yes" responses was computed for each factor, considering the total number of responses, "yes" or "no", in relation to the number of "yes" responses. Factors achieving 75% agreement or greater were considered to be valid for inclusion in the final instrument. Several factors, included in the validation exercise because they were identified in the related literature as influential, did not achieve 75% agreement by respondents in the validation exercise. These factors were included in the final instrument (item #'s 33, 51, 56, 57, 58) because of this researcher's interest in determining their influence on parent involvement and to confirm findings from earlier research. Additionally, individuals completing the validation exercise listed other factors thought to influence parent involvement. Their suggestions were

carefully considered. Several factors were excluded because they either duplicated factors already included or they involved issues over which the school has no control, e.g., socioeconomic status of families and parents' educational background. Five of the suggested factors were thought to have merit, and through a follow-up validation exercise, it was determined they could be included in the final instrument (see APPENDIX D). The procedures used in the validation of the suggested items was identical to the initial validation exercise except for the number of people surveyed. Four of the five additional factors were validated and two were included in the survey instrument (item #'s 44 and 63). Two additional factors, suggested and validated but not used, were excluded because: (a) one, upon closer consideration paraphrased an already included factor; and (b) the second involved the interpersonal skills of the school's support staff, which was felt to be too dissimilar to other factors. Validation exercise #2 (see APPENDIX E) established an interrater agreement of 75% between examples of parent involvement and the categories of parent involvement proposed by Chrispeels (1992). Specific examples of

parent involvement were identified from the literature review, this researcher's experience, and suggestions from colleagues. The respondents for this exercise included ten regular education teachers, one special education teacher, fourteen parents, three principals, one counselor, one psychologist, and three members of the school support staff. In this exercise the respondents matched examples of parent involvement to the five categories of parent involvement proposed by Chrispeels (1992). The respondents also identified any item which was not clear. Interrater agreement of 75% was achieved for 21 of 28 items included in the exercise. A minimum of three examples of parent involvement were validated for each of the five categories of parent involvement.

A third validation exercise helped to clarify the survey instrument. Using information obtained in validation exercises one and two, a draft of the survey instrument was created and distributed to a group of three parents, three teachers, and three principals. This group read and critiqued the instrument considering the following criteria: (a) clarity of the directions, (b) clarity of items, and (c) the amount of

time necessary to complete the survey. From their feedback the final version of the instrument was created.

Survey Procedures

This section describes the procedures which were used to distribute and collect the survey instrument.

An introductory letter was mailed to the superintendent of each school district in the sample population to explain the purpose of the study and to request his/her endorsement for participation (see APPENDIX F). When a response was received from a superintendent that a selected middle grade school would not participate, an alternate school was randomly selected from the remaining schools in the appropriate stratum.

Seven calendar days following the mailing of the superintendent's letter, survey packets were mailed to the principals of all 114 schools in the sample. Each principal received: (a) an introductory letter with suggestions for organizing the study; (b) a letter, checklist, and return response form for the school coordinator; (c) a set of survey instruments; one

principal's survey, teacher surveys equivalent to .17 of the total faculty, and parent surveys equivalent to .01 the student population; (d) a reminder note for teachers; and (e) envelopes for the return mailing. When a response was received from the principal indicating that the school would not participate, an alternate school was randomly selected from the remaining schools in the appropriate stratum.

The number of parent surveys sent to each school was determined by computing .01 of a school's enrollment as reported for the 1994-95 school year by the Pennsylvania Department of Education. The number of teacher surveys sent to each school was determined by computing .17 the projected number of teachers at the school. The projected number of teachers was approximated by dividing school enrollment by an average estimated class size of twenty-five. Therefore, the number of teacher surveys sent to a school was equivalent to $((\text{school enrollment}/25) * .17)$. APPENDIX H shows school enrollments and the number of parent and teacher surveys sent to each school. Since several smaller schools would have been sent only three parent surveys using this formula, a

decision was made to establish four surveys as the minimum number of teacher and parent surveys sent to each school.

The principal or his/her designee was asked to coordinate distribution, collection, and the return mailing of the completed survey instruments. Procedures were explained through an introductory letter (see APPENDIX F). This letter recommended that an assistant principal or guidance counselor be appointed as coordinator to eliminate any reluctance to participate on behalf of teachers or parents who may not want the principal to become aware of their views on parent involvement.

A detailed set of procedures were provided to the school coordinator. The "Coordinator's Checklist" provided specific directions for the random identification of teacher and parent participants (see APPENDIX F). Coordinators obtained alphabetized listings of the school's faculty and student body. To select teacher participants, coordinators identified $(.17 \text{ of the faculty who were classroom or subject area teachers})$ on the alphabetized listing. The formula used is as follows: $((\text{school enrollment}/25) * .17)$. To

identify parents/guardians, coordinators selected names located at the multiples of one hundred on the alphabetized listing. Coordinators used rounding when necessary, and they used the next person on a list if an identified teacher or parent objected to completing the survey.

To qualify for inclusion in this study a school was required to submit a minimum of one principal survey, two parent surveys, and two teacher surveys.

A follow-up letter (see APPENDIX F) was mailed to each principal. This letter was received by the principal three days prior to the noted return date, so that he/she could remind the coordinator to gather and return the completed surveys.

School coordinators completed and returned a study questionnaire (see APPENDIX F). This questionnaire provides information about the process used by the coordinator during data gathering as well as their experiences during the study. This information was useful in understanding how the study was conducted and who participated.

As follow-up to data collection and to confirm the data provided through the study questionnaire, phone

calls were made to a random sampling of 15% of the responding schools. The phone calls inquired about procedures used for the random selection of participants and the number of individuals initially selected who did not agree to participate.

While it was not necessary for this study, a second mailing was planned in the event the initial distribution of surveys did not produce a sufficient response rate. Had this second mailing been necessary, a tally of schools which did agree to participate would have been determined using feedback from return mailings of surveys and phone calls to non-responding schools. A listing of schools that had not responded would have been created, and a second mailing would have been made seven days after the deadline. Since a school could have submitted a sufficient number of teacher responses but insufficient parent responses, the follow-up mailing would have been customized so as to gather additional surveys to qualify the school for inclusion.

Data Analysis

The following discussion describes the treatment

of data collected with the survey instrument. Table 2 provides an explanation of the symbols and coding referred to in the discussion of data analysis.

Table 2

Symbols and Coding of Data

Symbols:

r = respondent (each person completing a survey)
 e = example (items 1-21 on the survey are examples of parent involvement)
 f = factor (items 23-65 on the survey are factors thought to affect parent involvement)
 S = school (each school qualifying)
 CC = Co-Communicators \
 CS = Co-Supporters \ | - Categories of PI
 CL = Co-Learners /
 CT = Co-Teachers /
 CD = Co-Decision Makers /
 OV = Overall Parent Involvement Rating (item 22)
 SMPL = sample (scores representing all schools)
 SPI = strong parent involvement
 WPI = weak parent involvement

Example Coding:

r1e1 = respondent 1, example 1
 r1CC = respondent 1's score for Co-Communications
 S113CC = school 113's score for Co-Communication
 SMPL.CD = sample's Co-Decision making score
 SMPL.f34 = sample's mean factor score for factor 34
 WPI.f23 = mean score for factor 23 for outlier schools in bottom 20%, i.e. weak parent involvement schools

For survey items 1-21, the respondents rated how frequently they perceived that the examples of parent

involvement occurred in their middle grade school. The 21 examples had been matched to categories of parent involvement during validation exercise #1 (see Table 3). These categories provide a general means of classifying types, forms, or examples of parent involvement.

Table 3

Matched Examples and Categories of Parent Involvement

<u>Categories</u>	<u>Code</u>	<u>Examples (Items)</u>
Co-Communicators	(CC)	2,4,7,12,15,17
Co-Supporters	(CS)	6,8,14,20
Co-Learners	(CL)	3,11,18
Co-Teachers	(CT)	9,13,16
Co-Decision Makers	(CD)	1,5,10,19,21

On items 1-21, the respondents rated how frequently they perceived that the examples of parent involvement occurred in their middle grade school. Their responses were labeled as (r1e1...r1e21), i.e., respondent #1's responses for examples 1...21, where (r1=respondent 1) and (e1=example 1). Their responses were used to compute category ratings, i.e., the mean

of the ratings for the examples matched to a category, e.g., $r1cc = (r1e2 + r1e4 + r1e7 + r1e12 + r1e15 + r1e17) / 6$. In this case, $r1CC$ is respondent #1's score for Co-Communications.

Category ratings from all respondents for a school were used to compute mean category rating for the school ($S1CC$, $S1CS$, $S1CL$, $S1CT$, $S1CD$).

Sample category ratings ($SMPL$) were found by computing the mean of the mean category ratings for all schools ($SMPL.CC$, $SMPL.CS$, $SMPL.CL$, $SMPL.CT$, $SMPL.CD$).

Survey item # 22 asked each respondent to rate the overall parent involvement for their school. The combined ratings of all respondents for each school were used to compute a mean overall parent involvement rating for each school. The mean overall parent involvement rating for each school was used to compute a sample overall parent involvement rating ($SMPL.OV$).

Survey items 23-65 asked each respondent to rate the degree of influence they perceived factors have on parent involvement in their middle grade school ($r1f23 \dots r1f65$). For each of the 43 factors in the study, the ratings of all respondents for each school were used to obtain a mean factor rating for the school

(S1f23...S1f65). The mean factor ratings of all schools were used to compute mean factor ratings for the sample (SMPL.f23...SMPL.f65).

To identify differences in the way principals, teachers, and parents perceived parent involvement, a two way ANOVA was used including grade configuration of the school and group, i.e., parent, teacher, and principal, as effects. Because the model includes both the grade configuration effect and the group effect, differences between groups will not be confounded with differences between schools. This analysis identified statistically significant differences between the perceptions of teachers, parents, and administrators regarding parent involvement. When differences were identified, a post hoc analysis using a Scheffe' test was conducted.

To identify factors associated with stronger and weaker parent involvement schools, i.e., outlier schools, the following procedure was used. Using data from item 22, the overall ranking, the following were computed for each school: (a) mean overall score for the school, (b) mean parent overall score for each school, (c) mean teacher overall score for each school,

and (d) mean principal overall score for each school. Rankings of schools were made for each. The top and bottom quartiles were identified, and the schools in each were compared. Schools ranked in the top and bottom quartiles in each of the four groups were considered stronger and weaker parent involvement schools. After outlier schools were identified, mean category scores (SPI.CC, SPI.CS, SPI.CL, SPI.CT, SPI.CD, SPI.OV, WPI.CC, WPI.CS, WPI.CL, WPI.CT, WPI.CD, WPI.OV) and mean factor scores (SPI.f23...SPI.f65 and WPI.f23...WPI.f65) were computed.

In addition to the responses provided about perceptions of parent involvement, participants provided descriptive information about themselves and their schools through the survey instrument. In addition, information about each school was obtained from Pennsylvania Department of Education reports for the 1994-95 school year. The descriptive information obtained includes: (a) grade configuration of the school, (b) school enrollment, (c) principal's years of experience in education, (d) principal's years of experience in the middle grades, (e) principal's years of experience at this school, (f) principal's years of

experience in administration, (g) principal's certification, (h) teacher's years of experience in education, (i) teacher's years of experience in the middle grades, (j) teacher's years of experience at this school, (k) teacher's certification, (l) current grades of parent's children, and (m) parent's years of association with this school.

Therefore, data from items 1-65 on the survey instrument provided the following:

For Each Respondent:

- 1) Example ratings : (re1...re21)
- 2) Category ratings: (rCC, rCS, rCL, rCT, rCD)
- 3) Overall parent involvement rating: (r1OV)
- 4) Factor ratings: (r1f23...r1f65)
- 5) Descriptive information

For Each School:

- 1) Category ratings: (S1CC, S1CS, S1CL, S1CT, S1CD)
- 2) Overall parent involvement rating: (S1OV)
- 3) Factor ratings: (S1f23...S1f65)
- 4) Descriptive information

For the Sample:

- 1) Category ratings: (SMPL.CC, SMPL.CS, SMPL.CL,
SMPL.CT, SMPL.CD)

2) Overall parent involvement rating: (SMPL.OV)

3) Factor ratings: (SMPL.f23...SMPL.f65)

For Outlier Schools:

1) Category ratings (SPI.CC, SPI.CS, SPI.CL,
SPI1.CT, SPI.CD, SPI.OV, WPI.CC, WPI.CS,
WPI.CL, WPI.CT, WPI.CD, WPI.OV)

2) Factor ratings (SPI.f23...SPI.f65 and
WPI.f23...WPI.f65)

The data were examined at two levels: (a) on the entire sample, and (b) on schools identified as outliers. Two levels of analysis were performed in order to generalize to the population and to identify discriminating factors which might characterize stronger and weaker parent involvement schools. At both levels of examination multiple regression analysis was used. Multiple regression is a method of analyzing the collective and separate contributions of two or more independent variables X to the variation of a dependent variable Y. (Kerlinger, 1973). Multiple regression analysis was used to help explain the variance of a dependent variable in this study of parent involvement. It does this, in part, by estimating the contributions to the variance of two or

more independent variables to study factors. This analysis produces a "weight" (e.g., a...n) for each factor which represents the factor's relative effect on the outcome in relation to the other factors being considered simultaneously. When analyzing data from the sample, multiple regression analyses were performed on category ratings and the overall rating of parent involvement (Table 4). For example, the following multiple regression analysis,

$$\text{SMPL.CC} = a + b_1(\text{SMPL.f23}) + b_2(\text{SMPL.f24}) + \dots + b_n(\text{SMPL.f65}),$$

will produce a set of weights ($b_1 \dots b_n$) which describe the relative effects or influence of each of the 43 factors. The higher the weight, the more influential the factor for the category. A negative weight indicates a factor has an inverse or negative influence on that category of parent involvement.

Table 4

Multiple Regression Analyses on Sample Data

$$\text{SMPLOV} = a + b_1(\text{SMPLf23}) + b_2(\text{SMPLf24}) \dots + b_n(\text{SMPLf65})$$

$$\text{SMPLCC} = a + b_1(\text{SMPLf23}) + b_2(\text{SMPLf24}) \dots + b_n(\text{SMPLf65})$$

$$\text{SMPLCD} = a + b_1(\text{SMPLf23}) + b_2(\text{SMPLf24}) \dots + b_n(\text{SMPLf65})$$

$$\text{SMPLCT} = a + b_1(\text{SMPLf23}) + b_2(\text{SMPLf24}) \dots + b_n(\text{SMPLf65})$$

$$\text{SMPLCL} = a + b_1(\text{SMPLf23}) + b_2(\text{SMPLf24}) \dots + b_n(\text{SMPLf65})$$

$$\text{SMPLCS} = a + b_1(\text{SMPLf23}) + b_2(\text{SMPLf24}) \dots + b_n(\text{SMPLf65})$$

To identify factors which have the greatest effect on parent involvement, in those schools which report having the strongest and weakest parent involvement, "outlier" schools were identified, and multiple regression analysis was performed (Table 5).

Table 5

Multiple Regression Analyses on Outlier Schools

$$\text{SPI.OV} = a + b_1(\text{SPI.f23}) + b_2(\text{SPI.f24}) \dots + b_n(\text{SPI.f65})$$

$$\text{SPI.CC} = a + b_1(\text{SPI.f23}) + b_2(\text{SPI.f24}) \dots + b_n(\text{SPI.f65})$$

$$\text{SPI.CD} = a + b_1(\text{SPI.f23}) + b_2(\text{SPI.f24}) \dots + b_n(\text{SPI.f65})$$

$$\text{SPI.CT} = a + b_1(\text{SPI.f23}) + b_2(\text{SPI.f24}) \dots + b_n(\text{SPI.f65})$$

$$\text{SPI.CL} = a + b_1(\text{SPI.f23}) + b_2(\text{SPI.f24}) \dots + b_n(\text{SPI.f65})$$

$$\text{SPI.CS} = a + b_1(\text{SPI.f23}) + b_2(\text{SPI.f24}) \dots + b_n(\text{SPI.f65})$$

$$\text{WPI.OV} = a + b_1(\text{WPI.f23}) + b_2(\text{WPI.f24}) \dots + b_n(\text{WPI.f65})$$

$$\text{WPI.CC} = a + b_1(\text{WPI.f23}) + b_2(\text{WPI.f24}) \dots + b_n(\text{WPI.f65})$$

$$\text{WPI.CD} = a + b_1(\text{WPI.f23}) + b_2(\text{WPI.f24}) \dots + b_n(\text{WPI.f65})$$

$$\text{WPI.CT} = a + b_1(\text{WPI.f23}) + b_2(\text{WPI.f24}) \dots + b_n(\text{WPI.f65})$$

$$\text{WPI.CL} = a + b_1(\text{WPI.f23}) + b_2(\text{WPI.f24}) \dots + b_n(\text{WPI.f65})$$

$$WPI.CS = a + b_1(WPI.f23) + b_2(WPI.f24) \dots + b_n(WPI.f65)$$

The descriptive information collected about respondents and schools was used in the analysis of outlier school data. For this analysis, the following mean scores were computed for stronger parent involvement (SPI) and weaker parent involvement (WPI) schools: (a) principal's years of experience in education, (b) principal's years of experience in the middle grades, (c) principal's years of experience at this school, (d) principal's years of experience in administration, and (e) student enrollment of the school. A discriminant function analysis was used to determine the level of predictability, using the mentioned factors, of schools as having stronger or weaker parent involvement.

Additional background information collected includes: (a) grade configuration of the school, (b) principal's certification, and (c) school type. This data was analyzed by percentages and Chi-square analysis. Observed versus expected frequencies were compared for the population, sample, set of responding schools, SPI schools, WPI schools and API schools.

Since there may be systematic likenesses and/or differences between schools that return surveys and those that do not, schools which return data and those which did not were compared on available data. For example, the percentages of returners and non-returners were computed for factors such as school configuration and school size.

CHAPTER FOUR

PRESENTATION AND ANALYSIS OF DATA

The purpose of this chapter is to present the data collected from parents, teachers, and principals regarding parent involvement in middle grade schools in southeastern Pennsylvania. This chapter is divided into three main sections. In section one the respondents to the survey are profiled and data collection procedures are described. In the second, the data are analyzed to answer the research questions, and in the final section noteworthy findings are summarized.

Data Collection and Respondent Group

A description of data collection procedures along with a profile of the responding schools will provide a context for the interpretation of this research and the generalization of conclusions. Therefore, this section will: (a) describe the data collection process noting adjustments to the proposed methodology; (b) compare the set of responding schools to the population and sample in regard to school type, grade configuration,

and student enrollment; and (c) profile the responding schools in terms of data received via the "Coordinator's Final Report" and follow-up phone calls to a sampling of schools.

Data Collection

The population of the study includes middle grade schools in southeastern Pennsylvania. One hundred seventy-seven schools met the standard of a middle grade school as defined for this study, i.e., a school which has a combination of the grade levels five through nine, and it must include grade seven. Schools which include either grade four or ten were excluded from the study. Middle grade schools meeting this description were found to have the following grade configurations: (a) 5-7, (b) 5-8, (c) 6-7, (d) 6-8, (e) 6-9, (f) 7-8, and (g) 7-9. These schools were titled as intermediate, middle, and junior high schools. One hundred fourteen schools were randomly selected from the population as the study sample. Sample schools were mailed packets of survey materials. The number of teacher and parent surveys mailed to each school was calculated as a percentage of student enrollment.

Table 6 shows the number and percentages of surveys sent to and returned by responding schools.

Table 6

Distribution and Return Rate of Surveys

# Population Schools	177
# Sample Schools	114 + 8 = 122
# Responding Schools	62
# Teacher surveys mailed	289
# Teacher surveys returned	333 or 115%
# Parent surveys mailed	451
# Parent surveys returned	309 or 69%
Participating Schools returning 100% of teacher surveys	41/62 or 66%
Participating Schools returning less than 100% of teacher surveys	11/62 or 18%
Participating Schools returning more than 100% of teacher surveys	10/62 or 16%
Participating Schools returning 100% of all parent surveys	6/62 or 10%
Participating Schools returning less than 100% of parent surveys	54/62 or 87%
Participating Schools returning more than 100% of parent surveys	2/62 or 3%

Within one week of the initial distribution of surveys to the sample schools, six principals and two superintendents communicated by phone that their middle grade schools would be unable or unwilling to participate. Eight substitute schools were randomly

selected to participate from the remaining schools in the population (see APPENDIX C). The selection process used initially was again applied to select eight additional schools from the appropriate grade configuration stratum. Sixty-two of the 122 sample schools returned at minimum two teacher surveys, two parent surveys, and a principal survey, thereby meeting the criteria for inclusion in the study. Seven schools submitted partial data sets and therefore were not included in the data analysis.

To check on the status of schools which did not respond by phone or by returning a survey, phone calls were placed. Forty of the fifty-six schools contacted by phone reported they did not intend to participate in the study. Reasons cited for not participating included: the lack of available time, the lateness in the school year, the principal was new to the assignment, the principal was not interested, the school was involved in another study, and the survey was too complicated. During these phone calls, eleven schools reported they had intentions to participate. Eventually five of the eleven submitted complete data sets. The six others reported during follow-up phone

conversations that they would not participate. Four schools cited lack of time and the lateness in the year, and two reported that teachers did not return surveys. Despite repeated phone calls, five schools did not respond to inquiries about the study in their school. Their lack of response was taken to indicate a lack of interest.

Since student enrollment was based on data provided by the Pennsylvania Department of Education, it was possible to determine the number of parent surveys needed by each school in order to survey .01 of the parent population. In 87% of the responding schools fewer than 100% of the parents who volunteered to participate returned their surveys. In 10% of the schools, all surveys originally sent were returned, and 3% of the schools returned more surveys than they were mailed. The overall rate of return of parent surveys was 69%. Given that the procedures required that surveys be mailed to parents from the school, that parents return mail surveys independently, and that 87% of schools returned less than 100%, this rate of return seems strong and suggests parents were interested in either providing input on this topic or that they were

interested in assisting their child's middle grade school.

The overall rate of return of teacher surveys from schools returning surveys was greater than expected, i.e., 115%, indicating several schools made additional copies of surveys to adequately survey their faculties (see Table 6). Most schools, 66%, returned 100% of the surveys they originally received. Several schools, 18%, returned fewer than 100% of their surveys, and a similar percentage, 16%, returned more than 100%. A 100% or better return rate of teacher surveys for 82% of the schools appears strong and may be attributed to the element of accountability established once teachers made a commitment to participate. In all but one school, teacher surveys were returned as a group by the school coordinator. In the one exceptional school, two teachers opted to return their completed surveys separately, stating they did not feel it was appropriate for their surveys to be returned to the principal.

Comparison of Responding Schools to Sample and
Population

To determine if the set of responding schools can be considered representative of the population and sample and, therefore, whether observations made about the responding schools can be generalized to the population, the three groups were compared in terms of school type, grade configuration, and student enrollment (see Table 7).

Table 7

Comparison of Population, Sample and Responding Schools

	Schools in Pop. (177)	% of Pop.	Schools in Sample (122)	% of Sample	Respond. schools (62)	% of Study
School Type:						
MS	136	76.8	94	77	47	75.81
IS	7	3.95	4	3.27	1	1.61
JH	34	19.2	24	19.67	14	22.58
Grade Config.						
5,6,7	2	1.12	1	0.81	1	1.61
5,6,7,8	22	12.4	14	11.47	8	13
6,7	5	2.8	3	2.45	2	3.22
6,7,8	94	53	67	54.9	28	45
6,7,8,9	5	2.8	3	2.45	3	4.84
7,8	18	10.1	13	10.65	8	12.90

7,8,9	31	17.5	21	17.21	12	19.35
Student Enrollment						
1000+	21	11.86	13	10.65	6	9.67
750 - 999	53	29.94	38	31.14	19	30.64
500 - 749	77	43.5	53	43.44	29	46.77
250 - 499	26	14.68	18	14.75	8	12.90

Whether a school has the name intermediate school, junior high school, or middle school could be an indication of the philosophy of the school or its core academic program. While school type was not considered when the sample was constructed, the relative makeup of the population, sample, and responding schools, in terms of the percentages of each type of school, may indicate if the responding schools are representative of the population. Table 7 shows the percentages of the population, sample, and responding schools for each type of school, i.e., middle school, intermediate school, and junior high. The difference noted for the number of intermediate schools represented in the set of responding schools is assumed to be a result of a limited number of intermediate schools in the population (7) and sample (4) rather than attributable

to some characteristic associated with intermediate schools which would influence participation. Chi-square analysis was used to compare observed versus expected frequencies in regard to the percentage of each school type for the population, sample and set of responding schools. A statistically significant Chi-square for a comparison will indicate that there is a significant difference in the makeup of the groups. Table 7a shows results for three comparisons. For each, the Chi-square was found not significant at $p < .05$ indicating the groups are not statistically different in terms of their makeup.

Table 7a

Chi-square Analysis for School Type

Observed vs. Expected	df	Chi-square	alpha
sample / population	2	0.1291	$p < .9375$
responding schools / population	2	1.994	$p < .369$
responding schools / sample	2	1.292	$p < .5242$

The 177 schools which comprise the population were stratified by grade configuration. When the sample was selected, the number of schools included in each grade

configuration stratum was kept proportionate to the amount found in the population. The sample size was initially 114 schools, but eight schools were added to replace schools which responded early in data collection that they would not participate. The addition of eight schools changed the sample size to 122 schools. Also changed were the numbers of schools in several of the strata and therefore the proportion of the strata to the sample. Chi-square analysis was used to compare the population, sample and set of responding schools in terms of grade configuration to determine if statistically significant differences exist between the makeup of the groups. Table 7b shows the results of the three comparisons of observed versus expected frequencies.

Table 7b

Chi-square Analysis for Grade Configuration

Observed vs. Expected	df	Chi-square	alpha
sample / population	6	.346	$p < .9992$
responding schools / population	6	3.972	$p < .6805$
responding schools / sample	6	6.094	$p < .4127$

As Table 7b indicates there are no statistically significant differences at $p < .05$ between observed and expected frequencies for the comparisons.

While student enrollment was not taken into consideration when the stratified random sample was selected, it may have affected the return rate of surveys since the number of surveys sent to a school was based on student enrollment. Schools with larger student enrollment received more surveys; therefore, the principal or the designated study coordinator was asked to make more phone calls and follow-up contacts to parents and teachers. A larger number of surveys might have deterred participation by some schools. In fact, during follow-up calls to schools, the majority of non-participating schools reported a lack of time as the reason for not participating. Overall, as shown in Table 7, these data describe minimal differences in the composition of the population, sample, and responding schools on the basis of student enrollment. Chi-square analysis was conducted to confirm this observation. The makeup of the population, sample, and set of responding schools were compared for school enrollment. As indicated in Table 7c, the results of the three

comparisons were not significant at $p < .05$ indicating there are no statistically significant differences between the makeup of the groups in terms of school enrollment.

Table 7c

Chi-square Analysis for School Enrollment

Observed vs. Expected	df	Chi-square	alpha
sample / population	3	.172	$p < .9819$
responding schools / population	3	.8824	$p < .8297$
responding schools / sample	3	.5855	$p < .8897$

Profile of Responding Schools

To profile the schools participating in this study, two data gathering methods were used. First, a questionnaire, referred to as the Coordinator's Final Report, was distributed with directions that it was to be completed and returned with the completed surveys. This questionnaire contained seven questions designed to assess how closely directions for conducting the survey were followed (see APPENDIX F). Of particular interest and importance was how closely procedures were

followed for the random selection of teachers and parents. The second data collection method involved placing phone calls to 15% of the participating schools. The purpose of the calls was to check with the study coordinator as to the accuracy of the information on the final report.

When the results of the questionnaire were tabulated, it became apparent that not all coordinators answered every item. During phone checks an attempt was made to make this data set complete, but this did not occur in all cases. When the results are reported here, only actual responses received are reported. Therefore, the reported percentages may be lower than actual percentages.

Table 8

Coordinator's Final Report: Summary Data

	Population	177	
	Sample	122	
	Responding Schools	62	
	Responding Schools not submitting a coordinator's report	6/62	10 %
Item 1	Schools reporting an unusual condition existed	5/62	8 %
Item 2	Schools reporting that procedures were followed for identifying teachers.	55/62	89 %

Item 4	Schools reporting procedures were followed for identifying parents	53/62	85 %
Item 3	Schools reporting that at least one teacher declined to participate when contacted	7/62	11 %
Item 6	Schools reporting that at least one parent declined to participate when contacted	7/62	11 %
Item 5	Schools which made introductory phone calls to parents	49/62	79 %
Item 7	Schools which made follow-up phone calls to parents	31/62	50 %

In response to a question asking if there were any unusual conditions in the school which might affect the responses, 5/62 or 8% of the schools reported (yes).

The five schools reporting unusual conditions offered the following reasons: (a) Two schools suggested that a strike in the district might affect responses, (b) One school reported the recent death of the principal, (c) One school reported being involved in a restructuring effort which is changing the school from a junior high school to a middle school, and (d) One school noted that teachers were currently in the midst of contract negotiations.

Questions two and four inquired as to whether or not the coordinator applied the procedures for selecting teachers and parents to participate. Eight

schools either marked (no) or did not respond to item two which asked if the procedures were followed to identify teachers. During follow-up phone calls an attempt was made to clarify the procedures which were used. Two schools which were contacted reported the change in procedures occurred when selecting alternate teachers. Rather than returning to the listing, they selected a teacher at random. Three schools indicated they simply selected teachers at random to expedite the process. And three schools, which did not report following procedures, were not able to be contacted for clarification.

Item number four inquired about the process used to select parents to participate. Ten schools either reported they did not follow procedures or did not respond to this item. Follow-up phone calls provided information about procedures used in these schools. Two schools reported not using a listing of parents, but rather a random selection process was used. For one of these schools, the principal reported distributing the surveys to parents who came into the building; another principal reported distributing surveys at a PTA meeting. Four schools reported they

did not follow procedures in that they did not make introductory phone calls. Two schools reported that they sent the survey to parents with an accompanying letter from their principal. Two schools reported that they sent the survey and the letter which were enclosed in the packet sent to the school.

Questions three and six inquired about teachers and parents who were initially selected but declined to participate, necessitating contacting the next person on the list. An explanation was requested when this was necessary. In six cases, where teachers declined to participate, it was reported that "they were not interested." In one case the teacher reported, "does not complete surveys." For parents, four parents were reported as stating they were not interested, and two declined because they were too new to the school.

While all schools did not follow procedures as directed, schools which submitted a complete data set were included in the study. The majority of schools reported following all procedures designed to maintain a random sample of participants. In cases where procedures were modified, it did not appear to be the result of an attempt to distort the survey results, but

rather changes were made to expedite the survey process so as to be able to participate while not having an impact on other responsibilities.

In this section comparisons are made between the population, sample and set of responding schools. For the balance of this analysis, the set of 62 responding schools is referred to as the study sample.

Data Analysis

The data analysis presented in this section is organized to answer the five research questions. The first subsection identifies examples and categories of parent involvement reported as occurring frequently in middle grade schools. The second subsection identifies factors perceived to have a positive or negative influence on parent involvement in middle grade schools. The third subsection identifies differences in perception about parent involvement in middle grade schools as reported by teachers, parents and principals in regard to overall rating of parent involvement, categories of parent involvement, and factors thought to influence parent involvement. In the final subsection, similarities and differences of stronger

and weaker parent involvement schools are identified in an attempt to identify discriminating characteristics of stronger parent involvement schools.

Frequency of Examples and Categories of Parent Involvement

The frequency with which different types of parent involvement are reported to occur in middle grade schools was examined for specific examples of parent involvement, i.e., e1...e21 on the survey instrument (see APPENDIX G); and for categories of parent involvement, i.e., Co-Communications (CC), Co-Decision Making (CD), Co-Learning (CL), Co-Teaching (CT), and Co-Support (CS) (see APPENDIX E). This was done to answer research question one: With what frequency do different types of parent involvement occur in middle grade schools?

Frequency of Examples of Parent Involvement

On the survey instrument, respondents recorded a response for items 1-21 to indicate how frequently they perceived an example of parent involvement occurred in their middle grade school. Using these responses, mean

scores for respondents' ratings of frequency were calculated for: (a) all parents, (b) all teachers, (c) all principals, (d) for each school, i.e., the school mean (mean of all responses from a school), and (e) for the sample (mean of all school means).

Table 9

Rating Frequency of Occurrence for Examples of Parent Involvement

Example		SAMPLE	PARENTS	PRINCIPALS	TEACHERS
e1CD	M SD N	5.735 1.411 62	5.753 2.359 190	5.902 2.247 51	5.925 2.601 239
e2CC	M SD N	7.021 0.702 62	6.621 1.903 301	7.603 1.476 63	7.320 1.731 325
e3CL	M SD N	3.884 1.018 62	5.163 2.311 172	3.689 1.885 61	3.317 2.066 315
e4CC	M SD N	4.084 2.119 62	4.821 3.354 195	4.891 3.328 46	4.410 3.492 239
e5CD	M SD N	5.156 0.825 62	5.165 2.193 249	5.371 2.002 62	5.136 2.131 309
e6CS	M SD N	5.548 1.473 62	6.007 2.652 280	5.768 2.635 56	5.479 2.746 317
e7CC	M SD N	7.909 0.573 62	7.672 1.581 302	8.016 1.420 62	8.177 1.270 328
e8CS	M SD N	4.132 1.115 62	4.426 2.604 230	4.287 2.196 61	4.003 2.526 315

e9CT	M SD N	3.090 0.797 62	3.102 2.241 225	3.218 2.016 55	3.053 1.789 284
e10CD	M SD N	3.400 0.940 62	3.209 2.352 206	4.205 2.497 56	3.408 2.441 282
e11CL	M SD N	3.745 1.037 62	4.047 2.281 255	3.932 2.058 59	3.469 2.092 303
e12CC	M SD N	5.366 0.796 62	4.916 2.446 279	6.656 1.702 61	5.412 2.227 320
e13CT	M SD N	5.218 0.678 62	5.728 2.199 265	5.172 1.645 58	4.737 1.627 297
e14CS	M SD N	7.623 0.589 62	7.979 1.374 303	7.645 1.505 62	7.337 1.637 326
e15CC	M SD N	7.410 0.513 62	7.020 1.776 299	7.702 1.458 62	7.694 1.381 327
e16CT	M SD N	2.387 0.587 62	2.586 1.922 215	2.845 1.496 58	2.177 1.277 299
e17CC	M SD N	4.091 0.965 62	3.613 2.248 271	4.672 2.063 61	4.398 2.147 304
e18CL	M SD N	3.133 0.884 62	3.446 2.086 249	3.386 1.953 57	2.767 1.829 270
e19CD	M SD N	6.904 0.914 62	6.269 2.457 264	7.452 1.695 62	7.351 1.911 316
e20CS	M SD N	6.085 1.421 62	6.681 2.649 273	6.387 2.328 62	5.576 2.739 309
e21CD	M SD N	5.137 0.890 62	4.754 2.686 272	6.468 2.223 62	5.216 2.611 306

Note. e1...e21 represent examples of parent involvement. The notations CC, CS, CL, CD, and CT represent categories of parent involvement to which examples correspond. Refer to APPENDIX E for description. Ratings were collected using the following Likert scale: 0=Does Not Pertain, 1=Never, 3=Seldom, 5=Sometimes, 7=Often, and 9=Very Frequently

To identify specific examples of parent involvement rated as occurring more and less frequently, the examples were ranked high to low using mean frequency ratings calculated for the sample, all principals, all teachers, and all parents (Table 10).

Table 10

Ranking Examples of Parent Involvement

Rank	Sample	Parents	Principals	Teachers
1st	e7CC	e14CS	e7CC	e7CC
2	e14CS	e7CC	e15CC	e15CC
3	e15CC	e15CC	e14CS	e19CD
4	e2CC	e20CS	e2CC	e14CS
5	e19CD	e2CC	e19CD	e2CC
6	e20CS	e19CD	e12CC	e1CD
7	e1CD	e6CS	e21CD	e20CS
8	e6CS	e1CD	e20CS	e6CS
9	e12CC	e13CT	e1CD	e12CC
10	e13CT	e5CD	e6CS	e21CD
11	e5CD	e3CL	e5CD	e5CD
12	e21CD	e12CC	e13CT	e13CT
13	e8CS	e4CC	e4CC	e4CC
14	e17CC	e21CD	e17CC	e17CC
15	e4CC	e8CS	e8CS	e8CS
16	e3CL	e11CL	e10CD	e11CL
17th	e11CL	e17CC	e11CL	e10CD

18	e10CD	e18CL	e3CL	e3CL
19	e18CL	e10CD	e18CL	e9CT
20	e9CT	e9CT	e9CT	e18CL
21st	e16CT	e16CT	e16CT	e16CT

Note. Examples are ranked high to low using mean scores.

While this analysis is primarily interested in responses of the sample, a comparison to the responses from all teachers, all parents, and all principals indicates similar perceptions exist for all groups. Tables 11 and 11a identify examples which are perceived as occurring more and less frequently.

Table 11

Examples of Parent Involvement Ranked as Occurring Frequently by the Sample

example	Perceived as Occurring Frequently:
e7CC	The school informs parents about programs and activities through newsletters, bulletins, or handbooks.
e14CS	Parents are spectators at school events such as athletic events or musical performances.
e15CC	School personnel and parents use phone calls or notes to share information or respond to questions.
e2CC	Parents and teachers exchange information during conferences and back to school nights.

Table 11a

Examples of Parent Involvement Ranked as Occurring
Infrequently by the Sample

example	Perceived as Occurring Infrequently
e16CT	Parents help teachers instruct in classrooms.
e9CT	The school organizes home teaching activities for parents and children: for example home reading programs or family math activities.
e18CL	Parents attend workshops to learn about the curriculum.

Frequency of Categories of Parent Involvement

The examples of parent involvement used in the survey instrument were matched to categories of parent involvement in validation exercises (see Table 3). Using respondents' ratings for how frequently they perceived that examples occur, mean category scores were calculated. Respondents' mean category scores were then used to compute mean category scores for each school and for the sample. Table 12 shows mean category scores for the following groups: (a) all parents, (b) all teachers, (c) all principals , and (d) the sample.

Table 12

Mean Frequency for Categories of Parent Involvement

Categories of P.I.		Sample	Parents	Principals	Teachers
CC <u>Co-Communications</u> (e2,e4,e7,e12,e15,e17)	M SD N	6.201 62	5.928 1.373 304	6.672 1.129 63	6.375 1.250 329
CD <u>Co-Decision Making</u> (e1,e5,e10,e19,e21)	M SD N	5.311 62	5.045 1.775 297	5.906 1.418 63	5.430 1.676 328
CS <u>Co-Support</u> (e6,e8,e14,e20)	M SD N	5.950 62	6.402 1.584 304	6.017 1.430 62	5.601 1.601 328
CT <u>Co-Teaching</u> (e9,e13,e16)	M SD N	3.694 62	4.076 1.941 291	3.742 1.357 62	3.317 1.212 324
CL <u>Co-Learning</u> (e3,e11,e18)	M SD N	3.618 62	4.081 1.885 285	3.648 1.505 62	3.213 1.618 324

Mean frequency ratings were derived from ratings of perceived frequency of occurrence.

Using mean category scores the five categories of parent involvement were ranked high to low for: (a) the sample, (b) all principals, (c) all teachers, and (d) all parents (see Table 13).

Table 13

Ranking Categories of Parent Involvement

	Sample	Parents	Principals	Teachers
1st	CC Co- Communications	CS Co-Support	CC Co- Communications	CC Co- Communications
2nd	CS Co-Support	CC Co- Communications	CS Co-Support	CS Co-Support
3rd	CD Co-Decision Making	CD Co-Decision Making	CD Co-Decision Making	CD Co-Decision Making
4th	CT Co-Teaching	CL Co-Learning	CT Co-Teaching	CT Co-Teaching
5th	CL Co-Learning	CT Co-Teaching	CL Co-Learning	CL Co-Learning

Note. Ranking is by mean frequency rating.

The objective of this section was to identify the frequency with which different types of parent involvement were perceived to occur in middle grade schools. Mean frequency ratings were reported for items e1..e21 for the sample, all parents, all teachers, and all principals. For the sample, examples of parent involvement which were perceived as occurring frequently are: (a) The school informs parents about programs and activities through newsletters, bulletins, or handbooks; (b) Parents are spectators at school events such as athletic events or musical performances; (c) School personnel and parents use phone calls or

notes to share information or respond to questions; and (d) Parents and teachers exchange information during conferences and back-to-school nights. Examples of parent involvement perceived by the sample as occurring infrequently are: (a) Parents help teachers instruct in classrooms; (b) The school organizes home teaching activities for parents and children, e.g., home reading programs or family math activities; and (c) Parents attend workshops to learn about the curriculum.

By comparing the mean category scores for the sample to the scores for all teachers, all parents, and all principals, several patterns emerge. The categories Co-Communications and Co-Support rank first or second by the sample and by each group. Co-Teaching is ranked fourth by the sample and by teachers and principals individually. Finally, Co-Learning is ranked fifth by the sample, all principals and all teachers.

Positive and Negative Influences

This section reports the analysis of research data to answer research questions two and three: 2) Which factors are perceived to have a positive influence on

parent involvement in middle grade schools? and, 3)
Which factors are perceived to have a negative
influence on parent involvement in middle grade
schools?

Factors Perceived to Have a Positive Influence

Survey items 23 through 65 (see APPENDIX G)
allowed respondents to rate the degree of influence
that they perceive specific factors have on parent
involvement in their middle grade school. The
following Likert scale was used:

1.....2.....3.....4.....5.....6.....7.....8.....9
(VNI) (NI) (NO) (PI) (VPI)

For each factor a rating was calculated for: (a) each
respondent, (b) for each school (mean for all
respondents from a school), (c) mean for all teachers,
(d) mean for all parents, (e) mean for all principals,
and (f) mean for the sample (the mean of school means).

Factors found to have a mean rating ≥ 7.00 were
considered as having a positive influence on parent
involvement, as defined by the Likert like scale used
in the survey (see Table 14).

Table 14

Factors Perceived to have a Positive Influence on
Parent Involvement

RANK	Sample	TEACHERS	PARENTS	PRINCIPALS
1	f48 7.290	f40 7.507	f55 7.365	f48 7.714
2	f65 7.288	f60 7.445	f48 7.315	f55 7.619
3	f55 7.281	f34 7.412	f65 7.302	f39 7.587
4	f40 7.275	f65 7.306	f47 7.296	f43 7.571
5	f43 7.255	f55 7.236	f39 7.273	f42 7.571
6	f39 7.219	f48 7.190	f43 7.266	f40 7.412
7	f45 7.216	f43 7.163	f27 7.256	f45 7.412
8	f60 7.205	f45 7.140	f45 7.240	f31 7.380
9	f34 7.193	f58 7.093	f42 7.223	f46 7.317
10	f42 7.173	f39 7.090	f63 7.161	f27 7.317
11	f27 7.171	f42 7.063	f31 7.075	f65 7.301
12	f47 7.094	f27 7.059	f54 7.065	f60 7.285
13	f31 7.012		f34 7.036	f54 7.190
14			f40 7.029	f33 7.158
15			f41 7.026	f63 7.158
16				f24 7.142

17				f47 7.079
18				f64 7.000

Several factors were consistently rated as having a positive influence on parent involvement. Table 15 identifies factors rated as having a positive influence on parent involvement.

Table 15

Factors Having a Positive Influence on Parent Involvement

	SMPL	PAR	TCH	PRN		SMPL	PAR	TCH	PRN
f23					f46				X
f24				X	f47	X	X		X
f25					f48	X	X	X	X
f26					f49				
f27	X	X	X	X	f50				
f28					f51				
f29					f52				
f30					f53				
f31	X	X		X	f54		X		X
f32					f55	X	X	X	X
f33				X	f56				
f34	X	X	X		f57				
f35					f58			X	
f36					f59	X		X	X
f37					f60	X		X	X
f38					f61				

f39	X	X	X	X	f62				
f40	X	X	X	X	f63	X	X		X
f41		X			f64				X
f42	X	X	X	X	f65	X	X	X	X
f43	X	X	X	X					
f44									
f45	X	X	X	X					

(X) = the factor has a positive influence. Shaded area indicates a commonly held belief.

Table 16 identifies factors perceived by the sample and at minimum two individual groups as having a positive influence on parent involvement in middle grade schools.

Table 16

Factors Having a Positive Influence on Parent Involvement

Sample Rating	FACTORS:
f48 7.290	The principal's willingness to meet informally with parents.
f65 7.288	Communications from the principal's office to parents.
f55 7.281	The principal's working relationship with the school's parent organization.
f40 7.275	Teachers' interpersonal skills.
f43 7.255	The principal's philosophy of education.
f39 7.219	The principal's interpersonal skills.

f45 7.216	The principal's interest in building parent involvement.
f60 7.205	Teachers' communications skills.
f34 7.193	The teacher's experience in education.
f42 7.173	Orientation sessions are held for parents.
f27 7.171	The principal's experience in education.
f47 7.094	Parent's comfort level when visiting the school.
f31 7.012	The principal's policy in regard to meeting with parents.

Factors Perceived to Have a Negative Influence

The data were analyzed to identify factors thought to have a negative influence on parent involvement in middle grade schools. The Likert scale used to collect perceptions from respondents considered a mean score $\leq$ 3.0 as an indication that the factor is perceived to have a negative influence. When mean scores were tabulated for the sample, all parents, all teachers, and all principals, no factor(s) was found to have a mean score in this range. Therefore, the factors considered in this study were not perceived to have a negative influence on parent involvement as reported during this study.

In summary, this section examined the data to

identify factors which are perceived to have a positive or negative influence on parent involvement in middle grade schools. Thirteen factors were rated by the sample schools as having a positive influence: (a) The principal's willingness to meet informally with parents, (b) Communications from the principal's office to parents, (c) The principal's working relationship with the school's parent organization, (d) Teachers' interpersonal skills, (e) The principal's philosophy of education, (f) The principal's interpersonal skills, (g) The principal's interest in building parent involvement, (h) Teachers' communications skills, (i) The teacher's experience in education, (j) Orientation sessions are held for parents, (k) The principal's experience in education, (l) Parent's comfort level when visiting the school, and (m) The principal's policy in regard to meeting with parents.

The analysis of data to identify factors perceived as having a negative influence on parent involvement was unproductive since no factors were rated ≤ 3.0 .

Differences in Perception about Parent Involvement

This section examines the data to answer the

question: Are there differences in the way parents, teachers and principals perceive parent involvement in middle grade schools?

Two-way ANOVA was used to test for significant differences between means. In these analyses the dependent variables included: (a) the overall rating of parent involvement, i.e., item 22; (b) the five categories of parent involvement, i.e., CL, CT, CS, CD, and CC; and (c) factors thought to influence parent involvement, i.e., items f23...f65. The independent variables used were the seven grade configurations found in the sample middle grade schools, i.e., (5,6,7), (5,6,7,8), (6,7), (6,7,8), (6,7,8,9), (7,8), and (7,8,9), and respondent type, i.e., parent, teacher and principal. Two-way ANOVA was used as it allows for the examination of within group and between group interactions. With two-way ANOVA several comparisons occur simultaneously thereby allowing for a more accurate interpretation of findings. If a difference is noted among the means of members within a group and this difference is consistent between groups, i.e., there is no interaction, then one can reasonably conclude the difference is occurring because of

differences within the group related to that dependent factor and not because of differences from another dependent factor. A *p*-level of .05 was used to determine the statistical significance of a result. Whenever a significant difference was found a post hoc analysis was conducted using a Scheffe' test. This procedure allows for the identification of means which are particularly different from each other. The Scheffe' test was used since it is a conservative analysis.

Overall Rating of Parent Involvement

To identify differences in perception regarding overall parent involvement in middle grade schools, parents, teachers and principals were asked to rate overall parent involvement for their school on survey item 22. Two-way ANOVA was used to compare ratings of respondent groups (RESP_TYP), i.e., parent, teacher or principal and schools by grade configuration (GRCNFG) (see Table 17).

Table 17

ANOVA: Overall Rating of Parent Involvement

STAT.	Summary of all Effects; design: (rawdata.sta)					
GENERAL	1-GRCNFG, 2-RESP_TYP					
MANOVA						
Effect	df	MS	df	MS	F	p-level
Effect	Effect	Effect	Error	Error		
1	6*	6.221734*	609*	2.862223*	2.173742*	.043885*
2	2	3.361960	609	2.862223	1.174598	.309642
12	12	2.237617	609	2.862223	.781776	.669657

Table 17a

STAT.	Scheffe test; variable OV22 (rawdata.sta)						
GENERAL	Probabilities for Post Hoc Tests						
MANOVA	MAIN EFFECT: GRCNFG						
	CF567	CF5678	CF67	CF678	CF6789	CF78	CF789
GRCNFG	5.233333	5.995399	4.872727	5.382663	5.307539	5.503942	4.996320
cf567		.932735	.999430	.999991	1.000000	.999787	.999882
cf5678	.932735		.241281	.135417	.711607	.753636	.003286*
cf67	.999430	.241281		.932760	.991288	.889237	.999980
cf678	.999991	.135417	.932760		.999997	.999600	.607613
cf6789	1.000000	.711607	.991288	.999997		.999615	.992046
cf78	.999787	.753636	.889237	.999600	.999615		.683595
cf789	.999882	.003286*	.999980	.607613	.992046	.683595	

The results of this analysis indicate: (a) there are significant differences at the $p < .05$ level for the main effect grade configuration, (b) there is not a significant difference for the main effect respondent group, and (c) the interaction effect is not significant. A post hoc analysis was conducted on the main effect grade configuration using a Scheffe' test (see Table 17a). The results show that a statistically significant difference exists at $p < .05$ between

schools configured with grade patterns (7,8,9) and (5,6,7,8), in regard to perception of overall parent involvement. Respondents for schools configured (5,6,7,8) provided a significantly higher overall rating (5.995) for parent involvement for their schools than did respondents for schools configured with grades (7,8,9) (4.996).

Categories of Parent Involvement

On survey items e1..e21 respondents rated the frequency of occurrence of specific examples of parent involvement. Each example of parent involvement was associated with one of the five categories of parent involvement: (a) Co-Communications, (b) Co-Support, (c) Co-Decision Making, (d) Co-Teaching, and (e) Co-Learning. Using respondent's rating for examples, category ratings were calculated, e.g., $rlcc = (r1e2+r1e4+r1e7+r1e12+ r1e15+r1e17)/6$. Using respondents' mean category ratings, mean category ratings for all principals, all teachers and all parents were calculated for each of the five categories of parent involvement. Two-way ANOVA was used to compare category ratings to identify differences in

perception between parents, teachers and principals (see Tables 18-22). In this design, the two main effects were grade configuration of the school and respondent type. Significant differences were analyzed post hoc with a Scheffe' test.

Table 18

ANOVA Co-Teaching (examples: 9,13,16)

DESIGN: 2 - way ANOVA , fixed effects
 DEPENDENT: 1 variable: RCT
 BETWEEN: 1-GRCNFG (7): cf567 cf5678 cf67 cf678 cf6789 cf78 cf789
 2-RESP_TYP(3): teacher parent principa
 WITHIN: none

+-----+-----+-----+-----+-----+-----+-----+						
STAT.	Summary of all Effects; design: (rawdata.sta)					
GENERAL	1-GRCNFG, 2-RESP_TYP					
MANOVA						
+-----+-----+-----+-----+-----+-----+-----+						
Effect	df	MS	df	MS	F	p-level
Effect	Effect	Effect	Error	Error		
+-----+-----+-----+-----+-----+-----+-----+						
1	6	4.62196	656	2.445888	1.889684	.080228
2	2*	18.05602*	656*	2.445888*	7.382192*	.000675*
12	12	3.88462	656	2.445888	1.588225	.090239
+-----+-----+-----+-----+-----+-----+-----+						

Table 18a

STAT.		Scheffe test; variable RCT (rawdata.sta)		
GENERAL		Probabilities for Post Hoc Tests		
MANOVA		MAIN EFFECT: RESP_TYP		
		teacher	parent	principal
GRCNFG	RESP_TYP	3.247322	4.049035	3.835639
....	teacher		< .0001 *	.025690 *
....	parent	< .0001 *		.621607
....	principa	.025690 *	.621607	

The results of the two-way ANOVA for the dependent variable Co-Teaching indicate that a statistically significant difference exists between the respondent

groups in terms of their perceptions regarding the frequency of occurrence of Co-Teaching practices in middle grade schools (see Table 18). The post hoc analysis for the main effect respondent group indicates that the significant differences exist between the perceptions of parents and teachers and between principals and teachers (see Table 18a). Parents and principals perceive that Co-Teaching occurs more frequently (4.047 and 3.836 respectfully) than it is perceived by teachers (3.247).

The results of the two-way ANOVA for the dependent variable Co-Support indicate significant differences exist for the main effects; respondent group and grade configuration, at $p < .05$ (see Table 19). For the analysis, the interaction effect was not significant.

Table 19

ANOVA Co-Support (examples: 6,8,14,20)

DESIGN: 2 - way ANOVA , fixed effects
 DEPENDENT: 1 variable: RCS
 BETWEEN: 1-GRCNFG (7): cf567 cf5678 cf67 cf678 cf6789 cf78 cf789
 2-RESP_TYP(3): teacher parent principa
 WITHIN: none

-----+-----						
STAT.	Summary of all Effects; design: (rawdata.sta)					
GENERAL	1-GRCNFG, 2-RESP_TYP					
MANOVA						
-----+-----						
Effect	df	MS	df	MS	F	p-level
Effect	Effect	Effect	Error	Error		
-----+-----						
1	6*	6.89725*	673*	2.451909*	2.813013*	.010372*
2	2*	17.57318*	673*	2.451909*	7.167140*	< .001*
12	12	2.42609	673	2.451909	.989469	.457210
-----+-----						

Table 19a

STAT.		Scheffe test; variable RCS (rawdata.sta)		
GENERAL		Probabilities for Post Hoc Tests		
MANOVA		MAIN EFFECT: RESP_TYP		
GRCNFG	RESP_TYP	teacher	parent	principal
		5.609094	6.388182	6.268695
....	teacher		< .001 *	.010105 *
....	parent	< .001 *		.860797
....	principa	.010105 *	.860797	

Table 19b

STAT.		Scheffe test; variable RCS (rawdata.sta)					
GENERAL		Probabilities for Post Hoc Tests					
MANOVA		MAIN EFFECT: GRCNFG					
GRCNFG		cf567	cf5678	cf67	cf678	cf6789	cf78
		5.870370	6.467935	6.502315	6.001015	6.164387	6.147533
cf567			.961722	.973736	.999992	.999557	.999498
cf5678		.961722		1.000000	.283803	.988418	.931860
cf67		.973736	1.000000		.873461	.995310	.986256
cf678		.999992	.283803	.873461		.999464	.997718
cf6789		.999557	.988418	.995310	.999464		1.000000
cf78		.999498	.931860	.986256	.997718	1.000000	
cf789		.994962	< .001 *	.146168	.090402	.541673	.179088

Scheffe' tests were used post hoc for each main effect.

For respondent type, the analysis indicates significant differences exist between the perceptions of parents (6.388) and teachers (5.609); with parents perceiving that Co-Support occurs more frequently than do teachers, and between principals (6.268) and teachers (5.609); with principals perceiving that Co-Support practices occur more frequently than teachers (see Table 19a). The post hoc analysis, for the main effect grade configuration, indicates that significant differences exist between the perceptions of

respondents from schools configured (7,8,9) (5.467) and schools configured (5,6,7,8) (6.467) for Co-Support. The ratings from the schools configured (5,6,7,8) are significantly higher for Co-Support than the ratings from schools configured (7,8,9) (see Table 19b).

The results of the two-way ANOVA for the dependent variable Co-Decision Making (see Table 20) indicate that a significant difference exists for the main effect respondent group. The interaction effect is not significant. The post hoc Scheffe' test indicates differences exist between the perceptions of parents and principals and between the perceptions of principals and teachers. In the comparisons, the principals' ratings (5.982) are significantly higher than teachers (5.341) and parents (5.061).

Table 20

Co-Decision Making (examples: 1,5,10,19,21)

DESIGN	: 2 - way ANOVA , fixed effects						
DEPENDENT	: 1 variable: RCD						
BETWEEN	: 1-GRCNFG (7): cf567 cf5678 cf67 cf678 cf6789 cf78 cf789						
	2-RESP_TYP (3): teacher parent principa						
WITHIN	: none						

STAT.	Summary of all Effects; design: (rawdata.sta)						
GENERAL	1-GRCNFG, 2-RESP_TYP						
MANOVA							

	df	MS	df	MS			
Effect	Effect	Effect	Error	Error	F		p-level

1	6	3.779497	667	2.836492	1.332455		.240237
2	2*	8.657531*	667*	2.836492*	3.052197*		.047916*
12	12	3.642325	667	2.836492	1.284095		.222974

Table 20a

STAT.		Scheffe test; variable RCD (rawdata.sta)		
GENERAL		Probabilities for Post Hoc Tests		
MANOVA		MAIN EFFECT: RESP_TYP		
		teacher	parent	principal
GRCNFG	RESP_TYP	5.341877	5.061465	5.982663
....	teacher		.116086	.022295 *
....	parent	.116086		< .001 *
....	principa	.022295 *	< .001 *	

The two-way ANOVA for the dependent variable Co-Communications (see Table 21) identified a significant difference for the main effect respondent group. The interaction effect was not significant. The post hoc Scheffe' test shows that significant differences exist between the perceptions of parents and teachers, parents and principals and principals and teachers. At $p < .05$ the parents' rating of Co-Communications (5.929) is significantly less than the ratings of teachers (6.2) and principals (6.639), and the teachers' rating is significantly less than the principals' rating.

Table 21

Co-Communications (examples: 2,4,7,12,15,17)

DESIGN	: 2 - way ANOVA	, fixed effects				
DEPENDENT	: 1 variable:	RCC				
BETWEEN	: 1-GRCNFG (7):	cf567 cf5678 cf67 cf678 cf6789 cf78 cf789				
	2-RESP_TYP(3):	teacher parent principa				
WITHIN	: none					

STAT.	Summary of all Effects; design: (rawdata.sta)					
GENERAL	1-GRCNFG, 2-RESP_TYP					
MANOVA						

	df	MS	df	MS		
Effect	Effect	Effect	Error	Error	F	p-level

1	6	.923084	675	1.665779	.554146	.766888
2	2*	5.594861*	675*	1.665779*	3.358705*	.035363*
12	12	2.497992	675	1.665779	1.499593	.119057

Table 21a

STAT.	Scheffe test; variable RCC (rawdata.sta)			
GENERAL	Probabilities for Post Hoc Tests			
MANOVA	MAIN EFFECT: RESP_TYP			
GRCNFG	RESP_TYP	teacher	parent	principal
		6.200283	5.929223	6.639299
....	teacher		.031219 *	.047591 *
....	parent	.031219 *		< .001 *
....	principa	.047591 *	< .001 *	

The results of the two-way ANOVA for the dependent variable Co-Learning (see Table 22) indicate a significant difference exists for the main effect respondent group. The post hoc Scheffe' test indicates differences exist between the perceptions of parents and teachers and between the perceptions of principals and parents, with parents (4.16) perceiving that Co-Learning occurs more frequently than teachers (3.11) and principals (3.512).

Table 22

Co-Learning (example: 3,11,18)

DESIGN	: 2 - way ANOVA	, fixed effects						
DEPENDENT	: 1 variable:	RCL						
BETWEEN	: 1-GRCNFG (7):	cf567	cf5678	cf67	cf678	cf6789	cf78	cf789
	: 2-RESP_TYP(3):	teacher parent principa						
WITHIN	: none							

STAT.	Summary of all Effects; design: (rawdata.sta)							
GENERAL	1-GRCNFG, 2-RESP_TYP							
MANOVA								

	df	MS	df	MS				
Effect	Effect	Effect	Error	Error		F		p-level

1	6	1.91919	650	2.956771		.64908		.690909
2	2*	30.67392*	650*	2.956771*		10.37413*		< .001 *
12	12	5.21422	650	2.956771		1.76349		.050613

Table 22a

STAT.	Scheffe test; variable RCL (rawdata.sta)				
GENERAL	Probabilities for Post Hoc Tests				
MANOVA	MAIN EFFECT: RESP_TYP				
GRCNFG	RESP_TYP	teacher	parent	principal	
		3.110659	4.160448	3.512622	
....	teacher		< .001 *	.242000	
....	parent	< .001 *		.027490 *	
....	principa	.242000	.027490 *		

In summary, the comparison of parents', teachers' and principals' perceptions for categories of parent involvement, i.e., how frequently categories of parent involvement are perceived to occur in middle grade schools, indicates that significant differences exist. Significant differences were found between the ratings of principals and teachers for the following categories: (a) Co-Teaching, (b) Co-Communications, (c) Co-Decision Making, and (d) Co-Support, with the

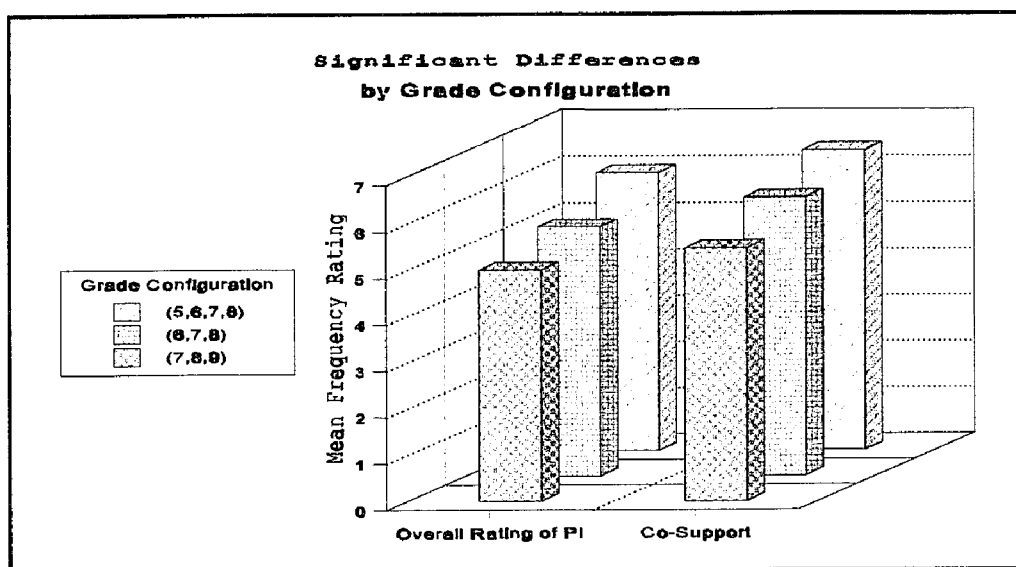
principals' ratings being significantly higher for each category. The comparison of principals' and parents' perceptions also yielded significant differences. For Co-Decision Making and Co-Communications, the principals' ratings were significantly higher than the parents' ratings, and for the category Co-Learning, the parents' rating was significantly higher than the principals' rating. Significant differences were also found between the ratings of parents and teachers for the following categories: (a) Co-Teaching, (b) Co-Support, (c) Co-Learning, and (d) Co-Communications. Parents' ratings were significantly higher than teachers' ratings for Co-Teaching, Co-Support, and Co-Learning, and teachers' ratings were significantly higher for the category Co-Communications.

Significant differences were found between schools configured with grades (5,6,7,8) and schools configured with grades (7,8,9) for Co-Communications and the overall rating of parent involvement. Respondents from schools configured (5,6,7,8) provided significantly higher ratings for overall parent involvement than did respondents for schools configured (7,8,9). Respondents from schools configured (5,6,7,8) provided

significantly higher ratings for Co-Support than respondents from schools configured (7,8,9) (see Figure 1). The ratings for schools configured (6,7,8) are provided for comparison purposes.

Figure 1

Comparison of Schools Configured (5,6,7,8), (6,7,8), and (7,8,9) for Co-Support and Overall Rating

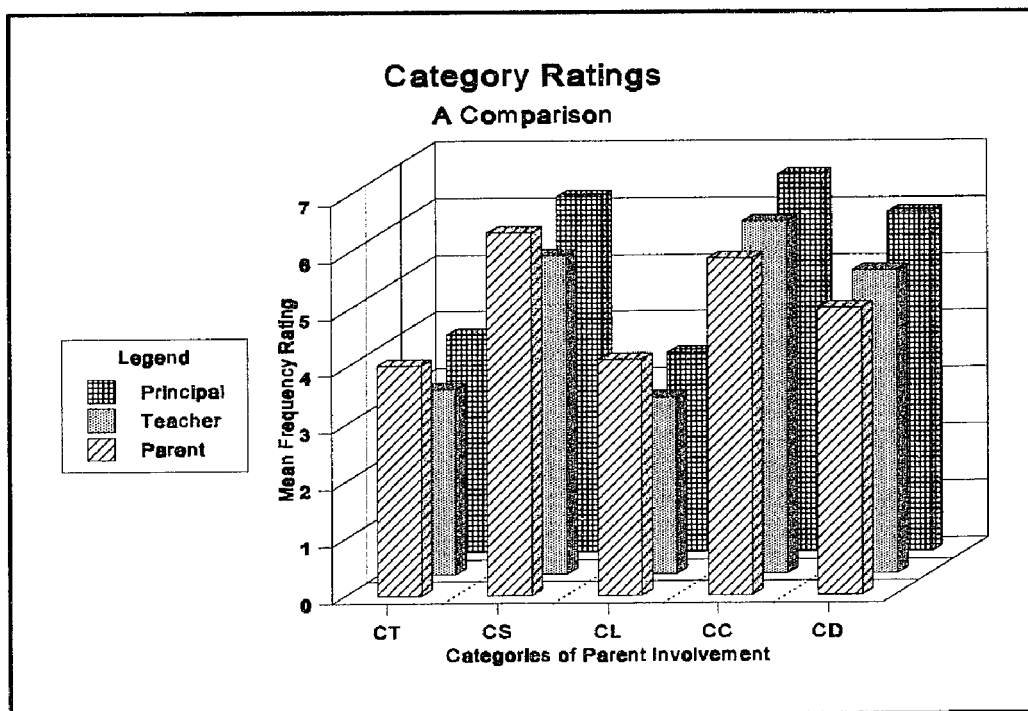


Differences were identified between the perceptions of school personnel, i.e., teachers and principals, and parents in regard to how frequently categories of parent involvement were perceived to occur in middle grade schools. For the categories Co-Communications and Co-Decision Making, the ratings of

school personnel are higher than parents, and for the areas Co-Learning, Co-Teaching, and Co-Support, parents' ratings are higher than those of school personnel (see Figure 2).

Figure 2

Comparison of Category Ratings by Group



Factors Influencing Parent Involvement

Parents, teachers and principals responded to survey items f23...f65 to provide a rating of their perception as to the degree of influence factors are thought to have, positively or negatively, on parent

involvement in their middle grade schools. Their ratings were used to compute mean scores for parents, teachers and principals for each factor. Two-way ANOVA was used to compare the responses of the three groups to determine similar and/or statistically different perceptions. In the two-way ANOVA design, factors (f23...f65) were used as the dependent variables and grade configuration of the school and respondent group were used as independent variables. Differences at the $p < .05$ level were considered statistically significant, and they were analyzed post hoc using Scheffe' tests. APPENDIX I contains an ANOVA table for each factor and when appropriate Scheffe' results.

Several factors were found to have statistically significant differences for the main effects. Tables 23 and 25 show: (a) dependent variables (factors) which resulted in significant differences for the main effects respondent group and grade configuration of the school, (b) specific pairings for which significant differences were found using Scheffe', and (c) the direction and magnitude of differences as indicated by the alpha level.

Table 23

Factors Having Significant Differences for Main Effect**Respondent Group**

ANOVA		Scheffe' (high/low)	
Dep. Factor	p-level	Significant Pairs	p-level
f23	< .001	principal>teacher	< .001
		parent > teacher	< .001
f24	0.008996	principal > parent	< .001
		principal > teacher	0.007152
		teacher > parent	0.014153
f32	0.023415	parent > teacher	0.002133
		parent > principal	< .001
f34	0.004524	teacher > parent	0.002274
		teacher > principal	0.007571
f37	0.005998	parent > teacher	< .001
f40	< .001	teacher > parent	< .001
		principal/parent	0.008744
f41	0.034515	parent > teacher	< .001
		principal > teacher	0.005743
f42	0.01376	parent > teacher	0.001062
		principal > teacher	< .001
f52	0.008437	parent > teacher	< .001
f53	< .001	parent > teacher	< .001
f60	0.007038	teacher > parent	< .001

Table 23a

Factors Showing Significant Differences for Main Effect

Respondent Group

Factor: Description

- f23: Parents' knowledge of the curriculum.
- f24: The Principal's expectations for teachers in regard to involving parents.
- f32: Assigning each student an advisor.
- f34: The teacher's experience in education.
- f37: Budgetary provisions for parent involvement.
- f40: Teachers' interpersonal skills.
- f41: Parent satisfaction with prior school experiences.
- f42: Orientation sessions are held for parents.
- f52: Class size or pupil/teacher ratio.
- f53: Telephones are readily available for staff use.
- f60: Teachers' communication skills.

The post hoc analysis of significant ANOVA findings, identified factors for which statistically significant differences exist between respondent groups (see Table 23 and 23a). The combination of teacher and

parent produced the most pairings with significant differences (see Table 24) .

Table 24

Pairings With Significant Differences

Pairings:	Factors:
Teacher > Parent	f24, f34, f40, f60
Teacher < Parent	f23, f32, f41, f42, f52, f53
Teacher > Principal	f34
Teacher < Principal	f23, f24, f37, f41, f42
Principal < Parent	f32
Principal > Parent	f24, f40

Table 25

Factors Having Significant Differences for Main Effect

Grade Configuration of the School

ANOVA		Scheffe' (high/low)	
Dep. Factor	p-level	Significant Pairs	p-level
f63	.043022	(7,8) > (5,6,7,8)	.007421
f52	.008096	(6,7,8) > (7,8,9)	.005960
f33	.037697	(7,8) > (5,6,7,8)	.008370

This subsection used two-way ANOVA, where the two main effects were respondent group, i.e., parents, teachers, and principals and grade configuration of the school, to identify differences in the perception of

parents, teachers and principals in regard to: (a) their overall rating of parent involvement, (b) their perceived rating for the frequency of occurrence of categories of parent involvement, and (c) their perception as to the degree of influence factors have on parent involvement.

The comparison of the overall rating of parent involvement for the main effect respondent group yielded no significant finding as was hypothesized, i.e., no significant difference would be found between the perceptions of parents, teachers, and principals in regard to their overall rating of parent involvement.

In regard to the five categories of parent involvement, it was hypothesized that significant differences in perception would be found for the main effect respondent group. The ANOVA for each category supported this hypothesis. Significant differences were found between the ratings of principals and teachers, principals and parents and parents and teachers in regard to how frequently practices of parent involvement are perceived to occur in middle grade schools. For the categories Co-Communications and Co-Decision Making, the ratings of school personnel

were greater than parents, and for the areas Co-Learning, Co-Teaching, and Co-Support, parents' ratings were greater than those of school personnel.

The two-way ANOVAs for the overall rating of parent and Co-Support produced statistically significant differences for the main effect grade configuration of the school. The post hoc Scheffe' test for overall parent involvement indicated that schools with the grade configuration (5,6,7,8) perceived overall parent involvement to be significantly higher than respondents from schools configured (7,8,9). The Scheffe' test performed post hoc for Co-Support, indicated that schools configured (5,6,7,8) perceived Co-Support to be significantly higher than schools configured (7,8,9).

The two-way ANOVA for survey items f23...f65, i.e., factors thought to affect parent involvement, for the main effect respondent group produced eleven factors for which there are significant differences between the ratings of teachers and parents.

Differences Between Stronger and Weaker Parent

Involvement Schools

To answer research question number five: What factors differentiate stronger parent involvement schools (SPI) from weaker parent involvement schools (WPI)?; the following process was used: (a) outlier schools were identified using responses to survey item 22, the overall ranking; (b) for outlier schools, relationships between categories of parent involvement (dependent variable) and factors thought to influence parent involvement (independent variables) were examined using multiple regression analysis; (c) for outlier schools, discriminant function analysis was used to examine principals' experience in education and school enrollment; (d) for outlier schools percentages were computed for grade configuration, school title, and principals' areas of professional certification; and (e) results of the analyses for SPI and WPI schools were compared to identify similarities and differences as well as discriminating characteristics of stronger parent involvement schools. These five steps are presented sequentially in the balance of this section.

Identifying Outlier Schools

To identify schools considered outlier schools, i.e., stronger or weaker parent involvement schools, the following were computed for each school using the results of item 22, the overall rating of parent involvement: (a) mean overall rating for the school, (b) mean parent overall rating for each school, and (c) mean teacher overall rating for each school. Since only one principal's response was obtained from each school, these responses were not used in the identification process. It is included for informational purposes only. Using the three sets of mean scores, the schools were ranked in each grouping, high to low. Schools falling in the fourth or first quartiles in each grouping were considered stronger or weaker parent involvement schools, i.e., outlier schools. Table 26 shows the scores marking the first and fourth quartiles for each grouping, and Tables 27, 27a, 27b, and 27c identify schools considered outliers.

Table 26

Boundaries of the First and Fourth Quartiles

	Teacher	SMPL	Parent	Principal
M	5.386	5.287	5.091	5.616
MD	5.550	5.261	5.200	6.0
SD	1.249	.982	1.116	1.549
25%	4.578	4.889	4.500	5.0
75%	6.4	6.091	5.750	7.0
N	62	62	62	55

Table 27

Stronger Parent Involvement Schools / Fourth Quartile

TEACHER/SCH SCHOOL M	SAMPLE SCHOOL M	PARENT/SCH SCHOOL M	PRINCIP/SCH SCHOOL M
44 7.33	99 7.083	28 7.667	30 8.0
80 7.33	28 6.8	99 7.400	111 8.0
88 7.33	44 6.714	1 7.333	99 8.0
21 7.20	23 6.667	23 6.667	87 8.0
23 6.875	87 6.667	53 6.667	50 7.0
46 6.80	88 6.625	87 6.500	98 7.0
25 6.75	21 6.556	86 6.167	20 7.0
50 6.75	46 6.500	46 6.000	46 7.0
22 6.66	53 6.471	44 6.000	88 7.0
99 6.66	1 6.444	117 6.000	34 7.0
106 6.66	50 6.375	98 6.000	44 7.0
118 6.5	118 6.250	88 6.000	39 7.0
87 6.5	20 6.2	39 5.750	8 7.0
8 6.4	39 6.111	32 5.750	86 7.0
20 6.4	117 6.091	20 5.750	5 7.0

117	6.4	32	6.091	77	5.750
53	6.4				

118	7.0
119	7.0
1	7.0
10	7.0
103	7.0

Table 27a

Stronger Parent Involvement Schools / Fourth Quartile

SPI School #	Teacher	Sample	Parent
44	7.33	7.083	7.667
88	7.33	6.625	6
23	6.875	6.667	6.667
46	6.8	6.5	6
99	6.66	7.083	7.4
87	6.5	6.667	6.5
20	6.4	6.2	5.75
117	6.4	6.091	5.75
53	6.4	6.471	6.667

Table 27b

Weaker Parent Involvement Schools / First Quartile

TEACHER/SCH SCHOOL M	SAMPLE SCHOOL M	PARENT/SCH SCHOOL M	PRINCIP/SCH SCHOOL M
98 4.571	30 4.889	95 4.50	80 5.0
81 4.5	4 4.889	13 4.50	77 5.0
34 4.5	102 4.889	33 4.50	117 5.0
30 4.5	81 4.889	30 4.50	93 5.0
91 4.4	6 4.889	6 4.50	92 5.0
65 4.333	91 4.883	106 4.429	104 5.0

52	4.2	10	4.80	5	4.333
71	4.125	92	4.80	65	4.333
96	4.0	84	4.714	111	4.333
84	4.0	54	4.429	92	4.250
5	3.6	96	4.389	71	4.143
78	3.33	5	4.250	54	4.143
3	3.25	71	4.188	100	4.000
95	3.0	61	4.143	61	4.000
115	2.5	65	4.143	25	3.750
100	1.5	78	4.000	80	3.667
		95	3.90	3	2.750
		3	3.222	115	2.50
		100	2.625	10	1.00
		115	2.250		

102	5.0
71	5.0
54	5.0
22	5.0
26	5.0
23	5.0
13	5.0
3	5.0
1	5.0
9	5.0
4	5.0
96	4.5
33	4.0
78	4.0
70	4.0
100	3.0
17	3.0
65	3.0
31	3.0
61	2.0
115	1.0

Note. Shaded boxes mark outlier schools.

Table 27c

Weaker Parent Involvement Schools / First Quartile

WPI School #	Teacher	Sample	Parent
30	4.5	4.889	4.5
65	4.33	4.143	4.33
71	4.125	4.188	4.143

5	3.6	4.25	4.33
3	3.25	3.22	4
95	3.0	3.9	4.5
115	2.5	2.25	3.75
100	1.5	2.625	4

Relationship of Factors and Categories of Parent

Involvement

Standard multiple regression analysis was used to analyze relationships between dependent variables and independent variables for stronger parent involvement schools (SPI), weaker parent involvement schools (WPI) and the sample (SMPL). The independent variables included in the multiple regression equation were factors thought to influence parent involvement, i.e., f23...f65 from the survey instrument. The dependent variables considered in separate multiple regression equations were: (a) Co-Communication (CC), (b) Co-Support (CS), (c) Co-Decision Making (CD), (e) Co-Teaching (CT), (f) Co-Learning (CL), and (g) the overall rating of parent involvement (OV). Standard multiple regression analysis was selected as a statistical procedure since it allows the researcher to identify the relative contributions of independent

variables to the prediction of a dependent variable. With standard multiple regression, each independent variable included in a multiple regression equation is assigned a regression coefficient (Beta) which quantifies its contribution to the prediction of the dependent variable. For example, the multiple regression equation for Overall Parent Involvement for Strong Parent Involvement schools would read as follows: $SPI.OV = a$ (error) + b_1 (beta, i.e., weight for the factor) $SPI.f23$ (factor 23 for SPI schools) + b_2 (beta for the factor) $SPI.f24$ (factor 24 for SPI schools) + b_n (beta for the factor) $SPI.f65$ (factor 65 for SPI schools. Each Beta is assigned an alpha level indicating its level of statistical significance. For this analysis, $p < .05$ was considered statistically significant. Table 28 lists the multiple regression equations which were analyzed for Strong Parent Involvement (SPI), Weak Parent Involvement (WPI) and Sample Schools (SMPL).

Table 28

Multiple Regression Equations

1) $SPI.OV = a + b_1(SPI.f23) + b_2(SPI.f24) \dots + b_n(SPI.f65)$

- 2) $SPI.CC = a + b_1(SPI.f23) + b_2(SPI.f24) \dots + b_n(SPI.f65)$
- 3) $SPI.CD = a + b_1(SPI.f23) + b_2(SPI.f24) \dots + b_n(SPI.f65)$
- 4) $SPI.CT = a + b_1(SPI.f23) + b_2(SPI.f24) \dots + b_n(SPI.f65)$
- 5) $SPI.CL = a + b_1(SPI.f23) + b_2(SPI.f24) \dots + b_n(SPI.f65)$
- 6) $SPI.CS = a + b_1(SPI.f23) + b_2(SPI.f24) \dots + b_n(SPI.f65)$
- 7) $WPI.OV = a + b_1(WPI.f23) + b_2(SWI.f24) \dots + b_n(WPI.f65)$
- 8) $WPI.CC = a + b_1(WPI.f23) + b_2(WPI.f24) \dots + b_n(WPI.f65)$
- 9) $WPI.CD = a + b_1(WPI.f23) + b_2(WPI.f24) \dots + b_n(WPI.f65)$
- 10) $WPI.CT = a + b_1(WPI.f23) + b_2(WPI.f24) \dots + b_n(WPI.f65)$
- 11) $WPI.CL = a + b_1(WPI.f23) + b_2(WPI.f24) \dots + b_n(WPI.f65)$
- 12) $WPI.CS = a + b_1(WPI.f23) + b_2(WPI.f24) \dots + b_n(WPI.f65)$
- 13) $SMPLOV = a + b_1(SMPLf23) + b_2(SMPLf24) \dots + b_n(SMPLf65)$
- 14) $SMPLCC = a + b_1(SMPLf23) + b_2(SMPLf24) \dots + b_n(SMPLf65)$
- 15) $SMPLCD = a + b_1(SMPLf23) + b_2(SMPLf24) \dots + b_n(SMPLf65)$
- 16) $SMPLCT = a + b_1(SMPLf23) + b_2(SMPLf24) \dots + b_n(SMPLf65)$
- 17) $SMPLCL = a + b_1(SMPLf23) + b_2(SMPLf24) \dots + b_n(SMPLf65)$
- 18) $SMPLCS = a + b_1(SMPLf23) + b_2(SMPLf24) \dots + b_n(SMPLf65)$

Data obtained from the multiple regression analyses were organized in several ways to assist interpretation. APPENDIX J contains complete regression summaries for each analysis. APPENDIX K contains tables comparing stronger parent involvement

schools, weaker parent involvement schools and the sample across categories of parent involvement. The tables in APPENDIX L show a comparison of stronger parent involvement schools, weaker parent involvement schools and the sample schools for the five categories of parent involvement.

In the following sections, multiple regression analysis data are presented separately for stronger parent involvement schools (SPI), weaker parent involvement schools (WPI) and the sample (SMPL).

Stronger Parent Involvement Schools.

Schools ranking in the fourth quartile, when rank ordered by school mean overall parent involvement rating, are considered stronger parent involvement schools (SPI).

For the analysis of SPI.OV, the multiple regression equation was significant at $p < .05$. The multiple correlation coefficient $R = .765$. Table 29 identifies independent variables making significant contributions to the prediction of high overall rating of parent involvement in strong parent involvement schools. Items f42, f26, and f25 are positively

related to SPI.OV. The standardized regression coefficients (Betas) for independent variables f42 and f26 are statistically significant at $p < .05$.

Table 29

Multiple Regression Analysis: SPI Overall Rating

Dep. Var. : SPI.OV		Multiple R: .765	$p < .019$
item	Beta	Independent Variable	
f42	.343*	Orientation sessions are held for parents	
f26	.325*	The teacher's willingness to involve parents	
f25	.266	The school district's goals for parent involvement	

* significant at $p < .05$

For the analysis of SPI.CC (see Table 30) the multiple regression equation is significant at $p < .00592$, and $R = .751$. Independent variables contributing significantly to the prediction of Co-Communications in strong parent involvement schools are identified as survey items: (a) f60, (b) f46, (c) f55, (d) f25, and (e) f27. Variables f60, f46, f55, and f25 are positively related to Co-Communications. Variable f27, having a negative Beta, has a significant inverse relationship with the dependent variable, i.e., as a principal's experience decreases, Co-Communications

increases.

Table 30

Multiple Regression Analysis: SPI Co-Communications

Dep. Var. : SPI.CC		Multiple R: .751	$p < .006$
item	Beta	Independent Variable	
f60	.619*	Teachers' communication skills	
f46	.465*	The principal's public statements about parent involvement	
f55	.302	The principal's working relationship with the school's parent organization	
f25	.263*	The school district's goals for parent involvement	
f27	-.396*	The principal's experience in education	

* significant at $p < .05$

In the analysis of SPI.CS (see Table 31) $p < .494$ for the multiple regression equation, and $R = .631$. Overall, as indicated by the p -level, this set of independent variables is not more useful for predicting Co-Support than predicting Co-Support by chance alone. Even though the overall combination of these variables do not predict Co-Support, several of the independent variables were found to contribute significantly to the prediction of Co-Support in strong parent involvement schools: (a) f48, (b) f60, (c) f56, and (d) f65. Variables f56 and f65 were found to be

significant at $p < .05$. The negative contributions of these variables, to the prediction of the independent variable, suggests that Co-Support does not rely on communications from the principal or on the structure of the school to increase in frequency.

Table 31

Multiple Regression Analysis: SPI Co-Support

Dep. Var. : SPI.CS		Multiple R: .631	$p < .494$
item	Beta	Independent Variable	
f48	.367	The principal's willingness to meet informally with parents	
f60	.317	Teachers' communication skills	
f56	-.338*	The school's method of organizing for instruction	
f65	-.349*	Communications from the principal's office to parents	

* significant at $p < .05$

For the analysis of SPI.CD the multiple regression equation is significant at $p < .03580$, and $R = .721$ (see Table 32). Independent variables contributing most to the prediction of Co-Decision Making in strong parent involvement schools are: (a) f60, (b) f48, (c) f35, (d) f57, (e) f41, (f) f36, and (g) f59. Variables f36 and f41 are significant at $p < .05$, and variables f59 and f60 are significant at $p < .005$. The negative

contributions of variables f36, f41, and f59 to the prediction of the independent variable suggest that in schools where parent involvement is strong, respondents consider the use of electronic mail, parents' prior school experiences and the school's activity schedule to be detrimental to increases in Co-Decision Making.

Table 32

Multiple Regression Analysis: SPI Co-Decision Making

Dep. Var. : SPI.CD		Multiple R: .721	$p < .036$
item	Beta	Independent Variable	
f60	.728*	Teachers' communication skills	
f48	.308	The principal's willingness to meet informally with parents	
f41	-.296*	Parent's satisfaction with prior school experiences	
f36	-.322*	Availability of electronic mail	
f59	-.509*	The school's activity schedule	

* significant at $p < .05$

For the analysis of SPI.CT the multiple regression equation is significant at $p < .02342$, and $R = .736$ (see Table 33). Independent variables contributing most to the prediction of Co-Teaching in strong parent involvement schools are: (a) f57, (b) f62, (c) f40, (d) f52, and (e) f53. Variables f52, f53, and f57 are

significant at $p < .05$. Variable f53, having a negative beta, has an inverse relationship with SPI.CT, i.e., as f53 is perceived to be more influential, SPI.CT decreases.

Table 33

Multiple Regression Analysis: SPI Co-Teaching

Dep. Var. : SPI.CT		Multiple R: .736	$p < .023$
item	Beta	Independent Variable	
f57	.5*	The principal's annual evaluation of parent involvement within the school	
f62	.377	The teacher's training for working with parents	
f40	.31	Teachers' interpersonal skills	
f52	.26*	Class size or pupil/teacher ratio	
f53	-.277*	Telephones are readily available for staff use	

* significant at $p < .05$

For the analysis of SPI.CL (see Table 34) the multiple regression equation is significant at $p < .037$, and $R = .732$. Independent variables contributing most to the prediction of SPI.CL are: (a) f60, (b) f57, (c) f45, (d) f62, and (e) f64. Variables f60, f64, and f57 are significant at $p < .05$. Variable f64, having a negative beta, has an inverse relationship with SPI.CL, i.e., as the importance of f64 for parent involvement

is perceived to increase, SPI.CL decreases.

Table 34

Multiple Regression Analysis: SPI Co-Learning

Dep. Var. : SPI.CL		Multiple R: .732	$p < .037$
item	Beta	Independent Variable	
f60	.611*	Teachers' communication skills	
f57	.556*	The principal's annual evaluation of parent involvement within the school	
f45	.398	The principal's interest in building parent involvement.	
f62	.374	The teacher's training for working with parents.	
f64	-.392*	Teachers follow through with suggestions made to parents	

* significant at $p < .05$

Weaker parent involvement schools.

Schools which ranked in the first quartile, when school mean overall parent involvement ratings were rank ordered, were considered weaker parent involvement schools. For the analysis of WPI.OV the multiple regression equation was highly significant at $p < .001$, and $R = .938$. Independent variables contributing most to the prediction of overall rating of parent involvement in weaker parent involvement schools are shown in Table 35.

Table 35

Multiple Regression Analysis : WPI Overall Rating

Dep. Var. : WPI.OV		Multiple R: .938	$p < .001$
item	Beta	Independent Variable:	
f49	.776*	The school's goals for parent involvement	
f38	.527*	The teacher's flexibility for meeting with parents	
f37	.442*	Budgetary provisions for parent involvement	
f62	.436*	The teacher's training for working with parents	
f59	.253*	The school's activity schedule	
f23	.221*	Parents' knowledge of the curriculum	
f50	-.4*	The school recognizes parents for their involvement	
f25	-.41*	The school district's goals for parent involvement	
f45	-.5*	The principal's interest in building parent involvement	

* significant at $p < .05$

Variables f49, f38, f37, f62, f37, f62, and f59 are positively related to the overall rating of parent involvement in weaker parent involvement schools. Therefore, among WPI schools, as these factors increase, WPI.OV increases. Variables f50, f25, and f45 are inversely related to the dependent variable. As the rating of their degree of influence decreases, WPI.OV increases.

In the analysis of WPI.CC, $p < .069$ for the

multiple regression equation, and $R = .808$ (see Table 36). Overall, as indicated by the p - level, this set of independent variables cannot be used to effectively predict Co-Communications to a degree greater than would be expected by chance alone. Even so, individual independent variables contributing significantly to the prediction of Co-Communications in weaker parent involvement schools are identified in Table 36.

Table 36

Multiple Regression Analysis: WPI Co-Communications

Dep. Var. : WPI.CC		Multiple R: .808	$p < .069$
item	Beta	Independent Variable	
f61	.477	The principal's training for working with parents	
f60	.434	Teachers' communication skills	
f24	-.337*	The principal's expectations for teachers in regard to involving parents	
f54	-.502*	The principal's receptivity to opinions and suggestions from parents	
f63	-.607*	Parents' familiarity with the school	

* significant at $p < .05$

Independent variables, which may be the best predictors of Co-Communications in WPI schools, are f24, f54, and f63. The negative value of the Beta for each indicates that an inverse relationship exists with the dependent

variable. Therefore, as the influence of the independent variable decreases, the dependent variable increases.

In the analysis of WPI.CD, $p < .444$ for the multiple regression equation, and $R = .751$ (see Table 37). Independent variable f50 was identified as the strongest predictor for WPI.CD. Having an inverse relationship with the dependent variable, as the degree of influence placed on a school's recognition of parents for their involvement decreases, Co-Decision Making increases.

Table 37

Multiple Regression Analysis: WPI Co-Decision Making

Dep. Var. : WPI.CD		Multiple R: .7506	$p < .444$
item	Beta	Independent Variable	
f49	.375	The school's goals for parent involvement	
f27	.353	The principal's experience in education	
f50	-.666*	The school recognizes parents for their involvement	

* significant at $p < .05$

For the analysis of WPI.CS, $p < .351$ for the multiple regression equation, indicating this set of independent variables is not useful for the prediction

of WPI.CS (see Table 38). The multiple correlation coefficient $R = .7539$, is too weak, given the sample size, to display a statistically significant relationship between the dependent variable and the set of independent variables used in the model. Independent variables contributing significantly to the prediction of Co-Support in weaker parent involvement schools are f55 and f23. Their relationship with the dependent variable is positive, indicating that as they increase so too, does WPI.CS.

Table 38

Multiple Regression Analysis: WPI Co-Support

Dep. Var. : WPI.CS		Multiple R: .7539	$p < .351$
item	Beta	Independent Variable	
f55	.509*	The principal's working relationship with the school's parent organization	
f23	.422*	Parents' knowledge of the curriculum	
f46	.382	The principal's public statements about parent involvement	

* significant at $p < .05$

For the analysis of WPI.CT, $p < .473$ for the multiple regression equation indicating this set of variables is not useful for the prediction of WPI.CT (see Table 39). The multiple correlation coefficient R

= .752, indicating considerable variance is unexplained. Independent variable f23 is the best predictor. As parents' knowledge of the curriculum increases, Co-Teaching increases.

Table 39

Multiple Regression Analysis: WPI Co-Teaching

Dep. Var. : WPI.CT		Multiple R: .752	$p < .473$
item	Beta	Independent Variable	
f23	.666*	Parents' knowledge of the curriculum	
f48	.462	The principal's willingness to meet informally with parents	

* significant at $p < .05$

For the analysis of WPI.CL, $p < .832$ for the multiple regression equation indicating this set of independent variables is not useful for the prediction of WPI.CL (see Table 40). The multiple correlation coefficient $R = .709$, indicating considerable variance is left unexplained. The independent variable with the greatest predictability for WPI.CL is f23. As parents' knowledge of the curriculum increases, Co-Learning is thought to increase.

Table 40

Multiple Regression Analysis: WPI Co-Learning

Dep. Var. : WPI.CL		Multiple R: .709	$p < .832$
item	Beta	Independent Variable	
f23	.545*	Parents' knowledge of the curriculum	
f28	.43	Parents have the opportunity to choose their child's school	

* significant at $p < .05$

Sample schools.

A description of the sample schools will be useful when comparing SPI and WPI schools. For the analysis of SMPL.OV the multiple regression equation is highly significant at $p < .001$, suggesting this set of independent variables is useful for the prediction of SMPL.OV (see Table 41). The multiple correlation coefficient $R = .5956$. It might be helpful to note here that the analyses of the sample produced lower multiple R's which were significant. The reason is that more schools were involved in the analysis of the sample than with the analysis of SPI or WPI schools. Several independent variables were found to have Betas significant at $p < .05$ and are therefore useful in predicting SMPL.OV. Variables f38, f26, f27, f55, f49,

and f44 are positively related to SMPL.OV. As their perceived degree of influence increases, so too does the rating of SMPL.OV. The Beta assigned to variable f39 is negative and therefore an inverse relationship exists with the dependent variable. As the degree of influence of the principal's interpersonal skill is perceived to decrease, SMPL.OV increases.

Table 41

Multiple Regression Analysis: SMPL.OV

Dep. Var. : SMPL.OV		Multiple R: .5956	$p < .001$
item	Beta	Independent Variable	
f38	.186*	The teacher's flexibility for meeting with parents	
f26	.158*	The teacher's willingness to involve parents	
f27	.151*	The principal's experience in education	
f55	.149*	The principal's working relationship with the school's parent organization	
f49	.133*	The school's goals for parent involvement	
f44	.083*	Teachers' persistence in holding parents accountable	
f39	-.151*	The principal's interpersonal skills	

* significant at $p < .05$

For the analysis of SMPL.CC the multiple regression equation is highly significant at $p < .001$ indicating this set of independent variables has strong

predictability for SMPL.CC (see Table 42). The multiple correlation coefficient $R = .457$. As indicated in Table 42, several independent variables have significant Beta coefficients and are therefore strong predictors of SMPL.CC. The relationship of variables f27, f60, f56, and f64 to SMPL.CC is positive, and therefore as the degree to which they are perceived to influence parent involvement increases, so too, does SMPL.CC. Variables f59 and f63 are inversely related to the dependent variable. As the degree of influence attributed to the school's activity schedule towards parent involvement decreases, SMPL.CC increases, and as the degree of influence attributed to the influence of parents familiarity with the school decreases, SMPL.CC increases.

Table 42

Multiple Regression Analysis SMPL Co-Communications

Dep. Var. : SMPL.CC		Multiple R: .457	$p < .001$
item	Beta	Independent Variable	
f27	.172*	The principal's experience in education	
f60	.132*	Teachers' communication skills	
f56	.094*	The school's method of organizing for instruction	

f64	.127*	Teachers follow through with suggestions made to parents
f59	-.093*	The school's activity schedule
f63	-.151*	Parents' familiarity with the school

* significant at $p < .05$

For the analysis of SMPL.CD the multiple regression equation is highly significant at $p < .001$, and $R = .383$ (see Table 43). Variables f27 and f32 are positively related to the dependent variable; therefore, as their degree of influence toward SMPL.CD increases so too, does SMPL.CD. Betas assigned to variables f29 and f55 are also significant. Having a negative value, these variable are inversely related to the dependent variable. As the degree of influence attributed the school's written guidelines for parent involvement decreases, SMPL.CD increases. As the degree of influence attributed to the principal's working relationship with the school's parent organization toward parent involvement decreases, SMPL.CD increases.

Table 43

Multiple Regression Analysis SMPL Co-Decision Making

Dep. Var. : SMPL.CD		Multiple R: .383	$p < .001$
item	Beta	Independent Variable	
f27	.118*	The principal's experience in education	
f32	.117*	Assigning each student an advisor	
f29	-.106*	The school's written guidelines for parent involvement	
f55	-.123*	The principal's working relationship with the school's parent organization	

* significant at $p < .05$

For the analysis of SMPL.CS the multiple regression equation is highly significant at $p < .001$ (see Table 44). The multiple correlation coefficient $R = .409$. Variables f36, f27, f23, f38, and f50 are positively related to SMPL.CS; therefore, as their degree of perceived influence for parent involvement increases SMPL.CS increases. Variables f35, f40, f53, and f54 are inversely related to SMPL.CS. As their degree of perceived influence decreases, SMPL.CS increases.

Table 44

Multiple Regression Analysis SMPL Co-Support

Dep. Var. : SMPL.CS		Multiple R: .409	$p < .001$
item	Beta	Independent Variable	
f36	.173*	Availability of electronic mail	
f27	.145*	The principal's experience in education	
f23	.143*	Parents' knowledge of the curriculum	
f38	.132*	The teacher's flexibility for meeting with parents	
f50	.11*	The school recognizes parents for their involvement	
f53	-.085*	Telephones are readily available for staff use	
f35	-.146*	Communications equipment	
f54	-.183*	The principal's receptivity to opinions and suggestions from parents	
f40	-.212*	Teachers' interpersonal skills	

* significant at $p < .05$

For the analysis of SMPL.CT the multiple regression equation is significant at $p < .001$ (see Table 45). The multiple correlation coefficient $R = .359$. Independent variables f27, f38, f23, and f32 are positively related to SMPL.CT, indicating that as they increase, so too does SMPL.CT. Variable f37, having a Beta with a negative value, has an inverse relationship with the dependent variable. As the degree of influence attributed to parent involvement from

budgetary provisions for parent involvement decreases,
SMPL.CT increases.

Table 45

Multiple Regression Analysis SMPL Co-Teaching

Dep. Var. : SMPL.CT		Multiple R: .359	$p < .001$
item	Beta	Independent Variable	
f27	.215*	The principal's experience in education	
f38	.157*	The teacher's flexibility for meeting with parents	
f23	.154*	Parents' knowledge of the curriculum	
f32	.109*	Assigning each student an advisor	
f37	-.109*	Budgetary provisions for parent involvement	

* significant at $p < .05$

For the analysis of SMPL.CL (see Table 46) the multiple regression equation is significant at $p < .001$, and $R = .413$. This analysis yielded no independent variables with Betas significant at $p < .05$. Of the entire set of variables, f27 and f23 were found to be the best predictors of SMPL.CL.

Table 46

Multiple Regression Analysis SMPL Co-Learning

Dep. Var. : SMPL.CL		Multiple R: .413	$p < .001$
item	Beta	Independent Variable	
f27	.185	The principal's experience in education	
f23	.148	Parents' knowledge of the curriculum	

* significant at $p < .05$

Comparison of Principals' Experience in Education and
School Enrollment

This section examines data pertaining to principals' experience in education and school enrollment. Discriminant function analysis was used to identify independent variables pertaining to years of experience and school enrollment which may be useful for discriminating between SPI and WPI schools.

Principals responded to four survey items inquiring about their experience in education (see Tables 47 and 47a). Data pertaining to school enrollment were obtained from the Pennsylvania Department of Education (see Table 47b). While the primary intent of this analysis was to identify differences between SPI and WPI schools, a description of the more "average" schools, i.e., second and third

quartile schools, will provide a reference point for comparisons. Therefore, in the following sections API will denote sample schools which are not outlier schools.

To determine if principals' experience in education or a school's enrollment serve to discriminate between SPI and WPI schools, the following variables were analyzed using discriminant function analysis: (a) principals' background information item A (PRBIA), (b) PRBIB, (c) PRBIC, (d) PRBID, and (e) school enrollment (see Table 48).

Table 47

Survey Items: Principals' Experience in Education

<u>Variable:</u>	<u>Question:</u>
PRBIA	For how many years have you worked in education?
PRBIB	How many years do you have in middle grade education?
PRBIC	How many years of experience do you have in administration?
PRBID	For how many years have you been principal of this middle grade school?

Table 47a

Principals' Years of Experience

	PRBIA	PRBIB	PRBIC	PRBID
WPI N=8	M = 23 SD = 5.9	M = 18.8 SD = 8.88	M = 12.6 SD = 7.6	M = 7.3 SD = 6.4
SPI N=9	M = 24.3 SD = 3.7	M = 13.7 SD = 6.4	M = 12.8 SD = 5.4	M = 4.4 SD = 3.02
API N=45	M = 24.2 SD = 5.4	M = 12.2 SD = 7.5	M = 12.2 SD = 7.3	M = 5.2 SD = 5.2
SMPL N=62	M = 24.07 SD = 5.2	M = 13.24 SD = 7.7	M = 12.31 SD = 6.9	M = 5.4 SD = 4.3

Table 47b

School Enrollment

	ENROLLMENT
SPI	M = 722 SD = 169 N = 9
WPI	M = 685 SD = 146 N = 8
API	M = 722 SD = 235 N = 45
SMPL	M = 717 SD = 215 N = 62

An initial discriminant function analysis was conducted to determine which of the five independent variables would be useful to predict differences between three grouping variables, i.e., SPI, WPI, and

API schools. The model resulting from this analysis (see Table 48) was not useful for discriminating between the three groups. In discriminant function analysis Wilks' lambda is the standard statistic used to denote statistical significance of the discriminatory power of the model. Its value ranges from 1.0 (no discriminatory power) to 0.0 (perfect discriminatory power). The partial lambda score for each independent variable indicates its usefulness to discriminate differences in a particular model.

Table 48

Discriminant Function Analysis Model One

Discriminant Analysis	Discriminant Function Analysis Summary No. Variables in model; 5; Grouping: (3 groups)	
N = 62	Wilks' Lambda: .85693 $p < .5515$	
	Partial Lambda	p-level
PRBIA	0.970523	0.439195
PRBIB	0.923646	0.112565
PRBIC	0.994921	0.869337
PRBID	0.966001	0.386266
ENROLLMENT	0.994351	0.855736

Since four of the independent variables are somewhat related, i.e., they involve principals' background experiences, a second model was developed

using only PRBIA, PRBIB, PRBIC, and PRBID as independent variables and SPI, WPI, and API as grouping variables. The analysis of this model (see Table 49) indicates it is not useful for discriminating differences between the three groups.

Table 49

Discriminant Function Analysis Model Two

Discriminant Analysis	Discriminant Function Analysis Summary No. Variables in model; 4; Grouping: (3 groups)	
N = 62	Wilks' Lambda: .86179 $p < .3817$	
	Partial Lambda	p-level
PRBIA	.967462	.396049
PRBIB	.923701	.108362
PRBIC	.995133	.872312
PRBID	.968823	.411946

Since the primary objective was to identify differences between SPI and WPI schools, a third model was developed using only outlier schools to discriminate differences for the five independent variables (see Table 50). It is important to note that the number of schools involved has been substantially reduced at this point, i.e., SPI; N = 9 and WPI; N = 8. While overall the third analysis was not significant at $p < .05$, significant alpha levels were found for

independent variables PRBIA and PRBIB, indicating they may be useful to discriminate between the two groups. The results of this analysis indicate that the variable school enrollment has the least discriminatory power, as indicated by a Partial lambda = .97796, and since it is not related to the other independent variables, it was eliminated from the model.

Table 50

Discriminant Function Analysis Three: Outlier Schools

Discriminant Analysis	Discriminant Function Analysis Summary No. Variables in model; 5; Grouping: (2 groups)	
N = 17	Wilks' Lambda: .46180 $p < .0897$	
	Partial Lambda	p-level
PRBIA	.658333	.035904
PRBIB	.618204	.024412
PRBIC	.967085	.553059
PRBID	.944129	.436869
ENROLL	.977796	.627072

A fourth discriminant function analysis was computed after enrollment was removed as an independent variable, and as shown in Table 51 the overall model is significant at $p < .0462$. The Wilks' lambda = .47228 indicates the model is able to discriminate for the two grouping variables; SPI and WPI schools. Variables

PRBIA and PRBIB are significant at $p < .05$ indicating they may be useful to discriminate between SPI and WPI schools.

Table 51

Discriminant Function Analysis Four: Outlier Schools by Principals' Experience

Discriminant Analysis	Discriminant Function Analysis Summary No. Variables in model; 4; Grouping: (2 groups)	
N = 17	Wilks' Lambda: .47228 $p < .0462$	
	Partial Lambda	p-level
PRBIA	.586075	.013051
PRBIB	.594118	.014268
PRBIC	.940785	.401848
PRBID	.962531	.507293

Referring back to Table 47a, when examining mean scores for principals' years of experience for SPI and WPI schools for variables PRBIA and PRBIB, relationships can be found. Care must be taken when interpreting these data because, as indicated by the standard deviations, these data are quite variable especially for WPI schools. The relationships between variables PRBIA and PRBIB for SPI and WPI schools suggests that a higher PRBIA and lower PRBIB profile a

SPI school and a high PRBIA and high PRBIB profile a WPI school. Therefore, these data suggest that in SPI schools principals on average have more years of experience than the average principal of a WPI school while, on average, they have fewer years of experience in middle grade education than principals of WPI schools.

Comparison of Grade Configuration

Earlier in this chapter the population, sample and set of responding schools were compared in terms of grade configuration. It was concluded that there were no statistically significant differences between the groups in terms of their relative makeup (see Table 7). In this section, the makeup of SPI, WPI and API schools are compared to the set of responding schools using Chi-square analysis. An alpha level of $p < .05$ will be used to denote statistical significance.

As indicated in Table 52, 67% of SPI schools have the configuration (6,7,8) compared to 38% of WPI schools. It is also noteworthy that 63% of WPI schools are configured (7,8) and (7,8,9) compared to 11% of the SPI schools, 31% of the API schools, and 32% of the

responding schools (RESP SCH). Chi-square analysis was used to compare the makeup of the groups to determine if the differences are statistically significant.

Table 52

Grade Configuration of Schools

	SPI N=9	WPI N=8	API N=45	RESP SCH N=62
GRDCNF 5,6,7	0	0	1 : 2%	1 : 2%
GRDCNF 5,6,7,8	2 : 22%	0	6 : 13%	8 : 13%
GRDCNF 6,7	0	0	2 : 4%	2 : 3%
GRDCNF 6,7,8	6 : 67%	3 : 38%	19 : 42%	28 : 45%
GRDCNF 6,7,8,9	0	0	3 : 7%	3 : 5%
GRDCNF 7,8	0	2 : 25%	6 : 13%	8 : 13%
GRDCNF 7,8,9	1 : 11%	3 : 38%	8 : 18%	12 : 19%

Table shows number of schools in category having the grade span and the percentage for the group.

Table 52a

Chi-square Analysis for Grade Configuration

Observed vs. Expected	df	Chi-square	alpha
SPI / Responding Schools	6	43.1955	$p < .001$
WPI / Responding Schools	6	53.0838	$p < .001$
API / Responding Schools	6	1.54	$p < .9566$

The results of the Chi-square analyses indicate that statistically significant differences exist between the makeup of the set of responding schools and

the sets of SPI and WPI schools (Table 52a). The difference between API schools and the set of responding schools was not found to be significantly different indicating that schools in the second and third quartiles are similar in makeup to the set of responding schools. When the results of Chi-square analysis for SPI and RESP schools were examined, the differences noted, between the observed and expected frequencies, for the strata (5,6,7,8), (6,7,8), and (7,8,9) contribute to the significant difference. The examination of the results of the Chi-square analysis for WPI schools and the set of responding schools shows that differences in the strata (7,8), (7,8,9), and (6,7,8) contribute to the statistically significant difference between the groups.

School Type

Earlier in this chapter, Table 7 was used to compare the population, sample and responding schools from the sample by school type, i.e., percentage of schools in each grouping which are middle schools, junior high schools or intermediate schools. It was observed that the percentages across the groupings were

very similar for each school type. Table 53 shows that there are differences in the percentages of the types of schools which make up the SPI and WPI groups of schools. Eight of the nine schools in the SPI grouping are titled middle school (89%) while three of the eight schools in the grouping WPI are titled middle schools (38%). For the title junior high school, none of the SPI schools have this title and five of the eight WPI schools are titled junior high school. These percentages, describing the makeup of the outlier schools, are dissimilar to the percentages describing the makeup of the set of responding schools. The reader is reminded that it has already been determined that the set of responding schools is similar to the sample and population. Chi-square analysis was used to determine if the differences noted in the makeup of SPI and WPI are statistically significant when compared to the set of responding schools.

Table 53

School Type

	SPI N=9	WPI N=8	API N=45	RESP SCH N=62
SCHTP MS	8 : 89%	3 : 38%	36 : 80%	47 : 76%
SCHTP JHS	0	5 : 63%	9 : 20%	14 : 22%
SCHTP IS	1 : 11%	0	0	1 : 2%

Table shows number of schools in category having a specific title and the percentage for the group.

Table 53a

Chi-square Analysis for School Type

Observed vs. Expected	df	Chi-square	alpha
SPI / Responding Schools	2	79.64	$p < .001$
WPI / Responding Schools	2	79.64	$p < .001$
API / Responding Schools	2	2.136	$p < .3436$

The results of Chi-square analysis indicate that statistically significant differences exist between the observed versus expected frequencies for the set of responding schools and the SPI and WPI groups. The comparison of the API schools and the set of responding schools did not result in a finding that these groups are significantly different in makeup.

Principals' Certification

The survey instrument completed by principals

requested information on professional certification. Five specific areas of certification were listed (see Table 54), and space was provided for respondents to note other areas. When SPI, WPI, and SMPL were compared for the area of guidance certification, 33% of the principals of SPI schools were found to have guidance certification compared to 0% of the principals in WPI schools and 6% of the principals in the SMPL. For the set of SPI schools, 44% of the principals have elementary principal certification compared to 25% of the principals in WPI schools and 16% of the principals in the SMPL. Chi-square analysis was used to compare the makeup of the groups to determine if the differences are statistically significant (Table 54a). Statistically significant differences were found between observed and expected frequencies when SPI and WPI schools were compared to the set of responding schools.

Table 54

Principals' Areas of Certification

Areas of Certification	SPI N = 9	WPI N = 8	API N = 45	RESP SCH N = 62
Elementary Teacher	2 22%	2 25%	6 13%	10 16%
Elementary Principal	2 44%	2 25%	19 42%	25 40%
Guidance	3 33%	0	1 2%	4 6%
Secondary Teacher	6 67%	7 88%	35 78%	48 77%
Secondary Principal	8 88%	7 88%	42 93%	57 92%

Percentages do not equal 100% since principals may have duplicate certification.

Table 54a

Chi-square Analysis for Principals' Certification

Observed vs Expected	df	Chi-square	alpha
SPI / Responding Schools	4	125.6226	$p < .001$
WPI / Responding Schools	4	18.433	$p < .001018$
API / Responding Schools	4	3.353	$p < .501$

Similarities and Differences of SPI and WPI Schools

This section will identify similarities and differences between SPI and WPI schools. For each variable, characteristics of SPI schools will be described followed by a description of similarities, differences and observations in comparison to WPI

schools. Appendices K and L contain tables which provide a comprehensive comparison of SPI and WPI schools.

Overall rating of parent involvement.

For SPI schools, independent variables which were identified using standard multiple regression analysis as useful for predicting the overall rating of parent involvement are: (a) f42: orientation sessions are held for parents, (b) f26: the teacher's willingness to involve parents, and (c) f25: the school district's goals for parent involvement. These factors were not identified as useful predictors for WPI.OV and therefore may discriminate for SPI schools. For SPI.OV, f25 was assigned a Beta = .266 and for WPI.OV its Beta = -.41. Therefore, f25 may be particularly useful for discriminating overall parent involvement.

Co-Communications.

Variables having a positive correlation to the prediction of Co-Communications in SPI schools, as identified by standard multiple regression analysis, are: (a) f60: teachers' communications skills; (b) f46:

the principal's public statements about parent involvement; (c) f55: The principal's working relationship with the school's parent organization; and (d) f25: the school district's goals for parent involvement. Variable f27: the principal's experience in education was found to have a significant but negative Beta; therefore, higher levels of Co-Communications appear to be associated with fewer years of experience in middle grade education. For WPI schools, the set of variables was not found to be useful for the prediction of Co-Communications; however, several specific factors were found to have betas significant at $p < .05$: (a) f24, (b) f54 and (c) f63. The Betas for these three factors have a negative value indicating they have an inverse relationship with WPI.CC. Factors which were not significant at $p < .05$, but which are the strongest positive predictors for WPI.CC are: (a) f60, (b) f46 and (c) f55. For WPI.CC the beta for f27 = .286. Therefore, f55 and f25 may be considered discriminating factors for SPI schools.

Co-Support.

Variables found to be the best predictors of Co-

Support for SPI schools, as determined by standard multiple regression analysis, are: (a) f48: the principal's willingness to meet informally with parents, (b) f60: teachers' communications skills, and (c) f23: parents' knowledge of the curriculum. In the analysis of WPI schools, f23 and f48 were found to make positive contributions for Co-Support. Factor f56: the school's method of organizing for instruction was assigned a Beta = $-.338$ for SPI schools and a Beta = $-.315$ for WPI schools. Therefore, f60 may be thought to discriminate for SPI schools, while f56 does not appear to discriminate between SPI and WPI schools.

Co-Decision Making.

For SPI schools factors: (a) f60: teachers' communication skills and (b) f48: the principal's willingness to meet informally with parents were found to predict for Co-Decision Making using standard multiple regression analysis. For WPI schools, the best predictor is factor f50: the school recognizes parents for their involvement, where the Beta = $-.666$ was significant at $p < .05$. For WPI.CD, f40: teachers' interpersonal skills, was assigned the strongest

positive beta = .375. For SPI.CD, f40 was assigned a beta = -.147. Therefore, f60 and f48 may be considered to be factors which discriminate for SPI schools.

Co-Teaching.

Factors identified by standard multiple regression analysis as useful for predicting for SPI.CT are: (a) f57: the principal's annual evaluation of parent involvement within the school, (b) f62: the teacher's training for working with parents, (c) f40: teachers' interpersonal skills, and (d) f52: class size or pupil teacher ratio. For WPI.CT, f23: parents' knowledge of the curriculum was assigned a Beta which was significant at $p < .05$. Therefore, f57, f62, and f40 may be considered to discriminate for SPI schools.

Co-Learning.

For SPI schools, variables found, through standard multiple regression analysis, to be the best predictors of Co-Learning are: (a) f60: teachers' communication skills and (b) f57: the principal's annual evaluation of parent involvement. For WPI schools factor f23: parents' knowledge of the curriculum was identified as

the best predictor. Therefore, f60 and f57 may be considered as discriminating factors for SPI schools.

Principal's years of experience.

In SPI schools principals on average have more years of experience than principals of WPI schools while, on average, they have fewer years of experience in middle grade education.

Enrollment.

School enrollment was found not useful for the prediction of parent involvement.

Grade configuration.

More SPI schools have the grade configuration (6,7,8) than WPI schools. More WPI schools have the grade configurations (7,8) and (7,8,9) than SPI schools. The differences between observed and expected frequencies were found to be statistically significant using Chi-square analysis.

School title.

The title middle school is used by 89% of SPI

schools compared to 38% of the WPI schools. The title junior high school is used by 0% of the SPI schools and 63% of the WPI schools. When the makeup of the set of responding schools was compared to the makeup of the SPI and WPI schools using Chi-square analysis, statistically significant differences were noted.

Principal's certification.

When SPI, WPI, and SMPL schools are compared for the area of guidance certification held by the principal, 33% of the principals of SPI schools have guidance certification compared to 0% of the WPI schools and 6% of SMPL schools. For the set of SPI schools, 44% of the principals have elementary principal certification compared to 25% of the principals in WPI schools and 16% of SMPL schools.

Summary of Findings

The following section will present conclusions from the analysis of data in regard to the five research questions.

Research Question One

Research question one investigated the frequency by which different types of parent involvement occur in middle grade schools.

Examples perceived as occurring frequently are:

- 1) The school informs parents about programs and activities through newsletters, bulletins, or handbooks;
- 2) Parents are spectators at school events such as athletic events or musical performances;
- 3) School personnel and parents use phone calls or notes to share information or respond to questions;
- 4) Parents and teachers exchange information during conferences and back to school nights.

Examples of parent involvement which are perceived as occurring infrequently include:

- 1) Parents help teachers instruct in classrooms;
- 2) The school organizes home teaching activities for parents and children, e.g., home reading programs or family math activities;
- 3) Parents attend workshops to learn about the

curriculum.

By examining mean category scores for the sample and by comparing the sample to the rankings for all teachers, all parents and all principals, it was possible to draw the following conclusions. The categories Co-Communications and Co-Support rank first or second by the sample and by each group. Co-Teaching is ranked fourth by the sample and by teachers and principals individually. Co-Learning is ranked fifth by the sample, all principals, and all teachers.

Research Question Two

Research question two identified factors reported as having a positive influence on parent involvement in middle grade schools. Thirteen factors were rated by the sample as having a positive influence:

- 1) The principal's willingness to meet informally with parents;
- 2) Communications from the principal's office to parents;
- 3) The principal's working relationship with the school's parent organization;

- 4) Teachers' interpersonal skills;
- 5) The principal's philosophy of education;
- 6) The principal's interpersonal skills;
- 7) The principal's interest in building parent involvement;
- 8) Teachers' communications skills;
- 9) The teacher's experience in education;
- 10) Orientation sessions are held for parents;
- 11) The principal's experience in education;
- 12) Parent's comfort level when visiting the school;
- 13) The principal's policy in regard to meeting with parents.

Research Question Three

Research question three was designed to identify factors perceived to have a negative influence on parent involvement in middle grade schools. This analysis proved unproductive since no factor was rated in this range.

Research Question Four

Research question four was designed to answer the

question: Are there differences in the way parents, teachers and principals perceive parent involvement in middle grade schools? Two-way ANOVA was used to test the dependent variables: (a) overall rating of parent involvement; (b) the five categories of parent involvement, i.e., how frequently examples (matched to categories) are perceived to occur; and (c) factors thought to influence parent involvement were statistically different for the main effects grade configuration of the school and respondent type. For the overall rating of parent involvement, ANOVA resulted in a finding of significance for the main effect grade configuration of the school. For the main effect respondent group, no significance was found. For the category Co-Teaching, ANOVA identified significant differences, at the $p < .05$ level, between the perceptions of parent and teachers and principals and teachers. Parents and principals report that Co-Teaching practices occur more frequently than is reported by teachers.

For the category Co-Decision Making, ANOVA identified significant differences between the perceptions of parents and principals and between

principals and teachers. Parents' ratings were lower than the ratings of teachers and principals.

For the category Co-Communications, ANOVA identified significant differences, at the $p < .05$, between the ratings of parents and teachers, parents and principals and between principals and teachers. The parents' rating was less than the ratings of teachers and principals.

For the category Co-Learning, a significant difference was found, at $p < .05$, between the ratings of parents and teachers and between principals and parents, with the parents rating Co-Learning as occurring more frequently than teachers and principals.

Statistically significant differences were found between the perceptions of school personnel and parents in regard to how frequently practices of parent involvement are perceived to occur in middle grade schools. School personnel perceive parent involvement practices categorized as Co-Communications and Co-Decision Making as occurring more frequently than parents, and parents perceive practices categorized Co-Learning, Co-Teaching, and Co-Support, as occurring more frequently than do school personnel.

Statistically significant differences were found between the ratings provided by the respondent groups when asked for their perceptions as to the degree of influence various factors have on parent involvement in their middle grade school. Statistically different ratings were found between the responses provided by teachers and parents, teachers and principals and parents and principals. Most noteworthy is the observation that eleven ANOVA for responses of teachers and parents resulted in statistically significant results suggesting that teachers and parents possess different expectations and beliefs regarding parent involvement in middle grade schools.

Research Question Five

Research question number five sought to identify discriminating characteristics of SPI schools by answering the question: What factors differentiate stronger parent involvement schools from weaker parent involvement schools?

Previous analyses examined factors which may be useful to predict a specific type of parent involvement. Comparing the five categories of parent

involvement and the overall rating of parent involvement (see APPENDIX K), factors can be identified which appear as predictors for each category. Since these factors predict for each category of parent involvement, they may be considered discriminating factors for SPI schools.

Discriminating factors for SPI include:

- 1) f60: Teachers' communication skills;
- 2) f48: The principal's willingness to meet informally with parents;
- 3) f57: The principal's annual evaluation of parent involvement in the school;
- 4) f25: The school district's goals for parent involvement.

Additional factors found to predict for one or more categories of parent involvement for SPI schools which are noteworthy are:

- 1) f42: Orientation sessions are held for parents;
- 2) f62: The teacher's training for working with parents;
- 3) f55: The principal's working relationship with the school's parent organization;
- 4) f40: Teachers' interpersonal skills;

- 5) f26: The teacher's willingness to involve
parents;
- 6) f45: The principal's interest in building
parent involvement.

CHAPTER V

DISCUSSION AND CONCLUSIONS

The purpose of this study was to identify factors which parents, teachers, and middle grade school principals perceive as influencing parent involvement in middle grade schools. The study described the frequency with which examples and categories of parent involvement are perceived to occur, identified factors perceived as having a positive influence on parent involvement and identified and compared middle grade schools rated as having stronger and weaker parent involvement to identify discriminating characteristics of stronger parent involvement schools. Specifically, this study collected and analyzed data to answer the following questions:

- 1) With what frequency do different types of parent involvement occur in middle grade schools?
- 2) What factors are perceived to have a positive influence on parent involvement in middle grade schools?
- 3) What factors are perceived to have a negative

influence on parent involvement in middle grade schools?

- 4) Are there differences in the way parents, teachers, and principals perceive parent involvement in middle grade schools?
- 5) What factors differentiate stronger parent involvement schools from weaker parent involvement schools?

From a random sampling of middle grade schools in southeastern Pennsylvania, sixty-two middle grade schools submitted surveys from the principal and at minimum two teachers and two parents. The survey instrument used Likert-like response scales to collect perceptions concerning the frequency by which examples of parent involvement occur, the overall rating of parent involvement and the degree of influence specific factors are perceived to have on parent involvement. Outlier schools were identified and compared. The data were analyzed using: (a) ANOVA, to compare mean school and group ratings of the frequency of occurrence of examples and categories of parent involvement as well as ratings of the degree of influence factors are

perceived to have on parent involvement, (b) standard multiple regression analysis, to identify the relative contributions which factors are perceived to have for the prediction of the frequency of occurrence of categories of parent involvement and for the overall rating of parent involvement, (c) discriminant function analysis, to identify factors which discriminate between outlier schools, and (d) percentages, to compare demographic data from participating schools and principals.

Chapter V provides an interpretation of significant findings, describes contributions of this study to the research base and identifies areas of investigation for future research.

Interpretation of Findings

In this section the major findings of the study are presented with the discussion organized by the topical areas associated with the five research questions.

Frequency of Examples and Categories of Parent
Involvement

Developing a better understanding of parent involvement, as it is perceived to occur in the middle grades, in terms of the frequency of occurrence of specific examples and general categories of parent involvement, may provide educational decision makers with useful information for school improvement efforts. These insights may be used to validate existing practices or to identify dimensions of parent involvement which, if addressed, may strengthen existing efforts.

A preliminary step in this study matched specific examples of parent involvement to general categories of parent involvement proposed by Chrispeels (1992). It was hypothesized that the categories Co-Communications and Co-Support would be rated as occurring frequently and that Co-Teaching would be rated as occurring infrequently. The balance of this section describes findings supporting this hypothesis.

Co-Communications, identified as the category of parent involvement perceived as occurring most frequently, involves examples characterized by two-way

communication between parents and school personnel. Three examples of parent involvement, rated > 7.0; meaning they are perceived to occur frequently, were associated with this category, i.e., (a) the school informs parents about programs and activities through newsletters, bulletins, or handbooks; (b) school personnel use phone calls or notes to share information or respond to questions; and (c) parents and teachers exchange information during conferences and back to school nights. These examples appear similar in that they involve written and/or verbal communications between parents and schools, and for two of the examples, parents may visit the school site, i.e., to participate in conferences or to view performances. They may be considered traditional in that they are commonly used school practices. While the category Co-Communications received the highest rating of all categories, not all the examples associated with this category received ratings indicating that they are perceived as occurring frequently. One example, involving the use of voice mail or an answering machine, obtained a mean rating of 4.1; meaning it is perceived as occurring infrequently, and the same

rating was achieved by the example that involves a school's practices to obtain information from parents through questionnaires or surveys. The use of voice mail, while not an emerging technology, may be considered progressive when applied by a school. The low rating given to this form of communication suggests an immediate area schools can address to open a new line of communication. The low rating for the use of questionnaires suggests that schools do not frequently solicit input from their parent population. The infrequent use of questionnaires may, in part, account for the differences, identified by this study, between the perceptions of school personnel and parents regarding parent involvement. Questionnaires may have utility to collect data and obtain feedback so as to be able to consider parents' opinions, expectations, and wishes as decisions are made, and this method of communication allows parents to express their needs for information and training. If differences exist between the perceptions of parents and school personnel in regard to parent involvement, then an initial step toward improvement would involve opportunities to express viewpoints. The use of surveys and

questionnaires for school personnel and parents would help establish baseline information which can be used for planning purposes.

The category Co-Support, which involves traditional activities such as participation in fund raising events, providing clerical assistance to teachers or the school office, chaperoning dances, and attending school activities, ranked second of the five categories in terms of mean frequency rating. One example associated with this category was rated as occurring frequently, i.e., parents are spectators at school events such as athletic events or musical performances. This finding supports the position stated by Chrispeels (1992), i.e., when students are involved in school activities their parents are more likely to attend. Therefore, developing activities which involve greater percentages of students and scheduling events to allow working parents to attend deserve consideration.

The category Co-Decision Making ranked third in terms of frequency of occurrence. None of the examples of parent involvement associated with this category were rated as occurring frequently, but one

example was rated as occurring infrequently, i.e., parents' participation on school committees to help make decisions related to the curriculum, for example the selection of a new textbook. During the survey completion process many respondents did not choose to answer survey item number one, which inquired about participation on a principal's advisory committee. Several respondents provided written comments on their surveys suggesting they were unfamiliar with this type of committee. Therefore, the rating of Co-Decision Making, as a category that includes school governance activities, is questionable; therefore, the results for this category must be examined with caution. The category rating seems to show that respondents feel they are involved in decision making in other ways, and this may explain why Co-Decision Making is ranked higher in this study than in Chrispeels' hierarchy, which emphasizes governance and advocacy.

The categories Co-Teaching and Co-Learning, ranked fourth and fifth respectively, achieved mean scores for the sample < 4.0 indicating they are perceived as occurring infrequently. For Co-Teaching, several examples obtained a rating indicating they are

perceived as occurring infrequently. The lowest rated example involves parents helping teachers instruct in classrooms. For parents to help teachers during the school day a commitment of time is required. This type of parent involvement may be a less likely option due to changing economic conditions, when larger numbers of parents are in the work force and the family structure is changing (Zill & Nord, 1994). While this type of involvement should still be made available and encouraged, the reality of current economic and societal constraints needs to be considered and schools may need to direct their efforts into areas where a greater benefit may be achieved.

Another example associated with Co-Teaching, which was rated as occurring infrequently, involves the school organizing home teaching activities for parents and children, such as home reading programs or family math activities. Home learning programs require organization by the school. Dauber and Epstein (1989) note that the amount of information, encouragement and guidance provided by the school to structure the activity is related to the level of parent involvement accrued from the activity. For home learning

activities to be successful, clear communication about the program, information about ways to help children and information about the curriculum are needed. Epstein and Herrick (1991) found that mailing home-learning packets to students and parents was effective for informing parents about the program, and follow-up testing showed that completing the packets had a moderate effect on student performance, particularly for students with marginal skills. Using this approach to provide information to parents may have merit. It may be possible and desirable to rely on students to transmit information home to parents, but as Epstein (1995) noted it is necessary to inform students about their role in the partnership and their responsibilities in regard to transmitting information to parents.

The category Co-Learning achieved the lowest of the ratings for the five categories of parent involvement, and three examples included in this category were rated < 4.0, suggesting they are perceived as occurring infrequently. The examples are: (a) parents attend workshops to learn about the curriculum, (b) parents attend workshops at the school

to learn ways to help their children at home, and (c) school personnel receive in-service training to learn ways to work with parents. The low rating of this area may be cause for concern since the category includes practices that would aid schools working to develop stronger parent involvement. Advocates for parent involvement endorse practices which educate parents and teachers about the growth and development of adolescents, parenting skills, the school curriculum and ways to assist children in their homes (Epstein, 1995; Dauber & Epstein, 1989; Rich). Parents' lack of involvement may be attributed to a number of barriers including their reluctance to help their children because they feel inadequate with the subject matter or because the school bureaucracy makes obtaining help difficult (Leitch & Tangri, 1982). Schools can help parents feel more confident about their abilities to help their children and feel more comfortable about working with school personnel or visiting the school site by offering opportunities to learn: (a) about their child's curriculum and the resources available at the school, (b) ways to assist their child in their home, and (c) effective ways to participate in

conferences with school personnel. Comparisons of teachers', parents' and principals' ratings for the frequency with which school personnel receive training for working with parents demonstrated that parents perceive that school personnel receive more training than is reported by school personnel. Principals and teachers will benefit from training designed to enhance their skills for establishing a collaborative working relationship with parents.

In a preliminary step of this study examples of parent involvement were associated with categories of parent involvement proposed by Janet Chrispeels (1992). Chrispeels' model arranges categories of parent involvement in a hierarchy, based on frequency of occurrence and complexity. The results of this study partially support Chrispeels' model. As in Chrispeels' model, the categories Co-Communications and Co-Support were identified as the categories perceived to occur most frequently. Chrispeels (1992) explains that Co-Communications is the basic category of parent involvement and therefore exists in all other categories. To be successful in a higher level of involvement, communications must be effective. For

instance, for examples categorized as Co-Teaching to be successful, remembering that Co-Teaching is the category with the lowest frequency rating in this study, parents need to be made aware of the Co-Teaching opportunity, and they need information about the curriculum or ways to help their child, and procedures must be clearly explained to allow parents to communicate back to the school. Without precise two-way communication, Co-Teaching practices may not succeed. A noteworthy difference, between Chrispeels' model and the results of this study, was found in the placement of the category Co-Decision Making. In Chrispeels' model Co-Decision Making is placed at the top of the hierarchy indicating it is the most complex form of parent involvement. Here, Co-Decision Making was reported as occurring more frequently than the categories Co-Teaching and Co-Learning. In retrospect, this difference may be partially explained by the way the category was defined. In Chrispeels' model, Co-Decision was described as involving school governance activities, i.e., activities by which parents join school personnel in a decision making group such as an advisory council. For this study, Co-Decision Making

was defined as including examples such as parents' participation on advisory committees and parents' participation in decision making with teachers for programming purposes. As it was reported earlier, apparent confusion by respondents regarding parents' participation on an advisory committee was noted in their responses; therefore, the results for this comparison are unclear. However, the findings do suggest that parents report being involved in decision making to a greater degree than they are involved in Co-Teaching and Co-Learning. While none of the examples associated with parent involvement for decision making were rated as occurring frequently, one example was rated as occurring infrequently, i.e., parents participate on school committees to help make decisions related to the curriculum, e.g., to select a new textbook. Apparently, decision making occurs at several levels of complexity, with decision making associated with individual children occurring more frequently and involving more parents than decision making involving curriculum matters or school governance. The lack of clarity for this area suggests further investigation is warranted.

Factors Thought to Influence Parent Involvement

Why do certain schools enjoy stronger parent involvement and the accompanying educational benefits while others languish with weaker parent involvement? Are all variables that affect parent involvement beyond the control of educational decision makers, e.g., socioeconomic level of the community or parent's education level, or is it possible to identify factors perceived to have a positive influence on parent involvement which, if attended to purposefully may improve parent involvement? The results of this study suggest that several factors, associated with middle grade school principals and middle grade school teachers, are perceived to have a positive influence on parent involvement in middle grade schools and therefore may be useful to improve or create conditions within schools from which parent involvement can be enhanced.

The respondents to this study provided their perceptions as to the degree of influence various factors have on parent involvement in their middle grade schools by completing a Likert scale for each of the forty-three factors included in the survey.

Thirteen factors achieved a mean rating > 7.0 on a 9-point scale, indicating they are perceived as having a positive influence on parent involvement. Eight of the thirteen factors were associated with principals of middle grade schools; three were associated with teachers of middle grade schools; one was associated with the school climate, and one involves an opportunity provided by schools for communication. None of the factors examined achieved a rating that indicated it was perceived to have a negative influence on parent involvement.

The results of this study support a conclusion that principals of middle grade schools are perceived to have a positive influence on parent involvement. Eight factors, associated with middle grade level principals, received ratings > 7.0 suggesting they are perceived to have a positive influence on parent involvement. They are: (a) the principal's experience in education, (b) the principal's philosophy of education, (c) the principal's interest in building parent involvement, (d) the principal's interpersonal skills, (e) communications from the principal's office to parents, (f) the principal's working relationship

with the school's parent organization, (g) the principal's willingness to meet informally with parents, and (h) the principal's policy concerning meeting with parents. These factors may be summarized as involving beliefs, actions and skills of middle grade school principals.

The results suggest the principal's philosophy or beliefs about education and parent involvement influence parent involvement in middle grade schools. Beliefs typically guide action; therefore, if a principal values parent involvement, then he or she may consciously work to promote parent involvement. Similarly, if parent involvement is not valued, then a principal's actions may be a hindrance in that conditions may not promote parent involvement or barriers to parent involvement may be created. By engaging in reflective practices, principals of middle grade schools have an opportunity to examine their belief systems and actions to evaluate whether they work for or against parent involvement in their middle grade schools. However, simply holding the belief that parent involvement has value will not actualize the belief in the school. Leadership for parent

involvement is necessary. Leadership actions of principals identified by respondents as influencing parent involvements include: (a) creating a favorable relationship with the school's parent organization, (b) developing and using lines of communication between the home and school, and (c) modeling behavior to demonstrate a sincere interest in creating conditions within the school that encourage parents to work closely with school personnel.

Given that communication between the home and school is perceived to be the most frequently used category of parent involvement and since communication from the principal's office is perceived to influence parent involvement, middle grade school principals are advised to provide leadership in this area by developing and enhancing lines of communication between the home and school. Epstein (1987) frames this responsibility by stating that the type, form, frequency, and purpose of information sent to students' homes is under the direct influence of the principal.

The results of this study indicate that school personnel, i.e., teachers and principals hold significantly different viewpoints regarding Co-

Communications than do parents, with school personnel rating the category as occurring more frequently. This finding deserves consideration since it may imply that existing practices are not meeting the expectations of parents. This supports the conclusion reached by Dauber and Epstein (1989), that parents want information about their child's school and curriculum in order to provide assistance. School personnel are advised to consider ways of enhancing existing practices and/or to devise new forms of communications to provide parents with the types of information they are looking for to help their children. The creative use of Co-Communications may facilitate Co-Teaching and Co-Learning practices.

While more difficult to develop, principals' interpersonal skills need to be recognized for their impact on parent involvement. Through daily encounters with teachers and parents, and during more formal school activities, principals have opportunities to demonstrate their interest in working with parents and the importance they feel for nurturing a cooperative relationship between the home and school. Through interactions with teachers, support personnel, parents,

and students, principals establish a tone and expectations for parent involvement in the school.

Three factors associated with teachers of middle grade schools were found to be perceived as having a positive influence for parent involvement, including: (a) teachers' interpersonal skills, (b) teachers' communications skills, and (c) the teacher's experience in education. Contact with a teacher is often the first point of contact for parents with the school, and the relationship that begins may influence how parents relate to the school in the future. With this in mind, teachers need to be encouraged and expected to develop cooperative relationships with parents. As reported by Leitch and Tangri (1982), barriers may be created by schools that restrict the flow of communication between the home and school and which discourage parents from meaningful involvement. To improve parent involvement, schools need to remove barriers and build bridges which welcome parents as active participants in the school community. Teachers occupy a key position in the parent involvement process, which requires that they acknowledge their responsibility and work to create collaborative relationships. This may be difficult

since this study demonstrated that teachers and parents hold statistically different perceptions for four of the five categories of parent involvement, i.e., the teachers' rating for Co-Communications was greater than the parents' rating, and the parents' ratings for Co-Support, Co-Learning, and Co-Teaching were greater than the teachers' ratings. Teachers, as representatives of the school, have the responsibility to reflect the values of the school and school district through their actions. Successful teacher/parent interactions will require that teachers: (a) share the belief that their efforts during parent teacher contacts are important, or that they understand the position of the school and school district that it is their responsibility to work to develop cooperative relationships with parents, and (b) possess communication skills, so as to be able to inform and educate parents as well as to listen to and clarify information from parents. Teachers will need to understand the research base for parent involvement at the middle grade level, understand early adolescent growth and development, develop their skills for conferring with parents, and expand their repertoire of techniques for building lines of communications between

the home and school. Principals, as leaders for parent involvement in their schools, will need to: (a) work with their faculty and staff to establish goals for parent involvement and a position statement regarding parent involvement which outlines responsibilities, (b) provide opportunities for teachers to learn and practice skills, (c) supervise for skills associated with effective communication and conferring skills, and (d) create an organizational structure that gives teachers the time and resources to effectively work with parents.

While it was hypothesized that the organizational context of schools would be perceived as having a positive influence on parent involvement, the results of this study did not support this hypothesis. However, when stronger parent involvement schools were compared to weaker parent involvement schools patterns emerged which suggest organizational factors may directly or indirectly contribute to strong parent involvement. These patterns will be presented in the discussion associated with research question five.

Differences Between Perceptions of Parents, Teachers
and Principals

Research question four was designed to detect significant differences between the perceptions of parents, teachers, and principals in regard to: (a) the overall rating of parent involvement, (b) the frequency with which different types of parent involvement are perceived to occur, and (c) the degree of influence factors are perceived to have on parent involvement in middle grade schools. The directional hypothesis for this question stated that in regard to parents', teachers', and principals' ratings for overall parent involvement in middle grade schools, no significant difference was expected to be found, but, in regard to the categories of parent involvement, differences were anticipated. The balance of this section describes findings which support this hypothesis.

Two-way ANOVA was used to examine mean overall ratings for parent involvement for the main effects respondent group and grade level configuration of the school. The results indicate that a significant difference exists for the main effect grade configuration, but no significant difference was found

for the main effect respondent group. Therefore, in regard to overall parent involvement, parents, teachers, and principals report similar perceptions. The significant difference identified for the main effect grade level configuration was found to exist between the mean overall ratings reported by schools configured (5,6,7,8) and schools configured (7,8,9); with schools configured (5,6,7,8) reporting the higher rating. This finding supports the position reported by other researchers that parent involvement decreases as students progress through school.

While teachers, parents, and principals may share similar views for overall parent involvement, the analysis of categories of parent involvement and factors thought to influence parent involvement yielded a number of noteworthy differences. Two-way ANOVA was used to compare mean ratings for each of the five categories of parent involvement, as dependent variables, for the main effects respondent group and grade configuration of the school. Statistically significant differences, at the $p < .05$, were identified for the main effect respondent group for each category. Post hoc analysis using Scheffe'

identified specific pairings of respondent groups where the differences exist. Significant differences were found for the pairings: teachers and principals, teachers and parents, and parents and principals.

For the pairing teachers and principals, statistically different perceptions of mean frequency were found for the categories: (a) Co-Teaching, (b) Co-Communications, (c) Co-Decision Making, and (d) Co-Support. For each, the principals' mean ratings were greater than the teachers' mean ratings, suggesting that among educators there are differences in perception concerning parent involvement. These differences may be due to differences in standards or expectations held or they may be attributed to perspective, i.e., what principals observe compared to what teachers observe. It may be that principals have a more general idea of what is occurring across the school than do teachers.

When the ratings of principals and parents were compared, statistically significant differences were found between perceived mean frequency ratings for the categories Co-Communications, Co-Decision Making, and Co-Learning. The principals' mean ratings were greater

than the parents' rating for Co-Communications and Co-Decision Making, and for the category Co-Learning the parents' mean rating was greater than the principals'. This finding supports the idea that parents want information about their children's school program, and they want to be involved in making important decisions. While principals may feel they are doing what is necessary and adequate in terms of communicating to parents and giving them an opportunity to be involved, parents hold a different set of expectations. They want more specific information more frequently, and they want a more prominent role in decision making.

Statistically significant differences were also found between the perceived mean frequency ratings of parents and teachers for the categories Co-Teaching, Co-Support, Co-Learning, and Co-Communications. The teachers' mean rating for Co-Communications was significantly higher than the parents', but for Co-Teaching, Co-Support, and Co-Learning the parents' mean rating was greater than the teachers'. This finding suggests again that there are differences in expectations between teachers and parents. Parents feel they support their children by attending school

events, tutoring their child at home, and learning about the developmental needs of their children to a greater extent than teachers. This difference may in part be due perspective. Teachers may be generalizing across all parents they deal with and the parents who responded may be rating themselves and the few other parents they observe.

When teachers and principals are considered as a group, i.e., school personnel, it becomes apparent that school personnel and parents hold different perceptions regarding parent involvement. School personnel perceive that the categories Co-Communications and Co-Decision Making occur more frequently than do parents, and parents perceive the categories Co-Learning, Co-Teaching, and Co-Support, occur more frequently than do school personnel. Two possible explanations for these differences are: (a) school personnel and parents may have different operational definitions for the categories and examples of parent involvement used in this study and (b) school personnel and parents have different expectations regarding their responsibilities for parent involvement, i.e., parents expect more from the school and schools expect more from parents.

Other differences were noted when two-way ANOVA was used to compare the perceptions of principals, teachers, and principals for forty-three factors thought to influence parent involvement, i.e., f23..f65. Nineteen comparisons resulted in statistically significant differences, at $p < .05$, and eleven of the nineteen significant pairings were found between parents and teachers.

In summary, when perceptions of parents, teachers, and principals, in regard to parent involvement, were compared, significant differences were noted for each of the five categories of parent involvement and for nineteen of the forty-three factors thought to influence parent involvement. The comparison of overall ratings of parent involvement did not yield a significant difference between respondent groups. These findings support a conclusion that parents, teachers and principals, associated with middle grade level schools, hold different perceptions regarding parent involvement, and that the differences found between the perceptions of teachers and parents are especially noteworthy. This conclusion may be problematic when conclusions reached by Herman and Yeh

(1983) are considered. Their study, conducted at the elementary school level, identified a positive correlation between parents' perceived influence in decision making with parent satisfaction about school as well as with children's achievement. While this was an elementary school study, the conclusions have implication for the middle grades. By strengthening opportunities for parents to become involved in meaningful decision making for children, middle grade schools may establish better working relationships with parents, thereby having a positive impact on student achievement. The recommendation of the researchers to give parents a greater voice in educational decision making deserves consideration by middle grade educators.

While this study identified differences between the perceptions of parents and school personnel, Epstein (1986) noted that improvements can be made. Epstein suggested that when teachers build more parent involvement into their program, parents become more aware of the teachers' efforts, receive more ideas from the teachers, become more knowledgeable about their child's instructional program, and rate teachers higher

in the areas of interpersonal skills and overall teaching quality.

Differences Between Stronger and Weaker Parent Involvement Schools

Parent involvement in education decreases as children progress through school (Epstein, 1992; Louis Harris Associates, 1987; Zill & Nord, 1994). The transition point between the elementary level and middle level is a time when this decrease has been noted (Epstein & Connors, 1992; Carnegie Council, 1995). Even though this may be a trend across the middle grades, schools within this range can be found which are rated as having stronger parent involvement. Why are certain schools successful while others are not? This study attempted to identify areas of difference between outlier schools, i.e., stronger parent involvement schools (SPI) and weaker parent involvement schools (WPI), which may be considered discriminating characteristics of SPI schools.

Three comparisons were made to identify similarities and differences between SPI and WPI schools. In the first, multiple regression analysis

was used to find the relative impact which factors, thought to influence parent involvement, have on each of the five categories of parent involvement. The results for SPI and WPI schools were compared to identify discriminating factors for SPI schools. Secondly, discriminant function analysis was used to identify independent variables concerned with middle grade school principals' years of experience and school enrollment that discriminate between SPI and WPI schools. Finally, comparisons were made regarding school type (by name), grade pattern of the school, and principal's areas of certification.

This study identified outlier schools from sample schools using the mean overall rating of parent involvement. The outlier schools, i.e., SPI and WPI schools, were compared to identify discriminating characteristics of SPI school. Multiple regression analysis was calculated for SPI, WPI and Sample (SMPL) schools for each of the five categories of parent involvement. Factors contributing most to the prediction of the mean category rating were identified for each group. Comparing the groups, in terms of factors identified as making strong contributions,

allowed for similarities and differences to be found. Therefore, when discriminating characteristics are identified, they indicate factors that have a positive contribution for SPI schools but not for WPI or SMPL schools.

Discriminating factors were identified for each category of parent involvement and for the overall rating of parent involvement for SPI schools as noted in Table 55.

Table 55

Discriminating Factors of Stronger Parent Involvement
Schools

Category	Discriminating Factors for SPI Schools
Co-Communications	f55 : The principal's working relationship with the school's parent organization. f25 : The school district's goals for parent involvement.
Co-Support	f60 : Teachers' communication skills.
Co-Decision making	f60 : Teachers' communication skills. f48 : The principal's willingness to meet informally with parents.
Co-Learning	f60 : Teachers' communication skills. f57 : The principal's annual evaluation of parent involvement within the school.
Co-teaching	f57 : The principal's annual evaluation of parent involvement within the school. f62 : The teacher's training for working with parents f40 : Teachers' interpersonal skills.

Overall Rating of PI	f42 : Orientation sessions are held for parents. f26 : The teacher's willingness to involve parents. f25 : The school district's goals for parent involvement.
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From this set of discriminating factors generalizations for SPI schools were synthesized to develop a set of factors that discriminate for multiple categories, namely: (a) f25: The school district's goals for parent involvement, (b) f60: Teachers' communication skills, (c) f48: The principal's willingness to meet informally with parents, and (d) f57: The principal's annual evaluation of parent involvement. Several other factors, identified in the comparisons, are also noteworthy, e.g., f45: The principal's interest in building parent involvement and f62: the teacher's training for working with parents. Since these factors are perceived as having a positive influence for multiple categories and since they seem to discriminate for SPI schools, they deserve consideration when planning parent involvement initiatives.

The results of the multiple regression analyses for SPI schools, WPI schools and SMPL schools

identified factors thought to negatively influence parent involvement, i.e., independent variables assigned negative beta weights indicating they are perceived to have an inverse relationship with a dependent variable. For factors assigned negative betas considered statistically significant at $p < .05$, comparisons were made across categories of parent involvement to identify trends. The contributions assigned to factors f27, f64, and f59 are noteworthy. Each was assigned at least one beta considered statistically significant at $p < .05$, and each made negative contributions to other dependent variables. For the analysis of SPI Co-Communications, factor f27, i.e., the principal's experience in education, is assigned a beta = $(-.396)$ which is statistically significant at $p < .05$. In the analysis of SPI Co-Teaching, factor f27 is assigned a beta = $(-.342)$; which is the lowest beta assigned in this analysis. The inverse relationship between f27 and the dependent variables suggests that during the early years of a principal's experience, principals emphasize practices which enhance communications with parents and involve parents in decision making more so than after they

accumulate experience. In the multiple regression analyses conducted for WPI and SMPL schools, the values of betas assigned to factor f27 were not noteworthy. In regard to factor f64, i.e., teachers follow through with suggestions made to parents, the multiple regression model for SPI schools included negative betas for Co-Communications (-0.25), Co-Teaching (-0.31), Co-Learning (-0.39), and the overall rating of parent involvement (-.371). This pattern may suggest that parents, teachers, and principals of SPI schools do not perceive that teachers' practices, associated with following through on suggestions made to parents, are influential for parent involvement. This finding may also be interpreted to suggest that practices associated with teachers following through with suggestions made to parents are not perceived to occur but are valued. In the multiple regression analysis of WPI and SMPL schools, f64 was not assigned negative betas considered statistically significant. A third factor noteworthy for SPI schools is factor f59, i.e., the school's activity schedule. Negative betas were assigned to f59 for SPI schools for Co-Communications (-.019), Co-Support (-0.11), Co-Decision Making (-

0.51), Co-Teaching (-0.29), and Co-Learning (-0.17). In the analysis of Co-Decision Making, the beta for f59 is considered statistically significant at $p < .05$. By identifying similarities across multiple categories, it may be possible to conclude that for SPI schools parents, teachers and principals do not perceive that a school's activity schedule is influential for parent involvement. This may imply that schools have difficulty scheduling activities at times agreeable to working parents, and therefore, activity schedules do not have a positive influence on parent involvement. The results of the multiple regression analyses for WPI and SMPL schools provide additional support for this conclusion. In WPI schools F59 was assigned a beta (-0.35) for Co-Communications. For SMPL schools f59 was assigned betas: (-.067) for Co-Decision Making, (-.01) for Co-Teaching, (-.049) for Co-Learning and (-.001) for the overall rating of parent involvement.

This study found that parents, teachers, and principals perceive that a principal's years of experience have a positive influence on parent involvement in middle grade schools. Additionally, through the survey instrument, principals provided

specific information about their years of experience in education. These data were analyzed along with school enrollment data using discriminant function analysis to determine their usefulness for discriminating between SPI and WPI schools.

The analysis indicated that student enrollment of middle grade schools does not discriminate for strength of parent involvement. Enrollment was considered, since it may be directly linked the size of the faculty, the physical plant, and the parent population, and one may speculate that a larger school may have a more bureaucratic and impersonal school climate. Dietz (1992) reported that school enrollment was linked to higher means for specific types of parent involvement. He found that schools with higher enrollments showed higher means for types of parent involvement, such as basic obligations of parents and parent involvement at school. Dietz's research indicates that enrollment may affect primary types of parent involvement used by a school while this study suggests that school enrollment does not discriminate for strength of parent involvement. Enrollment has an effect, but not for strength of parent involvement. Therefore, a

conclusion can be drawn that other factors in the school create conditions which determine the strength of parent involvement.

Discriminant function analysis was also used to examine four variables associated with principals' years of experience to determine their usefulness for discriminating between SPI and WPI schools. It should be noted here that the analysis first attempted to discriminate between SPI, WPI and API schools (average parent involvement schools), i.e., schools in the second and third quartiles when ranked by mean overall rating of parent involvement, but this analysis was unsuccessful. Therefore, an analysis of only SPI and WPI schools was undertaken. These results must be interpreted with caution because the sample size was limited. At best, the results identify trends in the data which raise questions for future research.

The analysis of SPI and WPI schools resulted in the finding that principals of SPI schools have more years of experience in education and more years of experience in administration than principals of WPI schools, but principals of WPI schools have more years of experience in the middle grades. Does this imply

that principals with many years of experience in education but fewer in middle grade education are better able to provide leadership in a middle grade school for parent involvement than principals having more years of experience in the middle grades?

Probably not, but then why this trend in the data?

Could it be that gaining experience outside the middle grades enables a principal to develop skills or a perspective on education that provide motivation to provide leadership for parent involvement? Do principals having many years of experience in the middle grades maintain a philosophical position which does not place a strong value on parent involvement?

An investigation into the preparation of principals and their ability to provide leadership for parent involvement would be useful to this field of research.

What this study does suggest is that years of experience in middle grade education does not appear to be a strong predictor of strength of parent involvement.

Finally, comparisons were made regarding grade configuration of the school, school type as denoted by title, and the principal's certification. To compare

schools by grade configuration, the schools in the population were stratified by grade configuration and a proportional random sample was selected. The set of schools which returned complete data sets, i.e., responding schools, was compared to the sample using Chi-Square analysis. No statistically significant differences were found between the groups in terms of their relative makeup. Therefore, the set of responding schools should be considered representative of the population. SPI and WPI schools were then stratified by grade configuration and comparisons were made. In the study, 89% of the SPI schools were found to have grade configurations involving the lower grades, i.e., grade patterns (5,6,7,8) and (6,7,8), while 63% of the WPI schools were found to have grade configurations involving grade patterns (7,8) and (7,8,9). This finding supports the conclusion drawn by researchers, that parent involvement in education decreases as students progress through school (Zill & Nord, 1994). What seems to be somewhat unique here is that this finding implies that the level of parent involvement differs within the range of schools which are considered middle grade schools, with schools at

the lower end of the range reporting stronger levels of parent involvement than schools at the upper end of the range.

Additional insight was obtained when comparisons were made when the schools were grouped by name of school. Using Chi-square analysis, it was determined that there were no statistically significant differences between observed and expected frequencies of schools named middle school, junior high or intermediate school when the population, sample, and set of responding schools were compared. However, when SPI and WPI schools were compared, differences were found in the percentages of schools named middle school and junior high school. The majority of SPI schools, 89%, use the name middle school while 0% of SPI school used the name junior high school. The majority, 63%, of WPI schools use the name junior high school. What this seems to indicate is that within the range of schools meeting the definition of a middle grade school, schools having lower grade configurations are more likely to be use the name middle school and are more likely to have stronger parent involvement than schools in the higher range of grade patterns, which

are more likely to be use the name junior high school. What's in a name? Does a name infer philosophy? Does a philosophy affect parent involvement? Possibly, and therefore if early adolescents are thought to benefit from a learning environment where there is a greater likelihood that parents will continue to be involved in their education (Carnegie Council, 1995), and if stronger parent involvement is associated with schools using the name middle schools, then more adolescents need to be afforded the opportunity to attend schools operating with this philosophy no matter what they are named.

This study arrives at a conclusion that principals of middle grade schools are perceived to have a positive influence on parent involvement in their middle grade schools. This being the case, is there a relationship between professional preparation, as denoted by certification held, and leadership provided for parent involvement? This study investigated whether possessing areas of certification, beyond certification as an administrator, is associated with being the principal of a SPI or WPI school. Noteworthy findings were found for the area of guidance

certification. For SPI schools, 33% of the principals possess guidance certification compared to 0% of WPI schools and 6% of the sample. This seems noteworthy since one might expect approximately 6% of the principals of SPI schools to have guidance certification, as occurs in the sample, and there is a noticeable absence of guidance certification held by principals of WPI schools. This finding suggests that principals trained in guidance may have a greater sensitivity for issues involving parents which may influence their actions designed to promote home and school relationships.

Significance of the Study

Improving parent involvement in education is receiving considerable attention from educators, politicians, policy makers, and interest groups. In January 1994, an eighth national Education Goal was added to the goals established by President Bush in 1990. This voluntary goal calls on school systems to increase parent involvement in all schools. Many researchers have noted the inadequate research base regarding parent involvement as it occurs in the middle

grades (Carnegie Council, 1995; Rutherford, 1995, Henderson & Berla, 1994). By focusing on factors perceived to affect parent involvement in the middle grades, which are under the control of educational decision makers, this study makes a contribution to those who are interested in improving the partnership between middle grade schools and their parent population. The findings of this study, while not proving causality, provide perceptions from the individuals who work directly in middle grade schools, i.e., teachers, parents, and principals. This viewpoint is somewhat unique and may be noteworthy since the study shows that differences exist among the three groups in terms of their perceptions regarding parent involvement.

Several findings from this study are thought to make contributions to the research base. An important conclusion with broad impact for this area of research is that factors associated with principals of middle grade schools are perceived as having a positive influence on parent involvement in their schools. This conclusion is important since it clearly identifies the principal as the school's leader for parent

involvement. Just as the effective schools research of the 1970's highlighted the importance of principals for effective schools, so too is it important to understand that middle grade school principals serve as a key factor for improving and maintaining parent involvement in middle grade schools. This study develops a profile of the middle grade school principal who provides leadership for parent involvement as an individual holding a philosophical position which values parents as contributing and important members of the educational process. This individual works to establish collaborative working relationships with the school's parent organization, and he/she promotes parent involvement through comments and actions. As a primary developer of the climate of the school, this principal establishes, for teachers and parents, a tone in the building that parent involvement is valued. This study suggests that schools which are more successful with parent involvement have principals who are experienced educators, but their years of experience are not necessarily all accrued in the middle grades. These data suggest that training in the area of guidance may prepare principals to provide

leadership for parent involvement.

A unique feature of this study was the collection of data from parents, teachers, and principals. By collecting responses from these key groups, it was possible to compare their perceptions regarding aspects of parent involvement. The data analysis demonstrated that significant differences exist between parents and teachers, parents and principals, and principals and teachers in regard to their perceptions about parent involvement. Significant differences were found between the perceptions of parents and teachers and principals and parents that provided the basis for arriving at a second conclusion, i.e., differences exist between the perceptions of parents and school personnel regarding parent involvement in middle grade schools. The differences in perception occur in interesting patterns, for example, concerning Co-Decision Making and Co-Communications, school personnel rate the school's performance higher than parents, and regarding Co-Teaching, Co-Support, and Co-Learning, parents rate their involvement greater than school personnel. Finding these differences in perception should suggest to middle grade school leadership that

there is a need to clarify roles and responsibilities. Opportunities are needed to create dialogue between school personnel and parents to communicate and define roles and responsibilities for parents and school personnel, and procedures need to be established for collecting input from all participants for use in decision making. Epstein (1995), suggests that schools should develop action teams to guide parent involvement initiatives. Through the use of such a forum, opportunities can be provided for teachers and parents to engage in meaningful dialogue to develop a better understanding of one another and how they can cooperate for the benefit of children.

This study provided partial support for a model of parent involvement proposed by Chrispeels (1992). Examples of parent involvement in the categories Co-Communications and Co-Teaching were found to be perceived as occurring most frequently in middle grade schools. These examples seem to be traditional in that they are commonly used practices. It was also noted that examples of parent involvement in the categories Co-Teaching and Co-Learning are perceived to occur infrequently. This finding may highlight a problem

area in that if parent involvement is to improve, parents and school personnel need to become more knowledgeable regarding middle grade school children, the curriculum and ways to support one another, and they need to become more skillful in terms of communicating effectively. To accomplish this, schools need to provide training for teachers, parents, and principals.

This study contributes to the area of parent involvement in the middle grades by identifying stronger and weaker parent involvement schools from sample schools for the purpose of identifying discriminating characteristics of SPI schools. Discriminating factors which are perceived to influence parent involvement were identified for each of the five categories of parent involvement. From this set of discriminating factors, generalizations for SPI schools were synthesized to develop a set of four factors that discriminate across categories for SPI schools. The first involves the school district's goals for parent involvement. This factor has value since the existence of goals for parent involvement at the district level clearly indicates to all district employees and the

community that parent involvement is valued in the district. An endorsement of this magnitude suggests that district resources, i.e., time and financial assistance are available. Without central office endorsement change may be much more difficult to achieve. Given that all schools are encouraged to establish partnerships with parents as expressed by Goals 2000; The Educate America Act and for the state of Pennsylvania by the strategic planning process, school districts can act to provide direction and leadership for all schools by establishing district goals which encourage schools to develop partnerships with parents. A second factor which has the potential of widespread impact deals with teachers' communication skills. This factor was found to be a discriminating factor for three of the five categories of parent involvement. Interestingly, the three categories it discriminates for are those which are rated as the least frequently used. Therefore, it is rated as influential, yet the categories it supposedly supports are not rated as occurring frequently. This is an area that needs to be addressed since it is through Co-Teaching and Co-Learning that schools may become more

effective at involving parents and thereby accrue the benefits resulting from improved parent involvement. Specifically teachers may need to receive training in regard to planning and conducting conferences, for resolving conflict, dealing with anger, and communicating clearly, etc. Obviously, time will be needed for training and for teachers to apply their skills when working with parents.

It was previously noted that principals of middle grade schools are perceived to have a positive influence on parent involvement. The third and fourth discriminating characteristics of stronger parent involvement schools highlight contributions made by the principal, i.e., the principal's willingness to meet informally with parents and the principal's annual evaluation of parent involvement in the school. Creating a school environment where parents are comfortable approaching the principal to pose questions, to voice concerns, or to become acquainted with the individual providing leadership for their child's school, may reduce feelings of helplessness and intimidation. Principals can schedule times to be visible and accessible to parents during key times of

the school day, such as when office traffic is high, and during school activities when more parents are visiting the school site. By making a conscious effort to meet and greet parents informally, the principal may display an image of an approachable leader for the school. The final discriminating characteristic of SPI schools is that the principal conducts an annual evaluation of parent involvement. The process of conducting an evaluation indicates the area evaluated is an area of importance for the school. Data obtained through this practice provide direction for future efforts thereby providing credibility.

The comparison of SPI and WPI schools on the criteria grade pattern of the school and school name provided insight as to how the organizational context of middle grade schools may have an impact on parent involvement. This comparison demonstrated that SPI middle grade schools are likely to be schools with lower grade patterns, i.e., (5,6,7,8) and (6,7,8). It was also noted that seven of eight SPI schools used the name middle school, with the one exception using the name intermediate school, and that the majority of WPI schools used the name junior high school with the

majority of WPI schools having higher grade patterns, i.e., (7,8) and (7,8,9). These findings support the observation that parent involvement decreases as grade level increases and suggests that within the range of schools considered to be middle grade level schools, differences can be found in the level of parent involvement. Schools serving students with grade patterns in the lower range and which use the name middle school are more likely to have stronger parent involvement than schools with higher grade patterns and which use the name junior high school.

Recommendations for Future Research

Based on the results of this study, the following recommendations for future research are offered:

- 1) Questions were raised during data collection and analysis regarding the area of shared decision making within middle grade schools. Additional research is needed to clarify the opportunities schools provide for parents to engage in decision making for individual children as well as for school based

decisions. Since differences were found to exist between the perceptions of parents and school personnel in regard to decision making, clarification of expectations is needed, i.e., how do parents and teachers perceive parents should be involved in the school decision making process? Additionally, an investigation into the benefits of shared decision making would be valuable to the field in order to justify efforts in this area. Given the opportunity to be involved in educational decision making for their child, what attitudes do parents hold about the school? Does participation in decision making improve parents' perceptions of their child's school program? Insights in this area will provide data regarding the dynamics involved in school decision making regarding school choice. School choice can be viewed as a parent's opportunity to be involved in educational decision making by selecting a school which the parent feels may meet expectations.

2) Principals of middle grade schools are perceived to have a positive influence on parent involvement in their middle grade schools. Further

insights regarding the role and responsibilities of the principal providing leadership for parent involvement could be obtained using case study research in schools identified as having stronger parent involvement. This research would be useful to confirm or refute, as well as expand, the findings of this study.

3) Co-Teaching practices are considered to have value by educators who express that such practices benefit students by helping parents to teach their child in their homes. But how do parents feel about this type of practice? Will it be used? Is it likely that the expenses can be justified by educational benefits?

4) The results of this study indicate that parent involvement practices in middle grade schools are traditional in nature and that parents feel schools could be doing a better job communicating school information. As schools explore alternative forms of communication with parents, the effectiveness of the practices should be evaluated. One practice which has potential value involves the use of video taped

descriptions produced by the school to explain teaching practices parents can use in their homes to assist children or as a way of providing information about the curriculum or school practices. This study would examine the implementation of this type of practice and evaluate its cost effectiveness.

5) During early adolescence parent involvement may be negatively affected by messages given by the adolescent that independence is desired. How do successful schools engage parents while respecting students' interests?

6) This study examined perceptions of parents, teachers, and administrators in terms of the frequency of occurrence of examples of parent involvement and the perceived influence factors have on parent involvement in their middle grade school.

A follow-up study which examines the perceived value of specific examples of parent involvement will have value. For example, many schools are beginning to use voice mail systems to allow parents and teachers to communicate at times when the other party is not

available. It would be valuable to learn how parents and teachers feel about this? Would respondents report that this technology would help bridge the communication gap between home and school?

7) Parent involvement has been found to decrease as students progress through school. Is this decrease due in part to the age of the children at different levels of schooling or does a school's philosophy influence parent involvement? To determine if a school's philosophy influences parent involvement, responses from parents of seventh grade students from schools with a middle school philosophy, responses from parents of seventh graders from traditional junior high schools, and responses from teachers and principals from all schools should be compared. By controlling for grade level, by only involving parents of seventh graders, it might be possible to identify differences which could be attributed to the philosophy of the school. To conduct this study it will be necessary to develop operational definitions of middle school and traditional junior high school since some schools titled middle school operate under a junior high school

philosophy and some junior high schools operate under a middle school philosophy.

8) The instrument used in this study was developed using a series of validation exercises. Additional work is needed to establish construct validity on the instrument in regard to the model of parent involvement as proposed by Chrispeels (1992). In this model parent involvement is described through a hierarchial arrangement of categories of parent involvement. The categories are described as increasing in complexity while decreasing in frequency of occurrence. The categories are: (a) Co-Communications, (b) Co-Support, (c) Co-Learning, (d) Co-Teaching, and (e) Co-Decision Making.

Conclusion

"Parental involvement in school activities declines steadily as children progress to middle school and high school. Parents need to remain actively engaged in their adolescents' education; schools, for their part, should welcome families

as allies and cultivate their support."

(Carnegie Council on Adolescent Development,
1995, pg. 12)

This statement, extracted from the final report of the Carnegie Council on Adolescent Development, expresses in part the problem area which served as impetus for this study as well as conclusions drawn from this research. Parent involvement in education does decrease as students progress through school, and as noted in this study, differences are identifiable within the range of schools considered to be middle grade schools. Infrequent parent involvement is problematic at any point in a child's education, since it is associated with benefits for students, schools, and parents. While reasons are proposed for the decrease, e.g., low socio-economic level of parents, parent educational level, working parents, time, developmental issues of adolescents, barriers created by schools, etc., the solution, if there is to be one, will be initiated by educators. Principals, teachers, and others who give direction to school initiatives must embrace a philosophy which acknowledges the

importance of working with parents and the need to work purposefully to improve the quality of parent involvement occurring in schools. In a recent address to teachers at the third annual Goals 2000 Teacher Forum, U.S. Secretary of Education Richard Riley called on teachers to be partners in school reform. "If I have one message for you, it is simply this: improving American education will take place only when you stop being objects of reform and instead become partners in reform and leaders for reform." (1995, p.1) Teachers need to acknowledge and embrace their responsibilities as key participants in the parent involvement process and work individually and collectively to develop cooperative relationships with parents. While teachers are key players, ultimately the responsibility for improving parent involvement lies with school leadership. As stated by George and Alexander, "Sooner or later, every middle school takes on the characteristics of its leadership." (1993, p.497). Middle grade school principals, either by self initiative driven by a personal philosophy, or by directive from a superior, must provide leadership for parent involvement in their schools. Without their

visible leadership parent involvement may happen, because some parents will be involved despite the efforts of the school, but with their leadership more parent involvement is likely to happen and therefore more students will benefit.

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APPENDIX A

**Public School Districts
in Southeastern Pennsylvania**

APPENDIX A
Public School Districts
in Southeastern Pennsylvania

	County	IU	LEA (school district)
	-----	--	-----
1	Adams	12	Bermudian Springs School District
2	Adams	12	Conewago Valley School District
3	Adams	12	Fairfield Area School District
4	Adams	12	Gettysburg Area School District
5	Adams	12	Littlestown Area School District
6	Adams	12	Upper Adams School District
7	Berks	14	Antietam School District
8	Berks	14	Boyertown Area School District
9	Berks	14	Brandywine Heights Area SD
10	Berks	14	Conrad Weiser Area School District
11	Berks	14	Daniel Boone School District
12	Berks	14	Exeter Township School District
13	Berks	14	Fleetwood Area School District
14	Berks	14	Governor Mifflin School District
15	Berks	14	Hamburg Area School District
16	Berks	14	Kutztown Area School District
17	Berks	14	Muhlenberg School District
18	Berks	14	Oley Valley School District
19	Berks	14	Reading School District
20	Berks	14	Schuylkill Valley School District
21	Berks	14	Tulpehocken Area School District
22	Berks	14	Twin Valley School District
23	Berks	14	Wilson School District
24	Berks	14	Wyomissing School District
25	Bucks	22	Bensalem Township School District
26	Bucks	22	Bristol Borough School District
27	Bucks	22	Bristol Township School District
28	Bucks	22	Centennial School District
29	Bucks	22	Central Bucks School District
30	Bucks	22	Council Rock School District
31	Bucks	22	Morrisville Borough School District
32	Bucks	22	Neshaminy School District
33	Bucks	22	New Hope-Solebury School District
34	Bucks	22	Palisades School District
35	Bucks	22	Pennridge School District
36	Bucks	22	Pennsbury School District
37	Bucks	22	Quakertown Community SD
38	Chester	24	Avon-Grove School District
39	Chester	24	Coatsville Area School District
40	Chester	24	Downingtown Area School District

41	Chester	24	Great Valley School District
42	Chester	24	Kennett Consolidated SD
43	Chester	24	Octorara Area School District
44	Chester	24	Owen J. Roberts School District
45	Chester	24	Oxford Area School District
46	Chester	24	Phoenixville Area School District
47	Chester	24	Tredyffrin-Easttown School District
48	Chester	24	Unionville-Chadds Ford SD
49	Chester	24	West Chester Area School District
50	Delawar	25	Chester-Upland School District
51	Delawar	25	Chichester School District
52	Delawar	25	Garnet Valley School District
53	Delawar	25	Haverford Township School District
54	Delawar	25	Interboro School District
55	Delawar	25	Marple Newtown School District
56	Delawar	25	Penn-Delco School District
57	Delawar	25	Radnor School District
58	Delawar	25	Ridley School District
59	Delawar	25	Rose Tree Media School District
60	Delawar	25	Southeast Delco School District
61	Delawar	25	Springfield School District
62	Delawar	25	Upper Darby School District
63	Delawar	25	Wallingford-Swarthmore SD
64	Delawar	25	William Penn School District
65	Lancast	13	Cocalico School District
66	Lancast	13	Columbia Borough School District
67	Lancast	13	Conestoga Valley School District
68	Lancast	13	Donegal School District
69	Lancast	13	Eastern Lancaster County SD
70	Lancast	13	Elizabethtown Area School District
71	Lancast	13	Ephrata Area School District
72	Lancast	13	Hempfield School District
73	Lancast	13	Lampeter-Strasburg School District
74	Lancast	13	Lancaster School District
75	Lancast	13	Manheim Township School District
76	Lancast	13	Pequea Valley School District
77	Lancast	13	Solanco School District
78	Lancast	13	Warwick School District
79	Lebanon	13	Annville-Cleona School District
80	Lebanon	13	Cornwall-Lebanon School District
81	Lebanon	13	Eastern Lebanon County SD
82	Lebanon	13	Lebanon School District
83	Lebanon	13	Northern Lebanon School District
84	Lebanon	13	Palmyra Area School District
85	Lehigh	21	Allentown City School District
86	Lehigh	21	Catasauqua School District

	County	IU	LEA (school district)
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87	Lehigh	21	East Penn School District
88	Lehigh	21	Northern Lehigh School District
89	Lehigh	21	Northwestern Lehigh School District
90	Lehigh	21	Parkland School District
91	Lehigh	21	Salisbury Township School District
92	Lehigh	21	Southern Lehigh School District
93	Lehigh	21	Whitehall-Coplay School District
94	Monroe	20	East Stroudsburg Area SD
95	Monroe	20	Pleasant Valley School District
96	Monroe	20	Pocono Mountain School District
97	Monroe	20	Stroudsburg Area School District
98	Montgom	23	Abington School District
99	Montgom	23	Bryn Anthyn School District
100	Montgom	23	Cheltenham Township School District
101	Montgom	23	Colonial School District
102	Montgom	23	Hatboro Horsham School District
103	Montgom	23	Jenkintown School District
104	Montgom	23	Lower Moreland School District
105	Montgom	23	Methacton School District
106	Montgom	23	Norristown Area School District
107	Montgom	23	North Penn School District
108	Montgom	23	Perkiomen Valley School District
109	Montgom	23	Pottsgrove School District
110	Montgom	23	Pottstown School District
111	Montgom	23	Souderton Area School District
112	Montgom	23	Spring-Ford Area School District
113	Montgom	23	Springfield Township SD (M)
114	Montgom	23	Upper Dublin School District
115	Montgom	23	Upper Merion School Area SD
116	Montgom	23	Upper Moreland Township SD
117	Montgom	23	Upper Perkiomen School District
118	Montgom	23	Wissahickon School District
119	Northam	20	Bangor Area School District
120	Northam	20	Bethlehem Area School District
121	Northam	20	Bethlehem Area School District
122	Northam	20	Easton Area School District
123	Northam	20	Nazareth Area School District
124	Northam	20	Northampton Area School District
125	Northam	20	Pen Argyl Area School District
126	Northam	20	Saucon Valley School District
127	Northam	20	Wilson Area School District
128	York	12	Central York School District
129	York	12	Dallastown Area School District

	County	IU	LEA (school district)
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130	York	12	Dover Area School District
131	York	12	Eastern York School District
132	York	12	Hanover Public School District
133	York	12	Northeastern York School District
134	York	12	Northern York County SD
135	York	12	Red Lion Area School District
136	York	12	South Eastern School District
137	York	12	South Western School District
138	York	12	Southern York County SD
139	York	12	Spring Grove Area School District
140	York	12	West Shore School District
141	York	12	West York Area School District
142	York	12	York City School District
143	York	12	York Suburban School District

APPENDIX B

**Public Middle Grade Schools
in
Southeastern Pennsylvania**

Population Schools

APPENDIX B

Public Middle Grade Schools in Southeastern Pennsylvania

Population Schools

	County/IU		LEA (DISTRICT)	School	GRDS.
	-----		-----	-----	-----
1	Adams	12	Gettysburg Area SD	Gettysburg JHS	7,8,9
2	Berks	14	Boyertown Area SD	Boyertown JHS E	7,8,9
3	Berks	14	Boyertown Area SD	Boyertown JHS W	7,8,9
4	Berks	14	Exeter Township SD	Exeter JHS	7,8,9
5	Berks	14	Wilson SD	Wilson C. JHS	7,8,9
6	Berks	14	Wilson SD	Wilson S. JHS	7,8,9
7	Bucks	22	Bristol TWSP. SD	Armstrong JHS	7,8,9
8	Bucks	22	Bristol TWSP. SD	Roosevelt JHS	7,8,9
9	Bucks	22	Central Bucks SD	Holicong MS	7,8,9
10	Bucks	22	Central Bucks SD	Lenape MS	7,8,9
11	Bucks	22	Central Bucks SD	Tamanend MS	7,8,9
12	Bucks	22	Central Bucks SD	Unami MS	7,8,9
13	Bucks	22	Council Rock SD	C. Rock JHS (R)	7,8,9
14	Bucks	22	Council Rock SD	C. Rock JHS (H)	7,8,9
15	Bucks	22	Council Rock SD	C. Rock JHS (N)	7,8,9
16	Chest	24	Downingtown SD	Downingtown JHS	7,8,9
17	Chest	24	Downingtown SD	Lionville JHS	7,8,9
18	Delaw	25	William Penn SD	Penn Wood E. JHS	7,8,9
19	Delaw	25	William Penn SD	Penn Wood W. JHS	7,8,9
20	Lancas	13	Lancaster SD	Hand JHS	7,8,9
21	Lancas	13	Lancaster SD	Lincoln JHS	7,8,9
22	Lancas	13	Lancaster SD	Reynolds JHS	7,8,9
23	Lancas	13	Lancaster SD	Wheatland JHS	7,8,9
24	Lehigh	21	East Penn SD	Emmaus JHS	7,8,9
25	Lehigh	21	East Penn SD	Eyer JHS	7,8,9
26	Lehigh	21	Northern Lehigh SD	N. Lehigh JHS	7,8,9
27	Lehigh	21	Parkland SD	Springhouse JHS	7,8,9
28	Lehigh	21	Parkland SD	Troxell JHS	7,8,9
29	Montgo	23	Abington SD	Abington JHS	7,8,9
30	Northa	20	Bangor Area SD	Bangor Area JHS	7,8,9
31	Northa	20	Northampton SD	Northampton JHS	7,8,9
32	Adams	12	Conewago Valley SD	New Oxford MS	7,8
33	Berks	14	Brandywine Heights	Brandywine MS	7,8
34	Berks	14	Governor Mifflin SD	G. Mifflin MS	7,8
35	Berks	14	Kutztown Area SD	Kutztown JHS	7,8
36	Berks	14	Oley Valley SD	Oley Valley MS	7,8

	County/IU	LEA (DISTRICT)	School	GRDS.
	-----	-----	-----	-----
37	Bucks	22 Pennridge SD	Pennridge C. JHS	7,8
38	Bucks	22 Pennridge SD	Pennridge S. JHS	7,8
39	Chest	24 Oxford Area SD	Penn's Grove Sch	7,8
40	Lancas	13 Conestoga Valley SD	C. V. MS	7,8
41	Lancas	13 East.Lanc.County SD	Garden Spot MS	7,8
42	Lancas	13 Hempfield SD	Centerville MS	7,8
43	Lancas	13 Manheim Cent.SD	Manheim C. JHS	7,8
44	Leban	13 Northern Lebanon Sd	N. Lebanon JHS	7,8
45	Montg	23 Cheltenham SD	Cedarbrook MS	7,8
46	North	20 Nazareth Area SD	Nazareth Area MS	7,8
47	York	12 Red Lion Area SD	Red Lion Area JHS	7,8
48	York	12 Spring Grove SD	Spring Grove MS	7,8
49	York	12 West York Area SD	West York JHS	7,8
50	Bucks	22 Neshaminy SD	Maple Point MS	6,7,8,9
51	Bucks	22 Neshaminy SD	Neshaminy MS	6,7,8,9
52	Bucks	22 Neshaminy SD	Poquessing MS	6,7,8,9
53	Bucks	22 Neshaminy SD	Sandburg MS	6,7,8,9
54	Lehigh	21 Salisbury Twsp. SD	Salisbury MS	6,7,8,9
55	Berks	14 Fleetwood Area SD	Fleetwood MS	6,7,8
56	Berks	14 Reading SD	Northeast MS	6,7,8
57	Berks	14 Reading SD	Northwest MS	6,7,8
58	Berks	14 Reading SD	Southern MS	6,7,8
59	Berks	14 Reading SD	Southwest MS	6,7,8
60	Bucks	22 Bensalem Twsp. SD	Armstrong MS	6,7,8
61	Bucks	22 Bensalem Twsp. SD	Shafer MS	6,7,8
62	Bucks	22 Bensalem Twsp. SD	Snyder MS	6,7,8
63	Bucks	22 Centennial SD	Klinger MS	6,7,8
64	Bucks	22 Centennial SD	Log College MS	6,7,8
65	Bucks	22 Palisades SD	Palisades MS	6,7,8
66	Bucks	22 Pennsbury SD	C. H. Boehm MS	6,7,8
67	Bucks	22 Pennsbury SD	William Penn MS	6,7,8
68	Bucks	22 Quakertown C.SD	Milford MS	6,7,8
69	Bucks	22 Quakertown C.SD	Strayer MS	6,7,8
70	Chest	24 Avon-Grove SD	F.S. Engle MS	6,7,8
71	Chest	24 Coatsville Area SD	Gordon MS	6,7,8
72	Chest	24 Coatsville Area SD	N.Brandywine MS	6,7,8
73	Chest	24 Coatsville Area SD	S.Brandywine MS	6,7,8
74	Chest	24 Great Valley SD	G. Wayne MS	6,7,8
75	Chest	24 Kennett C. SD	Kennett MS	6,7,8
76	Chest	24 Owen J. Roberts SD	O.J.Roberts MS	6,7,8
77	Chest	24 Phoenixville SD	Phoenixville MS	6,7,8
78	Chest	24 Unionville-Chadds Ford SD	Patton MS	6,7,8
79	Chest	24 West Chester SD	E.N. Pierce MS	6,7,8

	County/IU	LEA (DISTRICT)	School	GRDS.
	-----	-----	-----	-----
80	Chest	24 West Chester SD	J.R. Fugett MS	6,7,8
81	Chest	24 West Chester SD	Stetson MS	6,7,8
82	Delaw	25 Chester-Upland SD	Pulaski MS	6,7,8
83	Delaw	25 Chester-Upland SD	Showalter MS	6,7,8
84	Delaw	25 Chester-Upland SD	Smedley MS	6,7,8
85	Delaw	25 Chichester SD	Chichester MS	6,7,8
86	Delaw	25 Haverford Twsp. SD	Haverford MD	6,7,8
87	Delaw	25 Marple Newtown SD	Paxon Hollow MS	6,7,8
88	Delaw	25 Penn-Delco SD	Northly MS	6,7,8
89	Delaw	25 Ridley SD	Ridley MS	6,7,8
90	Delaw	25 Rose Tree Media SD	S. Lake MS	6,7,8
91	Delaw	25 Upper Darby SD	B. Hills MS	6,7,8
92	Delaw	25 Upper Darby SD	Drexel Hill MS	6,7,8
93	Delaw	25 Wallingford-Swarthmore	Str.Haven MS	6,7,8
94	Lanca	13 Cocalico SD	Cocalico MS	6,7,8
95	Lanca	13 Donegal SD	Donegal MS	6,7,8
96	Lanca	13 Elizabethtown SD	Elizabeth. MS	6,7,8
97	Lanca	13 Ephrata Area SD	Ephrata MS	6,7,8
98	Lanca	13 Lampeter-Strasburg	M. Meylin MS	6,7,8
99	Lanca	13 Manheim Township SD	M.Twsp.MS	6,7,8
100	Lanca	13 Pequea Valley SD	Pequea V.IS	6,7,8
101	Lanca	13 Solanco SD	Smith MS	6,7,8
102	Lanca	13 Solanco SD	Swift MS	6,7,8
103	Lanca	13 Warwick SD	Warwick MS	6,7,8
104	Leban	13 Cornwall-Lebanon SD	C. Crest MS	6,7,8
105	Leban	13 E.Lebanon C.SD	E.Lebanon C.MS	6,7,8
106	Leban	13 Lebanon SD	Lebanon MS	6,7,8
107	Leban	13 Palmyra Area SD	Palmyra Area MS	6,7,8
108	Lehigh	21 Allentown City SD	H. Morton MS	6,7,8
109	Lehigh	21 Allentown City SD	S. Mountain MS	6,7,8
110	Lehigh	21 Southern Lehigh SD	S. Lehigh MS	6,7,8
111	Monroe	20 East Stroudsburg SD	J T Lambert IS	6,7,8
112	Monroe	20 Pleasant Valley SD	P. Valley MS	6,7,8
113	Montg	23 Colonial SD	Colonial MS	6,7,8
114	Montg	23 Hatboro Horsham SD	Keith Valley MS	6,7,8
115	Montg	23 Lower Merion SD	Bala-Cynwyd MS	6,7,8
116	Montg	23 Lower Merion SD	Welsh Valley MS	6,7,8
117	Montg	23 Methacton SD	Arcola IS	6,7,8
118	Montg	23 Norristown Area SD	E. Norriton MS	6,7,8
119	Montg	23 Norristown Area SD	Eisenhower MS	6,7,8
120	Montg	23 Norristown Area SD	Stewart MS	6,7,8
121	Montg	23 Pottsgrove SD	Pottsgrove MS	6,7,8
122	Montg	23 Pottstown SD	Pottstown MS	6,7,8

	County/IU	LEA (DISTRICT)	School	GRDS.
	-----	-----	-----	-----
123	Montg	23 Souderton Area SD	Indian Crest MS	6,7,8
124	Montg	23 Souderton Area SD	I. Valley MS	6,7,8
125	Montg	23 Spring-Ford Area SD	Spring-Ford MS	6,7,8
126	Montg	23 Springfield Twsp SD	Enfield MS	6,7,8
127	Montg	23 Upper Dublin SD	Sandy Run MS	6,7,8
128	Montg	23 Upper Moreland SD	U. Moreland MS	6,7,8
129	Montg	23 Wissahickon SD	Wissahickon MS	6,7,8
130	North	20 Bethlehem Area SD	Broughal MS	6,7,8
131	North	20 Bethlehem Area SD	East Hills MS	6,7,8
132	North	20 Bethlehem Area SD	Nitschmann MS	6,7,8
133	North	20 Bethlehem Area SD	Northeast MS	6,7,8
134	North	20 Saucon Valley SD	S. Valley MS	6,7,8
135	York	12 Central York SD	Central York MS	6,7,8
136	York	12 Dallastown Area SD	D. Area MS	6,7,8
137	York	12 Dover Area SD	Dover Area IS	6,7,8
138	York	12 N.E. York SD	Northeastern MS	6,7,8
139	York	12 Northern York C.SD	Northern MS	6,7,8
140	York	12 South Eastern SD	S. Eastern MS	6,7,8
141	York	12 Southern York C.SD	Southern MS	6,7,8
142	York	12 West Shore SD	Allen MS	6,7,8
143	York	12 West Shore SD	Crossroads MS	6,7,8
144	York	12 West Shore SD	Lemoyne MS	6,7,8
145	York	12 West Shore SD	N.Cumberland MS	6,7,8
146	York	12 York City SD	E.Fahs Smith MS	6,7,8
147	York	12 York City SD	Hannah Penn MS	6,7,8
148	York	12 York Suburban SD	Y.Suburban MS	6,7,8
149	Delaw	25 Southeast Delco SD	Ashland MS	6,7
150	Monroe	20 Pocono Mountain SD	P.Mountain IS	6,7
151	Montg	23 North Penn SD	Pennbrook MS	6,7
152	Montg	23 North Penn SD	Pennfield MS	6,7
153	North	20 Easton Area SD	Easton Area MS	6,7
154	Adams	12 Bermudian Springs	B.Springs MS	5,6,7,8
155	Adams	12 Fairfield Area SD	Fairfield MS	5,6,7,8
156	Adams	12 Littlestown Area SD	Maple Ave. MS	5,6,7,8
157	Berks	14 Twin Valley SD	T.Valley MS	5,6,7,8
158	Bucks	22 Pennsbury SD	Pennwood MS	5,6,7,8
159	Chest	24 Octorara Area SD	O. Area IS	5,6,7,8
160	Chest	24 Tredyffrin-Easttown SD	T.E. MS	5,6,7,8
161	Chest	24 Tredyffrin-Easttown	V. Forge MS	5,6,7,8
162	Delaw	25 Garnet Valley SD	G. Valley MS	5,6,7,8
163	Delaw	25 Radnor SD	Radnor MS	5,6,7,8
164	Delaw	25 Springfield SD	Richardson MS	5,6,7,8

	County/IU	LEA (DISTRICT)	School	GRDS.
	-----	-----	-----	-----
165	Lehigh	21 Allentown City SD	F. D.Raub MS	5,6,7,8
166	Lehigh	21 Allentown City SD	Trexler MS	5,6,7,8
167	Lehigh	21 Catasauqua SD	Lincoln MS	5,6,7,8
168	Lehigh	21 N.W. Lehigh SD	N.W.Lehigh MS	5,6,7,8
169	Lehigh	21 Whitehall-Coplay SD	W.C. MS	5,6,7,8
170	Monroe	20 Stroudsburg Area SD	Strouds. MS	5,6,7,8
171	Montg	23 Upper Merion SD	U. Merion MS	5,6,7,8
172	Montg	23 Upper Perkiomen SD	U. Perk. MS	5,6,7,8
173	North	20 Wilson Area SD	P.F.Lauer MS	5,6,7,8
174	York	12 Hanover Public SD	Hanover MS	5,6,7,8
175	York	12 South Western SD	Markle IS	5,6,7,8
176	Berks	14 Muhlenberg SD	Muhlenberg MS	5,6,7
177	Montg	23 Perkiomen Valley SD	P.Valley MS	5,6,7

APPENDIX C

Middle Grade Schools Arranged by Grade Level Configuration

Stratified Random Sample Schools

APPENDIX C

Middle Grade Schools Arranged by Grade Level Configuration

Stratified Random Sample Schools

(X) schools selected for study sample

Middle Grade Schools		Grade Span

Abington Junior High School		7,8,9
Armstrong Junior High School	x	7,8,9
Bangor Area Junior High School	x	7,8,9
Boyertown Area Junior High School East	x	7,8,9
Boyertown Area Junior High School West	x	7,8,9
Council Rock Jr. High School (Richmond)	x	7,8,9
Council Rock Junior High School (Holland)		7,8,9
Council Rock Junior High School (Newtown)	x	7,8,9
Downingtown Junior High School	x	7,8,9
Emmaus Junior High School	x	7,8,9
Exeter Township Junior High School	x	7,8,9
Eyer Junior High School	x	7,8,9
Gettysburg Junior High School	x	7,8,9
Hand Junior High School	x	7,8,9
Holicong Middle School	x	7,8,9
Lenape Middle School		7,8,9
Lincoln Junior High School		7,8,9
Lionville Junior High School		7,8,9
Northampton Area Junior High School	x	7,8,9
Northern Lehigh Junior High School	x	7,8,9
Penn Wood East Junior High School		7,8,9
Penn Wood West Junior High School		7,8,9
Reynolds Junior High School	x	7,8,9
Roosevelt Junior High School	x	7,8,9
Springhouse Junior High School	x	7,8,9
Tamanend Middle School	x	7,8,9
Troxell Junior High School		7,8,9
Unami Middle School		7,8,9
Wheatland Junior High School		7,8,9
Wilson Central Junior High School	x	7,8,9
Wilson Southern Junior High School	x	7,8,9

Brandywine Heights Middle School	x	7,8
Cedarbrook Middle School	x	7,8
Centerville Middle School		7,8
Conestoga Valley Middle School	x	7,8
Garden Spot Middle School		7,8
Governor Mifflin Middle School	x	7,8
Kutztown Area Junior High School	x	7,8
Manheim Central Junior High School	x	7,8
Nazareth Area Middle School	x	7,8
New Oxford Middle School	x	7,8
Northern Lebanon Junior High School		7,8
Oley Valley Middle School	x	7,8
Penn's Grove School	x	7,8
Pennridge Central Junior High School	x	7,8
Pennridge South Junior High School	x	7,8
Red Lion Area Junior High School	x	7,8
Spring Grove Area Middle School	x	7,8
West York Area Junior High School		7,8

Maple Point Middle School		6,7,8,9
Neshaminy Middle School	x	6,7,8,9
Poquessing Middle School		6,7,8,9
Salisbury Middle School	x	6,7,8,9
Sandburg Middle School	x	6,7,8,9

Allen Middle School		6,7,8
Arcola Intermediate School	x	6,7,8
Armstrong Middle School	x	6,7,8
Bala-Cynwyd Middle School	x	6,7,8
Beverly Hills Middle School	x	6,7,8
Broughal Middle School	x	6,7,8
Cedar Crest Middle School	x	6,7,8
Central York Middle School		6,7,8
Charles F. Patton Middle School	x	6,7,8
Charles H. Boehm Middle School	x	6,7,8
Chichester Middle School	x	6,7,8
Cocalico Middle School	x	6,7,8
Colonial Middle School	x	6,7,8
Crossroads Middle School	x	6,7,8
Dallastown Area Middle School	x	6,7,8
Donegal Middle School	x	6,7,8
Dover Area Intermediate School		6,7,8

Drexel Hill Middle School	x	6,7,8
E.N. Pierce Middle School	x	6,7,8
East Hills Middle School		6,7,8
East Norriton Middle School	x	6,7,8
Eastern Lebanon County Middle School	x	6,7,8
Edgar Fahs Smith Middle School	x	6,7,8
Eisenhower Middle School		6,7,8
Elizabethtown Area Middle School	x	6,7,8
Enfield Middle School	x	6,7,8
Ephrata Middle School	x	6,7,8
Fleetwood Middle School	x	6,7,8
Fred S. Engle Middle School	x	6,7,8
General Wayne Middle School	x	6,7,8
Gordon Middle School		6,7,8
Hannah Penn Middle School	x	6,7,8
Harrison-Morton Middle School	x	6,7,8
Haverford Middle School		6,7,8
Indian Crest Middle School		6,7,8
Indian Valley Middle School	x	6,7,8
J T Lambert Intermediate School	x	6,7,8
J.R. Fugett Middle School	x	6,7,8
Keith Valley Middle School		6,7,8
Kennett Middle School		6,7,8
Klinger Middle School	x	6,7,8
Lebanon Middle School	x	6,7,8
Lemoyne Middle School	x	6,7,8
Log College Middle School	x	6,7,8
Manheim Township Middle School	x	6,7,8
Martin Meylin Middle School		6,7,8
Milford Middle School	x	6,7,8
New Cumberland Middle School		6,7,8
Nitschmann Middle School		6,7,8
North Brandywine Middle School	x	6,7,8
Northeast Middle School (B.A.S.D)		6,7,8
Northeast Middle School (R.A.S.D)		6,7,8
Northeastern Middle School		6,7,8
Northern Middle School	x	6,7,8
Northly Middle School	x	6,7,8
Northwest Middle School	x	6,7,8
Owen J. Roberts Middle School		6,7,8
Palisades Middle School	x	6,7,8
Palmyra Area Middle School	x	6,7,8
Paxon Hollow Middle School	x	6,7,8
Pequea Valley Intermediate School	x	6,7,8
Phoenixville Middle School	x	6,7,8
Pleasant Valley Middle School	x	6,7,8

Pottsgrove Middle School	x	6,7,8
Pottstown Middle School	x	6,7,8
Pulaski Middle School	x	6,7,8
Ridley Middle School	x	6,7,8
Sandy Run Middle School		6,7,8
Saucon Valley Middle School	x	6,7,8
Shafer Middle School	x	6,7,8
Showalter Middle School	x	6,7,8
Smedley Middle School		6,7,8
Smith Middle School	x	6,7,8
Snyder Middle School	x	6,7,8
South Brandywine Middle School	x	6,7,8
South Eastern Middle School		6,7,8
South Mountain Middle School	x	6,7,8
Southern Lehigh Middle School	x	6,7,8
Southern Middle School (R.A.S.D.)		6,7,8
Southern Middle School (Southern York)	x	6,7,8
Southwest Middle School		6,7,8
Spring-Ford Middle School		6,7,8
Springton Lake Middle School		6,7,8
Stetson Middle School	x	6,7,8
Stewart Middle School	x	6,7,8
Strath Haven Middle School	x	6,7,8
Strayer Middle School		6,7,8
Swift Middle School		6,7,8
Upper Moreland Middle School		6,7,8
Warwick Middle School	x	6,7,8
Welsh Valley Middle School	x	6,7,8
William Penn Middle School	x	6,7,8
Wissahickon Middle School		6,7,8
York Suburban Middle School	x	6,7,8

Ashland Middle School	x	6,7
Easton Area Middle School		6,7
Pennbrook Middle School	x	6,7
Pennfield Middle School	x	6,7
Pocono Mountain Intermediate School		6,7

Bermudian Springs Middle School	x	5,6,7,8
Fairfield Area Middle School		5,6,7,8
Francis D. Raub Middle School	x	5,6,7,8
Garnet Valley Middle School	x	5,6,7,8
Hanover Middle School	x	5,6,7,8
Lincoln Middle School		5,6,7,8

Maple Avenue Middle School	x	5,6,7,8
Markle Intermediate School	x	5,6,7,8
Northwestern Lehigh Middle School		5,6,7,8
Octorara Area Intermediate School		5,6,7,8
Pennwood Middle School	x	5,6,7,8
Philip F. Lauer Middle School		5,6,7,8
Radnor Middle School	x	5,6,7,8
Richardson Middle School	x	5,6,7,8
Stroudsburg Middle School		5,6,7,8
Tredyffrin-Easttown Middle School	x	5,6,7,8
Trexler Middle School		5,6,7,8
Twin Valley Middle School	x	5,6,7,8
Upper Merion Middle School	x	5,6,7,8
Upper Perkiomen Middle School	x	5,6,7,8
Valley Forge Middle School		5,6,7,8
Whitehall-Coplay Middle School	x	5,6,7,8

Muhlenberg Middle School		5,6,7
Perkiomen Valley Middle School	x	5,6,7

APPENDIX D

**Instrument
Validation Exercise # 1**

**The Identification of Factors Thought
to
Affect Parent Involvement**

APPENDIX D
Validation Exercise # 1

The Identification of Factors Thought
to
Affect Parent Involvement

(x) All that apply.

_____ teacher
_____ parent
_____ principal
_____ other _____

This exercise asks for your opinion as to whether or not certain factors affect parent involvement in the education of children.

DIRECTIONS:

- If you feel a factor affects parent involvement (positively or negatively) CIRCLE (YES).
- If you feel a factor does not affect parent involvement (positively or negatively) CIRCLE (NO).
- If you are not sure whether or not a factor affects parent involvement CIRCLE (NS).
- If you do not understand the item circle the item number, e.g. (1.).
- In the space provided at the end of the exercise, list any additional factors which you feel affect parent involvement in the education of children.

IN YOUR OPINION, DO THE FOLLOWING FACTORS AFFECT PARENT INVOLVEMENT IN THE EDUCATION OF CHILDREN?

Has an effect -----	Has no effect -----	Not sure ---
------------------------------	------------------------------	--------------------

- 1) The school district's written policy statements on parent involvement.....(YES)...(NO)...(NS)

- 2) The school district's goals for parent involvement..... (YES) ... (NO) ... (NS)
- 3) The school district's training program for staff members associated with parent involvement..... (YES) ... (NO) ... (NS)
- 4) The district employs a parent involvement coordinator..... (YES) ... (NO) ... (NS)
- 5) Parents have the opportunity to choose their child's school..... (YES) ... (NO) ... (NS)
- 6) The school's mission statement or philosophy..... (YES) ... (NO) ... (NS)
- 7) The school's written guidelines for parent involvement..... (YES) ... (NO) ... (NS)
- 8) The school's goals for parent involvement..... (YES) ... (NO) ... (NS)
- 9) Parents' knowledge of the curriculum..... (YES) ... (NO) ... (NS)
- 10) The school's parent education program..... (YES) ... (NO) ... (NS)
- 11) The school's method of organizing for instruction, e.g. self contained classes, team teaching, or departmentalization..... (YES) ... (NO) ... (NS)
- 12) Class size or pupil/teacher ratio.... (YES) ... (NO) ... (NS)
- 13) The number of teachers a student may have during a school year..... (YES) ... (NO) ... (NS)
- 14) Assigning each student an advisor.... (YES) ... (NO) ... (NS)
- 15) Time for teachers to meet with parents..... (YES) ... (NO) ... (NS)
- 16) Communication equipment, e.g. telephone answering machine, voicemail, or homework hotline..... (YES) ... (NO) ... (NS)

- 17) Telephones are readily available for staff use..... (YES) ... (NO) ... (NS)
- 18) The school has a parent room or area. (YES) ... (NO) ... (NS)
- 19) Budgetary provisions for parent involvement (YES) ... (NO) ... (NS)
- 20) The school's intramural activity schedule..... (YES) ... (NO) ... (NS)
- 21) The location of the school in the community..... (YES) ... (NO) ... (NS)
- 22) Parent's comfort level when visiting the school..... (YES) ... (NO) ... (NS)
- 23) Parent's satisfaction with prior school experiences..... (YES) ... (NO) ... (NS)
- 24) The school recognizes parents for their involvement..... (YES) ... (NO) ... (NS)
- 25) Orientation sessions are held for for parents..... (YES) ... (NO) ... (NS)
- 26) The principal's philosophy of education..... (YES) ... (NO) ... (NS)
- 27) The principal's experience in education..... (YES) ... (NO) ... (NS)
- 28) The principal's expectations for teachers in regard to involving parents..... (YES) ... (NO) ... (NS)
- 29) The principal's interest in building parent involvement..... (YES) ... (NO) ... (NS)
- 30) The principal's public statements about parent involvement..... (YES) ... (NO) ... (NS)
- 31) The principal's training for working with parents..... (YES) ... (NO) ... (NS)
- 32) The principal's creativity..... (YES) ... (NO) ... (NS)

- 33) The principal's receptivity to
opinions and suggestions from
parents..... (YES) ... (NO) ... (NS)
- 34) Written communications from the
principal's office to parents..... (YES) ... (NO) ... (NS)
- 35) The principal's interpersonal
skills..... (YES) ... (NO) ... (NS)
- 36) The principal's willingness to meet
informally with parents..... (YES) ... (NO) ... (NS)
- 37) The principal's policy in regard to
meeting with parents..... (YES) ... (NO) ... (NS)
- 38) The principal's working relationship
with the school's parent
organization..... (YES) ... (NO) ... (NS)
- 39) The principal's annual evaluation of
parent involvement within the school. (YES) ... (NO) ... (NS)
- 40) The teacher's philosophy of
education..... (YES) ... (NO) ... (NS)
- 41) The teacher's experience in
education..... (YES) ... (NO) ... (NS)
- 42) The teacher's willingness to involve
parents..... (YES) ... (NO) ... (NS)
- 43) The teacher's written communication
skill..... (YES) ... (NO) ... (NS)
- 44) The teacher's training for working
with parents..... (YES) ... (NO) ... (NS)
- 45) The teacher's flexibility for
scheduling meetings with parents..... (YES) ... (NO) ... (NS)
- 46) The teacher's interpersonal skills... (YES) ... (NO) ... (NS)
- 47) The teacher's organizational skills.. (YES) ... (NO) ... (NS)

48) Teachers follow through with
suggestions made to parents.....(YES) ... (NO) ... (NS)

Please note additional factors which you feel affect parent
involvement positively or negatively.

THANK YOU FOR YOUR ASSISTANCE.
PLEASE RETURN THIS EXERCISE TO J.D. LEIDERMAN AT OAKS
ELEMENTARY SCHOOL.

(x) All that apply.

_____ teacher
_____ parent
_____ principal

[Validation Exercise # 1
Follow-Up
Suggested Items]

This exercise asks for your opinion as to whether or not certain factors affect parent involvement in the education of children.

DIRECTIONS:

- If you feel a factor affects parent involvement (positively or negatively) CIRCLE (YES).
- If you feel a factor does not affect parent involvement (positively or negatively) CIRCLE (NO).
- If you are not sure whether or not a factor affects parent involvement CIRCLE (NS).
- If you do not understand the item circle the item number, e.g. (1.).
- In the space provided at the end of the exercise, list any additional factors which you feel affect parent involvement in the education of children.

IN YOUR OPINION, DO THE FOLLOWING FACTORS AFFECT PARENT INVOLVEMENT IN THE EDUCATION OF CHILDREN?

	Has an effect -----	Has no effect -----	Not sure ---
49) Teachers' persistence in holding parents accountable for students' progress.....	(YES) ...	(NO) ...	(NS)
50) Parents serve as mentors for students.....	(YES) ...	(NO) ...	(NS)
51) Interpersonal skills of support staff members.....	(YES) ...	(NO) ...	(NS)
52) Teachers' attitudes towards parents..	(YES) ...	(NO) ...	(NS)
53) Parents' familiarity with the school district.....	(YES) ...	(NO) ...	(NS)

Results of Validation Exercise # 1

Factors Thought to Affect Parent Involvement

Factor #	Total y/n	Total n	Total Y	% Y	Qualify 75%
1	26	7	19	73.07	
2	27	3	24	88.88	*
3	24	2	22	91.66	*
4	24	2	22	91.66	*
5	27	4	23	85.185	*
6	27	17	10	37.03	
7	25	5	20	80	*
8	27	4	23	85.185	*
9	26	2	24	92.3	*
10	27	0	27	100	*
11	26	11	15	57.69	
12	23	4	19	82.6	*
13	24	7	17	79.22	*
14	24	10	14	58.32	
15	26	2	24	92.3	*
16	26	4	22	84.6	*
17	27	4	23	85.185	*
18	21	6	15	71.42	
19	21	4	17	80.95	*
20	22	9	13	59.09	
21	26	8	18	69.228	
22	28	0	28	100	*
23	28	0	28	100	*
24	25	1	24	96	*
25	27	0	27	100	*
26	24	6	18	74.98	*
27	24	9	15	62.49	
28	28	1	27	96.42	*
29	28	0	28	100	*
30	26	2	24	92.3	*
31	26	3	23	88.45	*
32	23	6	17	73.9	
33	27	0	27	100	*
34	28	2	26	92.85	*
35	27	0	27	100	*
36	27	0	27	100	*
37	25	1	24	96	*
38	27	0	27	100	*

Factor #	Total y/n	Total n	Total y	% y	Qualify 75%
39	23	7	16	69.56	
40	25	7	18	72	
41	27	6	21	77.7	*
42	28	0	28	100	*
43	25	2	23	92	*
44	24	3	21	87.48	*
45	28	0	28	100	*
46	28	0	28	100	*
47	26	8	18	69.228	
48	28	2	26	92.85	*
49*	14	0	14	100	*
50*	13	4	9	69.23	
51*	13	1	12	92	*
52*	14	0	14	100	*
53*	12	1	11	91.66	*

* items in follow-up exercise

Categories of Respondents
for
Validation Exercise # 1

The respondents to Validation Exercise # 1 were asked to complete the following:

(x) All THAT APPLY TO YOU

☐ Teacher
☐ Parent
☐ Principal
☐ other _____

A total of 28 respondents completed the exercise.

Categories Noted:	Number of Responses
-----	-----
Regular Education Teachers	16
Parents	14
Principals	2
Others:	2 counselors
	2 psychologists

The total exceeds the 28 respondents total since more than one category may apply.

APPENDIX E

Validation Exercise # 2

Categories and Examples of Parent Involvement

Validation Exercise # 2

This exercise will take approximately 8 minutes to complete. This data will be used to validate questions for use in a doctoral dissertation survey.

- Read Categories of Parent Involvement carefully.
- Refer back to this list as often as necessary while you respond to each item in the validation exercise.
- Return your completed response sheet to J. D. Leiderman.

Thank you for your assistance.

Categories of Parent Involvement

<u>CATEGORIES</u>		<u>DEFINITIONS</u>
(A) Co-Communicators	-	Two way communication between the home and school
(B) Co-Supporters	-	Parents volunteer to help the school, and the school supports parents.
(C) Co-Learners	-	Parents learn about the curriculum and ways to help their children at home, and school personnel acquire information to better understand their students and how to work with parents.
(D) Co-Teachers	-	Parents teach children at home and/or in school, and the school coordinates home teaching activities.
(E) Co-Decision Makers	-	Parents and school personnel collaborate on decisions affecting children or the school.

VALIDATION EXERCISE

(X) ALL THAT APPLY TO YOU

_____ Teacher
_____ Parent
_____ Principal
_____ other _____

In your opinion, how would you categorize the following examples of parent involvement? Circle one LETTER corresponding to a category listed on the preceding page.

CATEGORIES	EXAMPLES OF PARENT INVOLVEMENT
1) A B C D E.....	The school informs parents about programs and activities through newsletters, bulletins, or handbooks.
2) A B C D E.....	The school organizes home teaching activities for parents and children; for example home reading programs or family math activities.
3) A B C D E.....	Parents attend school activities such as science fairs or parent/student luncheons.
4) A B C D E.....	Parents and school personnel work together on planning or problem solving committees.
5) A B C D E.....	Parents attend workshops at the school to learn about the curriculum.
6) A B C D E.....	Parents and teachers exchange information during conferences and back to school nights.
7) A B C D E.....	Parents tutor their children on school work at home.
8) A B C D E.....	Parents participate on school committees to help make decisions related to the curriculum; for example to select a new text book.

- 9) A B C D E.....Parents attend workshops at the school to learn ways to help their children at home.
- 10) A B C D E.....Parents share their skills, talents, and knowledge with students.
- 11) A B C D E.....Parents chaperone school events such as dances.
- 12) A B C D E.....The school solicits information and opinions from parents through questionnaires and surveys.
- 13) A B C D E.....School personnel consult with parents prior to making changes in a child's program.
- 14) A B C D E.....Parents raise funds for school projects.
- 15) A B C D E.....Teachers learn about their students' cultures, interests, or learning styles from parents.
- 16) A B C D E.....School personnel and parents use phone calls or notes to share information or respond to questions.
- 17) A B C D E.....The school refers families to community resources or agencies when necessary.
- 18) A B C D E.....Parents serve on the principal's advisory committee to provide input for school decisions.
- 19) A B C D E.....School personnel are made aware of the benefits of parent involvement.
- 20) A B C D E.....The school uses a voice mail system or answering machine.
- 21) A B C D E.....Parents are spectators at school events such as athletic contests or musical performances.
- 22) A B C D E.....Parents are given opportunities to provide input on decisions concerning their child's assignment.

- 23) A B C D E.....Parents and school personnel monitor homework completion.
- 24) A B C D E.....Casual, unplanned. and informal contacts between the principal and parents or teachers and parents provide parents an opportunity to express opinions.
- 25) A B C D E.....Parent volunteers work in the school performing clerical tasks for teachers or the office.
- 26) A B C D E.....Parents help teachers instruct children in classrooms.
- 27) A B C D E.....The parent group (PTA, PTO) offers suggestions to the principal.
- 28) A B C D E.....School personnel receive inservice training to learn ways to work with parents.
- 29) A B C D E.....Parents attend meetings of the parent organization in the school (PTA, PTO).

+++++

Were any statements confusing or unclear? If so, please circle the item.

Thank you for your assistance.

Please return this questionnaire to J. D. Leiderman in the enclosed envelope.

APPENDIX E

Results of Validation Exercise # 2

Categories and Examples of Parent Involvement

Example Item #	Target Category	Matches /Total Responses	%	Qualify
1	A	16/19	84	*
2	D	16/19	84	*
3	B	13/19	68.419	
4	E	18/19	94.734	*
5	C	18/19	94.734	*
6	A	15/19	78.945	*
7	D	17/19	89.471	*
8	E	15/19	78.945	*
9	C	15/19	78.945	*
10	D	12/19	63.156	
11	B	19/19	100	*
12	A	15/19	78.945	*
13	E	19/19	100	*
14	B	19/19	100	*
15	C	14/19	73.683	
16	A	19/19	100	*
17	B	11/19	57.89	
18	E	18/19	94.734	*
19	C	11/19	57.89	
20	A	19/19	100	*
21	B	15/19	78.945	*
22	E	17/19	89.471	*
23	D	11/19	57.89	
24	A	18/19	94.734	*
25	B	17/19	89.471	*
26	D	15/19	78.945	*
27	E	9/19	47.367	
28	C	17/19	89.471	*
29	B	13/19	68.419	

Categories of Respondents for Validation Exercise # 1

The respondents to Validation Exercise # 1 were asked to complete the following:

(x) All THAT APPLY TO YOU

_____ Teacher
_____ Parent
_____ Principal
_____ other _____

The responses of the 19 respondents include:

Categories Noted: -----	Number of Responses -----
Regular Education Teachers	10
Special Education Teachers	1
Parents employees)	14 (5 not school
Principals	3
Others:	1 counselor 1 psychologist 3 school support staff

The total exceeds the 19 respondents total since more than one category may apply.

APPENDIX F
CORRESPONDENCE
to
SCHOOLS

April 17, 1995

Dear ~~XXXXX~~Sup. Title, ~~XXXXX~~Sup. last,

I am writing this letter to request your support for a research study being conducted partially to fulfill the requirements of my doctoral program at Lehigh University. This investigation, titled "Factors Affecting Parent Involvement in Middle Grade Schools", will survey teachers, parents, and principals associated with middle grade schools in southeastern Pennsylvania. A random selection process identified ~~XXXXX~~School, to be included as a sample school.

As superintendent of the ~~XXXXX~~LEA, I'm sure you understand the importance of facilitating and maintaining parent involvement throughout a child's school experience. Unfortunately, research clearly shows that parent involvement decreases as students progress through school, with a significant decline occurring when students reach the middle grades. This study will ask teachers, parents, and principals to rate the degree of influence a number of factors have on parent involvement in their middle grade school. The data will be analyzed to identify discriminating factors associated with schools where parent involvement is rated as strong. The research findings will be useful to middle grade school educators working to improve parent involvement and therefore the effectiveness of their educational programs. I've enclosed a sample survey for your information.

In a few days the principal of ~~XXXXX~~School, will receive a letter of explanation and a set of materials to participate in this study. Included will be: 1) detailed instructions, 2) surveys for parents, teachers, and the principal, 3) letters for parents and teachers which explain survey procedures and that participation is voluntary and anonymous, and 4) stamped envelopes for the return mailing of surveys.

For participating ~~XXXXX~~School, will receive: 1) a school profile of parent involvement (an anonymous summary of the data submitted by the school), 2) a summary of the data collected from the 114 sample schools participating in the study (which can be used as normative data), and 3) a clean set of the three forms of the

survey (for the school's or district's use to conduct a more extensive follow-up survey).

The participation of the principal along with selected teachers and parents from ~~XXXXXX~~ School is important for the success of this study. Your encouragement for their participation will be appreciated. If you have any questions about the study or would like additional information, please feel free to contact either myself or Dr. George White.

This study is being conducted under the auspices of the Department of Educational Leadership at Lehigh University in Bethlehem, Pennsylvania, and under the direct guidance of Dr. George White, Assistant Professor of Education. Problems that may result from participation in this study may be reported to Linda F. Cope, Office of Research and Sponsored Programs, Lehigh University, (215) 758-4861.

You may be interested to know that the membership of my dissertation committee includes:

Dr. George White,	Lehigh University	(610) 758-3241
Dr. Judith Brough,	Gettysburg College	
Dr. George DuPaul,	Lehigh University	
Dr. Richard McAdams,	Lehigh University	

Thank you for your consideration of this request.

Respectfully,

James D. Leiderman

Dear Parent,

~~XXXXXX~~ School~~X~~, is participating in a study of middle grade schools located in southeastern Pennsylvania. This study is designed to gather information from parents, teachers, and principals to identify factors affecting parent involvement during the middle grade school years.

A few days ago you were contacted by a representative of ~~XXXXXX~~ School ~~X~~ who asked if you would agree to complete a survey on parent involvement in regard to this school. Thank you for agreeing to participate!

You might be interested to learn that you were selected randomly, along with other parents, teachers, and the principal of ~~XXXXXX~~ School~~X~~. The information you provide through the survey will be kept confidential. You will respond anonymously, and you will not return the survey to the school. After all surveys are returned from this school, the school will receive a summary report. The names of participants will not be reported.

The information collected from all schools in the study will be examined to identify factors which influence parent involvement. The results of this study will provide teachers and principals with useful information for school improvement efforts.

For participating, ~~XXXXXX~~ School~~X~~ will receive a school profile of parent involvement, a summary of the data received from all schools (which the school can use for comparison purposes), and blank copies of the survey for their own use. To help your school receive this valuable data, please complete this survey and return mail it as soon as possible in the enclosed envelope.

The survey takes approximately ten minutes to complete. After completing your survey, double check it to make sure you have answered each item, and return mail it in the envelope provided. Again, I remind you that your responses will be held in confidence. Parents' opinions are critical to the success of this study. Therefore, your assistance is needed, and it will be greatly appreciated.

This study is being conducted partially to fulfill the requirements of my doctoral program at Lehigh University. If your participation in this study should cause you any difficulty, please contact Linda F. Cope, Office of Research and Sponsored programs, Lehigh University, Bethlehem, PA 18015, (610) 758-4861.

Respectfully,

James D. Leiderman, Principal

Dear Fellow Educator,

Thank you for agreeing to participate in this research study which will identify factors affecting parent involvement in the middle grades. The population for this study includes all middle grade schools in southeastern Pennsylvania. Your school was selected as a sample school to be surveyed, and is one of one hundred fourteen schools in the sample.

Along with yourself, several other teachers, a number of parents, and the principal of ~~XXXXXX~~ School, have volunteered to complete surveys designed to gather perceptions about parent involvement in this school.

The information collected will be analyzed to identify discriminating factors about schools where parent involvement is thought to either be strong or weak. The results of the study will be used to offer suggestions to educators interested in improving parent involvement during the middle school years.

All responses will be held in strict confidence. You will complete your survey anonymously. When the results of this survey are reported school names will not be used.

For participating ~~XXXXXX~~ School, will receive: 1) a school profile of parent involvement (a summary of the data submitted by the school), 2) a summary of the data collected from the 114 sample schools participating in the study (which can be used as normative data), and 3) a clean set of the three forms of the survey (for the school's or district's use to conduct a more extensive follow-up survey).

Your participation as a teacher is critically important. Kindly take approximately 10 minutes to complete the attached survey. Mark your responses directly on the survey and return it to the building coordinator promptly. Thank you for your assistance.

This study is being conducted partially to fulfill the requirements of my doctoral program at Lehigh University. Any problem that may result from your participation in this study may be reported to Linda F. Cope, Office of Research and Sponsored Programs, Lehigh University, (215) 758-4861.

You may be interested to know that the membership of my dissertation committee includes:

Dr. George White,	Lehigh University	(610) 758-3241
Dr. Judith Brough,	Gettysburg College	
Dr. George DuPaul,	Lehigh University	
Dr. Richard McAdams,	Lehigh University	

Respectfully,

James D. Leiderman

Oaks Elementary School
Oaks School Drive
Oaks, PA 19456
(610) 933-8839

May , 1995

Dear ~~XXXXXX~~ Princ. Titley, ~~XXXXXX~~ Princ. Lasty,

Approximately ten days ago you received a packet of information about a study currently being conducted in middle grade schools throughout southeastern Pennsylvania. A letter explained that ~~XXXXXX~~ Schooly had been selected to participate in the study, and procedures were provided for identifying teachers and parents to complete surveys. I'm hopeful the survey process is underway in your school. If so, this letter will remind you to return the completed surveys as soon as possible. If you or the survey coordinator have not yet distributed the survey materials, I ask that you kindly do so. There is still time for your school to participate in this important study, and your contribution is needed and will be very much appreciated.

Thank you again for your time and consideration of this request.

Respectfully,

James D. Leiderman
Principal
Oaks Elementary School

Dr. George White
Professor
Lehigh University
Bethlehem, PA 18015

Coordinator's Checklist

April , 1995

Dear School Coordinator,

First let me thank you for serving as the coordinator for your school. I realize your time is valuable and therefore, I have attempted to make these procedures as straightforward as possible.

Basically, as school coordinator you will be asked to:

- 1) Follow procedures to identify teachers and parents to complete surveys,
- 2) Distribute the surveys to the individuals identified,
- 3) Call the parents identified to explain the survey and encourage their participation before mailing the surveys. Make follow-up phone calls to parents to remind them to complete and return their survey.
- 4) Remind the selected teachers and the principal to return their completed surveys if necessary,
- 5) Collect and return mail the surveys completed by teachers and the principal.
- 6) Complete the "Coordinator's Final Report" and return it with the completed surveys.

For participating in this study your school will receive: 1) a school profile of parent involvement based on the data received from your school, 2) a clean set of the three forms of the survey for your use to conduct a more extensive survey, and 3) a summary of the data collected from the 114 schools in the study (which can be used as normative data). This information will be sent to the principal of your school at the completion of the study.

IF YOU HAVE ANY QUESTIONS. FEEL FREE TO CONTACT ME.

James D. Leiderman, Principal
Oaks Elementary School
Oaks School Drive
Oaks, PA 19456
(W) (610) 933-8839
(H) (610) 582-0925

PROCEDURES:

To Identify Teachers and Distribute Teacher Surveys:

- a) Locate a current alphabetized listing of teachers in this school. Do not include itinerant or part time teachers.
- b) Begin with the first name on the list and mark every sixth name. These are the teachers you will contact about participating.
- c) Teachers' surveys are gold. I have included what I believe is a sufficient number of teachers' surveys based on your student population. If you need additional copies, simply make copies yourself or contact me.
- d) Approach each selected teacher individually. Explain the survey and ask if they will volunteer to participate. Explain it takes about ten minutes to complete and that they will respond anonymously. Mention that all survey information will be treated confidentially. If a teacher declines to participate, approach the next teacher named on the alphabetized list.
- e) Mark a specific due date on each survey. A place is provided on the last page. Two school days is a reasonable amount of time.

To Distribute the Principal's Survey:

- a) The principal's survey has a yellow cover page.
- b) Distribute the survey and explain the due date (The same day as the teachers or two school days).

To Identify Parents and Distribute Parent Surveys:

- a) Locate an alphabetized listing of the student body. Begin counting with the first name and identify every 100th name on the list. The parents (or legal guardians) of these children are the parents selected to participating in the study.
- b) The parent surveys are on white paper. The parent surveys, a letter of explanation, and a return envelope have been pre-packaged in an envelope. I've included a sufficient number of surveys for your school enrollment.
- c) Phone each parent/home selected and explain that your school is participating in a research study. Explain that parents and teachers, along with the principal, are completing surveys about parent involvement in this school, and they have been randomly selected to participate as a parent. Ask if they are willing to participate. If they agree, explain that they will receive a survey from the school by mail in a few days. Request that they complete it and return it in the addressed stamped envelope by (DATE).
- d) If a selected parent objects, return to the list of

students and contact the parents/home of the next child on the list.

- e) Address the envelopes to the parents to whom you spoke by phone, seal the envelopes, and mail them.
- f) Five (5) days after mailing the letters, phone the parents again to remind them to complete the survey and return it as soon as possible.
- g) Parents will return their surveys directly to me to eliminate the need to collect them at school and to guarantee the parents anonymity.

Collect the Teachers' and Principal's Surveys

- a) When teacher and the principal's surveys are returned, place them in the 10" x 13" envelope for return mailing.
- b) One day after the due date given to the teachers and the principal, remind them to return their completed surveys. This can be done verbally or by placing a copy of the enclosed reminder sheet in their school mailbox. Duplicate this sheet as necessary.

Return Mailing

- a) A 10" X 13" envelope has been provided for return mailing.
- b) Place the completed surveys and the "Coordinator's Final Report" in the envelope. Seal the envelope securely with tape and place in the U.S. mail. The envelope provided has sufficient postage to return mail the teacher and principal surveys sent to your school.

FOLLOW-UP MAILING:

Studies such as this often require a follow-up mailing if insufficient surveys are returned from the first mailing. For this study a follow-up mailing will take place approximately ten days after the anticipated return date.

Thank you for coordinating your school's participation in this study. If you have developed an interest in this study and would like a copy of the research results, complete the request form on the reverse side of the coordinator's report.

This study is being conducted under the auspices of the Department of Educational Leadership at Lehigh University in Bethlehem, Pennsylvania, and under the direct guidance of Dr. George White, Assistant Professor of Education. Problems that may result from participation in this study may be reported to Linda F. Cope,

Office of Research and Sponsored Programs, Lehigh University,
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Dr. George DuPaul,	Lehigh University	
Dr. Richard McAdams,	Lehigh University	

COORDINATOR'S FINAL REPORT

Dear School Coordinator,

Thank you for coordinating this study in your middle grade school. Please complete this brief questionnaire about how the study was conducted and return it along with the completed surveys from your school.

1) Were there any unusual conditions or circumstances in this school just prior to or during the study which in your opinion will affect responses?

() YES () NO

If yes, explain: _____

2) Did you follow the procedures for identifying teachers to participate?

() YES () NO

3) How many teachers, who were initially selected, declined to participate causing you to ask the next person on the list to participate?

4) Did you follow procedures for identifying parents to participate?

() YES () NO

5) Did you make the introductory phone calls to explain the study to parents and to request their participation?

() YES () NO

6) How many parents declined to participate during introductory phone calls causing you to go to the next parent on the list?

7) Did you make follow-up phone calls to parents to remind them to complete and return their surveys?

() YES () NO

**PLEASE RETURN THIS FORM ALONG WITH THE
SURVEYS FROM YOUR SCHOOL.**

APPENDIX G

Survey Instruments

Factors Affecting Parent Involvement in the Middle Grades: A Survey of Parents, Teachers, and Principals

DIRECTIONS : MARK YOUR RESPONSES DIRECTLY ON THIS SURVEY. CHECK TO BE SURE YOU HAVE RESPONDED TO EACH ITEM.

Teacher's Background Information:

- A. For how many years have you worked in education?..._____
- B. How many years experience do you have in middle grade education?....._____
- C. For how many years have you taught at this middle grade school?....._____
- D. Areas of certification < (X) all that apply >
- () elementary teacher () secondary teacher
- () elementary principal () secondary principal
- () guidance () other _____

For items 1-21, rate each example of parent involvement to indicate how frequently it occurs in this middle grade school.

Circle one number. Use the following scale. If the example does not pertain to this school, or if you do not know, circle (0).

0.....	1.....	2.....	3.....	4.....	5.....	6.....	7.....	8.....	9
Does	Never		Seldom		Sometimes		Often		Very
Not									Frequently
Pertain									
(DN)	(N)		(S)		(ST)		(O)		(VF)

(DN) (N) (S) (ST) (O) (VF)

- 1) Parents serve on the principal's advisory committee to provide input for school decisions0...1...2...3...4...5...6...7...8...9
- 2) Parents and teachers exchange information during conferences and back to school nights.....0...1...2...3...4...5...6...7...8...9
- 3) School personnel receive inservice training to learn ways to work with parents.....0...1...2...3...4...5...6...7...8...9
- 4) The school uses a voice mail system or answering machine.....0...1...2...3...4...5...6...7...8...9

A Survey of Parents, Teachers, and Principals

DIRECTIONS : MARK YOUR RESPONSES DIRECTLY ON THIS SURVEY. CHECK TO BE SURE YOU HAVE RESPONDED TO EACH ITEM.

Principal's Background Information:

- A. For how many years have you worked in education?... _____
- B. How many years experience do you have in middle grade education?..... _____
- C. How many years of experience do you have in administration?..... _____
- D. For how many years have you been principal of this middle grade school?..... _____
- E. Areas of certification < (X) all that apply >
- | | |
|--------------------------|-------------------------|
| () elementary teacher | () secondary teacher |
| () elementary principal | () secondary principal |
| () guidance | () other |

For items 1-21, rate each example of parent involvement to indicate how frequently it occurs in this middle grade school.

Circle one number. Use the following scale. If the example does not pertain to this school, or if you do not know, circle (0).

0.....	1.....	2.....	3.....	4.....	5.....	6.....	7.....	8.....	9.....
Does Not Pertain	Never		Seldom		Sometimes		Often		Very Frequently
(DN)	(N)		(S)		(ST)		(O)		(VF)

- | | (DN) | (N) | (S) | (ST) | (O) | (VF) | | | | |
|--|------|-----|-----|------|-----|------|---|---|---|---|
| 1) Parents serve on the principal's advisory committee to provide input for school decisions | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 2) Parents and teachers exchange information during conferences and back to school nights..... | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 3) School personnel receive inservice training to learn ways to work with parents..... | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 4) The school uses a voice mail system or answering machine..... | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

Factors Affecting Parent Involvement in the Middle Grades: A Survey of Parents, Teachers, and Principals

DIRECTIONS : MARK YOUR RESPONSES DIRECTLY ON THIS SURVEY. CHECK TO BE SURE YOU HAVE RESPONDED TO EACH ITEM.

Parent's Information:

A. In which grade or grades, in this middle grade school, are your children currently?

5.....6.....7.....8.....9

B. For how many years have you been associated with this school?

C. Who makes parent involvement work in this school? Order the following from the most influential (#1) to the least influential (#5 or #6).

() secretary	() parents
() teachers	() principal
() counselor	
() other _____	

For items 1-21, rate each example of parent involvement to indicate how frequently it occurs in this middle grade school.

Circle one number. Use the following scale. If the example does not pertain to this school, or if you do not know, circle (0).

0.....1.....2.....3.....4.....5.....6.....7.....8.....9
Does Not Pertain Never Seldom Sometimes Often Very Frequently
(DN) (N) (S) (ST) (O) (VF)

- | | | | | | | | | | | |
|---|------|-----|-----|------|-----|------|---|---|---|---|
| | (DN) | (N) | (S) | (ST) | (O) | (VF) | | | | |
| 1)Parents serve on the principal's advisory committee to provide input for school decisions | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 2)Parents and teachers exchange information during conferences and back to school nights..... | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 3)School personnel receive inservice training to learn ways to work with parents..... | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 4)The school uses a voice mail system or answering machine..... | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

- 5) Parents and school personnel work together on planning or problem solving committees.....0...1...2...3...4...5...6...7...8...9
- 6) Parents raise funds for school projects.....0...1...2...3...4...5...6...7...8...9
- 7) The school informs parents about programs and activities through newsletters, bulletins, handbooks.....0...1...2...3...4...5...6...7...8...9
- 8) Parent volunteers work in the school performing clerical tasks for teacher or the office.....0...1...2...3...4...5...6...7...8...9
- 9) The school organizes home teaching activities for parents and children; for example home reading programs or family math activities.....0...1...2...3...4...5...6...7...8...9
- 10) Parents participate on school committees to help make decisions related to the curriculum; for example to select a new text book.....0...1...2...3...4...5...6...7...8...9
- 11) Parents attend workshops at the school to learn ways to help their children at home.....0...1...2...3...4...5...6...7...8...9
- 12) Casual, unplanned contacts between the principal and parents or teachers and parents.....0...1...2...3...4...5...6...7...8...9
- 13) Parents tutor their children on school work at home.....0...1...2...3...4...5...6...7...8...9
- 14) Parents are spectators at school events such as athletic events or musical performances.....0...1...2...3...4...5...6...7...8...9
- 15) School personnel and parents use phone calls or notes to share information or respond to questions.....0...1...2...3...4...5...6...7...8...9
- 16) Parents help teachers instruct in classrooms.....0...1...2...3...4...5...6...7...8...9
- 17) The school solicits information and opinions from parents through questionnaires and surveys.....0...1...2...3...4...5...6...7...8...9
- 18) Parents attend workshops to learn about the curriculum.....0...1...2...3...4...5...6...7...8...9
- 19) School personnel consult with parents prior to making changes in a child's program.....0...1...2...3...4...5...6...7...8...9
- 20) Parents chaperone school events such as dances.....0...1...2...3...4...5...6...7...8...9
- 21) Parents are given the opportunity to provide input for decisions concerning their child's assignment.....0...1...2...3...4...5...6...7...8...9

22) Having considered how frequently different examples of parent involvement occur in this middle grade school, how do you rate the overall parent involvement for this school? Circle one number.

1.....2.....3.....4.....5.....6.....7.....8.....9
 Poor Weak Average Strong Exceptional

For items 23 - 65 RATE THE DEGREE OF INFLUENCE each factor has on parent involvement in this school. If the factor has no influence, does not pertain to this school, or if you do not know, circle (5).

1.....	2.....	3.....	4.....	5.....	6.....	7.....	8.....	9.....
Very		Negative		No		Positive		Very
Negative		Influence		Influence		Influence		Positive
Influence								Influence
(VNI)		(NI)		(NO)		(PI)		(VPI)

(VNI)	(NI)	(NO)	(PI)	(VPI)
-------	------	------	------	-------

- | | |
|--|-----------------------------------|
| 23) Parents' knowledge of the curriculum..... | 1...2...3...4...5...6...7...8...9 |
| 24) The principal's expectations for teachers in regard to involving parents..... | 1...2...3...4...5...6...7...8...9 |
| 25) The school district's goals for parent involvement..... | 1...2...3...4...5...6...7...8...9 |
| 26) The teacher's willingness to involve parents..... | 1...2...3...4...5...6...7...8...9 |
| 27) The principal's experience in education..... | 1...2...3...4...5...6...7...8...9 |
| 28) Parents have the opportunity to choose their child's school..... | 1...2...3...4...5...6...7...8...9 |
| 29) The school's written guidelines for parent involvement..... | 1...2...3...4...5...6...7...8...9 |
| 30) Parent education opportunities..... | 1...2...3...4...5...6...7...8...9 |
| 31) The principal's policy in regard to meeting with parents..... | 1...2...3...4...5...6...7...8...9 |
| 32) Assigning each student an advisor..... | 1...2...3...4...5...6...7...8...9 |
| 33) Time for teachers to meet with parents..... | 1...2...3...4...5...6...7...8...9 |
| 34) The teacher's experience in education..... | 1...2...3...4...5...6...7...8...9 |
| 35) Communication equipment, e.g. telephone answering machine, voicemail, or homework hotline..... | 1...2...3...4...5...6...7...8...9 |
| 36) Availability of electronic mail..... | 1...2...3...4...5...6...7...8...9 |
| 37) Budgetary provisions for parent involvement..... | 1...2...3...4...5...6...7...8...9 |
| 38) The teacher's flexibility for meeting with parents..... | 1...2...3...4...5...6...7...8...9 |
| 39) The principal's interpersonal skills..... | 1...2...3...4...5...6...7...8...9 |
| 40) Teachers' interpersonal skills..... | 1...2...3...4...5...6...7...8...9 |
| 41) Parent's satisfaction with prior school experiences..... | 1...2...3...4...5...6...7...8...9 |
| 42) Orientation sessions are held for parents..... | 1...2...3...4...5...6...7...8...9 |
| 43) The principal's philosophy of education..... | 1...2...3...4...5...6...7...8...9 |
| 44) Teachers' persistence in holding parents accountable..... | 1...2...3...4...5...6...7...8...9 |
| 45) The principal's interest in building parent involvement..... | 1...2...3...4...5...6...7...8...9 |

	(VNI)	(NI)	(NO)	(PI)	(VPI)				
46)The principal's public statements about parent involvement.....	1	2	3	4	5	6	7	8	9
47)Parent's comfort level when visiting the school.....	1	2	3	4	5	6	7	8	9
48)The principal's willingness to meet informally with parents.....	1	2	3	4	5	6	7	8	9
49)The school's goals for parent involvement.....	1	2	3	4	5	6	7	8	9
50)The school recognizes parents for their involvement.....	1	2	3	4	5	6	7	8	9
51)The school district's written policy statements on parent involvement.....	1	2	3	4	5	6	7	8	9
52)Class size or pupil/teacher ratio.....	1	2	3	4	5	6	7	8	9
53)Telephones are readily available for staff use.....	1	2	3	4	5	6	7	8	9
54)The principal's receptivity to opinions and suggestions from parents.....	1	2	3	4	5	6	7	8	9
55)The principal's working relationship with the school's parent organization.....	1	2	3	4	5	6	7	8	9
56)The school's method of organizing for instruction, e.g. self contained classes, team teaching, or departmentalization.....	1	2	3	4	5	6	7	8	9
57)The principal's annual evaluation of parent involvement within the school.....	1	2	3	4	5	6	7	8	9
58)The teacher's philosophy of education.....	1	2	3	4	5	6	7	8	9
59)The school's activity schedule.....	1	2	3	4	5	6	7	8	9
60)Teachers' communication skills.....	1	2	3	4	5	6	7	8	9
61)The principal's training for working with parents.....	1	2	3	4	5	6	7	8	9
62)The teacher's training for working with parents.....	1	2	3	4	5	6	7	8	9
63)Parents' familiarity with the school.....	1	2	3	4	5	6	7	8	9
64)Teachers follow through with suggestions made to parents.....	1	2	3	4	5	6	7	8	9
65)Communications from the principal's office to parents.....	1	2	3	4	5	6	7	8	9

* * * * *

Please check to be sure you have answered each question.

Please return this survey by _____.

For participating your school will receive: 1) a summary of the responses returned by this school, 2) a set of surveys for your future use in a more extensive school survey, and 3) summary data from the study which can be used for comparison purposes. Your school will receive this information promptly after the data analysis has been completed.

Thank you again for agreeing to complete a survey. Your assistance is greatly appreciated.

APPENDIX H

School Numbers

School Enrollment

Number of Surveys Sent to Schools

APPENDIX H

SCH. #	SCHOOL	ENROLL.	#PAR SURV	#TEACH SURV
102	Northampton Area Junior High	1430	14	10
083	J T Lambert Intermediate	1204	12	8
054	Ridley Middle School	1202	12	8
107	Markle Intermediate School	1177	12	8
057	Beverly Hills Middle School	1129	11	8
103	Dallastown Area Middle School	1111	11	7
082	Whitehall-Coplay Middle School	1086	11	7
058	Drexel Hill Middle School	1072	11	7
084	Pleasant Valley Middle School	1058	11	7
066	Manheim Township Middle School	1051	11	7
069	Cedar Crest Middle School	1045	10	7
099	Upper Perkiomen Middle School	1044	10	7
056	Richardson Middle School	1013	10	7
098	Upper Merion Middle School	996	10	7
086	Colonial Middle School	994	10	7
062	Ephrata Middle School	973	10	6
113	Hannah Penn Middle School	968	10	6
032	Pennwood Middle School	962	10	6
068	Warwick Middle School	946	9	6
019	Roosevelt Junior High School	944	9	6
025	Council Rock JHS (Newtown)	930	9	6
045	J.R. Fugett Middle School	930	9	6
091	Pennbrook Middle School	891	9	6
003	Gettysburg Junior High School	887	9	6
018	Armstrong Junior High School	886	9	6
079	Springhouse Junior High School	877	9	6
011	Northwest Middle School	875	9	6
012	Twin Valley Middle School	870	9	6
035	Fred S. Engle Middle School	869	9	6
049	Chichester Middle School	869	9	6
033	William Penn Middle School	862	9	6
092	Pennfield Middle School	850	9	6
074	Harrison-Morton Middle School	841	8	6
071	Lebanon Middle School	834	8	6
053	Radnor Middle School	823	8	5
051	Paxon Hollow Middle School	820	8	5
031	Charles H. Boehm Middle School	818	8	5
005	Boyertown Area JHS East	799	8	5
038	Downingtown Junior High School	798	8	5
077	Eyer Junior High School	795	8	5
076	Emmaus Junior High School	791	8	5

073	Francis D. Raub Middle School	780	8	5
087	Bala-Cynwyd Middle School	774	8	5
026	Neshaminy Middle School	768	8	5
052	Northly Middle School	762	8	5
075	South Mountain Middle School	758	8	5
108	Southern Middle School	753	8	5
023	Tamanend Middle School	751	8	5
007	Exeter Township JHS	749	7	5
021	Log College Middle School	745	7	5
106	Red Lion Area JHS	726	7	5
044	E.N. Pierce Middle School	725	7	5
043	Charles F. Patton MS	724	7	5
094	Pottsgrove Middle School	722	7	5
008	Governor Mifflin Middle School	715	7	5
024	Council Rock JHS (Richboro)	711	7	5
059	Strath Haven Middle School	711	7	5
020	Klinger Middle School	705	7	5
046	Stetson Middle School	699	7	5
109	Spring Grove Area MS	697	7	5
022	Holicong Middle School	687	7	5
036	North Brandywine MS	687	7	5
039	General Wayne Middle School	687	7	5
041	Phoenixville Middle School	687	7	5
085	Cedarbrook Middle School	686	7	5
006	Boyertown Area JHS West	679	7	5
105	Northern Middle School	671	7	4
001	Bermudian Springs MS	662	7	4
093	Perkiomen Valley MS	660	7	4
027	Sandburg Middle School	655	7	4
072	Palmyra Area Middle School	653	7	4
042	Tredyffrin-Easttown MS	648	6	4
050	Garnet Valley Middle School	642	6	4
110	Crossroads Middle School	641	6	4
004	Maple Avenue Middle School	626	6	4
095	Pottstown Middle School	621	6	4
060	Cocalico Middle School	616	6	4
016	Shafer Middle School	608	6	4
112	Edgar Fahs Smith MS	608	6	4
037	South Brandywine MS	601	6	4
100	Broughal Middle School	596	6	4
081	Southern Lehigh Middle School	594	6	4
090	Stewart Middle School	593	6	4
061	Donegal Middle School	589	6	4
080	Salisbury Middle School	584	6	4
064	Reynolds Junior High School	582	6	4
015	Armstrong Middle School	569	6	4

096	Indian Valley Middle School	560	6	4
034	Milford Middle School	558	6	4
055	Ashland Middle School	556	6	4
101	Nazareth Area Middle School	541	5	4
078	Northern Lehigh JHS	527	5	4
028	Palisades Middle School	526	5	4
014	Wilson Southern JHS	521	5	4
063	Hand Junior High School	515	5	4
030	Pennridge South JHS	514	5	4
067	Smith Middle School	514	5	4
070	Eastern Lebanon County MS	512	5	4
065	Manheim Central JHS	511	5	4
017	Snyder Middle School	506	5	4
088	Welsh Valley Middle School	503	5	4
114	York Suburban Middle School	491	5	4
029	Pennridge Central JHS	487	5	4
104	Hanover Middle School	487	5	4
048	Showalter Middle School	486	5	4
002	New Oxford Middle School	483	5	4
013	Wilson Central JHS	476	5	4
047	Pulaski Middle School	472	5	4
097	Enfield Middle School	429	4	4
040	Penn's Grove School	394	4	4
111	Lemoyne Middle School	394	4	4
089	East Norriton Middle School	361	4	4
010	Oley Valley Middle School	317	4	4
009	Kutztown Area JHS	283	4	4
115	Bangor Area MS	720	7	5
116	Arcola MS	792	8	5
117	Pequea Valley IS	470	5	4
118	Conestoga Valley MS	498	5	4
119	Elizabethtown Area MS	882	9	6
120	Saucon Valley MS	479	5	4
121	Fleetwood MS	381	4	4
122	Brandywine Heights MS	302	4	4

APPENDIX I

ANOVA

and

Post Hoc Analyses Using Scheffe'

The following tables report ANOVA results for all factors as well as Scheffe' results for analyses where significant differences were found for main effect (2), respondent group. A level of significance, where $p \leq .05$, was used in both the ANOVA and Scheffe' analyses. Significant differences found for main effect (1) school, were not analyzed post hoc since this information was not needed to answer research question four.

List of ANOVA Tables

- f23: Parent's knowledge of the curriculum.
- f24: The Principal's expectations for teachers in regard to involving parents.
- f25: The school district's goals for parent involvement.
- f26: The teacher's willingness to involve parents.
- f27: The principal's experience in education.
- f28: Parents have the opportunity to choose their child's school.
- f29: The school's written guidelines for parent involvement.
- f30: Parent education opportunities.
- f31: The principal's policy in regard to meeting with parents.
- f32: Assigning each student an advisor.

- f33: Time for teachers to meet with parents.
- f34: The teacher's experience in education.
- f35: Communication equipment, e.g. telephone answering machine, voice mail, homework hot-line.
- f36: Availability of electronic mail.
- f37: Budgetary provisions for parent involvement.
- f38: The teacher's flexibility for meeting with parents.
- f39: The principal's interpersonal skills.
- f40: Teachers' interpersonal skills.
- f41: Parent satisfaction with prior school experiences.
- f42: Orientation sessions are held for parents.
- f43: The principal's philosophy of education.
- f44: Teachers' persistence in holding parents accountable.
- f45: The principal's interest in building parent involvement.
- f46: The principal's public statements about parent involvement.
- f47: Parents comfort level when visiting the school.
- f48: The principal's willingness to meet informally with parents.
- f49: The school's goals for parent involvement.
- f50: The school recognizes parents for their involvement.
- f51: The school district's written policy statements on parent involvement.
- f52: Class size or pupil/teacher ratio.
- f53: Telephones are readily available for staff use.

- f54: The principal's receptivity to opinions and suggestions from parents.
- f55: The principal's working relationship with the school's parent organization.
- f56: The school's method of organizing for instruction, e.g., self contained classes, team teaching, or departmentalization.
- f57: The principal's annual evaluation of parent involvement.
- f58: The teacher's philosophy of education.
- f59: The school's activity schedule.
- f60: Teachers' communication skills.
- f61: The principal's training for working with parents.
- f62: The teacher's training for working with parents.
- f63: Parent's familiarity with the school.
- f64: Teachers follow through with suggestions made to parents.
- f65: Communications from the principal's office to parents.

ANOVA Tables

Table f23

Parents' knowledge of the curriculum.

Design: 2 Way ANOVA Dependent Factor: f23 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61	1.97587	511	1.976226	.99982	.480317
2	2*	45.11351*	511*	1.976226*	22.82812*	.000000*
12	122	2.21831	511	1.976226	1.12250	.197984
				Scheffe' test, variable: f23 Main Effect: Respondent Group		
School	Respondent Group	{1} 5.565532	{2} 6.361156	{3} 6.161290		
.....	teacher {1}		.000000*	.009033*		
.....	parent {2}	.000000*		.590446		
.....	principal {3}	.009033*	.590446			

Table f24

The principal's expectations for teachers in regard to parent involvement.

Design: 2 Way ANOVA Dependent Factor: f24 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61	2.368575	511	2.162205	1.095444	.297663
2	2*	8.924897*	511*	2.162205*	4.127683*	.016661*
12	122	2.509619	511	2.162205	1.160676	.137938
				Scheffe' test, variable: f24 Main Effect: Respondent Group		

School	Respondent Group	{1} 6.737346	{2} 6.542876	{3} 7.120968
.....	teacher {1}		.251559	.166299
.....	parent {2}	.251559		.018291*
.....	principal {3}	.166299	.018291*	

Table f25

The school district's goals for parent involvement.

Design: 2 Way ANOVA Dependent Factor: f25 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61	2.513049	511	2.092240	1.201128	.151813
2	2	5.020804	511	2.092240	2.399726	.091765
12	122	2.159970	511	2.092240	1.032372	.400026

Table f26

The teacher's willingness to involve parents.

Design: 2 Way ANOVA Dependent Factor: f26 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61*	3.959778*	511*	2.643009*	1.498209*	.011547*
2	2	2.553520	511	2.643009	.966141	.381243
12	122	3.161283	511	2.643009	1.196092	.095545

Table f27

The principal's experience in education.

Design: 2 Way ANOVA Dependent Factor: f27 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61	2.964781	511	2.259022	1.312418	.064419
2	2	1.333984	511	2.259022	.590514	.554420
12	122	2.227018	511	2.259022	.985833	.528169

Table f28

Parents have the opportunity to choose their child's school.

Design: 2 Way ANOVA Dependent Factor: f28 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61	2.71516	511	2.370484	1.145404	.220480
2	2*	17.64923*	511*	2.370484*	7.445413*	.000650*
12	122	2.63502	511	2.370484	1.111594	.218027
				Scheffe' test, variable: f28 Main Effect: Respondent Group		
School	Respondent Group	{1} 4.898890	{2} 5.375301		{3} 4.854839	
.....	teacher {1}		.000573*		.978581	
.....	parent {2}	.000573*			.051591	
.....	principal {3}	.978581	.051591			

Table f29

The school's written guidelines for parent involvement.

Design: 2 Way ANOVA Dependent Factor: f29 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61	2.383201	511	1.842999	1.293110	.075507
2	2	5.397118	511	1.842999	2.928443	.054378
12	122	1.962494	511	1.842999	1.064837	.318306

Table f30

Parent education opportunities.

Design: 2 Way ANOVA Dependent Factor: f30 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61*	3.072966*	511*	2.189597*	1.403439*	.028916*
2	2	2.708171	511	2.189597	1.236835	.291169
12	122	2.108677	511	2.189597	.963044	.592413

Table 31

The principal's policy in regard to meeting with parents.

Design: 2 Way ANOVA Dependent Factor: f31 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61	2.786760	511	2.571269	1.083807	.317676
2	2	7.076470	511	2.571269	2.752131	.064738
12	122	1.997937	511	2.571269	.777023	.954824

Table f32

Assigning each student an advisor.

Design: 2 Way ANOVA Dependent Factor: f32 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61	3.34929	511	2.512773	1.332904	.054192
2	2*	13.06409*	511*	2.512773*	5.199072*	.005818*
12	122	2.32849	511	2.512773	.926661	.691666
				Scheffe' test, variable: f32 Main Effect: Respondent Group		
School	Respondent Group	{1} 5.857674	{2} 6.200263	{3} 5.596774		
.....	teacher	{1}	.025504*		.488942	
.....	parent	{2}	.025504*		.023421*	
.....	principal	{3}	.488942		.023421*	

Table f33

Time for teachers to meet with parents.

Design: 2 Way ANOVA Dependent Factor: f33 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61*	4.763474*	511*	2.902038*	1.641423*	.002508*
2	2	4.129601	511	2.902038	1.423000	.241943
12	122	2.791700	511	2.902038	.961979	.595396

Table f34

The teacher's experience in education.

Design: 2 Way ANOVA Dependent Factor: f34 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61	2.03060	511	2.246427	.903923	.680561
2	2*	13.83562*	511*	2.246427*	6.158944*	.002275*
12	122	1.67181	511	2.246427	.744206	.976093
				Scheffe' test, variable: f34 Main Effect: Respondent Group		
School	Respondent Group	{1} 7.421233	{2} 7.003034	{3} 6.975806		
.....	teacher	{1}	.002274*	.097736		
.....	parent	{2}	.002274*	.991426		
.....	principal	{3}	.097736	.991426		

Table f35

Communication equipment, e.g. telephone answering machine, voice mail, homework hotline.

Design: 2 Way ANOVA Dependent Factor: f35 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61*	7.942054*	511*	3.243861*	2.448334*	.000000*
2	2	2.767686	511	3.243861	.853207	.426652
12	122	2.599803	511	3.243861	.801453	.931505

Table f36

Availability of electronic mail.

Design: 2 Way ANOVA Dependent Factor: f36 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61*	4.455701*	511*	2.496716*	1.784625*	.000473*
2	2	5.345764	511	2.496716	2.141118	.118577
12	122	2.564372	511	2.496716	1.027098	.414041

Table f37

Budgetary provisions for parent involvement.

Design: 2 Way ANOVA Dependent Factor: f37 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61	2.27825	511	2.137888	1.065656	.350303
2	2*	11.51877*	511*	2.137888*	5.387918*	.004835*
12	122	2.16577	511	2.137888	1.013041	.452176
				Scheffe' test, variable: f37 Main Effect: Respondent Group		
School	Respondent Group	{1} 4.832235	{2} 5.134946	{3} 5.403226		
.....	teacher {1}		.034432*	.01275*		
.....	parent {2}	.034432*		.416060		
.....	principal {3}	.018275*	.416060			

Table f38

The teacher's flexibility for meeting with parents.

Design: 2 Way ANOVA Dependent Factor: f38 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61	4.06313	511	3.167740	1.282658	.082146
2	2*	12.96195*	511*	3.167740*	4.091860*	.017259*
12	122	3.15820	511	3.167740	.996987	.496783
				Scheffe' test, variable: f38 Main Effect: Respondent Group		
School	Respondent Group	{1}	{2}	{3}		
.....	teacher	{1}		.026471*	.128204	
.....	parent	{2}	.026471*		.897988	
.....	principal	{3}	.128204	.897988		

Table f39

The principal's interpersonal skills.

Design: 2 Way ANOVA Dependent Factor: f39 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61	3.374987	511	2.825484	1.194481	.159050
2	2	6.063516	511	2.825484	2.146010	.118003
12	122	2.743721	511	2.825484	.971062	.569863

Table f40

Teachers' interpersonal skills.

Design: 2 Way ANOVA Dependent Factor: f40 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61*	2.94646*	511*	1.947418*	1.513009*	.009935*
2	2*	14.66041*	511*	1.947418*	7.528129*	.000600*
12	122	1.80224	511	1.947418	.925451	.694832
				Scheffe' test, variable: f40 Main Effect: Respondent Group		
School	Respondent Group	{1} 7.482555	{2} 7.030306	{3} 7.411290		
.....	teacher	{1}	.000281*	.933355		
.....	parent	{2}	.000281*	.144074		
.....	principal	{3}	.933355	.144074		

Table f41

Parent's satisfaction with prior school experiences.

Design: 2 Way ANOVA Dependent Factor: f41 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61	3.22019	511	2.515959	1.279907	.083971
2	2*	10.26511*	511*	2.515959*	4.080000*	.017461*
12	122	2.67056	511	2.515959	1.061447	.326426
				Scheffe' test, variable: f41 Main Effect: Respondent Group		
School	Respondent Group	{1} 6.560194	{2} 6.934684	{3} 6.879032		
.....	teacher	{1}	.012620*	.344210		
.....	parent	{2}	.012620*	.968393		
.....	principal	{3}	.344210	.968393		

Table f42

Orientation sessions are held for parents.

Design: 2 Way ANOVA Dependent Factor: f42 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61	2.548959	511	2.097344	1.215327	.137190
2	2	6.257971	511	2.097344	2.983760	.051485
12	122	1.912367	511	2.097344	.911804	.729706

Table f43

The principal's philosophy of education.

Design: 2 Way ANOVA Dependent Factor: f43 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61	2.542545	511	2.346497	1.083549	.318128
2	2	3.344179	511	2.346497	1.425179	.241420
12	122	2.086322	511	2.346497	.889122	.783690

Table f44

Teachers' persistence in holding parents accountable.

Design: 2 Way ANOVA Dependent Factor: f44 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61	2.733440	511	3.196489	.855138	.773017
2	2	1.781680	511	3.196489	.557386	.573052
12	122	2.610970	511	3.196489	.816824	.913041

Table f45

The principal's interest in building parent involvement.

Design: 2 Way ANOVA Dependent Factor: f45 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61*	3.692079	511*	2.273384*	1.624046*	.003043*
2	2	1.873391	511	2.273384	.824054	.439232
12	122	1.939711	511	2.273384	.853226	.856654

Table f46

The principal's public statements about parent involvement.

Design: 2 Way ANOVA Dependent Factor: f46 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61*	3.246681*	511*	2.235540*	1.452303*	.018194
2	2	6.500652	511	2.235540	2.907866	.055496
12	122	1.664075	511	2.235540	.744373	.976010

Table f47

Parents comfort level when visiting the school.

Design: 2 Way ANOVA Dependent Factor: f47 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61*	3.162386*	511*	2.341803*	1.350407*	.046588*
2	2*	7.454234*	511*	2.341803*	3.183117*	.042280*
12	122	1.972004	511	2.341803	.842088	.875831
				Scheffe' test, variable: f47 Main Effect: Respondent Group		
School	Respondent Group	{1} 6.945035	{2} 7.273630	{3} 7.088710		
.....	teacher	{1}			.792118	
.....	parent	{2}	.026727*		.683364	
.....	principal	{3}	.792118	.683364		

Table f48

The principal's willingness to meet informally with parents.

Design: 2 Way ANOVA Dependent Factor: f48 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61	2.691133	511	2.064815	1.303329	.069455
2	2*	6.665709*	511*	2.064815*	3.228235*	.040437*
12	122	1.589912	511	2.064815	.770002	.960269
				Scheffe' test, variable: f48 Main Effect: Respondent Group		
School	Respondent Group	{1} 7.202353	{2} 7.308058	{3} 7.709677		

.....	teacher	{1}		.651958	.037782*
.....	parent	{2}	.651958		.131309
.....	principal	{3}	.037782*	.131309	

Table f49

The school's goals for parent involvement.

Design: 2 Way ANOVA Dependent Factor: f49 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61*	3.324626*	511*	2.242941*	1.482262*	.013551*
2	2	3.384891	511	2.242941	1.509130	.222086
12	122	2.400391	511	2.242941	1.070198	.305686

Table f50

The school recognizes parents for their involvement.

Design: 2 Way ANOVA Dependent Factor: f50 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61*	4.864545*	511*	2.404443*	2.023149*	.000023*
2	2	4.244594	511	2.404443	1.765313	.172175
12	122	2.236970	511	2.404443	.930349	.681951

Table f51

The school district's written policy statements on parent involvement.

Design: 2 Way ANOVA Dependent Factor: f51 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61	2.076154	511	1.786124	1.162380	.197615
2	2	4.222578	511	1.786124	2.364101	.095062
12	122	1.680103	511	1.786124	.940642	.654346

Table f52

Class size or pupil/teacher ratio.

Design: 2 Way ANOVA Dependent Factor: f52 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61	4.35676	511	3.863095	1.12779	.246026
2	2*	61.70429*	511*	3.863095*	15.97276*	.000000*
12	122	3.20637	511	3.863095	.83000	.894717
				Scheffe' test, variable: f52 Main Effect: Respondent Group		
School	Respondent Group	{1} 5.264874	{2} 6.200834	{3} 5.911290		
.....	teacher {1}		.000000*	.058127		
.....	parent {2}	.000000*		.568008		
.....	principal {3}	.058127	.568008			

Table f53

Telephones are readily available for staff use.

Design: 2 Way ANOVA Dependent Factor: f53 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61*	8.20992*	511*	4.366178*	1.880345*	.000145*
2	2*	33.58755*	511*	4.366178*	7.692668*	.000511*
12	122	4.30518	511	4.366178	.986030	.527614
				Scheffe' test, variable: f53 Main Effect: Respondent Group		
School	Respondent Group	{1} 5.617512	{2} 6.124398	{3} 6.604839		
.....	teacher	{1}	.009914*		.002914*	
.....	parent	{2}	.009914*		.252661	
.....	principal	{3}	.002914*		.252661	

Table f54

The principal's receptivity to opinions and suggestions from parents.

Design: 2 Way ANOVA Dependent Factor: f54 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61	3.10756	511	2.671415	1.163264	.196470
2	2*	13.55263*	511*	2.671415*	5.073204*	.006581*
12	122	1.94072	511	2.671415	.726478	.983716
				Scheffe' test, variable: f54 Main Effect: Respondent Group		
School	Respondent Group	{1} 6.686454	{2} 7.081356	{3} 7.185484		

*				
.....	teacher {1}	.010283*	.010283*	.085958
.....	parent {2}	.085958	.899530	.899530
.....	principal {3}			

Table f55

The principal's working relationship with the school's parent organization.

Design: 2 Way ANOVA Dependent Factor: f55 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61*	3.974757*	511*	2.007951*	1.979509*	.000041*
2	2	5.318233	511	2.007951	2.648587	.071722
12	122	1.804701	511	2.007951	.898777	.761377

Table f56

The school's method of organizing for instruction, e.g. self contained classes, team teaching, or departmentalization.

Design: 2 Way ANOVA Dependent Factor: f56 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61*	3.851957*	511*	2.818729*	1.366558*	.040408*
2	2	3.123924	511	2.818729	1.108274	.330921
12	122	1.911020	511	2.818729	.677972	.995153

Table f57

The principal's annual evaluation of parent involvement.

Design: 2 Way ANOVA Dependent Factor: f57 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61	1.918592	511	1.775349	1.080684	.323170
2	2	2.572257	511	1.775349	1.448874	.235798
12	122	1.411855	511	1.775349	.795255	.938098

Table f58

The teacher's philosophy of education.

Design: 2 Way ANOVA Dependent Factor: f58 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61	2.40296	511	1.986497	1.209647	.142905
2	2*	11.66091*	511*	1.986497*	5.870085*	.003016*
12	122	2.04192	511	1.986497	1.027899	.411903
				Scheffe' test, variable: f58 Main Effect: Respondent Group		
School	Respondent Group	{1} 7.070502	{2} 6.661079	{3} 6.822581		
.....	teacher {1}		.001374*	.441710		
.....	parent {2}	.001374*		.710087		
.....	principal {3}	.441710	.710087			

Table f59

The school's activity schedule.

Design: 2 Way ANOVA Dependent Factor: f59 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61	2.249291	511	2.179882	1.031841	.415144
2	2	3.082696	511	2.179882	1.414158	.244080
12	122	1.787148	511	2.179882	.819837	.909058

Table f60

Teachers' communication skills.

Design: 2 Way ANOVA Dependent Factor: f60 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61	2.07994	511	1.967384	1.057210	.366032
2	2*	18.85862*	511*	1.967384*	9.585630*	.000082*
12	122	1.76733	511	1.967384	.898316	.762466
				Scheffe' test, variable: f60 Main Effect: Respondent Group		
School	Respondent Group	{1} 7.452165	{2} 6.931055	{3} 7.274194		
.....	teacher {1}		.000023*	.653456		
.....	parent {2}	.000023*		.210801		
.....	principal {3}	.653456	.210801			

Table f61

The principal's training for working with parents.

Design: 2 Way ANOVA Dependent Factor: f61 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61	2.846997	511	2.565356	1.109786	.274025
2	2	4.206955	511	2.565356	1.639911	.195017
12	122	2.566954	511	2.565356	1.000623	.486607

Table f62

The teacher's training for working with parents.

Design: 2 Way ANOVA Dependent Factor: f62 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61	3.045813	511	2.333936	1.305011	.068499
2	2	1.306305	511	2.333936	.559700	.571730
12	122	2.338756	511	2.333936	1.002065	.482582

Table f63

Parents familiarity with the school.

Design: 2 Way ANOVA Dependent Factor: f63 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level

1	61*	2.561643*	511*	1.682150*	1.522839*	.008982*
2	2*	7.438900*	511*	1.682150*	4.422258*	.012470*
12	122	1.906138	511	1.682150	1.133215	.179545
				Scheffe' test, variable: f63 Main Effect: Respondent Group		
School	Respondent Group	{1} 6.809597	{2} 7.113690	{3} 7.145161		
.....	teacher {1}		.013398*	.171275		
.....	parent {2}	.013398*		.984755		
.....	principal {3}	.171275	.984755			

Table f64

Teachers follow through with suggestions made to parents.

Design: 2 Way ANOVA Dependent Factor: f64 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61	2.79138	511	2.158083	1.293455	.075296
2	2*	14.82085*	511*	2.158083*	6.867597*	.001140*
12	122	2.00006	511	2.158083	.926778	.691358
				Scheffe' test, variable: f64 Main Effect: Respondent Group		
School	Respondent Group	{1} 6.944847	{2} 6.513172	{3} 7.008065		
.....	teacher {1}		.001181*	.952203		
.....	parent {2}	.001181*		.052644		
.....	principal {3}	.952203	.052644			

Table f65

Communications from the principal's office to parents.

Design: 2 Way ANOVA Dependent Factor: f65 Between: 1- School (62) 2- Respondent Group (3) Summary of all Effects						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	61*	2.828410*	511*	2.000078*	1.414150*	.026173
2	2	.006731	511	2.000078	.003365	.996641
12	122	1.895137	511	2.000078	.947532	.635525

APPENDIX J
Multiple Regression
Summary Tables

Regression Summary for Dependent Variable SPI.OV

Dep.Var.: SPI.OV			Multiple R : .765			F = 1.808		
			R ² : .586			df = 43, 55		
No. Cases: 99			Adjusted R ² : .262			p < .019336		
Standard error of estimate : 1.217								
Intercept: -1.879			Std. Error: 1.751			t(55) = -1.073		p < .2879
Ind.V.	BETA	P	Ind.V.	BETA	P	Ind.V.	BETA	P
f23	-.051567	.699660	f38	.055969	.709436	f53	.080254	.455059
f24	.025922	.889814	f39	-.149847	.477603	f54	-.095501	.671286
f25	.265695	.073441	f40	-.120241	.578563	f55	.246360	.157511
f26*	.325029	.013506	f41	.219547	.122789	f56	.054298	.666834
f27	-.44157	.417208	f42 *	.343292	.033387	f57	.068651	.684986
f28	-.99405	.453070	f43	.237579	.245837	f58	-.123957	.504913
f29	.159381	.381781	f44	-.122546	.301173	f59	.036340	.798550
f30	-.225580	.091570	f45	.025512	.895764	f60	.071732	.768953
f31	.062056	.733119	f46	-.208935	.220883	f61	-.076322	.689812
f32	.078956	.646467	f47	.011320	.936886	f62	.108210	.574475
f33	-.044805	.770212	f48	.163869	.348567	f63	.154635	.245463
f34	.082061	.629503	f49	-.022512	.897945	f64	-.371377	.050643
f35	-.145943	.404560	f50	-.109254	.430539	f65	.011349	.940084
f36	.099606	.535719	f51	.042177	.818105			
f37	.039047	.747578	f52	-.016394	.909499			

* significant BETA at $p \leq .05$

Multiple Regression Summary for Dependent Variable SPI.CC

Dep.Var.: SPI.CC			Multiple R : .75091306			F = 1.9844		
			R ² : .56387043			df = 43, 66		
No. Cases: 110			Adjusted R ² : .27972541			p <.00592		
Standard error of estimate : 1.1079								
Intercept: .964356			Std. Error: 1.420851			t(66) = .67872		p < .499690
Ind.V.	BETA	P	Ind.V.	BETA	P	Ind.V.	BETA	P
f23	-.014109	.912140	f38	.000247	.998569	f53	-.141114	.156687
f24	.051702	.767754	f39	-.251163	.182583	f54	-.141715	.518219
f25 *	.262747	.046804	f40	-.034566	.864758	f55	.302704	.061458
f26	-.027743	.824248	f41	-.112695	.366918	f56	.096821	.420458
f27 *	-.395626	.024123	f42	.1343596	.343988	f57	.083134	.555533
f28	.021503	.861171	f43	.047585	.803473	f58	.012080	.942472
f29	-.038618	.819833	f44	.062117	.575058	f59	-.190718	.145600
f30	-.137067	.231877	f45	-.006219	.972899	f60 *	.616786	.007244
f31	-.029791	.854492	f46 *	.464477	.006018	f61	-.054942	.750609
f32	.189238	.186324	f47	.064336	.629281	f62	.136968	.455946
f33	-.155111	.276785	f48	.176952	.263710	f63	.095067	.428111
f34	.177048	.291038	f49	-.280446	.090894	f64	-.270014	.117621
f35	.035126	.825370	f50	-.000086	.999466	f65	-.148077	.291728
f36	.099572	.514442	f51	.021385	.894852			
f37	.148426	.191497	f52	-.051243	.679803			

* significant BETA at $p < .05$

Multiple Regression Summary for Dependent Variable SPI.CS

Dep.Var.: SPI.CS			Multiple R: .63081879			F = .99910		
			R ² : .39793234			df = 43, 65		
No. Cases: 109			Adjusted R ² :			p < .49374		
Standard error of estimate : 1.5567								
Intercept: 4.073349			Std. Error: 1.996381			t(65) = 2.04037		p < .045380
Ind.V.	BETA	P	Ind.V.	BETA	P	Ind.V.	BETA	P
f23	.207782	.173867	f38	.1333946	.414070	f53	.038748	.743402
f24	-.014067	.947083	f39	-.280062	.219003	f54	-.186335	.473669
f25	.024343	.875013	f40	-.139721	.567306	f55	.178955	.402036
f26	-.104884	.489920	f41	-.170348	.256038	f56 *	-.337981	.026749
f27	.126799	.551659	f42	.058828	.725463	f57	.067865	.697712
f28	-.092015	.528570	f43	-.078876	.736909	f58	.106667	.607905
f29	.061619	.756462	f44	-.115311	.378846	f59	-.108223	.521055
f30	.273326	.052164	f45	.154919	.476024	f60	.316640	.251139
f31	.058298	.766966	f46	.041284	.831157	f61	.087234	.670118
f32	-.005512	.973729	f47	.021561	.892532	f62	.061966	.776369
f33	-.075462	.658793	f48	.367389	.058915	f63	.077737	.587599
f34	-.083485	.693093	f49	-.347644	.080870	f64	.070415	.727966
f35	-.025982	.890248	f50	.100708	.506476	f65 *	-.349133	.037343
f36	.182960	.315120	f51	-.013262	.944149			
f37	.010734	.935122	f52	.042499	.772152			

Multiple Regression Summary for Dependent Variable SPI.CD

Dep.Var.: SPI.CD			Multiple R : .72091031			F = 1.6357		
			R ² : .51971167			df = 43, 65		
No. Cases: 109			Adjusted R ² : .20198247			p < .03580		
Standard error of estimate : 1.5786								
Intercept: 2.394562			Std. Error: 2.049474			t(65) = 1.16838		p < .246921
Ind.V.	BETA	P	Ind.V.	BETA	P	Ind.V.	BETA	P
f23	.054446	.683169	f38	-.004487	.975384	f53	-.121616	.244613
f24	.126156	.498657	f39	-.264576	.188820	f54	-.282804	.222562
f25	.163394	.239762	f40	-.147470	.490338	f55	.071411	.674957
f26	.090003	.493384	f41 *	-.296330	.028471	f56	-.078393	.534811
f27	.038368	.385488	f42	.191101	.203067	f57	.292639	.066683
f28	.091120	.479387	f43	-.056170	.783897	f58	.104133	.553624
f29	.006874	.969350	f44	-.018433	.875080	f59 *	-.509449	.000510
f30	.028937	.807585	f45	.240465	.229508	f60 *	.727720	.003601
f31	.044580	.794418	f46	-.092571	.598457	f61	-.156537	.401264
f32	.076489	.617991	f47	-.002359	.986581	f62	.124939	.517290
f33	-.119394	.424572	f48	.308251	.067104	f63	-.026063	.835507
f34	.077507	.659434	f49	-.260690	.139454	f64	-.277668	.129369
f35	.299094	.079050	f50	.002404	.986290	f65	-.135571	.358979
f36 *	-.322444	.046960	f51	.218236	.216215			
f37	.209555	.078213	f52	.134739	.304612			

Multiple Regression Summary for Dependent Variable SPI.CT

Dep.Var.: SPI.CT			Multiple R : .73575359			F = 1.7292		
			R ² : .54133335			df = 43, 63		
No. Cases: 107			Adjusted R ² : .22827515			p < .02342		
Standard error of estimate : 1.3188								
Intercept: -.694507			Std. Error: 1.721782			t(63) = -.40337		p < .688046
Ind.V.	BETA	P	Ind.V.	BETA	P	Ind.V.	BETA	P
f23	.139054	.295546	f38	.021301	.882479	f53 *	-.276514	.009839
f24	-.074972	.690774	f39	-.132639	.517835	f54	-.133518	.560880
f25	.104661	.451524	f40	.309688	.149813	f55	.108654	.578655
f26	.026095	.847110	f41	.050295	.707949	f56	.033361	.799705
f27	-.342610	.075001	f42	-.208859	.161566	f57 *	.500638	.003793
f28	-.174229	.183176	f43	.203764	.334060	f58	.051208	.779811
f29	.257994	.144701	f44	-.053719	.643885	f59	-.290001	.062583
f30	-.083079	.494154	f45	.194512	.327546	f60	.249128	.320652
f31	-.062453	.720189	f46	.060614	.727014	f61	-.150863	.416253
f32	-.068111	.652080	f47	.060789	.667056	f62	.377138	.052762
f33	-.042119	.780184	f48	.143002	.400938	f63	.012876	.918452
f34	-.136480	.464852	f49	-.298390	.095472	f64	-.305705	.091545
f35	.054627	.743524	f50	.169149	.223594	f65	.153923	.289736
f36	-.191757	.233698	f51	-.056278	.744103			
f37	-.038359	.727969	f52 *	.260127	.049021			

Multiple Regression Summary for Dependent Variable SPI.CL

Dep.Var.: SPI.CL			Multiple R: .73242750			F = 1.6417		
			R ² : .53645004			df = 43, 61		
No. Cases: 105			Adjusted R ² : .20968531			p < .03717		
Standard error of estimate : 1.7114								
Intercept: 3.457189			Std. Error: 2.276958			t(61) = 1.51834		p < .134096
Ind.V.	BETA	P	Ind.V.	BETA	P	Ind.V.	BETA	P
f23	.155479	.255062	f38	.024241	.870687	f53	-.183896	.080188
f24	-.073602	.698934	f39	.102522	.628983	f54	-.351574	.138468
f25	.157870	.260408	f40	.057386	.790010	f55	.194557	.263985
f26	-.030389	.833669	f41	-.085237	.543544	f56	.019506	.880225
f27	-.053349	.781499	f42	-.255862	.099252	f57 *	.555655	.001161
f28	-.049758	.703325	f43	-.030077	.885673	f58	-.026130	.893539
f29	.004596	.979830	f44	-.171398	.153136	f59	-.170319	.225675
f30	-.118911	.329634	f45	.397528	.059126	f60 *	.610589	.022920
f31	-.093040	.600220	f46	-.126711	.488534	f61	-.087477	.638063
f32	-.117995	.451407	f47	.218857	.149639	f62	.373862	.057566
f33	-.192078	.228224	f48	.168132	.372377	f63	-.139699	.277025
f34	-.210639	.240783	f49	-.101250	.573629	f64 *	-.392447	.035628
f35	.154615	.385298	f50	.081313	.558076	f65	-.063336	.698893
f36	-.052263	.759734	f51	.072361	.690819			
f37	-.169022	.173403	f52	.088634	.509261			

Multiple Regression Summary for Dependent Variable WPI.OV

Dep.Var.: WPI.OV			Multiple R: .93832113			F = 5.6518		
			R ² : .88044654			df = 43, 33		
No. Cases: 77			Adjusted R ² : .72466476			p < .00000		
Standard error of estimate : .94504								
Intercept: -1.78916			Std. Error: 1.380641			t(33) = -1.29589		p < .204004
Ind.V.	BETA	P	Ind.V.	BETA	P	Ind.V.	BETA	P
f23 *	.220765	.045813	f38 *	.526988	.000086	f53	.169623	.116620
f24	.210031	.199502	f39	-.220635	.244774	f54	.240406	.127606
f25 *	-.412445	.001323	f40	-.291214	.148839	f55	.197898	.187265
f26	.132268	.394929	f41	.091362	.441710	f56	.149054	.177701
f27	.020756	.846805	f42	-.181717	.115368	f57	.212053	.084469
f28	.078611	.451243	f43	.146779	.308874	f58	-.178394	.124159
f29	.090552	.374982	f44	.189437	.069596	f59 *	.252595	.045075
f30	.124240	.287307	f45 *	-503556	.007544	f60	.025902	.858258
f31	.047141	.723325	f46	-.007133	.959310	f61	-.280224	.096711
f32	-.090316	.337648	f47	.111585	.338634	f62 *	.436001	.009419
f33	-.251106	.055258	f48	-.185094	.212632	f63	.056411	.704478
f34	.072849	.593735	f49 *	.776076	.000020	f64	-.327515	.051063
f35	-.310500	.056508	f50 *	-.391350	.016194	f65	.043423	.772752
f36	.013122	.928625	f51	-.074252	.506914			
f37 *	.442122	.000580	f52 *	-.335279	.000952			

Multiple Regression Summary for Dependent Variable WPI.CC

Dep.Var.: WPI.CC			Multiple R: .80791712			F = 1.6173		
			R ² : .65273007			df = 43, 37		
No. Cases: 81			Adjusted R ² : .24914610			p < .06907		
Standard error of estimate : 1.2652								
Intercept: 2.696544			Std. Error: 1.774983			t(37) = 1.51919		p < .137213
Ind.V.	BETA	P	Ind.V.	BETA	P	Ind.V.	BETA	P
f23	.383130	.028378	f38	.164866	.384739	f53	-.082211	.628342
f24 *	-.336612	.204519	f39	-.224170	.411732	f54 *	-.502209	.026494
f25	.034282	.858905	f40	.043438	.883837	f55	.362593	.110836
f26	.366634	.151384	f41	-.015131	.936081	f56	.147836	.380573
f27	.286194	.102541	f42	.130488	.463374	f57	-.037780	.837759
f28	-.148801	.389757	f43	-.120707	.572396	f58	-.196790	.289233
f29	-.029654	.863078	f44	.260819	.120264	f59	-.353156	.062218
f30	-.226347	.227355	f45	.086772	.759696	f60	.433522	.062795
f31	.042057	.844680	f46	.417760	.064348	f61	.477287	.080302
f32	.036535	.807564	f47	.034574	.848855	f62	-.170740	.490436
f33	.244156	.239124	f48	-.138818	.550503	f63 *	-.606549	.015450
f34	.033808	.873711	f49	-.011441	.963327	f64	-.063368	.807959
f35	-.125734	.580378	f50	-.168752	.501279	f65	.088664	.685402
f36	.150720	.484365	f51	-.081664	.650423			
f37	.220059	.253471	f52	-.264656	.071871			

Multiple Regression Summary for Dependent Variable WPI.CD

Dep.Var.: WPI.CD			Multiple R: .75059771			F = 1.0503		
			R ² : .56339692			df = 43, 35		
No. Cases: 79			Adjusted R ² : .02699885			p < .44418		
Standard error of estimate : 1.7116								
Intercept: -.887848			Std. Error: 2.566963			t(35) = -.34587		p < .731507
Ind.V.	BETA	P	Ind.V.	BETA	P	Ind.V.	BETA	P
f23	.224232	.247323	f38	.001764	.993898	f53	.081391	.682043
f24	-.385933	.239905	f39	-.194745	.556450	f54	-.022972	.926833
f25	.032876	.882665	f40	.375149	.281161	f55	-.108723	.668127
f26	.098431	.731105	f41	-.097831	.658448	f56	.074823	.714002
f27	.352762	.075600	f42	.106474	.614287	f57	-.107114	.621761
f28	.230805	.254259	f43	-.358222	.144135	f58	.068342	.747959
f29	-.153446	.489766	f44	.157758	.400455	f59	-.000561	.997962
f30	.069430	.751434	f45	.207364	.536820	f60	.139534	.590116
f31	.073478	.786778	f46	.193542	.441050	f61	-.019224	.950526
f32	.333214	.062813	f47	.291968	.183939	f62	.172575	.558259
f33	-.035408	.884613	f48	.246371	.363321	f63	-.456721	.111050
f34	-.235403	.367864	f49	-.003770	.991263	f64	.207583	.501381
f35	.014293	.957579	f50 *	-.665814	.032718	f65	-.160482	.574402
f36	.090786	.717916	f51	.055422	.787899			
f37	-.045466	.836375	f52	-.212256	.199088			

Multiple Regression Summary for Dependent Variable WPI.CS

Dep.Var.: WPI.CS			Multiple R: .75389955			F = 1.1330		
			R ² : .56836453			df = 43, 37		
No. Cases: 81			Adjusted R ² : .06673412			p < .35097		
Standard error of estimate : 1.6666								
Intercept: -.299587			Std. Error: 2.338090			t(37) = -.12813		p < .898737
Ind.V.	BETA	P	Ind.V.	BETA	P	Ind.V.	BETA	P
f23 *	.422194	.030143	f38	.167605	.427618	f53	-.061398	.745521
f24	-.156956	.592310	f39	.280159	.358051	f54	-.264003	.282853
f25	.127412	.554297	f40	-.220905	.506328	f55 *	.509412	.046633
f26	.133540	.635038	f41	-.181731	.389982	f56	-.314741	.098538
f27	.123322	.521590	f42	-.160419	.419105	f57	.227607	.272337
f28	-.016714	.930604	f43	-.229085	.338529	f58	-.132979	.518614
f29	-.235883	.223120	f44	.049016	.790126	f59	.080647	.695939
f30	.196495	.345335	f45	-.368687	.247736	f60	-.162575	.522708
f31	-.032253	.892788	f46	.381985	.126382	f61	-.003192	.991450
f32	.281027	.098943	f47	.076905	.703974	f62	-.135765	.622269
f33	.104795	.647763	f48	.309666	.235637	f63	-.142178	.596636
f34	.146981	.536372	f49	-.261068	.349524	f64	.186881	.521255
f35	.097371	.700660	f50	.091764	.742327	f65	-.189420	.438950
f36	-.037733	.874827	f51	.117557	.558824			
f37	.084670	.691206	f52	-.089607	.577003			

Multiple Regression Summary for Dependent Variable WPI.CT

Dep.Var.: WPI.CT			Multiple R : .75156552			F = 1.0264		
			R ² : .56485073			df = 43, 34		
No. Cases: 78			Adjusted R ² : .01451488			p < .47331		
Standard error of estimate : 1.8395								
Intercept: -4.15058			Std. Error: 2.613841			t(34) = -1.58792		p < .121561
Ind.V.	BETA	P	Ind.V.	BETA	P	Ind.V.	BETA	P
f23 *	.665946	.001837	f38	.084994	.703188	f53	.170644	.395591
f24	.019278	.950549	f39	-.367726	.252692	f54	.186774	.474183
f25	.142590	.532094	f40	-.006459	.985377	f55	.001610	.995141
f26	-.065755	.825161	f41	-.271780	.222725	f56	-.246716	.218912
f27	.241308	.239001	f42	.114244	.589516	f57	.159980	.460091
f28	-.060444	.767541	f43	-.482110	.064271	f58	.177149	.412843
f29	-.031533	.876875	f44	.034306	.859627	f59	.176709	.415759
f30	.363487	.102633	f45	.063713	.848105	f60	.058305	.826511
f31	-.033171	.899107	f46	-.158573	.544525	f61	.274087	.380030
f32	.286490	.120568	f47	.260395	.235088	f62	-.295551	.309403
f33	-.055376	.820325	f48	.462336	.096836	f63	-.454945	.116415
f34	-.212760	.398780	f49	-.480485	.107532	f64	.182609	.548662
f35	.171471	.518342	f50	-.029698	.919789	f65	-.355188	.177925
f36	-.093474	.712669	f51	.161380	.448017			
f37	.001047	.996262	f52	.287553	.094648			

Multiple Regression Summary for Dependent Variable WPI.CL

Dep.Var.: WPI.CL			Multiple R : .70930994			F = .72999		
			R ² : .50312059			df = 43, 31		
No. Cases: 75			Adjusted R ² :			p < .83205		
Standard error of estimate : 1.9263								
Intercept: -2.36342			Std. Error: 3.220204			t(31) = -.73394		p < .468503
Ind.V.	BETA	P	Ind.V.	BETA	P	Ind.V.	BETA	P
f23 *	.544848	.019270	f38	-.146687	.620739	f53	.360573	.125441
f24	-.526492	.166947	f39	.000065	.999866	f54	-.118713	.678450
f25	-.204430	.432409	f40	.289947	.516428	f55	.059989	.836979
f26	.266147	.433007	f41	-.139400	.568574	f56	.151558	.529317
f27	.116920	.612070	f42	-.022443	.926204	f57	.234972	.347959
f28	.429994	.072102	f43	-.037261	.894014	f58	.124455	.615935
f29	-.222978	.359402	f44	.096366	.660664	f59	-.010439	.966198
f30	.205648	.426771	f45	.235229	.532885	f60	-.288994	.326518
f31	-.122431	.722600	f46	-.092513	.749189	f61	.320001	.380709
f32	.336141	.107235	f47	.182579	.490757	f62	.089926	.806202
f33	.011018	.970690	f48	.383213	.216491	f63	-.427279	.182052
f34	-.144079	.622412	f49	-.263313	.538680	f64	.115290	.748404
f35	-.041465	.892452	f50	-.211533	.554605	f65	-.318853	.332937
f36	-.010848	.969670	f51	-.033568	.889306			
f37	-.142013	.575645	f52	.023147	.900730			

Multiple Regression Summary for Dependent Variable SMPL.OV

Dep.Var.: SMPL.OV			Multiple R: .59559612			F = 7.4919		
			R ² : .35473473			df = 43, 586		
No. Cases: 630			Adjusted R ² : .30738592			p < .00000		
Standard error of estimate : 1.4206								
Intercept: -.711639			Std. Error: .472761			t(586) = -1.5053		p < .132790
Ind.V.	BETA	P	Ind.V.	BETA	P	Ind.V.	BETA	P
f23	.062922	.120443	f38 *	.185571	.000333	f53	.033633	.401537
f24	-.006359	.899271	f39 *	-.150735	.017766	f54	-.100940	.082803
f25	.046350	.330204	f40	.030580	.604533	f55 *	.148584	.007881
f26 *	.157614	.001180	f41	-.042019	.321466	f56	.040678	.318873
f27 *	.151308	.002440	f42	.048444	.251373	f57	.027313	.521047
f28	-.056397	.142573	f43	.055810	.329485	f58	-.012441	.802357
f29	-.033122	.485827	f44 *	.083929	.029378	f59	-.000575	.989084
f30	.071781	.095786	f45	-.072655	.205515	f60	.011562	.835060
f31	.071561	.184555	f46	.061634	.227960	f61	-.084198	.162121
f32	-.003887	.919284	f47	.039945	.429258	f62	.064274	.282201
f33	-.046608	.342042	f48	-.022693	.681437	f63	-.001294	.979714
f34	.026241	.555594	f49 *	.133361	.018310	f64	-.074213	.154595
f35	-.035281	.487663	f50	.044902	.363507	f65	.075890	.161577
f36	-.002696	.957411	f51	-.085164	.060263			
f37	-.033895	.464503	f52	.000149	.997050			

Multiple Regression Summary for Dependent Variable SMPL.CC

Dep.Var.: SMPL.CC			Multiple R : .45707283			F = 4.0043		
			R ² : .20891557			df = 43, 652		
No. Cases: 696			Adjusted R ² : .15674282			p < .00000		
Standard error of estimate : 1.2112								
Intercept: 2.969348			Std. Error: .386809			t(652) = 7.67653		p < .000000
Ind.V.	BETA	P	Ind.V.	BETA	P	Ind.V.	BETA	P
f23	.081896	.052143	f38	.102685	.055550	f53	-.052210	.212581
f24	-.81188	.122947	f39	-.014215	.831091	f54	-.110081	.066154
f25	.095751	.051692	f40	-.014215	.831091	f55	.035297	.540357
f26	.058651	.242099	f41	.041850	.339029	f56 *	.094175	.026910
f27 *	.172129	.001154	f42	.045053	.306599	f57	.003966	.928238
f28	-.045024	.260893	f43	.046183	.449192	f58	-.043847	.402417
f29	-.045024	.260893	f44	.025947	.518576	f59	-.093619	.033278
f30	-.017652	.695111	f45	-.049608	.408763	f60	.131740	.024279
f31	.013612	.804133	f46	.041541	.436063	f61	-.021502	.730458
f32	.061515	.126731	f47	-.029883	.563034	f62	-.034177	.586960
f33	-.016176	.748341	f48	.073300	.193481	f63	-.151017	.003519
f34	.082680	.081258	f49	.000563	.992186	f64	.126618	.017812
f35	.052514	.319783	f50	.075014	.139034	f65	.081841	.146737
f36	.024818	.635105	f51	-.030698	.512793			
f37	-.009141	.846600	f52	-.074956	.076236			

Multiple Regression Summary for Dependent Variable SMPL.CD

Dep.Var.: SMPL.CD			Multiple R: .38303691			F = 2.5752		
			R ² : .14671728			df = 43, 644		
No. Cases: 688			Adjusted R ² : .08974343			p < .00000		
Standard error of estimate : 1.6375								
Intercept: 1.527417			Std. Error: .525290			t(644) = 2.90776		p < .003766
Ind.V.	BETA	P	Ind.V.	BETA	P	Ind.V.	BETA	P
f23	.039923	.361755	f38	.045597	.418589	f53	-.062443	.153244
f24	-.007308	.894051	f39	-.052616	.450005	f54	-.039432	.528652
f25	.073308	.154449	f40	-.033409	.608979	f55 *	-.122776	.040810
f26	.014487	.780973	f41	-.006491	.886744	f56	.067856	.127749
f27 *	.117740	.033654	f42	.040231	.385424	f57	-.030112	.513851
f28	.025237	.545552	f43	.048923	.441516	f58	.004569	.933545
f29 *	-.105966	.040710	f44	.013513	.746969	f59	-.066909	.145766
f30	.032975	.483425	f45	.023439	.708391	f60	.096744	.113027
f31	.031698	.579449	f46	.096208	.085440	f61	-.091631	.158916
f32 *	.116805	.005630	f47	-.061648	.255288	f62	.011341	.863407
f33	-.037624	.477256	f48	.108255	.067049	f63	-.020595	.701206
f34	.072167	.148301	f49	-.029952	.620779	f64	.043830	.432146
f35	.042003	.447661	f50	.022480	.673523	f65	.050907	.393788
f36	.042003	.447661	f51	.087050	.077421			
f37	-.003148	.954088	f52	-.067299	.126890			

Multiple Regression Summary for Dependent Variable SMPL.CS

Dep.Var.: SMPL.CS			Multiple R : .40880796			F = 3.0332		
			R ² : .16712395			df = 43, 650		
No. Cases: 694			Adjusted R ² : .11202600			p < .00000		
Standard error of estimate : 1.5291								
Intercept: 3.163024			Std. Error: .489846		t(650) = 6.45718		p < .000000	
Ind.V.	BETA	P	Ind.V.	BETA	P	Ind.V.	BETA	P
f23 *	.142913	.000990	f38 *	.132273	.016389	f53 *	-.084974	.048546
f24	-.074552	.167491	f39	-.023841	.727438	f54 *	-.183474	.002916
f25	.048773	.333621	f40 *	-.211524	.000992	f55	.108357	.068620
f26	-.028513	.579168	f41	.023283	.604227	f56	-.034042	.435462
f27 *	.144916	.007586	f42	-.013244	.769537	f57	.015172	.737253
f28	-.046958	.254430	f43	-.062034	.321963	f58	-.017346	.747040
f29	-.003287	.948099	f44	-.026345	.523239	f59	.021173	.638659
f30 *	.093685	.042930	f45	-.050867	.409282	f60	.089115	.137023
f31	.027501	.625459	f46	.064237	.240588	f61	.019536	.760564
f32	.078601	.057616	f47	.075645	.153757	f62	.023262	.718816
f33	-.016455	.750554	f48	.098731	.087919	f63	-.076790	.147262
f34	.065564	.178119	f49	-.010543	.858194	f64	.053845	.325305
f35 *	-.146324	.007127	f50 *	.109520	.035410	f65	-.078484	.175077
f36 *	.173605	.001295	f51	-.012424	.796190			
f37	-.045066	.352861	f52	.051536	.235308			

Multiple Regression Summary for Dependent Variable SMPL.CT

Dep.Var.: SMPL.CT			Multiple R : .35909600			F = 2.1793		
			R ² : .12894994			df = 43, 633		
No. Cases: 677			Adjusted R ² : .06977908			p < .00003		
Standard error of estimate : 1.5594								
Intercept: 1.496338			Std. Error: .506167			t(633) = 2.95622		p < .003230
Ind.V.	BETA	P	Ind.V.	BETA	P	Ind.V.	BETA	P
f23 *	.153838	.000615	f38 *	.157698	.005871	f53	-.029677	.506335
f24	.011366	.838371	f39	-.126955	.072231	f54	-.009802	.877691
f25	.033890	.515942	f40	.023171	.725809	f55	-.088961	.148097
f26	-.092079	.084411	f41	.079830	.085633	f56	.030625	.496851
f27 *	.215403	.000155	f42	.010588	.821653	f57	.016246	.729072
f28	.015595	.714912	f43	-.047374	.464732	f58	.002692	.961035
f29	.036933	.484898	f44	-.012001	.778619	f59	-.010214	.827374
f30	.032039	.507189	f45	-.041843	.521087	f60	.025781	.675683
f31	-.045082	.439920	f46	-.029735	.604374	f61	.045616	.492168
f32 *	.109424	.011052	f47	.028682	.599641	f62	-.019856	.766761
f33	-.042441	.428543	f48	-.011403	.848879	f63	-.073090	.179884
f34	-.080001	.112508	f49	.039514	.517356	f64	.025834	.646463
f35	-.070344	.210206	f50	.012757	.812975	f65	.010366	.863008
f36	.095202	.086260	f51	.036111	.472564			
f37 *	-.109129	.029628	f52	.072575	.105088			

Multiple Regression Summary for Dependent Variable SMPL.C1

Dep.Var.: SMPL.CL			Multiple R : .41347614			F = 3.0069		
			R ² : .17096252			df = 43, 627		
No. Cases: 671			Adjusted R ² : .11410668			p < .000000		
Standard error of estimate : 1.6690								
Intercept: -.466066			Std. Error: .550320			t(627) = -.84690		p < .397374
Ind.V.	BETA	P	Ind.V.	BETA	P	Ind.V.	BETA	P
f23	.148781	.000754	f38	.116683	.040204	f53	-.037633	.390724
f24	-.054464	.320802	f39	-.083598	.226627	f54	-.024853	.692362
f25	.036219	.479868	f40	-.062186	.340824	f55	.039227	.510056
f26	.000980	.984927	f41	.036970	.413805	f56	.063131	.153816
f27	.185340	.000983	f42	.119145	.010335	f57	.095935	.039496
f28	.088857	.032543	f43	-.043426	.494201	f58	-.015980	.769005
f29	-.026785	.600842	f44	-.006996	.866415	f59	-.048973	.286053
f30	.074747	.109318	f45	-.034873	.583646	f60	.058151	.339470
f31	-.045386	.433550	f46	-.017362	.751947	f61	.015490	.810360
f32	.067631	.109344	f47	.003149	.953015	f62	.057141	.387595
f33	-.014317	.786313	f48	.010023	.863938	f63	-.139348	.008563
f34	.015640	.752762	f49	.019970	.738711	f64	-.049512	.368004
f35	-.058882	.281981	f50	.021659	.682693	f65	.061293	.306609
f36	.093392	.084234	f51	.030243	.539552			
f37	-.068634	.164137	f52	-.053460	.226240			

APPENDIX K

Tables 56, 57, 58

Examining Types of Parent Involvement

by Ranking Factors

for

Stronger Parent Involvement Schools

Weaker Parent Involvement Schools

and

the Sample

Table 56

Stronger Parent Involvement Schools

Co-Communic.		Co-Support		Co-Decision Making		Co-Teaching		Co-Learning		Overall Rating	
f60	0.619	f48	0.367	f60	.728	f57	.5	f60	.611	f42	.343
f46	0.465	f60	0.317	f48	.308	f62	.377	f57	.556	f26	.325
f55	0.302	f30	0.273	f35	.299	f40	.31	f45	.398	f25	.266
f25	0.263	f23	0.208	f57	.293	f52	.26	f62	.374	f55	.246
f32	0.189	f36	0.183	f45	.240	f29	.258	f47	.219	f43	.238
f34	0.177	f55	0.179	f51	.218	f60	.249	f56	.02	f41	.22
f48	0.177	f45	0.155	f37	.21	f43	.204	f55	0.195	f48	.164
f37	0.148	f38	0.133	f42	.191	f45	.195	f48	0.168	f29	.159
f62	0.137	f27	0.127	f25	.163	f50	.169	f25	0.158	f63	.154
f42	0.134	f58	0.107	f52	.134	f65	.153	f23	0.155	f62	.108
f36	0.1	f50	0.101	f24	.126	f48	.143	f35	0.155	f34	.082
f56	0.097	f61	0.087	f62	.125	f23	.139	f39	0.103	f53	.080
f63	0.095	f63	0.078	f58	.104	f55	.109	f52	0.089	f32	.079
f57	0.083	f64	0.07	f28	.091	f25	.105	f50	0.081	f60	.072
f47	0.064	f57	0.067	f26	.09	f47	.061	f52	0.072	f57	.068
f44	0.062	f29	0.062	f34	.076	f46	.061	f40	0.057	f31	.062
f24	0.052	f62	0.062	f32	.076	f35	.055	f38	0.024	f38	.056
f43	0.048	f42	0.059	f55	.071	f58	.051	f29	0.005	f56	.54
f35	0.035	f31	0.058	f23	.054	f41	.05	f58	-.026	f51	.042
f28	0.022	f52	0.042	f31	.045	f56	.033	f43	-.03	f37	.039
f51	0.021	f46	0.041	f27	.038	f26	.026	f26	-.03	f59	.038
f58	0.012	f53	0.039	f30	.029	f38	.021	f28	-.05	f24	.026
f38	0	f25	0.024	f29	.007	f63	.013	f27	-.05	f45	.026
f50	0	f47	0.022	f50	.002	f37	-.038	f36	-.05	f47	.011
f45	-0.01	f32	-0.01	f47	-.002	f33	-.042	f65	-.063	f65	.011
f23	-0.01	f37	-0.01	f38	-.004	f44	-.053	f24	-.074	f36	.01
f26	-0.03	f51	-0.01	f63	-.026	f51	-.056	f41	-.085	f52	-.016
f31	-0.03	f24	-0.01	f44	-.018	f31	-.062	f61	-.087	f49	-.023
f40	-0.04	f35	-0.03	f43	-.056	f33	-.068	f31	-.093	f33	-.045
f29	-0.04	f33	-0.08	f56	-.078	f24	-.075	f49	-.101	f23	-.051

f52	-0.05	f43	-0.08	f46	-.093	f30	-.083	f32	-.118	f61	-.076
f61	-0.06	f34	-0.08	f33	-.119	f39	-.132	f30	-.119	f54	-.096
f41	-0.11	f28	-0.09	f53	-.122	f54	-.134	f46	-.126	f50	-.109
f30	-0.14	f26	-0.11	f65	-.136	f34	-.136	f63	-.14	f27	-.44
f53	-0.14	f59	-0.11	f40	-.147	f61	-.151	f37	-.169	f28	-.99
f54	-0.14	f44	-0.12	f61	-.157	f28	-.174	f59	-.17	f40	-.120
f65	-0.15	f40	-0.14	f49	-.261	f36	-.192	f44	-.171	f44	-.123
f33	-0.16	f41	-0.17	f39	-.265	f42	-.209	f53	-.184	f58	-.123
f59	-0.19	f54	-0.19	f64	-.278	f53	-.277	f33	-.192	f35	-.146
f39	-0.25	f39	-0.28	f54	-.283	f59	-.29	f34	-.211	f39	-.15
f64	-0.27	f56	-0.34	f41	-.296	f49	-.298	f42	-.256	f46	-.209
f49	-0.28	f49	-0.35	f36	-.322	f64	-.306	f54	-.352	f30	-.226
f27	-0.4	f65	-0.35	f59	-.509	f27	-.342	f64	-.392	f64	-.371

Table 57

Weaker Parent Involvement Schools

Co-Communic.		Co-Support		Co-Decision Making		Co-Teaching		Co-Learning		Overall Rating	
f61	.477	f55	.509	f40	.375	f23	.666	f23	.545	f49	0.776
f60	0.434	f23	0.422	f27	0.353	f48	0.462	f28	0.43	f38	0.527
f46	0.417	f46	0.382	f32	0.333	f30	0.363	f48	0.383	f37	0.442
f23	0.383	f48	0.31	f47	0.291	f52	0.288	f53	0.361	f62	0.436
f26	0.367	f32	0.281	f48	0.246	f32	0.286	f32	0.336	f59	0.253
f55	0.363	f39	0.28	f28	0.231	f61	0.274	f61	0.32	f54	0.24
f27	0.286	f57	0.228	f23	0.224	f47	0.26	f40	0.29	f23	0.221
f44	0.264	f30	0.196	f64	0.208	f27	0.241	f26	0.266	f57	0.212
f33	0.244	f64	0.187	f45	0.207	f54	0.187	f45	0.235	f24	0.21
f37	0.22	f38	0.167	f46	0.194	f64	0.182	f57	0.235	f55	0.197
f38	0.165	f34	0.147	f62	0.173	f58	0.177	f30	0.206	f44	0.189
f36	0.151	f26	0.133	f44	0.158	f59	0.177	f47	0.183	f53	0.17
f56	0.148	f25	0.127	f60	0.14	f35	0.171	f56	0.152	f56	0.149
f42	0.13	f27	0.123	f42	0.106	f53	0.17	f58	0.124	f43	0.147
f65	0.089	f51	0.118	f26	0.098	f51	0.161	f27	0.117	f26	0.132
f45	0.087	f33	0.104	f36	0.091	f57	0.16	f64	0.115	f30	0.124
f40	0.043	f35	0.097	f53	0.087	f25	0.142	f44	0.096	f47	0.112
f31	0.042	f50	0.092	f56	0.075	f42	0.114	f62	0.09	f41	0.091
f32	0.037	f37	0.085	f31	0.073	f38	0.085	f55	0.06	f29	0.091
f47	0.035	f59	0.081	f30	0.069	f45	0.064	f52	0.023	f28	0.079
f34	0.034	f47	0.077	f58	0.068	f60	0.058	f33	0.011	f34	0.073
f25	0.034	f44	0.049	f51	0.055	f44	0.034	f39	0	f63	0.056
f49	-0.01	f61	0	f25	0.033	f24	0.019	f59	-0.01	f31	0.047
f41	-0.02	f28	-0.02	f35	0.014	f55	0.002	f36	-0.01	f65	0.043
f29	-0.03	f31	-0.03	f38	0.002	f37	0.001	f42	-0.02	f60	0.026
f57	-0.03	f36	-0.04	f59	0	f40	-0.01	f51	-0.03	f27	0.021
f64	-0.06	f53	-0.06	f49	0	f50	-0.03	f43	-0.04	f36	0.013
f51	-0.08	f52	-0.09	f61	-0.02	f29	-0.03	f35	-0.04	f46	-0.01
f53	-0.08	f58	-0.13	f54	-0.02	f31	-0.03	f46	-0.09	f51	-0.07
f43	-0.12	f62	-0.14	f33	-0.04	f33	-0.06	f54	-0.12	f32	-0.09

f35	-0.13	f63	-0.14	f37	-0.05	f28	-0.06	f31	-0.12	f58	-0.18
f48	-0.14	f24	-0.16	f41	-0.1	f26	-0.07	f41	-0.14	f42	-0.18
f28	-0.15	f42	-0.16	f57	-0.11	f36	-0.09	f37	-0.14	f48	-0.19
f50	-0.17	f60	-0.16	f55	-0.11	f46	-0.16	f34	-0.14	f39	-0.22
f62	-0.17	f41	-0.18	f29	-0.15	f34	-0.21	f38	-0.15	f33	-0.25
f58	-0.2	f65	-0.19	f65	-0.16	f56	-0.25	f25	-0.2	f61	-0.28
f39	-0.22	f40	-0.22	f39	-0.2	f41	-0.27	f50	-0.22	f40	-0.29
f30	-0.23	f43	-0.23	f52	-0.21	f62	-0.3	f29	-0.22	f34	-0.31
f52	-0.27	f29	-0.24	f34	-0.23	f65	-0.35	f49	-0.26	f64	-0.33
f24	-0.34	f49	-0.26	f43	-0.36	f39	-0.37	f60	-0.29	f52	-0.34
f59	-0.35	f54	-0.26	f24	-0.39	f63	-0.45	f65	-0.32	f50	-0.39
f54	-0.5	f56	-0.31	f63	-0.46	f49	-0.48	f63	-0.43	f25	-0.41
f63	-0.61	f45	-0.37	f50	-0.67	f43	-0.48	f24	-0.55	f45	-0.5

Table 58

Sample

Co-Communic.		Co-Support		Co-Decision Making		Co-Teaching		Co-Learning		Overall Rating	
f27	0.172	f36	.173	f27	.118	f27	.215	f27	.185	f38	.186
f60	0.132	f27	.145	f32	.117	f38	.157	f23	.148	f26	.158
f64	0.127	f23	.143	f48	.108	f23	.154	f42	.119	f27	.151
f38	0.102	f38	.132	f60	.097	f32	.109	f38	.117	f55	.149
f25	0.096	f50	.11	f46	.096	f36	.065	f57	.096	f49	.133
f56	0.094	f55	.108	f51	.087	f41	.08	f36	.093	f44	.084
f34	0.083	f48	.099	f25	.073	f52	.072	f28	.089	f65	.076
f23	0.082	f30	.094	f34	.072	f61	.046	f30	.074	f30	.072
f65	0.082	f60	.089	f56	.068	f49	.04	f32	.067	f31	.072
f50	0.075	f32	.079	f65	.051	f29	.037	f56	.063	f62	.064
f48	0.073	f47	.076	f43	.049	f51	.036	f65	.061	f23	.063
f32	0.062	f34	.066	f38	.046	f25	.033	f60	.058	f46	.062
f26	0.059	f46	.064	f64	.044	f30	.032	f62	.057	f43	.056
f35	0.053	f64	.053	f35	.042	f56	.03	f55	.039	f42	.048
f43	0.046	f52	.052	f36	.042	f47	.029	f41	.037	f25	.046
f42	0.045	f25	.049	f42	.04	f60	.026	f25	.036	f50	.045
f41	0.042	f31	.028	f23	.04	f64	.026	f51	.03	f56	.041
f46	0.042	f41	.023	f30	.033	f40	.023	f50	.022	f47	.04
f55	0.035	f62	.023	f31	.032	f57	.016	f49	.02	f53	.034
f44	0.026	f59	.021	f28	.025	f28	.016	f34	.016	f40	.031
f36	0.025	f61	.019	f45	.023	f50	.013	f61	.015	f57	.027
f31	0.014	f57	.015	f50	.022	f24	.011	f48	.01	f34	.026
f57	0.004	f29	-.003	f26	.014	f42	.011	f47	.003	f60	.011
f49	0.001	f49	-.011	f44	.014	f65	.01	f26	.001	f52	.0001
f37	-0.01	f51	-.012	f62	.011	f58	.002	f44	-.077	f59	-.001
f39	-0.01	f42	-.013	f58	.005	f54	-.01	f33	-.014	f63	-.001
f40	-0.01	f33	-.016	f37	-.003	f59	-.01	f58	-.015	f36	-.002
f33	-0.02	f58	-.017	f41	-.006	f48	-.011	f46	-.017	f32	-.004
f30	-0.02	f39	-.024	f24	-.007	f44	-.012	f54	-.025	f24	-.006
f61	-0.02	f44	-.026	f63	-.02	f62	-.02	f29	-.027	f58	-.012

F47	-0.03	F26	-.029	F49	-.03	F53	-.03	F45	-.035	F48	-.023
F51	-0.03	F56	-.034	F57	-.03	F46	-.03	F53	-.038	F29	-.033
F62	-0.03	F37	-.045	F40	-.033	F45	-.042	F43	-.043	F37	-.034
F58	-0.04	F28	-.047	F33	-.038	F33	-.042	F31	-.045	F35	-.035
F28	-0.05	F45	-.051	F54	-.039	F31	-.045	F59	-.049	F41	-.042
F29	-0.05	F43	-.062	F39	-.053	F43	-.047	F64	-.05	F53	-.047
F45	-0.05	F24	-.075	F47	-.062	F35	-.07	F52	-.053	F28	-.056
F53	-0.05	F63	-.077	F53	-.062	F63	-.073	F42	-.054	F45	-.073
F52	-0.08	F65	-.078	F59	-.067	F34	-.08	F35	-.059	F64	-.074
F24	-0.08	F53	-.085	F52	-.067	F55	-.089	F40	-.062	F61	-.084
F59	-0.09	F35	-.146	F61	-.092	F26	-.092	F37	-.069	F51	-.085
F54	-0.11	F54	-.183	F29	-.106	F37	-.109	F39	-.084	F54	-.101
F63	-0.15	F40	-.212	F55	-.123	F39	-.127	F63	-.139	F39	-.151

APPENDIX L

COMPARISON TABLES

Table 59

Comparison Table: Co-Communications

SPI.CC		WPI.CC		SMPL.CC	
IND. VAR.	BETA	IND. VAR.	BETA	IND. VAR.	BETA
f60 *	.619	f61	.477	f27*	.172
f46 *	.465	f60	.434	f60*	.132
f55	.3023	f46	.417	f64*	.127
f25 *	.263	f23	.383	f38	.102
f32	.189	f26	.367	f25	.096
f34	.177	f55	.363	f56*	.094
f48	.177	f27	.286	f34	.083
f37	.148	f44	.264	f23	.082
f62	.137	f33	.244	f65	.082
f42	.134	f37	.22	f50	.075
f36	.1	f38	.165	f48	.073
f56	.097	f36	.151	f32	.062
f63	.095	f56	.148	f26	.059
f57	.083	f42	.13	f35	.053
f47	.064	f65	.089	f43	.046
f44	.062	f45	.087	f42	.045
f24	.052	f40	.043	f41	.042
f43	.048	f31	.042	f46	.042
f35	.035	f32	.037	f55	.035
f28	.022	f47	.035	f44	.026
f51	.021	f34	.034	f36	.025
f58	.012	f25	.034	f31	.014
f38	.000	f49	-.011	f57	.004
f50	-.0001	f41	-.015	f49	.001
f45	-.006	f29	-.029	f37	-.009
f23	-.014	f57	-.034	f39	-.014

f26	-.028	f64	-.063	f40	-.014
f31	-.03	f51	-.082	f33	-.016
f40	-.035	f53	-.082	f30	-.017
f29	-.039	f43	-.12	f61	-.022
f52	-.051	f35	-.126	f47	-.03
f61	-.055	f48	-.139	f51	-.031
f41	-.113	f28	-.149	f62	-.034
f30	-.14	f50	-.169	f58	-.044
f53	-.141	f62	-.171	f28	-.045
f54	-.142	f58	-.197	f29	-.045
f65	-.148	f39	-.224	f45	-.05
f33	-.155	f30	-.226	f53	-.052
f59	-.19	f52	-.265	f52	-.075
f39	-.251	f24*	-.337	f24	-.081
f64	-.27	f59	-.353	f59*	-.094
f49	-.28	f54*	-.502	f54	-.11
f27*	-.396	f63*	-.607	f63*	-.15

Table 60

Comparison Table: Co-Support

SPI.CS		WPI.CS		SMPL.CS	
IND. VAR.	BETA	IND. VAR.	BETA	IND. VAR.	BETA
f48	.367	f55*	.509	f36*	.173
f60	.317	f23*	.422	f27*	.145
f30	.273	f46	.382	f23*	.143
f23	.208	f48	.31	f38*	.132
f36	.183	f32	.281	f50*	.11
f55	.179	f39	.28	f55	.108
f45	.155	f57	.228	f48	.099
f38	.133	f30	.196	f30*	.094
f27	.127	f64	.187	f60	.089
f58	.107	f38	.167	f32	.079
f50	.101	f34	.147	f47	.076
f61	.087	f26	.133	f34	.066
f63	.078	f25	.127	f46	.064
f64	.070	f27	.123	f64	.053
f57	.067	f51	.118	f52	.052
f29	.062	f33	.104	f25	.049
f62	.062	f35	.097	f31	.028
f42	.059	f50	.092	f41	.023
f31	.058	f37	.085	f62	.023
f52	.042	f59	.081	f59	.021
f46	.041	f47	.077	f61	.019
f53	.039	f44	.049	f57	.015
f25	.024	f61	-.003	f29	-.003
f47	.022	f28	-.017	f49	-.011
f32	-.006	f31	-.032	f51	-.012
f37	-.011	f36	-.038	f42	-.013

f51	-.013	f53	-.061	f33	-.016
f24	-.014	f52	-.09	f58	-.017
f35	-.026	f58	-.133	f39	-.024
f33	-.075	f62	-.136	f44	-.026
f43	-.079	f63	-.142	f26	-.029
f34	-.083	f24	-.157	f56	-.034
f28	-.092	f42	-.16	f37	-.045
f26	-.105	f60	-.163	f28	-.047
f59	-.108	f41	-.182	f45	-.051
f44	-.115	f65	-.189	f43	-.062
f40	-.14	f40	-.221	f24	-.075
f41	-.17	f43	-.23	f63	-.077
f54	-.186	f29	-.236	f65	-.078
f39	-.28	f49	-.261	f53*	-.085
f56*	-.338	f54	-.264	f35*	-.146
f49	-.348	f56	-.315	f54*	-.183
f65*	-.349	f45	-.369	f40*	-.212

Table 61

Comparison Table: Co-Decision Making

SPI.CD		WPI.CD		SMPL.CD	
IND. VAR.	BETA	IND. VAR.	BETA	IND. VAR.	BETA
f60*	.728	f40	.375	f27*	.118
f48	.308	f27	.353	f32*	.117
f35	.299	f32	.333	f48	.108
f57	.293	f47	.291	f60	.097
f45	.240	f48	.246	f46	.096
f51	.218	f28	.231	f51	.087
f37	.21	f23	.224	f25	.073
f42	.191	f64	.208	f34	.072
f25	.163	f45	.207	f56	.068
f52	.134	f46	.194	f65	.051
f24	.126	f62	.173	f43	.049
f62	.125	f44	.158	f38	.046
f58	.104	f60	.14	f64	.044
f28	.091	f42	.106	f35	.042
f26	.09	f26	.098	f36	.042
f34	.076	f36	.091	f42	.04
f32	.076	f53	.087	f23	.04
f55	.071	f56	.075	f30	.033
f23	.054	f31	.073	f31	.032
f31	.045	f30	.069	f28	.025
f27	.038	f58	.068	f45	.023
f30	.029	f51	.055	f50	.022
f29	.007	f25	.033	f26	.014
f50	.002	f35	.014	f44	.014
f47	-.002	f38	.002	f62	.011
f38	-.004	f59	-.0006	f58	.005

f63	-.026	f49	-.004	f37	-.003
f44	-.018	f61	-.019	f41	-.006
f43	-.056	f54	-.023	f24	-.007
f56	-.078	f33	-.035	f63	-.02
f46	-.093	f37	-.045	f49	-.03
f33	-.119	f41	-.098	f57	-.03
f53	-.122	f57	-.107	f40	-.033
f65	-.136	f55	-.108	f33	-.038
f40	-.147	f29	-.153	f54	-.039
f61	-.157	f65	-.16	f39	-.053
f49	-.261	f39	-.195	f47	-.062
f39	-.265	f52	-.212	f53	-.062
f64	-.278	f34	-.235	f59	-.067
f54	-.283	f34	-.358	f52	-.067
f41*	-.296	f24	-.386	f61	-.092
f36*	-.322	f63	-.457	f29*	-.106
f59*	-.509	f50*	-.666	f55*	-.123

Table 62

Comparison Table: Co-Teaching

SPI.CT		WPI.CT		SMPL.CT	
IND. VAR.	BETA	IND. VAR.	BETA	IND. VAR.	BETA
f57*	.5	f23*	.666	f27*	.215
f62	.377	f48	.462	f38*	.157
f40	.31	f30	.363	f23*	.154
f52*	.26	f52	.288	f32*	.109
f29	.258	f32	.286	f36	.065
f60	.249	f61	.274	f41	.08
f43	.204	f47	.260	f52	.072
f45	.195	f27	.241	f61	.046
f50	.169	f54	.187	f49	.04
f65	.153	f64	.182	f29	.037
f48	.143	f58	.177	f51	.036
f23	.139	f59	.177	f25	.033
f55	.109	f35	.171	f30	.032
f25	.105	f53	.170	f56	.03
f47	.061	f51	.161	f47	.029
f46	.061	f57	.16	f60	.026
f35	.055	f25	.142	f64	.026
f58	.051	f42	.114	f40	.023
f41	.05	f38	.085	f57	.016
f56	.033	f45	.064	f28	.016
f26	.026	f60	.058	f50	.013
f38	.021	f44	.034	f24	.011
f63	.013	f24	.019	f42	.011
f37	-.038	f55	.002	f65	.01
f33	-.042	f37	.001	f58	.002
f44	-.053	f40	-.006	f54	-.01

f51	-.056	f50	-.030	f59	-.01
f31	-.062	f29	-.032	f48	-.011
f33	-.068	f31	-.033	f44	-.012
f24	-.075	f33	-.055	f62	-.02
f30	-.083	f28	-.06	f53	-.03
f39	-.132	f26	-.066	f46	-.03
f54	-.134	f36	-.093	f45	-.042
f34	-.136	f46	-.159	f33	-.042
f61	-.151	f34	-.213	f31	-.045
f28	-.174	f56	-.247	f43	-.047
f36	-.192	f41	-.272	f35	-.07
f42	-.209	f62	-.296	f63	-.073
f53*	-.277	f65	-.355	f34	-.08
f59	-.29	f39	-.368	f55	-.089
f49	-.298	f63	-.455	f26	-.092
f64	-.306	f49	-.480	f37*	-.109
f27	-.342	f43	-.482	f39	-.127

Table 63

Comparison Table : Co-Learning

SPI.CL		WPI.CL		SMPL.CL	
IND. VAR.	BETA	IND. VAR.	BETA	IND. VAR.	BETA
f60*	.611	f23*	.545	f27	.185
f57*	.556	f28	.43	f23	.148
f45	.398	f48	.383	f42	.119
f62	.374	f53	.361	f38	.117
f47	.219	f32	.336	f57	.096
f56	.02	f61	.320	f36	.093
f55	0.195	f40	.29	f28	.089
f48	0.168	f26	.266	f30	.074
f25	0.158	f45	.235	f32	.067
f23	0.155	f57	.235	f56	.063
f35	0.155	f30	.206	f65	.061
f39	0.103	f47	.183	f60	.058
f52	0.089	f56	.152	f62	.057
f50	0.081	f58	.124	f55	.039
f52	0.072	f27	.117	f41	.037
f40	0.057	f64	.115	f25	.036
f38	0.024	f44	.096	f51	.03
f29	0.005	f62	.09	f50	.022
f58	-.026	f55	.06	f49	.02
f43	-.03	f52	.023	f34	.016
f26	-.03	f33	.011	f61	.015
f28	-.05	f39	.0001	f48	.01
f27	-.05	f59	-.010	f47	.003
f36	-.05	f36	-.011	f26	.001
f65	-.063	f42	-.022	f44	-.077
f24	-.074	f51	-.034	f33	-.014

f41	-.085	f43	-.037	f58	-.015
f61	-.087	f35	-.041	f46	-.017
f31	-.093	f46	-.092	f54	-.025
f49	-.101	f54	-.119	f29	-.027
f32	-.118	f31	-.122	f45	-.035
f30	-.119	f41	-.139	f53	-.038
f46	-.126	f37	-.142	f43	-.043
f63	-.14	f34	-.144	f31	-.045
f37	-.169	f38	-.147	f59	-.049
f59	-.17	f25	-.204	f64	-.05
f44	-.171	f50	-.216	f52	-.053
f54	-.184	f29	-.223	f24	-.054
f33	-.192	f49	-.263	f35	-.059
f34	-.211	f60	-.289	f40	-.062
f42	-.256	f65	-.319	f37	-.069
f54	-.352	f63	-.427	f39	-.084
f64*	-.392	f24	-.545	f63	-.139

Table 64

Comparision Table: Overall Rating of Parent Involvement

SPI.OV		WPI.OV		SMPL.OV	
IND. VAR.	BETA	IND. VAR.	BETA	IND. VAR.	BETA
f42*	.343	f49*	.776	f38*	.186
f26*	.325	f38*	.527	f26*	.158
f25	.266	f37*	.442	f27*	.151
f55	.246	f62*	.436	f55*	.149
f43	.238	f59*	.253	f49*	.133
f41	.22	f54	.240	f44*	.084
f48	.164	f23*	.221	f65	.076
f29	.159	f57	.212	f30	.072
f63	.154	f24	0.21	f31	.072
f62	.108	f55	0.197	f62	.064
f34	.082	f44	0.189	f23	.063
f53	.080	f53	0.17	f46	.062
f32	.079	f56	0.149	f43	.056
f60	.072	f43	0.147	f42	.048
f57	.068	f26	0.132	f25	.046
f31	.062	f30	0.124	f50	.045
f38	.056	f47	0.112	f56	.041
f56	.54	f41	0.091	f47	.04
f51	.042	f29	0.091	f53	.034
f37	.039	f28	.079	f40	.031
f59	.038	f34	.073	f57	.027
f24	.026	f63	.056	f34	.026
f45	.026	f31	.047	f60	.011
f47	.011	f65	.043	f52	.0001
f65	.011	f60	.026	f59	-.001
f36	.01	f27	.021	f63	-.001

f52	-.016	f36	.013	f36	-.002
f49	-.023	f46	-.007	f32	-.004
f33	-.045	f51	-.074	f24	-.006
f23	-.051	f32	-.09	f58	-.012
f61	-.076	f58	-.178	f48	-.023
f54	-.096	f42	-.182	f29	-.033
f50	-.109	f48	-.185	f37	-.034
f27	-.44	f39	-.22	f35	-.035
f28	-.99	f33	-.25	f41	-.042
f40	-.120	f61	-.28	f53	-.047
f44	-.123	f40	-.29	f28	-.056
f58	-.123	f34	-.311	f45	-.073
f35	-.146	f64	-.328	f64	-.074
f39	-.15	f52*	-.335	f61	-.084
f46	-.209	f50*	-.391	f51	-.085
f30	-.226	f25*	-.412	f54	-.101
f64	-.371	f45*	-.504	f39*	-.151

VITA

James D. Leiderman was born March 18, 1951 in Bethlehem, Pennsylvania. His parents, Robert and Dorothy Leiderman reside in Easton, Pennsylvania.

The candidate graduated from Kutztown State College in 1973 with a Bachelor of Science degree in elementary education. He received his Master of Education degree in 1979 from Lehigh University, Bethlehem, Pennsylvania. Mr. Leiderman undertook additional graduate work at Lehigh University, where he obtained his elementary principal's certification in 1984 and superintendent's letter of eligibility in 1994.

Mr. Leiderman co-authored an article titled "Assisting the Transition to Middle School" which appeared in the journal Principal in March, 1991.

Mr. Leiderman was employed by the Bethlehem Area School District as an elementary school teacher from 1973 to 1985. From 1985 to 1996 he has been employed as the principal of Oaks Elementary School in the Spring-Ford Area School District, Montgomery County, Pennsylvania.

Mr. Leiderman's professional affiliations include: National Association of Elementary School Principals, Pennsylvania Association of Elementary School Principals,

Montgomery County Principal's and Supervisor's Association, Pennsylvania School Board Association, and Association for Supervision and Curriculum Development. He is a member of the Lehigh University chapter of Phi Delta Kappa.

Currently Mr. Leiderman resides in Birdsboro, Pennsylvania with his wife Karen and their two children Michael, 17 years of age, and Matthew, 14 years of age.