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Hispanic parent monitoring of seventh grade mathematics homework assignments and relationship with achievement and self-esteem.

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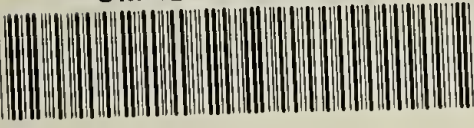
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HISPANIC PARENT MONITORING OF SEVENTH GRADE MATHEMATICS
HOMEWORK ASSIGNMENTS AND RELATIONSHIP WITH ACHIEVEMENT
AND SELF-ESTEEM

A Dissertation Presented

by

LUIS F. TAMAYO

Submitted to the Graduate School of the University of
Massachusetts in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

May, 1992

School of Education

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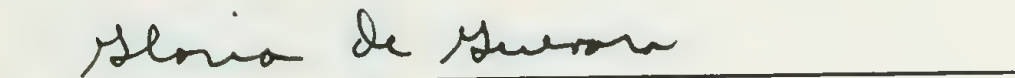
LUIS F. TAMAYO

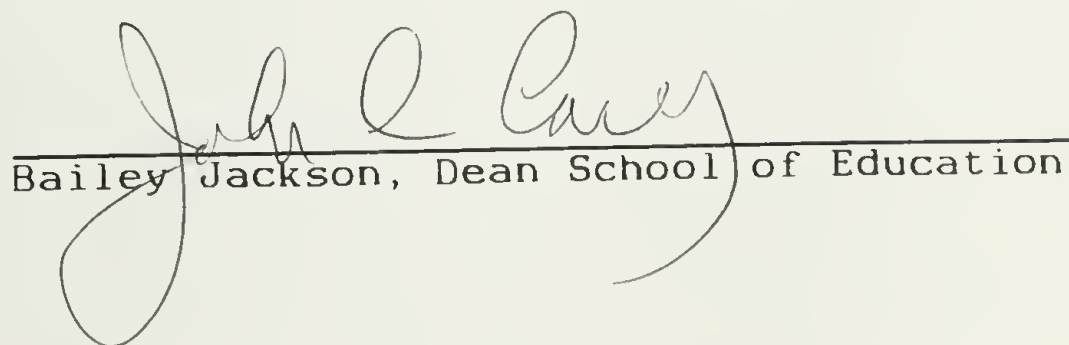
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Janine Roberts, Member


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Dedication

To my progenitors who made great efforts and sacrifices to leave me with the priceless inheritance of a deep appreciation and love for education. This dissertation is part of such an invaluable inheritance. This inheritance I would like to share with others.

ACKNOWLEDGEMENTS

I express deep and sincere gratitude to all the people who in one way or another have encouraged, supported or helped me to make the culmination of this dissertation and my graduate school possible.

I wish to give special thanks to the parents, students and teachers who participated in the study and particularly to the parents who shared with me their interest and motivation to help their children to gain the best possible school achievement.

I would like to thank my dissertation committee members, Dr. Ronald Fredrickson, Dr. Janine Roberts, Dr. Harry Schumer and Dr. Gloria de Guevara, for their feedback and support. I extend my most sincere thanks to my advisor and committee chairperson Dr. Ronald Fredrickson, whom by combining high academic expectations with pleasant and genuine academic support and guidance has the optimum touch of a great educator. I would also like to give special thanks to Dr. Janine Roberts for all the time spent reading drafts of the manuscript, her ideas and most useful feedback.

I gratefully appreciate the typing help of my friend Karen Johnson and my mother in-law Rita Leone who selflessly shared with me their typing skills. Similarly I greatly appreciate Tony Scioli's help with technical

aspects of the study. To Margarita O'neill and Joyce Mehaffy I owe special thanks for their constant support and encouragement.

To all the members of my family of origin and my extended family I would like to express my deep sense of gratefulness for supporting me, for believing in me and for having high expectations of me.

Finally, I have no words to express my gratitude for all the patience, help, support, encouragement, feedback and love that my wife shared with me throughout this process. Similarly I am grateful to my son Lucas, who in his transition from infant to toddler became aware of my long hours at the computer.

ABSTRACT

HISPANIC PARENT MONITORING OF SEVENTH GRADE MATHEMATICS
HOMEWORK ASSIGNMENTS AND RELATIONSHIP WITH ACHIEVEMENT
AND SELF-ESTEEM

MAY 1992

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The purpose of this dissertation was threefold: To determine if parental involvement in monitoring mathematics homework of seventh grade Hispanic students improved their achievement, to assess the effects of parental homework monitoring on the students' self-esteem and to determine if the students' perceptions of their teachers, their parents and their own involvement in mathematics homework changed after the monitoring experience. A total of 28 families/ 31 students participated in the study. A pretest-posttest control group design was used. The experimental group subjects' parents received training in homework monitoring. The Computation section, Level 2 of the Mathematics subtest of the Stanford Achievement Test, the Coopersmith Self-Esteem Inventories and, a "Student Mathematics Homework

Perception Scale" constructed by the researcher were used for pre and posttest measures of achievement, self-esteem and students' perceptions. The students' grades and the percentage of homework they completed and returned for the first three quarters were obtained from their mathematics teachers. Ten of the experimental group subjects' families were interviewed at the end of the study.

Statistical analysis revealed no significant differences between either the computation or the self-esteem posttest scores of the two groups. No significant differences were obtained for teachers' grades and the percentage of homework completed and returned. However, the grades and percentage of homework completed and returned by the experimental group showed a trend in the expected direction. A significant difference was found ($p < .05$) in the perception posttest scores of teacher involvement in mathematics homework. Significant negative correlations were found between parent level of education ($p < .05$) and self-esteem measures and between teachers' grades and self-esteem measures ($p < .05$) for the experimental group. The home interviews revealed: Positive feelings and sense of closer relationship between parents and students, a heightened sense of responsibility for mathematics homework by parents and students in their respective roles, and conflictual issues between parents and students in following the homework monitoring program.

Educational implications and suggestions for further research are discussed.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	v
ABSTRACT	vii
LIST OF TABLES.	xiv
CHAPTER	
I. STATEMENT OF THE PROBLEM.	1
Background.	1
Statement of Purpose.	7
Significance of the Study	8
II. REVIEW OF THE LITERATURE	11
Introduction	11
Historical Review	12
Parent Involvement in Homework and Student Achievement	18
Homework, Achievement and Self-Esteem	30
Parent Involvement in Homework and Parent Level of Education	40
Parental Involvement in Homework with Hispanic Parents	47
III. METHODOLOGY	50
Research Design	50
Hypotheses	50
Definition of Terms	52
Homework	53
Mathematics Achievement	53
Parent Level of Education	53
Parent Involvement in Monitoring Mathematics Homework	53
Parental Training in Monitoring Homework	54
Hispanic Parents	54
Self-Esteem	54
Sample and Sampling Procedures	55
Data Gathering and Instruments	56
Mathematics Test	57
Self-Esteem Inventories	58

Student Mathematics Homework	
Perceptions Scale	60
Home Interview	61
Experimental Treatment	62
Statistical Analysis	64
IV. RESULTS	66
Results of Research Hypotheses	70
Hypothesis 1	70
Hypothesis 2	71
Hypothesis 3	73
Hypothesis 4	75
Hypothesis 5	77
Hypothesis 6a	79
Hypothesis 6b	82
Hypothesis 6c	87
Hypothesis 7a	93
Hypothesis 7b	95
Hypothesis 7c	96
Hypothesis 7d	98
Results of the Home Interview	100
Family Demographic	
Characteristics	102
Student and Parent	
Relationship	105
Family Twelve	106
Family Five	107
Family Four	109
Family Eleven	111
Family One	113
Students and Parents' Sense	
of Responsibility	114
Family Seven	115
Family Three	117
Parent-Student Conflict in	
Carrying out the Parental	
Homework Monitoring	119
Family Eight	120
Family Two	121
Family Fourteen	124

Other Responses	126
V. DISCUSSION	132
Rationale and Design	132
Parental Homework Monitoring and Achievement	134
Parental Homework Monitoring and Homework Completed and Returned . . .	140
Differences of the Students' Perceptions of Their Teacher, Their Parent and Their Own Involvement in Mathematics Homework	141
Parental Homework Monitoring and Students' Self-Esteem	145
Self-Esteem and Achievement	147
Self-Esteem and Homework Completed and Returned	150
Parent Level of Education and Student Achievement	152
Parent Level of Education and Student Homework	155
Parent Level of Education and Student Self-Esteem	157
Quantitative Data and Home Interview	160
Limitations of the Study	163
Implications	166
Future Research	168

APPENDICES

A. PARENTAL HOMEWORK RECORD	170
B. HOJA DE CONTROL DE ASIGNACIONES PARA LOS PADRES/MADRES	172
C. PARENTAL MATHEMATICS HOMEWORK MONITORING PROGRAM	174
D. CHECK-LIST ABOUT HOW PARENTS MONITOR THEIR CHILDREN'S MATHEMATICS HOMEWORK . . .	178
E. LISTA DE VERIFICACION SOBRE COMO LAS MADRES/PADRES SUPERVISAN A SUS HIJOS/AS PARA QUE HAGAN SUS ASIGNACIONES DE MATEMATICAS	180
F. PERMISSION REQUEST LETTER	182
G. DEMOGRAPHIC INFORMATION	184
H. HOME INTERVIEW GUIDE (PARENTS AND CHILD TOGETHER)	185
I. ESCALA DE PERCEPCIONES SOBRE LAS ASIGNACIONES DE MATHEMATICS (MATHEMATICS HOMEWORK PERCEPTION SCALE	187
J. CERTIFICATE	190
K. CARTA DE INFORMACION A LOS PADRES/MADRES . . .	191

L.	PARENTAL INFORMATION LETTER	193
M.	CONSENTIMIENTO DE LOS PADRES/MADRES	195
N.	PARENTAL CONSENT FORM	196
O.	CERTIFICADO	197
P.	GUIDELINES ABOUT HOW TO MONITOR YOUR CHILD'S MATHEMATICS HOMEWORK	198
Q.	GUIAS SOBRE COMO SUPERVISAR LAS ASIGNACIONES DE MATEMATICAS DE SU HIJO/A.	201
R.	MATHEMATICS COMPUTATION PRE AND POSTTEST RAW SCORES AND GRADE EQUIVALENT SCORES FOR THE SUBJECTS IN THE EXPERIMENTAL AND CONTROL GROUPS	205
	REFERENCES	206

LIST OF TABLES

TABLE		PAGE
4.1	Summary of Pretest Scores for Mathematics, Self-Esteem and Students' Perceptions of Their Teachers, Their Parents and Their Own Involvement in Mathematics Homework . . .	69
4.2	Comparison of Experimental and Control Groups' Mathematics Posttest Scores	71
4.3	Comparison of Experimental and Control Groups' Percentage of Homework Completed and Returned in Quarter 1, Quarter 2 and Quarter 3	73
4.4	Comparison of Experimental and Control Groups' Grades in Quarter 1, Quarter 2 and Quarter 3	74
4.5	Comparison of Students' Posttest Scores on Their Perceptions of Their Teacher, Their Parent and Their Own Involvement in Mathematics Homework	76
4.6	Correlations Between the Pre and Posttest Scores of Students' Perceptions of Their Teacher, Their Parent, Their Self and Their Total Involvement In Mathematics Homework for the Experimental and Control Groups	77
4.7	Comparison of Experimental and Control Groups' Self-Esteem Posttest Scores	79
4.8	Correlations Between Measured Students' Self-Esteem and Mathematics Achievement for the Experimental and Control Groups	81
4.9	Correlations Between Measured Students' Self-Esteem and Students' Percentage of Homework Completed and Returned for the Experimental and Control Groups	84
4.10	Correlations Between Measured Students' Self-Esteem and Students' Mathematics Grades	90

4.11	Correlations Between Parent Level of Education and Students' Mathematics Achievement Scores for the Experimental and Control Groups	94
4.12	Correlations Between Parent Level of Education and Students' Percentage of Mathematics Homework Completed and Returned for the Experimental and Control Groups	96
4.13	Correlations Between Parent Level of Education and Students' Mathematics Grades for the Experimental and Control Groups	97
4.14	Correlations Between Parent Level of Education and Measured Students' Self-Esteem for the Experimental and Control Groups	99
4.15	Parental Level of Education of the Families Interviewed	103
4.16	Hispanic Origin of the Families Interviewed	103
4.17	Source of Income of the Families Interviewed	104
4.18	Living Arrangements of the Students of the Families Interviewed	105
4.19	Frequencies of Responses on Whether Parents and Students would Recommend the Parental Homework Monitoring Program to Other Parents and Students	131
4.20	Frequencies of Parents/Families Who Applied Ideas of the Mathematics Homework Monitoring Training to the Monitoring of Other Children and or Other Subjects	131

CHAPTER I
STATEMENT OF THE PROBLEM

The problem to be investigated in this study is summarized in the following questions: Does the training of parents to monitor the mathematics homework of seventh grade Hispanic students improve their achievement in mathematics? Second, What are the effects of the parental homework monitoring on student's self esteem and on student's perceptions of their teacher, their parents and their own involvement in mathematics homework? Third, what does it mean for parents and students to be involved in a planned homework monitoring program? The first two questions are expected to be answered by framing them within specific hypotheses. The third question is hoped to be answered through a home interview.

Background

The controversy over of the positive and negative effects of homework seemed to have started in Europe before the turn of the century (Foyle and Bailey, 1985). In the United States the Ladies' Home Journal in 1913 recommended no more home study in the public schools. According to Coulter (1979) the problem with research on homework by the early 1930's centered around the fact that researchers were not interested in the quality of homework

given or on the conditions under which it was done. In 1957, after the launching of the Sputnik I, homework became again the the focus of proponents of school reform (Foyle and Bailey, 1984).

By the early sixties the homework literature was based mainly on opinions and not on empirical research (McDermott, Shelly and Varenne, 1984). Later in the 1960s the debate on homework gave rise to survey studies that investigated the attitudes of teachers, parents and students toward homework. McDermott et al, 1984 concluded that the survey research confirmed that homework was valued by school programs in the United States. They said it indicated "the need for developing homework policies, practices and tasks that are fitted to school learning, features of home environments and family life and individual student differences." (p. 395). Specific effects of homework on student achievement were reported by Walberg, Paschal, and Weinstein (1985). In their study of 15 empirical studies dealing with the effects of homework, they reported that homework that was graded and commented upon appeared to raise the academic achievement of the typical student from the 50th to the 70th percentile.

Keith, Reimers, Fehrmann, Pottebaun and Aubey (1986) indicated that time spent doing homework has an important influence on academic achievement. Moreover, other

authors have reported that doing more homework was associated with students from private schools who achieve higher than similar students from public schools. One of Coleman's (1982) most important conclusions in his report ("Public and Private Schools") was that students in private high schools "do more homework" than similar students in public schools.

Similarly, Bauch (1988) reported in a study of five low-income inner city interracial and black Catholic high schools that about 79 percent of the parents "make sure that homework is completed." (p. 81) She reported that "the form of parent involvement in these private schools was centered primarily on the child's school progress, a focus more directly related to academic achievement". (p. 82) Like Coleman, she concluded that this might help explain why low income minority students from private schools achieve higher than similar students from public high schools.

In 1983 the National Commission on Excellence in Education recommended an increase in homework requirements as part of the educational reform. Whether related or not to the recommendation by the Commission, by the mid to late 1980's the research on parent involvement in homework included a number of studies that examined the correlation between parental involvement in homework and student achievement. In one correlational study with Asian,

Black, Hispanic and white students from low SES, Ginsburg and Hanson (1985) reported that across the four ethnic groups, students whose GPA was in the upper 20 percent had higher parental involvement in monitoring homework than the students whose GPA was in the lower 20 percent.

In addition, other studies and programs published during the 1980s used homework with elementary school children as a way to strengthen the family-school relationship (Barber, 1987; Tomlinson, 1987; Schnobrich, 1986; Doty, 1986; Foyle et al, 1986).

Another important aspect found in the parent involvement literature is the parental request to teachers for guidance about how they can help their children at home (Czech, 1988; Chavkin and Williams, 1985). In a number of studies parents have been trained to tutor, assist, listen, monitor homework, reinforce homework or give feedback to their children (McKinney, 1985; Morgan and Lyon, 1979; Maeterns and Johnston, 1972; Czech, 1988; Baber, 1987; Mills, 1989; Tomlinson, 1987; Schnobrich, 1986; Witt et al, 1983 and Harris, 1983). These studies reported positive correlations between parent involvement in homework and student achievement. It appears that parent involvement in homework may eventually help to clear the controversy of the "pros" and "cons" of homework.

Of the studies where parents have been trained to monitor their children's homework, only one dealt with just mathematics (Mills, 1989). The other studies dealt with homework in general. These studies involved only elementary school children and although some of them have involved Hispanic students, no study has been reported about the effects on student achievement when parents of Hispanic students have been trained to monitor their children's mathematics homework.

A particular concern in American education today is the underachievement and drop-out rate of Hispanic students which is greater than that of white and black students. For example, the drop-out rates between 1978 and 1988 decreased for all groups except for persons of Hispanic origin. (Current Population Report, 1988 and 1989). In relation to academic achievement the Digest of Educational Statistics (1989) reported that "minority students have scored much lower than the average" (p. 39) in mathematics, reading and writing.

In Massachusetts where the Hispanic population increased 57 percent between 1980 and 1988 (Boston Globe, October 26, 1990), "Hispanic students ranked the highest in drop outs, at 14.1 percent a year, followed by blacks at 9.2 percent; Native Americans, 7.8 percent; Asians, 4.7 percent and whites, 4 percent." (Boston Globe, October 28, 1990). These figures mean that in a four-year period,

45 percent of Hispanic youngsters in Massachusetts may not graduate from high school (Boston Globe, October 28, 1990).

In addition, parents of minority students are one of the groups with lowest parent involvement in high schools (Dornbusch and Ritter, 1988). It is also clear that unless schools encourage and become open to parent involvement the interest and energy that parents have to participate in the instruction of their children will not be utilized by the schools. The analysis of parent school relations is complex and will not be the main focus of this study. However, the underachievement and drop-out rate of Hispanic students and the positive correlation between homework and academic achievement (Walberg et al 1985; Ziegler, 1986 and Epstein, 1983) warrants the experimental investigation of what happens when Hispanic parents are trained to monitor their seventh graders' mathematics homework.

It seems to be well accepted that there is a strong positive relationship between student's school performance and self-esteem. However, the studies that have reported that students have made academic improvements after their parents have been involved in monitoring their homework have not investigated whether the homework monitoring has any significant effects on the student's self-esteem. For this reason the investigation of this variable is included in the proposed study.

Maertens and Johnston (1972) investigated whether students' attitudes toward arithmetic, homework and school would change after parental involvement in their arithmetic homework. These authors reported that their results yielded no significant changes in students' attitudes. These results suggested no apparent relationship between student's improvement in arithmetic achievement and their attitudes. Since it usually tends to be difficult to obtain change in attitudes the present study has focussed on investigating whether the student's perceptions of their teacher involvement (behaviors), their parent involvement and their own involvement changes after the parental homework monitoring.

Statement of Purpose

The main purpose of this study is to obtain information on whether parental involvement in monitoring mathematics homework of seventh grade Hispanic students improves their achievement in mathematics and whether it has any significant effects on their self-esteem over a matched control group. In addition, it attempts to investigate whether the student's perceptions of their teacher, their parent and their own involvement in mathematics homework change after the parental homework monitoring. It is believed that monitoring of homework involves a certain level of skill. Therefore, for parent

involvement in monitoring homework to be most effective it requires parent training on how to monitor their children's homework (Mills, 1989; Tomlinson, 1987).

Significance of the Study

The literature of parent involvement in instruction and particularly the parental monitoring homework suggests that low income minority students in private schools achieve higher than students in public school because these students do more homework and a high percentage of their parents make sure that homework is done (Bauch, 1988). Foyle and Baily (1985) in a study about preparation and practice of homework concluded that children tend to receive poor grades when parents do not encourage the completion and return of homework. Although these are certainly significant results, more experimental research is needed.

The rationale for doing this study on parent involvement in monitoring homework of seven grade Hispanic students is that it addresses some of the concerns expressed in the literature on parent involvement. This literature is currently calling (Henderson, 1987) for research on different aspects of parent involvement with different ethnic groups and with students at the middle and high school levels.

In addition, seventh grade is a grade when students usually experience important developmental and educational changes. Seventh grade is the middle point between elementary and high school and in this grade students are generally introduced for the first time to different teachers for different subjects and they have to rotate from one classroom to another. At home they start to become independent from their parents and at the same time needing positive role modeling as they start to form their own identity. In addition, their concrete way of thinking starts to change to a more abstract way of thinking. For these reasons it is expected that seventh graders need as much parental support as students in earlier grades. One important way for parents to provide this support is by being involved in monitoring their homework.

The dearth of experimental research in parent involvement in monitoring homework with various ethnic groups of Hispanic origin is evident in the parent involvement literature. At the same time, Hispanic students are the most affected by current problems in education such as underachievement and dropping out. The urgent need to investigate and implement appropriate interventions with these ethnic groups is obvious. In general terms, this author expects to make unique contributions to the advancement of research in parent involvement in monitoring homework. On the applied level

this study hopes to benefit members of the Hispanic community with regard to student achievement, student self-esteem and parent-child relationship.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

Parent/family involvement "varies from attendance at parent teacher conferences to volunteer work as an aide in the classroom, from assistance with child's homework to service on a parent advisory council" (Linney, 1982, p. 6). As the previous citation implies, parent involvement is a broad topic. For it to be effectively studied it needs to be delineated into smaller subtopics.

This research project hopes to make a contribution to one aspect of the investigation of parent involvement in monitoring homework. The following sections of this chapter present a review of the literature related to different aspects of parental involvement in homework. First, the historical background of homework is presented. Next, studies, surveys, and opinions related to parent involvement in homework and student achievement are reviewed. This is followed by a discussion of the relationship between homework achievement and self-esteem and homework and parent level of education. The last section reviews the few available studies that include Hispanics in their investigations.

Historical Review

To a large extent the history of homework has been centered around the controversy over the positive and negative effects of homework. Such controversy seems to have started in Europe before the turn of the century. Foyle and Bailey (1985) reported that in 1892 the Cyclopedia of Education "indicated that children under nine years of age could not prepare new work at home and should not be given any home-lessons" (p. 2). Early controversy about the positive and negative effects of homework aroused the interest of the popular press and in 1913 the Ladies' Home Journal conducted a survey of administrators, medical doctors, and parents on the effects of homework on children. Vratanima (1988), who reviewed the article entitled: "The first step to change the public schools" published by the Ladies Home Journal in 1913, indicated that the article recommended no more home study in the public schools. She added that "they opposed homework on grounds that it was unwholesome, professionally unsupervised, and allowed the children to practice mistakes" (p. 8).

Since that publication, the question of whether homework should be assigned or not has been a controversial issue that has provoked debate in the United States (Foyle and Bailey, 1985; Vratanima, 1988). Breed (1919) (cited in Foyle and Bailey, 1988) studied

alternatives to homework and obtained mixed results. Friesen (1979) (cited in Vratanina, 1988) reviewed 24 studies carried out between 1923 and 1979 that addressed the issue of homework versus no homework. According to Vratanina, Friesen reported that "there was no 'clear-cut' endorsement for either homework or no homework" (p. 7), because the results of the studies were divided between demonstrating positive effects and no differences or negative effects on achievement. Vratanina also reviewed some of the opinions on homework expressed by Good (1926). She reported that "Good did not favor the abolishment of all home study, but felt that the student's interest must be considered. He thought that the teacher's ability to create interest in homework was an important factor" (p. 8).

The studies of Dinapoli (1937) and Crawford and Carmichael (1937) contributed to the debate on homework versus no homework. Dinapoli's study which is cited in Vratanina (1988), compared the effects of compulsory versus volunteer homework in six elementary schools in New York city. The results indicated that for fifth graders the compulsory homework slightly increased their achievement but for the seventh graders the contrary was true. Vratanina reported that even though Dinapoli's results would support compulsory homework, he recommended voluntary homework. Goldstein (1960) suggested that

Dinapoli's recommendation against compulsory homework was made simply to support the popular view of no compulsory homework of the early 1930s.

Regarding Crawford and Carmichael's study Vratanima indicated that between 1927 and 1932 they conducted a study in which the students received homework for the first three years and did not receive homework for the last three years of the study. When they compared the scores of the Stanford Achievement Test that had been given for three years to students in grades 5-8, they found no significant differences. But, when they did a follow-up study in 1937, they found a deterioration in the grades of the high school students who had attended the elementary school (El Segundo elementary school) after homework was eliminated.

In general it appears that in the 1930's the popular view of no mandatory homework prevailed. In her review of the research on homework, Vratanima (1988) reported that Coulter (1979) indicated that some of the problems with the researchers of homework in the early 1930s was that they were not "concerned with the quality of the homework given or the conditions under which it was carried out" (p. 7).

Despite these issues and problems the research gradually indicated that homework contributed to achievement. According to Vratanima (1988), Goldstein

(1960) found 17 experimental reports in 280 articles he reviewed for a period of 30 years before the end of 1958. "He concluded that the best designed experiments showed that homework contributed to academic achievement" (p. 6). Moreover, Foyle and Bailey (1984) reported that Coulter (1980) reviewed the homework literature and "concluded that certain kinds of regularly assigned homework affected school achievement" (p. 2). However, he felt that 50 years of research on homework had not provided enough information for teachers and administrators to adopt a policy. Foyle and Bailey added that Knorr (1981) concluded in her review of homework literature that the question of the relationship between homework and achievement continued to be unresolved.

After the launching of Sputnik I in 1957, homework became a focus for proponents of school reform. Hence the educational reform that followed Sputnik I included increased experimentation with homework (Foyle and Bailey, 1987). According to Foyle and Lawrence (1989) at least 84 homework experiments were conducted between 1904 and 1989 and since the 1960's at least 66 homework experiments were performed which "have lead to the general conclusion that homework increases achievement" (p. 2).

In 1966 Check conducted a survey to investigate the views of students, teachers, parents, professors and education measures on homework. He reported that these

populations saw homework as a way for promoting academic excellence and that parents and teachers strongly favored homework.

The "Back to the Basics" movement that arose between 1974 and 1978 supported homework, and according to Yearly (1978), the emphasis for researchers shifted from the homework versus no homework debate to a focus upon the skills and competencies students needed to competently complete homework. Foyle and Bailey (1988) reported that Burrow (1979) "studied a hierarchy of different levels of purposes for reading assignments in secondary social studies" (p. 292) and Lee and Pruit (1979) called for research using a taxonomy of homework that consisted of four types: preparation, practice, extension and creative. During the Fall of the 1983-84 school year Foyle and Bailey (1985) conducted an experiment to measure the effects of preparation homework, practice homework and no homework with tenth grade American history students. They found support for preparation homework and practice homework versus no homework and no significant difference between preparation and practice homework.

In 1983 the report "A Nation at Risk" by the National Commission on Excellence in Education, reported the small amount of time American high school students spent doing homework as compared with students in other countries and earlier generations. The Commission then recommended an

increase in homework requirements as part of their propoasal for educational reform. Similarly, just before the publication of the report, A Nation at Risk, Coleman (1982) in his new report "Public and Private schools" reported that students in private high schools spended more time doing homework than students in public schools.

Since the mid to late eighties, the concept of parent involvement has been gaining popularity in many individual schools and school systems in the United States. Subsequently, the question of parent involvement in homework has increasingly gained interest for researchers and educators (Bauch, 1989; Dauber and Epstein 1989; Foyle and Bailey, 1986; Foyle and Bailey, 1989). Moreover, a number of doctoral students (Barber, 1987; Czech, 1988; Doty, 1986; Mills, 1989; Schnobrich, 1986; Tomlinson, 1987) at Nova University have been conducting practica on various aspects of parent involvement in homework for the last five years.

In summary, the historical background of homework indicates that the controversy over the positive and negative effects of homework seems to have started in Europe before the turn of the century.

In the United States by 1913 the Ladies Home Journal recommended no more homework in the public schools. Since that publication the question of whether homework should be assigned or not has been a controversial issue (Foyle

and Bailey, 1985). The controversy, however, seems to have evolved according to historical shifts that have emphasized education. By the 1930s the popular view was no compulsory homework. Researchers made recommendations against compulsory homework to support the popular view (Goldstein, 1960). By the 1950s, it began to be accepted that well-designed studies indicated that homework contributed to achievement.

The launching of the Sputnik I in 1957 inspired proponents of school reform to promote experimentation on homework. The "Back to the Basics" movement of the 1970s supported homework and researchers shifted the emphasis from the homework versus no homework debate to a focus upon the skills and competencies students needed to competently complete homework (Yeary, 1978).

In 1983 the report, *A Nation at Risk*, reported the small amount of time American high school students spent doing homework and it recommended an increase in homework requirements. During the mid to late eighties the concept of parent involvement became more popular and as result educators and researchers have been increasingly concerned with the issue of parent involvement in homework.

Parent Involvement in Homework and Student Achievement

In a study with 16 second grade students, Karraker (1972) used three methods of home-managed contingency

programs to help the students improve their arithmetic performance. The teacher referred the students and the requirement for the referral was that the students were underachieving and not receiving any other help. The parents were instructed using three types of information on how to carry out the contingency programs. The first type of information consisted in parents coming to the school for two one-hour conferences where they were explained in detail how to use and administer consequences. They were asked to choose a consequence the child was interested in earning, contingent on his/her scores in daily mathematics assignments. In addition, these parents were provided information about behavior management techniques. In type 2, the parents came to the school and in a 15-minute conference they were given instructions about the study and their role and in type 3 the parents were informed and instructed by a letter. In all three conditions, the teachers sent home daily report cards.

The study consisted of four phases of 10 consecutive days each. The phases were "baseline," "report card" (the students were handed the report cards and then collected without comments), and "consequences," (the students were handed the report cards and they were instructed to bring them home). The last phase, "reversal", consisted of no daily report cards and the parents were asked to discontinue the consequences.

The results showed that from the baseline to report cards phases, there were small changes in student achievement that were linked to the three methods by which parents were instructed. The two-hour conference students increased from a median percent of 47 in the baseline to a 52 in the daily report cards. The 15-minute conference went from 77 to 79 and the students whose parents were instructed by the letter increased from 58 to 64 percent. In the consequences condition, both the two hour conference and the letter type of instruction reached a median percent correct of 100 and the 15 minute conference reached 91. When the consequences were discontinued, the two-hour conference and the letter students reduced their performance to a median percent of 66 and 62 respectively. The data on the 15 minute conference was not collected for this phase. In general, according to the author, the median percent correct for all the students in the experiment reached higher than the class median while the students were receiving the consequence. However, the fact that their median percent decreased in the reversal phase suggests that the changes in academic behavior in school may not be maintained unless the contingent consequences are kept.

Maertens and Johnston (1972) tested two null hypotheses related to arithmetic homework and attitudes towards homework, arithmetic and school: 1. There is no

significant difference between those groups receiving arithmetic homework and those groups not receiving arithmetic homework in performance on tests of arithmetic computation, problem solving performance, and attitudes toward arithmetic, homework and school. 2. There is no significant difference between those groups receiving per problem knowledge of results and those groups receiving knowledge of results at the end of the assignment on tests of arithmetic computation, problem solving performance and attitudes toward arithmetic, homework and school (p. 122). The study took place in Oregon and included 4th (N=146), 5th (N=137) and 6th (N=134) graders from the Sweet Home School district. A total of 532 letters were sent home describing the experiment and asking parents to participate. Seventy eight percent of the parents agreed to participate. The study consisted of 3 homework treatments in a period of 6 weeks. The students were randomly assigned to each one of the treatments. In the "per problem" treatment, the students were given arithmetic assignments four days a week and asked to do them at home. In this treatment parents would provide the child with the answer after each exercise or problem. In the "delayed" treatment the children had the same assignments, the only difference was that the parents would provide the answers after the child completed all the exercises and problems. In the "no homework"

treatment, the children were not given any arithmetic homework. Pre-test and post-test measures were obtained for all the students in the experiment in arithmetic and attitudes about arithmetic homework and school. The arithmetic pre-test was based on the content material studied in the text Arithmetic the previous year. The post-test was prepared by the experimenters, and was designed to measure computation and problem-solving skills. The children were also administered weekly tests covering material studied during the week. For the attitude measure the experimenters used the Osgood's Semantic differential as a model.

According to Maertens and Johnston, the results showed a significant difference (.05) between the homework groups and the non-homework groups for the "weekly" computation and problem solving test in grades 4 and 5. In other words, the students in grades 4 and 5 who were assigned homework and whose parents were involved in providing them with the answers to their problems obtained significantly higher achievement scores in math on weekly tests than students who were not assigned homework. In grade 6, however, the results did not show significant differences between the homework treatment and the non-homework on the weekly test. That is, based on weekly tests for grade 6, the homework with the parental provision of answers did not seem to make a difference. In

the post-test the difference was significant in the 3 grades in both computation and problem solving. Thus at the post-test even the students in the experimental treatment in grade 6 scored higher in arithmetic than the control students. In addition, the expected differences between "per problem" feedback and "delayed" feedback were not supported. In other words, whether the parents told the students the answers at the end of each problem or at the end of the entire assignment did not seem to make any difference in student achievement.

The results of the attitude tests did not provide a significant difference between the homework and no homework groups or between the per problem treatment and the delayed treatment. These results suggest that at least in this study, attitudes about school, homework and arithmetic were not altered as a result of arithmetic homework assignment for 6 weeks. However, the results seem to favor parent involvement in homework. It is not clear whether the higher scores in the homework groups were due to parental involvement or to the provision of answers. It seems that the question then would be whether the same results would be obtained even if parents did not provide answers or if someone other than the parents would provide the answers.

In another study by Ginsburg and Hanson (1985), sophomore students whose parents monitored their homework

were more likely to achieve higher than sophomores whose parents did not monitor their homework across 4 ethnic groups: Asians, blacks, Hispanics, and whites. The results from this study suggested that parent involvement in monitoring homework is an important influence in sophomores' achievement.

Mills (1989) involved 60 parents in monitoring their third grade children's mathematics homework. Due to attrition, she ended her study with 51 students. She implemented the study in 3 phases. In phase I, she called the parents of the targeted students to attend a workshop on the importance of homework and provided them with ideas about management and study habits. Phase II consisted of helping parents to familiarize themselves with modern math methods in the content areas. In Phase III teachers and parents worked on a homework monitoring system. The homework monitoring included daily assignments with a place for parents to sign after they saw that it was completed. Children were required to bring their homework home everyday and return it the next day. Two of Mills' objectives were that in quarter III there would be a 50 percent increase in the average rate of consistent homework return (CHR) and that 40 percent of the targeted math students would either maintain a grade A or B or increase by one or more grades their B, C or D from quarter II to quarter III. At the end of quarter III she

collected the Homework Data Sheet from the two math teachers (herself and another one) to determine if her objectives had been achieved. She reported that her expected 50 percent increase in CHR was not met since the CHR only increased from 61 percent in quarter II to 86 percent in quarter III. However, she felt that "any increase in parental involvement was a step forward in helping her math students be more responsible about consistently completing and returning their homework" (P.1 50). With regard to her expected outcome that 40 percent of the students would maintain grades A or B or would improve by one or more grades, she reported that 80 percent of the students met the anticipated increase.

In another study, Barber (1987) demonstrated the effectiveness of a home curriculum program. Barber implemented a parent involvement program with the parents of her fourth grade class. In addition to encouraging the parents to attend parent teacher conferences and other school-related activities a home curriculum was established. The program was implemented for 3 months and 16 out of the 25 parents with children in her class participated in the home curriculum. Barber visited the homes of the 16 parents between Tuesday and Wednesday every week for the 3 months and they were provided with help on how to assist their children with homework. They were asked to keep 20 to 30 minutes available everyday to

assist the children with homework. They were shown how to help them with language, spelling, reading, math and writing skills. A telephone hotline was available everyday from 3 pm to 7 pm where parents could call with questions regarding homework. As part of her results she reported that in the first month, 14 of the 16 children completed homework each day. Two of the 9 not involved in the home curriculum also completed. The second month all 16 children completed their homework and 5 of the 9 not participating in the program returned their homework. For the third month all 16 brought in their homework completed and all 9 not involved in the home curriculum also returned their homework. In addition, all 16 children whose parents participated in the home curriculum received passing grades and 23 of the 25 received passing grades.

Doty (1986) also developed a program to increase parent awareness of the importance of parent participation in a student's daily educational program and particularly in homework. During the 3 month period of the program, with her first grade Chapter I class which consisted of 16 children of Hispanic origin, she met her expected goals. She obtained 96 per cent homework completed and returned signed by the parents. This result was 11 percent higher than her expected 85 percent homework return. She also met her expected goal of 144 homework assignments completed and returned. The findings of these last 3

writers have been supported by the findings of other related studies (e.g., Czech, 1988; Donato, 1989; Mucha, 1987; Schnobrich, 1986; Tomlinson, 1987) that essentially used the same approach.

Different from other parent involvement in homework Bauch (1989) developed the innovative "transparent school" concept which has helped students to improve their homework completion. The model consists of two technical systems. Each teacher is given an electronic mailbox where he/she records messages about homework assignments and other activities at the end of the day. Parents can call at any time and hear the messages or leave messages for the teachers. The second system places phone calls automatically to any or all parents. The results from one middle school that includes a community of 315 families showed that the number of contacts initiated by the parents are now 6 times more than before the model began. When the parents were divided into "low calling" and "frequent user" groups, the students from the "frequent user" group "showed a significant increase in homework completion" (p. 6). Parents felt that the change was due to the new system and 93 percent of the parents noticed that their child's attitudes, skills and responsibilities had improved.

Parents, in general, tend to be supporters of homework. The results of the seventeenth annual Gallup

Poll (Gallup, 1985) showed that 47 percent of the public supported an increase in homework for high school students while only 31 percent were against more homework. With regard to elementary school, 40 percent were in favor of more homework while 38 percent opposed more homework.

Moreover, Langdon and Stout (1963) (cited in Vratana, 1988 p. 22) in a study with 300 parents found that parents felt homework:

1. Develops self discipline,
2. enriches the experience of the school day,
3. provided opportunities for independent studies,
4. helped to draw home and school together.

Other researchers have reported that parents not only support homework but desire assistance from teachers that will allow them to help their children with their homework. Rankin (1967) compared parental behaviors reported by the parents of 32 high achievers and 32 low achievers in third and fourth grades. He cited that one of the behaviors reported by the parents of the high achievers was "attempting to find the reason for poor work and helping the child correct it when he did a poor job on a schoolwork assignment" (p. 4). Similarly, in a survey about different aspects of parent involvement Chavking and Williams (1985) found that 97 percent of the parents surveyed agreed that they should make sure their children do their homework and 96 percent agreed that teachers

should give them ideas about how to help their children with homework. Dauber and Epstein (1989) found that "parents of children at both levels of school [middle school and elementary school] say they could help more (up to 45-50 minutes if necessary on average) if the teacher guided them in how to help at home" (pp. 11-12).

Lastly, Cattermole and Robinson (1985) found that when parents did not support the school through homework they were not participating in the schools' goals and similarly they were not showing commitment to the goals that were in the best interest of their children. Walberg (1984) reasoned that only 13 percent of the waking time of a child's first 18 years is spent in school. He suggested that educators and parents should cooperate to use the other 87 percent of their out of school time, more efficiently on academic study.

In summation, the research on parent involvement in homework is relatively small compared to the research on homework in general. In addition, this line of research is relatively new. With the exception of two experimental studies published in 1972, most of the programs and studies on parent involvement in homework have taken place in the last 6 years. Survey studies of parental and public's opinion about homework have a longer tradition.

The experimental studies and programs on parent involvement in homework reviewed in this section suggest

that when parents are guided or trained on how to be involved in their children's homework, their children's achievement tends to improve. It appears that some of the reasons why children improve their achievement are related to different factors such as obtaining more parental support and attention for their homework, and parental supervision making sure that their children complete and return their homework.

Homework, Achievement and Self-Esteem

Although no studies about the relationship between homework and self esteem were found, there is a line of research that has assessed the relationship between various aspects of academic achievement and self-esteem.

Some researchers have compared measures of self-esteem with measures of achievement. Simon and Simon (1975) conducted a study with 87 fifth graders from a suburban school in New York City for the purpose of determining the relationship between self-esteem and academic achievement. They used Coopersmith Self-Esteem Inventory (SEI) as a measure of self-esteem and the SRA Achievement Series as a measure of achievement. The SRA has 5 subtests (Social Studies, Science, Language Arts, Arithmetic and Reading) and yields a composite percentile score. They obtained a coefficient of .333 ($p < .01$) when they computed Pearson product-moment correlation between

the SEI score and the composite on the SRA. The researchers commented that their result was consistent with the findings of other studies that investigated the relationship between self esteem and academic achievement.

One of those earlier studies was conducted by Campbell (1967) with fourth, fifth and sixth graders. Campbell obtained a positive correlation ($r=.308$) between the Coopersmith Self-Esteem and the IOWA composite scores. This is a similar coefficient to the one reported by Coopersmith (1967) ($r=.30$; $p<.05$). Bledsoe (1967) used the Bledsoe Self Concept Scale with fourth and sixth graders. He compared the obtained self-esteem scores with measures of intelligence, achievement, interest and anxiety and found significant correlations between self concept and achievement. The significant correlation, however, was only for boys, not girls.

Rubin (1978) studied the relationship between self-esteem as measured by the Coopersmith Self-Esteem Inventory (SEI) and reading and arithmetic as measured by the Stanford Achievement tests. The comparisons were made at ages nine, twelve and fifteen. She reported that with the exception of the relationship between the SEI scores and the reading and arithmetic scores for males age 9, all the other correlations were significantly different from zero at the .01 level. These correlations became stronger over time ranging from .24 at age 9 to .42 at age 15 in

arithmetic and from .21 at age 9 to .41 at age 15 in reading.

In another study, Rubin, Doyle and Sandidge (1977) found that although self esteem, as measured by SEI, was moderately related to achievement and behavior, it did not have a strong independent effect. They concluded that their results supported the conclusion stated by O'Malley and Bochman (1976) "that much of the relationship between self-esteem and educational attainment can best be explained as reflecting a common set of prior causes: background, ability, and earlier scholastic success" (p. 506).

In his review of the literature on self concept and academic performance, Purkey (1970) concluded "that there is a persistent and significant relationship between the self concept and academic achievement at each grade level, and that changes in one seems to be associated with change in the other" (p. 27).

In a recent study Strassburger, Rosen, Miller and Chavez, (1990) compared the grade point average of 67 Hispanic and 304 Anglo seventh and ninth grade students in relation to self-esteem, locus of control and SES. They found that, regardless of ethnicity, self esteem had the greatest impact on GPA variance. In an earlier study with 87 Mexican-American adolescents, Powers and Sanchez (1982) obtained a small correlation between self-esteem as measured by the Coopersmith self-esteem inventory and

reading achievement (based on the Gates McGinitie Reading test) ($r=.25$; $P<.05$). They found significant correlations between self-esteem and grade point average and between self-esteem and math achievement scores as measured by the WRAT.

In their study, Powers and Sanchez (1982) also studied the relationship between parent level of education and student self esteem. Powers and Sanchez (1982) used the Coopersmith Self-Esteem Inventory in a study with 87 Mexican American junior high students. They correlated the self-esteem scores with grade point average, reading achievement and parental education and several other variables. They found no significant relationship between parental education and student self-esteem.

Similarly, other researchers have reported findings indicating that children from lower SES do not necessarily hold lower self-concepts than children from higher SES (Carter, 1968; Soares and Soares, 1969, Trowbridge, 1970, 1972).

Trowbridge (1970) conducted a study with a sample of 64 elementary classrooms. 32 of those were taught by teachers trained under the IMPACT teacher education program. The other 32 were taught by teachers who had not received such training. There were 16 schools which were designated as "target" areas with children mainly from low socioeconomic class. another 16 schools were designated as non-target areas. In her results Trowbridge reported that,

using the Coopersmith Self-Esteem Inventory, the children in the target area schools (low socioeconomic class) obtained higher average self-esteem scores (mean = 77.2) than the non-target area school (mean = 72.7). It is important to note however, that no specific measure of socioeconomic class was reported except that the 16 target schools were located in federally designated Title I areas.

In a later study with a larger sample, and closer supervision on the administration of tests Trowbridge (1972) found that the low SES subjects obtained a significantly higher ($P < .01$) self-esteem score than the middle SES subjects. She found that only on the home-parents subscale did the middle SES students score higher. After analyzing responses by the two groups on individual items she found that in the school-academic subscale the low SES students scored higher on all the items with the exception of "I am doing the best work I can" where the middle SES scored higher. Thus "low SES children seldom felt they were doing the best work they could, but were quite happy with their school performance" (P. 533).

Earlier Soares and Soares (1969) had obtained similar results to those obtained by Trowbridge (1972). Soares and Soares compared the self-esteem of 229 children from a public school located in a disadvantaged area with the self-esteem of 285 children from a public elementary

school located in an advantaged area. In the disadvantaged area two-thirds were black and Puerto Rican and one-third White with family income less than \$4000.00. In the advantaged area 90% were White and 10% minority groups with income of \$7000.00. These researchers found that the disadvantaged group obtained significantly higher scores ($P < .05$) on four out of five measures of self perception (self concept, ideal concept, reflected self teacher, and reflected self parent).

In addition, based on the analyses of his own study and a study by Rosenberg (1965), Coopersmith (1967) stated that "both studies indicate that there is no clear and definite pattern of relationships between social class and positive and negative attitudes toward the self" (p. 83).

Carter (1968) administered a semantic differential questionnaire to 190 Mexican-American ninth grade children of low paid agricultural workers and to 98 anglo ninth graders to find out how differently they would rate themselves in terms of their self concept. In addition, teachers and administrators were interviewed and classes were observed. He stated that "nothing supported the belief that Mexican-American students saw themselves more negatively than "Anglo" students. However, it was very obvious that teachers and administrators believed them [Mexican-American] to be inferior and conclude they saw themselves that way" (p. 218).

Analizing some of the findings that children from low socioeconomic class do not necessarily report lower self concept than children from better environments Purkey (1970) conjectured that "these are students, particularly among socially disabled, who believe that they have the ability to succeed in school but who view school as irrelevant, threatening or both" (p. 19).

The relationship between self-esteem and different aspects of school adjustment has been investigated in at least one study. Williams and Cole (1968) used a sample of 80 sixth graders. They administered them the Tennessee Self Concept and other measures of personality and achievement. They obtained significant positive correlations between self-concept and students' conception of school, social status at school, emotional adjustment, mental ability, reading achievement and mathematics achievement.

The experimental research on the effects of interventions to alter student's self-esteem and therefore academic achievement is not very extensive. Purkey, Graves, and Zellner (1970) compared the self-esteem scores of children in grades 3 through 6 in an experimental school with the self-esteem scores of children in grades 3 through 6 in a traditional school in northern Florida. They used the Coopersmith Self-Esteem Inventory as a measure of self-esteem.

The experimental school used an innovative team teaching approach. They did not use grades. Instead, children were grouped according to individual differences to avoid stigmatization and failure. Children participated in making their own learning goals. In addition, they eliminated detention and all children had opportunities for experimentation and success. The investigation formulated two hypothesis:

1. Pupils enrolled in the experimental school will evidence greater self-esteem than pupils enrolled in the comparison school.
2. As grade level increases, measured differences in self-esteem between the two groups of pupils will increase.

The obtained results confirmed their two hypotheses. As a group, children in the experimental school scored higher than the children in the traditional school with a difference significant at .001 level. The differences between the two schools were also significant for each grade level ($p < .01$). Interestingly, they noted that in the experimental school the scores were very stable from grades 3 to 5 and then increased at grade 6. In the comparison school, the scores decreased from grades 3 to 5, becoming stable at grade 6. The researchers explained that there are factors outside the school that affect children from both schools but that the approach in the

experimental school counteracted external pressure. A second possible explanation "could be that factors associated with the comparison school are detrimental to professed self-esteem of pupils in that school" (p. 170).

Brookover and Erikson (1975) designed a series of experiments to raise low achieving students' self concept of ability and as a result, improve their academic achievement. Some of those experiments were unsuccessful while another one was successful. In one experiment, they had counselors work with the students providing them with assessments of competence and adequacy to counteract their parents low expectations and evaluations. In another experiment, they had "experts" meet with the students to let them know that they were able to achieve better in school. In a third experiment they dealt directly with the parents. One "program was based on a 'non directive approach' in which the parents discussed their problems with the school as they pictured the situation" (P. 296). In the second program, the parents were confronted and the responsibility for their children's failure or success was placed on them.

The counselor, expert and non-direct approach interventions were unsuccessful in helping the children alter their self-concept of ability or academic achievement. In the program which placed the responsibility for the student's success or failure in school on the parents, they obtained successful results.

In this program the parents and students were able to modify their conceptions and the students' academic achievement improved. In addition to holding the parents responsible, the researchers taught them how to implement a set of rules and procedures for working with their children. The intervention consisted in having the parents not reinforce any negative statements the children would make about their academic ability. They would overtly ignore those comments. They were told to reward the children for any positive comments, no matter how small, they would make about ability or achievement. The rewards were commendatory remarks, tokens and prizes. The parents were instructed to expect small changes and as they would occur to increase their demands on the students. Brookover and Erickson (1975) stated that their findings that "changes in self concept of ability were followed by changes in academic achievement" (p. 280) have been supported by similar findings "in many situations in North America, Europe and Asia" (p. 280).

In summary, no studies were found about the relationship between homework and self-esteem. On the relationship between measures of self-esteem and measures of achievement, the evidence indicates that there is a positive relationship between self-esteem, self concept of ability and academic achievement, and grade point average at different grade levels. In one study it was found that

there was no significant relationship between parent level of education and student self-esteem.

There are a number of studies that suggests that students from lower SES do not experience lower self-esteem than students from higher SES. In one study, it was found that different aspects of school adjustment tend to be correlated with the student's self-concept.

Reports on programs and studies designed to alter students self-esteem and, in turn, their academic achievement suggests that some interventions have produced positive results while others have been unsuccessful. More experimentation in this area is necessary to explore intervention at home and school that helps alter students, self-esteem.

Parent Involvement in Homework and Parent Level of Education

Some researchers have used SES as a predictor of parent involvement in instruction (e.g., Benson, Berkley and Medrich, 1980; Herman and Yeh, 1980; Olmsted and Jester, 1972; Revicki, 1981). Other researchers argue that SES is not as important in parent involvement in instruction as the family processes are (Bloom, 1986; Iverson and Walberg, 1982; Marjoribank, 1972; Mayeske, 1973; Valencia et al., 1985; Watson, Brown and Swick, 1983). Other researchers have focused on parent level of education as a predictor of parental involvement (e.g.,

Baker and Stevenson, 1986; Dauber and Epstein, 1989; Ginsburg and Hanson, 1985; Laosa, 1982; McDermott, Goldman and Varenne, 1984; Shipman, 1981).

Laosa (1982) compared the teaching behavior of Chicano mothers toward their children (N = 42-43) with the teaching behavior of non-Hispanic white mothers toward their children (N = 40). The maternal behaviors were recorded using the maternal teaching observation technique which consists of nine teaching strategies. His results showed that when he did not hold constant the mother's schooling level and occupational status, the mother's teaching strategies were different. For instance, the Chicano mothers used the following teaching behaviors more frequently than the other mothers: "modeling", "visual cues", "directive" (directive teaching) and "negative physical control" (p. 798). The non-Hispanic white mothers on the other hand used "inquiry" and "praise" more frequently than the Chicano mothers. When the experimenter held constant the occupational level of the mothers and their husbands, the differences remained the same, but when he held constant the mother's schooling attainment level, the differences became statistically non-significant. That is, the differences observed between the Chicano mothers and the non-Hispanic white were due to their different level of education and not to their different ethnic background. In conclusion, the author found that Chicano mothers and non-Hispanic white mothers

used different teaching behaviors with their children. However, he also found that ethnicity is less powerful than the length of maternal schooling in explaining maternal teaching. Although Laosa does not seem to suggest which teaching strategies are better, he implies that the teaching styles of more educated mothers more closely resemble classroom instructional strategies than the strategies used by the less educated mothers. Therefore, the children of the later have a school disadvantage. Similar points were made in some of the studies reviewed in the last chapter (Benson et al, 1980; Olmstead and Jester, 1982; and Shipman, 1980).

Baker and Stevenson (1986) conducted a study with 41 mothers of eighth graders. The 41 mothers were randomly selected from a list of 129 supplied by the principal of one middle school. Each mother was interviewed about her attitudes toward and actions on behalf of her eighth grader's school career. "Specifically, we asked mothers to indicate their knowledge of and contact with school; their suggested and implemented homework strategies; their suggested solutions to school problems; their solutions to hypothetical academic and in-school behavioral problems; specific actions they have taken in the last year; their occupational and educational expectations for their child..." (p. 157). Based on this information, the researchers constructed three indicators of mother's schooling strategies: 1) strategies that mothers had

thought and suggested to the interviewer but had not necessarily used; 2) strategies that the mother used to gain knowledge and solve problems; and 3) indicators of the child's performance, such as GPA in eighth grade course selection. The authors expected that the parents' involvement in managing their adolescents' schooling would vary according to the mother's educational level.

The results of Baker and Stevenson's study showed that there was little relationship between the mother's level of education and her suggested strategies to improve student performance.

Mother's level of education was significantly correlated ($r=.21$; $p .05$) only with the number of solutions to hypothetical academic problems. Although this correlation is relatively small, it suggests that mothers with higher education might know more strategies to help their children improve their performance. In addition, the authors examined the relationship between the mother's level of education and suggested strategies while controlling for GPA and high school course selection. In this analysis, they found controlling for GPA and high school course selection did not strengthen the relationship between mother's education and suggested strategies.

Baker and Stevenson (1986) then studied the correlations between mother's education level and the performance (GPA, high school course selection) of the

child in school and the strategies actually implemented by mothers. The results showed that a significant positive correlation between the mother's educational level and knowledge of child's schooling ($r=.29$; $p .05$), contact with the school ($r=.37$; $p<.01$), and high school course selection ($r=.49$; $p<.01$). These results suggest that higher educated mothers were more aware of different aspects of their child's schooling; had more contacts with the school and they were more likely to be involved in their children's transition to high school by selecting college preparatory courses for them. On the other hand, there was no significant correlation between the mother's level of education and homework strategies and general academic strategies suggested that the less educated mothers in the sample were as likely as the more educated mothers to implement these two academic strategies.

In a further analysis of the relationship between mother's education, child's school performance and high school course selection, Baker and Stevenson (1986) found that "mothers with at least a college education were four times more likely than less educated mothers to choose college preparatory courses for their child in ninth grade, regardless of their child's GPA in eighth grade." (p. 163). The fact that there was a positive association between the mother's education and the mother's academic strategies suggests that children from families whose mothers have a

high level of education have an educational advantage over those coming from less educated families.

McDermott, Goldman and Varenne (1984) found two very different patterns of doing homework in the two families that they closely observed and analyzed. (In both cases mother and child and other family members in the home were observed.) In the first family, they observed that the family managed the time on the homework task well. The second family, on the contrary, spent most of their time getting organized to do the homework. According to the authors the pattern in the first family seemed to be: "start/time off, continue/time off, continue/time off." In the second family it seemed to be: start/divert, start/divert, start/divert" (p. 403).

Interestingly the mother in the first case had a higher level of education than the second and was also more involved in the community. This observation, although not tested statistically, seemed to suggest that the mother's level of education was an influencing factor in the family's homework activities. This point is inconsistent with Baker and Stevenson (1986) who reported that there was no significant correlation between mother's level of education and mother's implementation of homework strategies.

In a recent study, Dauber and Epstein (1989) used data from about 2300 parents of children attending inner city elementary middle schools. They explored the

relationship between parent level of education and parent involvement. They reported "that parents who are better educated are more involved at school and at home than parents who are less educated" (p. 7). Regarding parent involvement in homework they reported that more educated parents and parents of better students indicated that "they are involved in more and different ways of helping at home on homework" (p. 13). On the other hand, "less educated parents say they could help more if the teachers told them how to help" (p. 11).

Shipman (1981) pointed out that "status characteristics may be viewed as providing differential opportunities for various processes to emerge. Thus, a higher level of parental education is associated with greater academic knowledge, increased awareness of public affairs and popular culture, more informed perceptions of school, and continued seeking of new knowledge as in reading books and magazines...all of which may have impact on a child's knowledge and motivation for learning" (p. 79).

In conclusion, the studies reviewed in this section suggest that higher parental level of education is associated with parental instructional style that resembles the classroom teaching strategies. In addition, more educated parents tend to help their children with their homework in more diverse ways and they are better able to manage the time spent on homework better than

lower educated parents. In one study, however, Baker and Stevenson (1986) found that there was no significant relationship between the mother's level of education and the homework strategies used by the mothers. On the other hand they found a significant correlation between mothers' level of education and the number of hypothetical solutions to academic problems.

Parental Involvement in Homework
with Hispanic Parents

The dearth of research with Hispanic families on parental involvement in homework is evident in the literature. Some of the studies on this topic have included Hispanics in their samples but no studies have been found available with only Hispanic subjects.

Ginsburg and Hanson (1985) analyzed the performance of students from four ethnic groups. They took a subsample of 11,885 of the almost 30,000 sophomore students included in the 1980 High School and Beyond Survey. The students who came from families with below average SES were divided into 4 groups: Asians, blacks, Hispanics, and whites. (In general, these students came from families whose SES was below the national median.) SES was measured using five components: father's occupation and father's education, mother's education, family income and possession of items in the home like an encyclopedia. The students who were performing in the upper 20 percent

of the nation were compared with those performing in the lower 20 percent within each racial/ethnic group. The students' performance was measured by their grade point average (GPA) and it was compared on various aspects (i.e., parent involvement in the child's homework). The results showed that, across the four different ethnic groups of low SES, the higher achieving students were more likely to have parents who monitor their homework than lower achieving students. This result suggests that parents of Hispanic students, as the parents of the other ethnic groups, became involved in monitoring their children's homework. In all four ethnic groups, the parents who monitored their children's homework tended to have higher achieving students. Finally, this result suggests that parent involvement in monitoring homework can be one of the many positive aspects influencing high student achievement among Hispanics and other ethnic groups.

Tomlinson (1982) developed a program in an elementary school where 95% of the students were Hispanic, 3% Anglo and 2% other. Using four major goals the program implemented a number of activities to increase parent's participation in the various learning activities of children in the intermediate grades (4-6). One of the major goals was to involve the parents in monitoring their children's homework. The expected goal was that 90% of the students would complete 720 assignments. It was also

expected that 90% of the parents would attend parent/teacher conferences and 80% would attend PTA meetings. According to Tomlinson all the goals were met.

To supervise the the parental homework monitoring parents were instructed to sign their names on the homework papers. The results exceeded the projected 90%. The results from this practicum definitely shows the feasibility of parental involvement in monitoring homework in schools where a larger percentage of the population is Hispanic. It is undeniable that the program was a success. However, it would be even more interesting to know how those goals would translate into academic achievement and students' self-esteem.

The results obtained by Tomlinson are supported by Doty (1986) who also developed a parental involvement program with a larger Hispanic population.

In summation, the dearth of research with Hispanic families on parental involvement in homework is evident in the literature. The few studies and programs that have included Hispanic parents suggest that Hispanic parents respond well to researchers and educators calling to participate in programs on parent involvement in homework.

CHAPTER III

METHODOLOGY

This chapter describes the research design, the hypotheses, the sample and sampling procedures, the data gathering and instruments, the experimental treatment, and the statistical analysis used in this study.

Research Design

This study uses a pretest-posttest control group design and quantitative methodology to test the hypotheses described below. In addition, a semi-structured questionnaire was used with the subjects and their parents in the experimental group and the results were analyzed by recurrent themes.

Hypotheses

1. There will be no significant differences between seventh grade Puerto Rican students receiving parental monitoring (experimental group) on mathematics homework and seventh grade Hispanic students not receiving parental monitoring (control group) on mathematics homework in mathematics achievement.

2. There will be no significant differences between the experimental (parental monitoring) and control

(non-parental monitoring) groups in the mean percentage of mathematics homework completed and returned to the teacher.

3. There will be no significant differences between the experimental group (parental monitoring) and control (non-parental monitoring) groups in the students' grades.

4. There will be no significant differences between the posttest scores of parental monitoring and non-parental monitoring groups on their perceptions of their parents, teachers and their own involvement in mathematics homework.

5. There will be no significant differences between the parental monitoring and the non-parental monitoring groups in student self-esteem scores.

6a. Within the experimental and control groups there will be no relationship between self-esteem scores and mathematics achievement scores.

6b. Within the experimental and control groups there will be no relationship between self-esteem scores and percentage of homework completed and returned to teacher.

6c. Within the experimental and control groups there will be no relationship between self-esteem scores and teachers' grades for students.

7a. Within the experimental and control group there will be no relationship between parent level of education and students' mathematics achievement scores.

7b. Within the experimental and control groups there will be no relationship between parent level of education and students' percentage of homework completed and returned to teachers.

7c. Within the experimental and control groups there will be no relationship between parent level of education and teachers' grades for students.

7d. Within the experimental and control groups there will be no relationship between parent level of education and students' self-esteem scores.

Definition of Terms

The following terms are defined within the context of this study.

Homework

Refers to the daily mathematics assignment given to the student by his/her mathematics teacher to be completed outside the school.

Mathematics Achievement

In this context, refers to the child's score on the computation section of the mathematics subtest Level 2 of the Stanford Achievement Test.

Parent Level of Education

Refers to the average number of formal school years completed by the parent/s or caretakers living with the child.

Parent Involvement in Monitoring Mathematics Homework

Refers to the parental activity in which the parent reminds his /her child to complete his/her daily mathematics homework. The parents provide a comfortable atmosphere and place for study, free from distractions, television and radio. The parents show support and appreciation for completion of mathematics homework by enthusiastically asking his/her child to talk about his/her homework after completion. The parent reminds his/her child to return his daily completed mathematics homework to his/her teacher. The parents maintain a

Parental Homework Record (see Appendix A and B for English and Spanish versions respectively) where they will sign, check whether the daily homework was monitored or not and write comments or questions.

Parental Training in Monitoring Homework

Refers to the skills taught to parents on how to supervise and oversee the completion and return of their children's homework. The skills taught and discussed will be based on the Parental Homework Monitoring Program developed by the researcher. (See Appendix C). The program uses a Parental Check list (see Appendix D, English version and Appendix E, Spanish version) as a guideline for the parents to do their monitoring. The training takes about one hour.

Hispanic Parents

Refers to biological parents or primary caretakers (e.g., grand parent, aunt etc.) who are natives of Hispano-American countries or to parents or primary caretakers who were born in the United States but consider themselves Hispanic.

Self-Esteem

Refers to "the evaluation a person makes and customarily maintains with regard to him or herself" as

measured by the Coopersmith Self-Esteem Inventories.
(School Form).

Sample and Sampling Procedures

The population for this study included all the seventh grade Hispanic students in the bilingual program of a middle school in Central Massachussets. At the time of the study, the total number of seventh grade Hispanic students in the program was about 75. The majority of these students come from poor families, many of whom receive AFDC and live in public or partially subdsized housing. All the parents or caretakers of these students were informed about the study and asked to participate. (See appendixes K and L for parental letters, Spanish and English versions respectively and appendixes M and N for consent forms, Spanish and English versions). The original number of families who accepted the invitation to participate in the study was 38 for a total of 41 students (three families had two students in the same grade). Two subjects were readily excluded: one subject was excluded because he was in the special education program and the other because she had just been transferred from the bilingual program to the regular English program. The other 39 subjects were assigned to an experimental group of 20 and to a control group of 19 by using a table of random numbers. During the intervention period two of the subjects in the experimental group were placed in special

education and they were excluded from the data. Two other subjects transferred to other schools and only partial data was obtained for those students.

In the control group, two subjects transferred to other schools and one was transferred to the regular English program. The pretest and posttests mathematics achievement scores were excluded from the data for one student in the experimental group who reported to have chosen his responses randomly. Similarly posttest scores of the questionnaire and the pretest and posttest self-esteem scores were excluded from the data for five students in the experimental group who reported they responded randomly.

Prior to soliciting the parents participation in the study, the Office for Research and Improvement in the school department was contacted to obtain permission to conduct the study. (see Appendix F). The principal at the school was asked for her permission and the two bilingual mathematics teachers were asked for their participation and collaboration. One of the teachers has 3 years of experience teaching mathematics and the other has more than 20.

Data Gathering and Instruments

The percentage of mathematics homework completed and returned for each subject was calculated from the teachers' records. Three percentages were calculated for

every subject: two for the first two quarters of the 1990-1991 school year and one for the third quarter which is when the intervention took place. Similarly the teachers' grades for every subject was obtained from the teachers' records for the first 3 quarters of the 1990-1991 school year.

Parental level of education was defined as the average number of formal school years completed by the parents or caretakers living at home.

Mathematics Test

The Computation section, Level 2 (grades 5.5 - 7.9) of the Mathematics subtest of the Stanford Achievement Test was administered as a pre and post achievement measure in mathematics to all the subjects in the study. This test was administered in groups by the mathematics teachers during the first week of the third quarter (Form E) and at the beginning of the first week following the end of the third quarter (Form F) of the 1990-1991 school year. The two different forms (E and F) of the test were used to control for practice effect.

The technical manual of the test reported an alternate-forms reliability coefficient of .86 for the Mathematics Computation, Form E and F. In addition it reported Kuder-Richardson Formula # 20 reliability coefficients for internal consistency of the Mathematics Computation: .85 and .91 Fall and Spring norms for Form E

and .88 and .92 Fall and Spring norms for Form F. The national percentage of Hispanic students included in the standarization sample (about 7%) was proportionally similar to the percentage of Hispanic students enrolled in school (about 8%) at the time of the standarization of the test. Regarding the validity of the test, the technical manual reported intercorrelations of the Mathematics Computation with other Stanford Achievement subtests at the beginning of grade 6 that ranged from .46 with Listening Comprehension and .72 with Mathematics Application and .66 with Otis-Lennon Ability Test.

Self-Esteem Inventories

A translation of the School Form of the Coopersmith Self Esteem Inventories (SEI) ages 8-15 was administered as a pre and post measure to all subjects in the study. The pretest of the SEI was administered in group by the experimenter at the beginning of the second week of the third quarter and the posttest was administered by the experimenter as well at the beginning of the first week following the end of the third quarter of the 1990-1991 school year. The researcher requested permission to the Consulting Psychologists Press Inc. to translate the SEI questionnaire. The translation was reviewed by a Hispanic psychologist.

The SEI consists of self-report questionnaires and it is intended to measure "the evaluation a person makes and

customarily maintains with regard to himself or herself". It contains 50 items which are given a score of 2 for each correct response for a maximum score of 100. It yields 5 scores: General Self subscale score, Social Self-Peers subscale score, Home Parents subscale score, School-Academic subscale and Total Self score. In addition it contains 8 items that make up a Lie Scale. The SEI presents respondents with statements that they answer "like me" or "unlike me". e.g., "I like to be called on in class", "My parents understand me." These self-esteem inventories are "based on a general theory of self esteem and its relationship to academic performance" (Peterson and Austin, 1985, p. 396). Validity and reliability are not based on the standardization sample but on conclusions made on separate studies. For example, regarding the reliability the manual reported a study by Kimball (1972) in which the SEI was administered to 7600 children in grades 4 through 8, from all socioeconomic backgrounds and included African Americans and students with Spanish surnames. The Kuder-Richardson reliability estimates (KR20s) were calculated for each level and coefficients ranged .87 to .92. The r for grade seven was .89. The manual reported that Simon and Simon obtained a correlation of .33 ($p < .01$) between the SEI and the SRA Achievement Series with fourth grade children. The manual also reported that Fullerton obtained a validity coefficient ($r = .44$, $p < .005$) between the SEI and the

Behavior Rating Scale indicating "substantial support for the convergent validity of self-esteem as a construct." (p. 14). The SEI are some of the most widely used and well known self esteem measures (Johnson, Redfield, Miller, and Simpson, 1983, cited in Peterson and Austin, 1985). In addition Jewell (1985, p. 398) reported that "the applicability for research purposes seems virtually limitless" and recommended its use for investigation purposes.

Student Mathematics Homework Perceptions Scale

The experimenter developed a Likert-type scale consisting of 24 items. (See Appendix I). The scale was designed to pre and posttest the students' perceptions toward mathematics homework in three spheres. The first sphere reflects the students' perceptions of their mathematics teachers involvement in mathematics homework. The second sphere measures the students' perceptions of their parents' involvement in mathematics homework and the third sphere reflects the students' perceptions of their self-involvement in mathematics homework.

Each of the spheres consists of 8 items. The 24 items were organized at random and there are about the same number of positive and negative statements to avoid a "response set". The scale has five categories where the subjects can express the degree of their perceptions toward mathematics homework. The scoring of the negative

responses was reversed to indicate that the higher numbers are the most desirable categories. The scale was revised by three bilingual Hispanic clinicians. The pretest of the perception scale was administered in group by the experimenter during the second week of the first quarter. The posttest was administered by the experimenter nine weeks later, at the beginning of the first week following the end of the third quarter of the 1990-1991 school year.

Home Interview

A semistructured interview guide was designed for this study (see appendix H). The home interview, which was conducted by the researcher only with the families and the subjects in the experimental group, included three parts. The first part was designed to elicit information about the effects of the parental homework monitoring activities on the parent-child relationship. In addition, it intended to obtain information that would help to confirm or disconfirm the predictions that both parent and child would view their relationship as different and to estimate to what extent the parental homework monitoring training would help parents help the student to develop and or improve his/her sense of responsibility and self discipline with regard to his/her homework. This part of the interview used the method called "circular questioning" (Penn, 1982) which is an "exploratory" method (Tomm, 1988) and assumes that "everything is somehow

connected to everything else" (Tomm, 1988). The researcher remained open to any themes that might have arisen out of the parent-child interaction, either during the homework monitoring or during the interview.

The second part of the interview used "lineal questions" (Tomm, 1988) which are "predominantly investigative" (Tomm, 1988). This part of the interview was designed to investigate to what extent the parents put into practice the ideas presented to them in the homework monitoring guidelines and whether they and the students would recommend the home work monitoring to other parents and students. The third part of the interview was designed to collect parental demographic information. (See Appendix G).

The interviews were conducted by the researcher at the end of the third quarter at home with both the parent and child together or the person who provided the homework monitoring and other relatives present. The interviews were audio-taped to facilitate later analysis.

Experimental Treatment

The experimental treatment consisted in training the parents or the caretakers of the subjects in the experimental group on how to monitor and oversee the completion and return of their children's mathematics homework. The training was provided by the experimenter during a home visit. The skills taught and discussed were

based on the Parental Homework Monitoring Program developed by the researcher. (See Appendix C). During the training the parents were first provided with verbal information about programs and research studies that have shown positive results related to different aspects of parent involvement in monitoring their children's homework. Then they were provided with a checklist (see Appendixes D and E, English and Spanish versions respectively) and asked to write "yes" or "no" on different statements regarding what they were already doing or do not doing around their children's mathematics homework. The parents were given positive feedback for what they were already doing and every point whether the parents were already practicing it or not was discussed following the "Guidelines about How to Monitor your Child's Mathematics Homework" (see Appendixes P and Q for guidelines in English and Spanish respectively). The items that the parents were not practicing at all, the ones that they were not working on consistently and the ones that they felt that were not working well for them made the bulk of the training. These items were elaborated and discussed by the researcher and the parents, taking into consideration the parents' own knowledge, experiences and ideas. The parents were left with a copy of the guidelines to use as a reference. In addition they were provided with a "Parental Homework Record" (see Appendixes A and B, English and Spanish

versions respectively) where they checked, made comments and signed every time they monitored their children's homework for the following nine weeks. During the nine weeks, the parents were contacted about once a week by the researcher by phone or in person to answer any questions or concerns that might have arisen. At the end of the project, that is, after the parents monitored their children's mathematics homework for nine weeks of the the third quarter they were awarded a certificate of participation. (See Appendixes J and O for Spanish and English versions respectively). The parents knew in advance that they were going to receive the certificate of participation.

For ethical reasons the parents of the subjects in the control group were provided with the same training (at the beginning of the fourth quarter) as the parents of the subjects in the experimental group. Similarly, the parents of the subjects in the control group were also awarded a certificate of participation at the end of the fourth quarter.

Statistical Analysis

The quantitative data was analyzed using descriptive and inferential procedures and it is presented in chapter IV. Descriptive statistics showing the pretest and posttest means and standard deviations were obtained for the experimental and control groups on the mathematics

achievement measure, the self-esteem measures, the students' perceptions of their mathematics teachers, their parents and their own involvement in mathematics homework, the students' mathematics grades and the students' percentage of homework completed and returned. T-test for independent groups were used to test Hypotheses 1, 2, 3, 4, 5 and Pearson correlations were used to test Hypotheses 6a, 6b, 6c, 7a, 7b, 7c, 7d. .05 was chosen as the level of significance. The Statistical Package for the Social Sciences (SPSS-X) was used for the analysis of the data.

The interview data was analyzed by recurring themes and compilation of responses related to parents and students easiest and most difficult aspects of their parental homework monitoring experience and reasons why parents and students would recommend the parental homework monitoring to other parents and students. Finally the demographic characteristics of the families interviewed are reported in tables in chapter IV.

CHAPTER IV

RESULTS

The first part of this chapter presents the results and statistical analysis of the quantitative pretest and posttest data compiled for the study. The results of the posttest data are reported following the order of the null hypotheses presented in Chapter I.

The purpose of this study was to obtain information on whether parental involvement in monitoring mathematics homework of seventh grade Hispanic students improved their achievement in mathematics and whether it had any significant effects on their self-esteem over a matched control group. In addition, it investigated whether the student's perception of their teacher, their parent and their own involvement in mathematics homework changed after the parental homework monitoring.

The second major part of the chapter presents the results of the home interview conducted after intervention with the subjects in the experimental group and their families.

The original number of families who accepted the invitation to participate in the study was 38, for a total of 41 students. Before the sample was randomly divided between experimental and control groups, two subjects were excluded: one subject was excluded because he was in the

special education program and the other because she had just been transitioned from the bilingual program to the regular English program. During the intervention period, two of the subjects in the experimental group were placed in special education and they were excluded from the data. Two other subjects transferred to other schools and only partial data was obtained for these students.

In the control group, two subjects transferred to other schools and one was transferred to a regular English program. The pretest and posttest mathematics achievement scores were excluded from the data for one student in the experimental group who reported to have chosen his responses randomly. Similarly, posttest scores of the questionnaire and the pretest and posttest self esteem scores were excluded from the data for five students in the experimental group who reported they responded randomly. The sample at the posttest consisted of 31 students and 28 homes.

T-tests were used to determine how similar the mean scores of the two groups were at the pretests. All of the comparisons between the experimental and control groups (see Table 4.1) produced t values with levels of non-significance ($p > .05$). The pretest scores for the experimental and control groups and their non significant t values clearly indicate the similarity between the groups at the pretests on mathematics computation, self

esteem, and their perceptions of their teacher, their parents and their own involvement in mathematics homework.

Table 4-1 contains the pretest results for the experimental and control groups' mathematics computation, the self esteem subscale (general self, Social Self-Peers, Home-Parents and School-Academic), the Total Self and the subjects' perceptions of their teachers, their parents and their own self involvement in mathematics homework.

TABLE 4.1

Summary of Pretest Scores for Mathematics, Self-Esteem and Students' Perceptions of Their Teachers, Their Parents and Their Own Involvement in Mathematics Homework

<u>Experimental Group</u>				<u>Control Group</u>					
Var.	N	M	SD	N	M	SD	T	DF	2T. Prob.
Math	17	21.0	7.2	19	21.6	8.9	-.23	34	.821
General Self	18	31.6	7.2	18	30.3	10.0	.46	34	.651
Social- Peers	18	10.7	3.2	18	9.8	2.4	.93	34	.357
Home- Parents	18	10.3	3.0	18	10.0	3.6	.29	34	.771
School Academic	18	8.8	3.0	18	8.3	3.3	.52	34	.610
Total Self	18	61.6	11.2	18	58.5	15.0	.70	34	.487
Teacher Invol.	18	30.9	3.7	19	31.2	3.6	-.22	35	.828
Parent Invol.	18	32.1	5.2	19	30.8	4.3	.83	35	.411
Self Invol.	18	30.0	4.9	19	28.6	5.6	.81	35	.421
Total Invol.	17	92.4	11.3	19	90.6	10.3	.70	35	.490

Note: Var. = Variable; Invol. = Involvement.

Results of Research Hypotheses

Data were collected on 16 subjects in the experimental group and fifteen in the control group. T-tests and Pearson correlations were computed to test the research hypotheses.

Hypothesis 1

There will be no significant differences between seventh grade Hispanic students receiving parental monitoring (experimental group) on mathematics homework and seventh grade Hispanic students not receiving parental monitoring (control group) on mathematics homework in mathematics achievement scores.

After the subjects in the experimental group received their parental homework monitoring in mathematics for nine weeks they were posttested with the form F (form E was used at the pretest) of the computation section, level 2 (grades 5.5-7.9) of the mathematics subtest of the Stanford Achievement test. The subjects in the control group were also posttested with the same form at the same time. The means of the math computation scores, the standard deviations and t-test for the groups are presented in Table 4.2. A t-test was calculated to test this hypothesis. That is, to determine whether there were a statistically significant differences between the mean scores obtained by the two groups at the posttests. The results indicated that there were no statistically significant differences between the mean score obtained by experimental group and the control group ($t = -.47$; $p = .642$).

Therefore Hypothesis 1 cannot be rejected. In other words, the subjects who were provided with the parental homework monitoring in mathematics did not obtain significantly higher math computation scores than the subjects who were not provided with the parental mathematics homework monitoring.

TABLE 4.2

Comparison of Experimental and Control Groups' Mathematics Posttest Scores

<u>Experimental Group</u>			<u>Control Group</u>					2T.	
Var.	N	M	SD	N	M	SD	T	DF	Prob.
Math	16	22.3	8.5	15	23.8	9.1	-.47	29	.642

Note: Var. = Variable

Hypothesis 2

There will be no significant differences between the experimental (parental monitoring) and control (non-parental monitoring) groups in the mean percentage of mathematics homework completed and returned to the teacher during the third quarter.

The percentages of homework completed and returned by the experimental and control groups for Quarter 1, Quarter 2 and Quarter 3 are shown in Table 4.3. T-tests were calculated to determine whether the mean percentages of homework completed and returned were significantly different between the experimental and control groups ($t=$

-.69; $p=.497$). The data presented in Table 4.3 shows that in the results for Quarter 3, there were no significant differences between the mean percentage of homework completed and returned by the subjects who received the parental homework monitoring (during Quarter 3) and the control group ($t=-.37$; $p=.712$). Based on the results obtained for Quarter 3, the null Hypothesis 2 of no significant differences between experimental and control groups on percentage of homework completed and returned cannot be rejected. In other words, the statistical analysis for Hypothesis 2 showed that the percentage of homework completed and returned for the third quarter by the subjects who received the parental homework monitoring was not significantly different than the percentage completed and returned by the subjects who did not receive the parental homework monitoring (see Table 4.3)

TABLE 4.3

Comparison of Experimental and Control Groups' Percentage of Homework Completed and Returned in Quarter 1, Quarter 2 and Quarter 3

Var.	<u>Experimental Group</u>			<u>Control Group</u>			T	DF	2T. Prob.
	N	M	SD	N	M	SD			
Q1	16	67.2	16.5	15	77.8	19.7	-1.62	29	.115
Q2	16	48.5	25.7	16	54.9	26.7	-.69	30	.497
Q3	17 ^a	51.2	30.6	16	55.4	33.5	-.37	31	.712
Q3 ^b	16	54.4		15	59.1				

Note: Var. = Variable; Q1 = Quarter 1; Q2 = Quarter 2; Q3 = Quarter 3.

^a One student who was enrolled in school at the beginning of Q3 became part of the study

^b 54.4 and 59.1 are the mean percentage of homework completed and returned for the experimental and control groups when only the same 16 subjects for the experimental group and the 15 subjects for the control group who were included in Q1 were also included in Q3.

Hypothesis 3

There will be no significant differences between the experimental group (parental monitoring) and control (non-parental monitoring) group in students grades for the third quarter.

T-tests were used to test Hypothesis 3. The results presented in Table 4.4 for Quarter 3 show that there was no significant difference between the mean grade obtained by the subjects in the experimental group and the mean grade obtained by subjects in the control group ($t = -.39$;

p=.698). The results obtained in Quarter 3 clearly indicated that the hypothesis (Hypothesis 3) of no significant differences between the parental monitoring group (experimental group) and the non-parental monitoring group (control group) cannot be rejected. That is, when the mean grade of the students who received the homework monitoring during the third quarter was compared with the mean grade of the students who did not receive any treatment, it showed that there were no significant differences between the two (see table 4.4).

TABLE 4.4

Comparison of Experimental and Control Groups' Grades in Quarter 1, Quarter 2 and Quarter 3

Var.	<u>Experimental Group</u>			<u>Control Group</u>			T	DF	2T. Prob.
	N	M	SD	N	M	SD			
Q1	16	71.1	11.7	15	75.4	12.3	-.99	29	.331
Q2	16	69.0	15.6	16	69.2	14.4	-.05	30	.963
Q3	17 ^a	68.8	15.4	16	71.3	20.8	-.39	31	.698
Q3 ^b	16	71.1		15	72.1				

Note: Var. = Variable; Q1 = Quarter 1; Q2 = Quarter 2; Q3 = Quarter 3.

^a One student who was enrolled in school at the beginning of Q3 became part of the study.

^b 71.1 and 72.1 are the mean grades for the experimental and control groups, when only the same 16 subjects for the experimental and the same 15 subjects for the control group who were included in Q1 were also included in Q3.

Hypothesis 4

There will be no significant differences between the posttest scores of the parental monitoring and the non-parental monitoring groups on their perceptions of their parents, teachers and their own involvement in mathematics homework.

The posttest scores of the subjects' perceptions of their teacher, their parents, and their own involvement in mathematics homework are presented in Table 4.5. T-tests were calculated to test whether there were any significant differences between the mean perceptions of the subjects in the experimental and control groups at the posttest.

The results presented in Table 4.5 show a significant difference between mean teacher involvement scores obtained by the experimental and the control group ($t = -2.71$; $p = .011$). However no significant differences were shown between the mean parent involvement scores obtained by the experimental group and the control group ($t = -.29$; $p = .777$). In addition, no significant differences were shown between the self involvement mean scores of the two groups ($t = -.42$; $p = .680$), and finally no significant differences were obtained between the total mean involvement scores of the two groups. Based on these results Hypothesis 4 is rejected on the teacher involvement variable but it cannot be rejected on the other two variables: "parent involvement" and "self involvement." Thus the significant difference obtained between the two groups on the teacher involvement variable seems to indicate that the subjects in the experimental

group changed their perceptions about their teachers' involvement in their mathematics homework after they were involved in the parental monitoring.

TABLE 4.5

Comparison of Students' Posttest Scores on Their Perceptions of Their Teacher, Their Parent and Their Own Involvement in Mathematics Homework

<u>Experimental Group</u>			<u>Control Group</u>			T	DF	2t. Prob.	
Var.	N	M	SD	N	M				SD
Teacher Inv.	17	27.2	4.6	15	31.1	3.3	-2.7	29	.011*
Parent Inv.	17	30.8	6.7	15	31.4	4.5	-.3	29	.777
Self Inv.	17	29.1	5.8	15	30.0	5.3	-.4	29	.680
Total Inv.	17	87.2	14.8	15	92.5	10.6	-1.6	29	.258

Note: Var. = Variable; Inv. = Involvement.

* $p < .05$

The correlations between the pre and posttest scores of the students' perceptions of their teacher, their parents, their self and their total involvement in mathematics homework for the experimental and control groups are presented in Table 4.6 in the next page. The significance of these correlations will be addressed in Chapter V (Discussion).

TABLE 4.6

Correlations Between the Pre and Posttest Scores of Students' Perceptions of Their Teacher, Their Parent, Their Self and their Total Involvement in Mathematics Homework for the Experimental and Control Groups

<u>Experimental Group</u>				<u>Control Group</u>			
Perception of Involvement of:	N	r	2t. Prob.	N	r	2t. Prob.	
Teacher	17	.44	.075	15	.03	.894	
Parent	17	.65	.004**	15	.55	.033*	
Self	17	.56	.013*	15	.48	.067	
Total	17	.65	.005*	15	.33	.219	

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

Hypothesis 5

There will be no significant differences between the parental and the non-parental monitoring groups in the students self esteem posttest scores.

Table 4.7 presents the self esteem results obtained by experimental and control groups at the posttest. T-tests were calculated to determine whether the subscales and total self esteem's means were significantly different between the experimental and the control groups.

On the General Self variable, no significant difference was shown between the experimental and the control group ($t = -.57$; $p = .574$). On the Social Self-Peers no significant differences were observed either. In

addition, the comparison between the mean score obtained by the experimental group on the Home-Parents subscale and the mean obtained by the control group shows no significant difference between them ($t = -.68$; $p = .504$). On the School-Academic subscale, in which the subjects responded to questions related to their feelings about school, the score obtained by experimental group and the score obtained by the control group ($t = -1.3$; $p = .195$) were not significantly different from each other. Finally the comparison on the Total Self between the experimental and the control groups shows no significant difference between the two groups ($t = -.87$; $p = .394$). Therefore the null hypothesis of no significant difference between the subjects who received the parental homework monitoring (Experimental group) and the ones who did not receive it (Control group) cannot be rejected on any of the self esteem subscales or Total Self.

TABLE 4.7

Comparison of Experimental and Control Groups' Self-Esteem Posttest Scores

Var.	<u>Experimental Group</u>			<u>Control Group</u>			T	DF	2T. Prob.
	N	M	SD	N	M	SD			
General Self	16	31.1	8.7	15	32.9	9.0	-.57	29	.574
Social Peers	16	9.6	3.3	15	10.4	3.7	-.61	29	.547
Home-Parents	16	11.1	3.8	15	12.0	3.2	-.68	29	.504
School Academic	16	8.8	2.6	15	10.2	3.1	-1.3	29	.195
Total Self	16	60.7	15.1	15	65.6	16.0	-.87	29	.394

Note: Var. = Variable

Hypothesis 6a

Within the experimental group and control group there will be no significant relationship between self esteem scores and mathematics achievement scores.

In order to determine whether there was a significant relationship between self-esteem and mathematics achievement, Pearson correlations were calculated between the self-esteem subscales and the mathematics pretests and posttests. These correlations are reported in Table 4.8.

As can be seen in table 4.8, no significant correlations were found between self-esteem subscales

scores and the mathematics achievement for the experimental and control groups at the pre and posttests at the .05 level. Given this pattern of no significant correlations the null hypothesis (#6a) of no significant relationship between self esteem scores and mathematics achievement scores cannot be rejected. However, it is important to note one correlation that was marginally significant at the .07 level. That is, in the control group the School Academic subscale posttest score was positively associated ($r=.493$; $p=.07$) with the mathematics posttest score.

TABLE 4.8

Correlations Between Measured Students' Self-Esteem and
Mathematics Achievement for the Experimental and
Control Groups

<u>Experimental Group</u>				<u>Control Group</u>			
Var.	N	r	2T. Prob.	Var.	N	r	2T. Prob.
GENPRE	17	.165	.526	GENPRE	18	.197	.432
MATHPRE				MATHPRE			
SOCPRE	17	.285	.272	SOCPRE	18	-.164	.514
MATHPRE				MATHPOST			
HOMPRES	17	.211	.416	HOMPRES	18	-.038	.888
MATHPRE				MATHPRE			
SCHPRE	17	.246	.340	SCHPRE	18	.385	.114
MATHPRE				MATHPRE			
TOSEFPR	17	.310	.224	TOSEFPR	18	.182	.464
MATHPRE				MATHPRE			
GENPOST	15	.284	.296	GENPOST	14	.261	.366
MATHPOST				MATHPOST			
SOCPOST	15	.148	.578	SOCPOST	14	-.071	.808
MATHPOST				MATHPOST			

(Continued next page)

TABLE 4.8 (Continued)

<u>Experimental Group</u>				<u>Control Group</u>			
Var.	N	r	2T. Prob.	Var.	N	r	2T. Prob.
HOMPOST	15	.283	.306	HOMPOST	14	.316	.270
MATHPOST				MATHPOST			
SCHPOST	15	.205	.462	SCHPOST	14	.493	.072
MATHPOST				MATHPOST			
TOSEFPO	15	.309	.262	TOSEFPO	14	.289	.316
MATHPOST				MATHPOST			

Note: Var. = Variable; GENPRE = General Self pretest; SOCPRE = Social Self- Peers pretest; HOMPRES = Home-Parents pretest; SCHPRE = School-Academic pretest; TOSEFPR = Total Self pretest.

Hypothesis 6b

Within the experimental group and control group there will be no significant relationship between self esteem scores and percentage of homework completed and returned to teacher.

In order to determine the level of association between the self esteem subscales and the percentage of homework completed and returned to teacher Pearson correlation analysis was carried out. Results are presented in Table 4.9. A close inspection of Table 4.9 reveals that only total self esteem pretest was significantly correlated ($r=.488$; $p=.05$) with percentage of homework completed and returned in Quarter 1 for the experimental group. That is, high percentages of homework

completed and returned by subjects in the experimental group were associated with high total self esteem pretest scores (see Table 4.9). None of the other correlations between self esteem and percentage of homework returned during Quarters 1, 2 and 3 were significantly correlated at the .05 or smaller for the experimental and control groups. Thus, with the exception of the significant correlation between total self esteem and percentage of homework for Quarter 1, the hypothesis of no significant relationship (#6b) between self esteem scores and percentage of homework completed and returned cannot be rejected.

TABLE 4.9

Correlations Between Measured Students' Self-Esteem and Students' Percentage of Homework Completed and Returned for the Experimental and Control Groups

<u>Experimental Group</u>				<u>Control Group</u>			
Var.	N	r	2T. Prob.	Var.	N	r	2T. Prob.
GENPRE Q1HW	16	.403	.120	GENPRE Q1HW	14	.036	.902
GENPRE Q2HW	16	.280	.292	GENPRE Q2HW	15	.192	.492
GENPRE Q3HW	17	-.117	.654	GENPRE Q2HW	15	-.249	.370
SOCPRE Q1HW	16	.296	.264	SOCPRE Q1HW	14	.109	.710
SOCPRE Q2HW	16	.281	.292	SOCPRE Q2HW	15	.014	.960
SOCPRE Q3HW	17	-.394	.116	SOCPRE Q3HW	15	-.151	.590
HOMPRES Q1HW	16	.150	.578	HOMPRES Q1HW	14	-.010	.970
HOMPRES Q2HW	16	.091	.736	HOMPRES Q2HW	15	-.266	.336

(Continued next page)

TABLE 4.9 (Continued)

<u>Experimental Group</u>				<u>Control Group</u>			
Var.	N	r	2T. Prob.	Var.	N	r	2t. Prob.
HOMPRES	17	-.035	.894	HOMPRES	15	-.399	.140
Q3HW				Q3HW			
SCHPRES	16	.369	.160	SCHPRES	14	.189	.516
Q1HW				Q1HW			
SCHPRES	16	.112	.678	SCHPRES	15	.168	.548
Q2HW				Q2HW			
SCHPRES	17	-.355	.162	SCHPRES	15	-.138	.624
Q3HW				Q3HW			
TOSEFPRS	16	.488	.050*	TOSEFPRS	14	.082	.778
Q1HW				Q2HW			
TOSEFPRS	16	.318	.230	TOSEFPRS	15	.116	.680
Q2HW				Q2HW			
TOSEFPRS	17	-.299	.242	TOSEFPRS	15	-.309	.262
Q3HW				Q3HW			
GENPOST	16	.375	.152	GENPOST	14	.015	.960
Q1HW				Q1HW			
GENPOST	16	.389	.136	GENPOST	15	-.268	.334
Q2HW				Q2HW			

(Continued next page)

TABLE 4.9 (Continued)

<u>Experimental Group</u>				<u>Control Group</u>			
Var.	N	r	2T. Prob.	Var.	N	r	2T. Prob.
GENPOST Q3HW	16	-.078	.772	GENPOST Q3HW	15	-.009	.974
SOCPOST Q1HW	16	.287	.282	SOCPOST Q1HW	14	-.213	.464
SOCPOST Q2HW	16	.174	.520	SOCPOST Q2HW	15	-.394	.146
SOCPOST Q3HW	16	-.333	.208	SOCPOST Q3HW	15	-.004	.988
HOMPOST Q1HW	16	.250	.350	HOMPOST Q1HW	14	.431	.124
HOMPOST Q2HW	16	-.039	.884	HOMPOST Q2HW	15	.064	.820
HOMPOST Q3HW	16	-.189	.482	HOMPOST Q3HW	15	-.191	.494
SCHPOST Q1HW	16	.252	.346	SCHPOST Q1HW	14	.008	.976
SCHPOST Q2HW	16	.457	.074	SCHPOST Q2HW	15	.051	.856

(Continued next page)

TABLE 4.9 (Continued)

<u>Experimental Group</u>				<u>Control Group</u>			
Var.	N	r	2T. Prob.	Var.	N	r	2T. Prob.
SCHPOST	16	.245	.358	SCHPOST	15	.049	.862
Q3HW				Q3HW			
TOSEFPO	16	.387	.138	TOSEFPO	14	.044	.880
Q1HW				Q1HW			
TOSEFPO	16	.332	.208	TOSEFPO	15	-.218	.434
Q2HW				Q2HW			
TOSEFPO	16	-.124	.644	TOSEFPO	15	-.035	.900
Q3HW				Q3HW			

Note: Var. = Variable GENPRE = General Self pretest; SOCPRE = Social Self-Peers pretest; HOMEPRE = Home-Parents pretest; SCHPRE = School-Academic pretest; TOSEFPR = Total Self pretest; GENPOST = Genral Self posttest; SOCPOST = Social Self-Peers posttest; HOMPOST = Home-Parents posttest; SCHPOST = School-Academic posttest; TOSEFPO = Total Self posttest; Q1HW = Quarter 1 homework; Q2HW = Quarter 2 homework; Q3HW = Quater 3 homework.

* $p < .05$

Hypothesis 6c

Within the experimental group and control group there will be no significant relationship between self-esteem scores and teachers' grades for students.

In order to test Hypothesis 6c Pearson correlation coefficients were calculated (for experimental and control

groups) between the self esteem subscales pretest and posttest scores, the total self esteem pretest and posttest scores and the students' grades for the first 3 quarters of the school year. Results are presented in Table 4.10. The correlations reported in Table 4.10 reveal that the majority of the correlations coefficients between self esteem and students grades were not significantly related to each other at the .05 level or smaller. However, in the experimental group the Social Self-Peers subscale pretest score was significantly correlated with students grades in Quarter 1 ($r=.535$; $p=.03$) and in Quarter 2 ($r=.496$; $p=.05$). The School-Academic pretest score correlated significantly ($r=.545$; $p=.02$) with the students' grades in Quarter 1. In addition, the Total Self esteem pretest score was significantly correlated ($r=.522$; $p=.03$) with students' grades in Quarter 2. Moreover, the General Self posttest score was significantly correlated ($r=.512$; $p=.04$) with students' grades in Quarter 3, when the parental homework monitoring took place. Similarly another significant correlation was obtained between School-Academic posttest score and students' grades in Quarter 2 ($r=.555$; $p=.02$) and finally the Total Self posttest score and mathematics grades correlated significantly in Quarter 3 ($r=.502$; $p=.04$).

The control group Pearson correlation coefficients between the School-Academic subscale was significantly

($r=.530$; $p=.04$) correlated with the students' mathematics grades at the posttest in Quarter 2. Thus, the subjects in this group like the ones in the experimental group who in the second quarter (before the parental homework monitoring) felt better about their schooling also tended to obtain better grades.

Based on the findings obtained in the statistical analysis of Hypothesis 6c, it is evident that the hypothesis of no significant relationship between self esteem scores and teacher grades for students can be rejected for those correlations with a significant level equal to the .05 or smaller, but it cannot be rejected for the other non significant correlations with a significant level larger than .05 (See Table 4.10).

TABLE 4.10

Correlations Between Measured Students' Self-Esteem and
Students' Mathematics Grades

<u>Experimental Group</u>				<u>Control Group</u>			
Var.	N	r	2t. Prob.	Var.	N	r	2T. Prob.
GENPRE Q1GR	16	.271	.308	GENPRE Q1GR	14	.237	.414
GENPRE Q2GR	16	.364	.166	GENPRE Q2GR	15	.435	.100
GENPRE Q3GR	17	.283	.272	GENPRE Q3GR	15	.143	.610
SOCPRE Q1GR	16	.535	.032*	SOCPRE Q1GR	14	.080	.786
SOCPRE Q2GR	16	.496	.050*	SOCPRE Q2GR	15	.183	.512
SOCPRE Q3GR	17	.335	.188	SOCPRE Q3GR	15	-.04	.886
HOMPRES Q1GR	16	-.065	.810	HOMPRES Q1GR	14	-.17	.544
HOMPRES Q2GR	16	.192	.476	HOMPRES Q2GR	15	-.28	.300

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TABLE 4.10 (Continued)

Expeimental Group				Control Group			
Var.	N	r	2T. Prob.	Var.	N	r	2T. Prob.
HOMP RE	17	.088	.738	HOMP RE	15	.388	.152
Q3GR				Q3GR			
SCHP RE	16	.545	.028*	SCHP RE	14	.162	.580
Q1GR				Q1GR			
SCHP RE	16	.331	.210	SCHP RE	15	.312	.256
Q2GR				Q2GR			
SCHP RE	17	.315	.218	SCHP RE	15	.168	.548
Q3GR				Q3GR			
TOSE FPR	16	.466	.068	TOSE FPR	14	.176	.546
Q1GR				Q1GR			
TOSE FPR	16	.522	.038*	TOSE FPR	15	.339	.200
Q2GR				Q2GR			
TOSE FPR	17	.392	.120	TOSE FPR	15	.047	.866
Q3GR				Q3GR			
GENP OST	16	.429	.096	GENP OST	14	-.023	.936
Q1GR				Q1GR			
GENP OST	16	.425	.100	GENP OST	15	.310	.260
Q2GR				Q2GR			

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TABLE 4.10 (Continued)

Experimental Group				Control Group			
Var.	N	r	2T. Prob.	Var.	N	r	2T. Prob.
GENPOST Q3GR	16	.512	.042*	GENPOST Q3GR	15	.003	.990
SOCPOST Q1GR	16	.315	.234	SOCPOST Q1GR	14	-.297	.302
SOCPOST Q2GR	16	.356	.088	SOCPOST Q2GR	15	-.240	.388
SOCPOST Q3GR	16	.276	.300	SOCPOST Q3GR	15	-.470	.076
HOMPOST Q1GR	16	.326	.218	HOMPOST Q1GR	14	.365	.200
HOMPOST Q2GR	16	.046	.086	HOMPOST Q3GR	15	.257	.174
HOMPOST Q3GR	16	.285	.284	HOMPOST Q3GR	15	.174	.534
SCHPOST Q1GR	16	.221	.410	SCHPOST Q1GR	14	.062	.834

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TABLE 4.10 (Continued)

Experimental Group				Control Group			
Var.	N	r	2T. Prob.	Var.	N	r	2T. Prob.
SCHPOST	16	.555	.026*	SCHPOST	15	.530	.042*
Q2GR				Q2GR			
SCHPOST	16	.423	.102	SCHPOST	15	.210	.452
Q3GR				Q3GR			
TOSEFPO	16	.439	.088	TOSEFPO	14	.000	.100
Q1GR				Q1GR			
TOSEFPO	16	.432	.094	TOSEFPO	15	.276	.318
Q2GR				Q2GR			
TOSEFPO	16	.502	.048*	TOSEFPO	15	-.333	.906
Q3GR				Q3GR			

Note: Var. = Variable; GENPRE = General Self pretest; SOCPRE = Social Self-Peers pretest; HOMPRES = Home-Parents pretest; SCHPRE = School-Academic pretest; TOSEFPR = Total Self pretest; GENPOST = General Self posttest; SOCPST = Social Self-Peers posttest; HOMPOST = Home-Parents posttest; SCHPOST = School-Academic posttest; TOSEFPO = Total-Self posttest; Q1GR = Quarter 1 grade; Q2GR = Quarter 2 grade; Q3GR = Quarter 3 grade.

* $p < .05$

Hypothesis 7a

Within the experimental group and control group there will be no significant relationship between parent level of education and students' mathematics achievement scores.

To test this hypothesis, Pearson correlations were calculated between the parent level of education and the students' mathematics achievement scores at the pretest and posttest for the experimental group and the control groups. Results are presented in Table 4.11. The results shown in Table 4.11 clearly reveal that no significant relationships were obtained between parent level of education and students' mathematics achievement scores at the .05 level. Thus, given these findings Hypothesis 7a cannot be rejected.

TABLE 4.11

Correlations Between Parent Level of Education and Students' Mathematics Achievement Scores for the Experimental and Control Groups

<u>Experimental Group</u>				<u>Control Group</u>			
Var.	N	r	2T. Prob.	Var.	N	r	2T. Prob.
PARNTED	16	-.194	.470	PARNTED	15	.133	.636
MATHPRE				MATHPRE			
PARNTED	16	-.015	.954	PARNTED	15	.056	.842
MATHPOST				MATHPOST			

Note: Var. = Variable; PARNTED = Parent level of education; MATHPRE = Mathematics pretest; MATHPOST = Mathematics posttest.

Hypothesis 7b

Within the experimental group and control group there will be no significant relationship between parent level of education and student percentage of homework completed and returned.

As shown in Table 4.12 Pearson correlations were computed to determine whether there was a significant relationship between parent level of education and percentage of homework completed and returned in the experimental and control groups during the first 3 quarters of the school year.

The results presented in Table 4.12 show that in the experimental group a significant negative correlation was obtained between parent level of education ($r = -.602$; $p = .01$) and the percentage of homework completed and returned by the students during the second quarter. In the control group no significant correlations were obtained. Therefore, Hypothesis 7b with the exception of the significant negative correlation (see Table 4.12) observed in the the second quarter cannot be rejected.

TABLE 4.12

Correlations Between Parent Level of Education and Students' Percentage of Mathematics Homework Completed and Returned for the Experimental and Control Groups

<u>Experimental Group</u>				<u>Control Group</u>			
Var.	N	r	2T. Prob.	Var.	N	r	2T. Prob.
PARNTED Q1HW	16	-.465	.070	PARNTED Q1HW	14	-.017	.952
PARNTED Q2HW	16	-.602	.014*	PARNTED Q2HW	15	.305	.268
PARNTED Q3HW	17	-.065	.802	PARNTED Q3HW	15	.121	.668

Note: Var. = Variable; PARNTED = Parent level of education; Q1HW = Quarter 1 homework; Q2HW = Quarter 2 homework; Q3HW = Quarter 3 homework.

* $p < .05$

Hypothesis 7c

Within the experimental group and control group there will be no significant relationship between parent level of education and teachers' grades for students.

In order to test Hypothesis 7c Pearson correlations were calculated between parent level of education and teachers' grades for students. Results are presented in Table 4.13. The results shown in Table 4.13 indicate that in the experimental group the correlation between parent

level of education and students' grades yielded a significant negative coefficient ($r = -.642$; $p = .008$). All the other correlations for the experimental and control groups yielded no significant coefficients. Thus, Hypothesis 7c is rejected for the correlation (in the experimental group) between parent level of education and students' grades in Quarter 1, but cannot be rejected for the other correlations in both groups.

TABLE 4.13

Correlations Between Parent Level of Education and Students' Mathematics Grades for the Experimental and Control Groups

<u>Experimental Group</u>				<u>Control Group</u>			
Var.	N	r	2T. Prob.	Var.	N	r	2T. Prpb.
PARNTED Q1GR	16	-.642	.008**	PARNTED Q1GR	14	.048	.870
PARNTED Q2GR	16	-.384	.142	PARNTED Q2GR	15	.229	.410
PARNTED Q3GR	17	-.294	.252	PARNTED Q3GR	15	.195	.486

Note: Var. = Variable; PARNTED = Parent level of education; Q1GR = Quarter 1 grade; Q2GR = Quarter 2 grade; Q3GR = Quarter 3 grade.

** $p < .01$

Hypothesis 7d

Within the experimental group and control group there will be no significant relationship between parent level of education and students' self esteem scores.

In order to determine whether there was a significant relationship between parent level of education and students' self-esteem scores, Pearson correlations were calculated. Results are shown in Table 4.14. The results presented in Table 4.14 reveal that in the experimental group, some of the correlations between parent level of education and self esteem pre and posttest scores were significantly related to each other.

In the control group on the other hand, the Pearson correlation analysis between parent level of education and the Social-Peers pretest score produced a significant negative coefficient ($r = -.528$; $p = .05$). Similarly, a Pearson correlation coefficient revealed a significant negative relationship between parent level of education and the Home-Parents pretest score ($r = -.550$; $p = .042$). In addition, Pearson correlation coefficients also yielded significant negative associations between parent level of education and the Social-Peers posttest scores ($r = -.623$; $p = .01$) and between parent level of education and home-parents posttest score ($r = -.582$; $p = .02$).

Based on the results presented in Table 4.14, Hypothesis 7d is partially rejected. It is rejected for the significant negative correlations but it cannot be rejected for the non-significant correlations.

TABLE 4.14

Correlations Between Parent Level of Education and Measured Students' Self-Esteem for the Experimental and Control Groups

<u>Experimental Group</u>				<u>Control Group</u>			
Var.	N	r	2T. Prob.	Var.	N	r	2T. Prob.
PARNTED GENPRE	17	-.283	.270	PARNTED GENPRE	14	.314	.274
PARNTED SOCPRE	17	-.413	.098	PARNTED SOCPRE	14	-.528	.050*
PARNTED HOMPRES	17	-.113	.664	PARNTED HOMPRES	14	-.550	.042*
PARNTED SCHPRE	17	-.246	.340	PARNTED SCHPRE	14	-.187	.522
PARNTED TOSEFPR	17	-.403	.108	PARNTED TOSEFPR	14	-.032	.912
PARNTED GENPOST	16	-.464	.070	PARNTED GENPOST	14	-.303	.292
PARNTED SOCPOST	16	-.254	.342	PARNTED SOCPOST	14	-.623	.018*

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TABLE 4.14 (Continued)

<u>Experimental Group</u>				<u>Control Group</u>			
Var.	N	r	2T. Prob.	Var.	N	r	2T. Prob.
PARNTED	16	-.227	.396	PARNTED	14	-.582	.028*
HOMPOST				HOMPOST			
PARNTED	16	-.222	.408	PARNTED	14	.026	.928
SCHPOST				SCHPOST			
PARNTED	16	-.420	.104	PARNTED	14	-.425	.130
TOSEFPO				TOSEFPO			

Note: Var. = Variable; PARNTED = Parent level of education; GENPRE = General Self pretest; SOCPRE = Social Self-Peers pretest; HOMPRES = Home-Parents pretest; SCHPRE = School-Academic pretest; TOSEFPR = Total SELF pretest; GENPOST = General Self posttest; SOCPOST = Social Self-Peers posttest; HOMPOST = Home-Parents posttest; SCHPOST = School-Academic posttest; TOSEFPO = Total Self posttest.

* $p < .05$

The statistical analyses presented in this chapter will be discussed in Chapter V.

Results of the Home Interview

Before entering into the analysis of the home interview it is important to note that 12 families (75%) in the experimental group completed the Parental Homework Record. These families signed the homework record every day during the last nine weeks of the third quarter

indicating that they had monitored their children's homework. Sometimes the "monitoring" consisted in the parents being aware that the child did not have homework. Of the other 4 families (25%), one did not sign the Parental Homework Record at all. The father in this family, however, reported that he used the homework record as a visual aid to remind himself to monitor his child's mathematics homework. The other 3 families signed about half of the number of school days in the third quarter. In two of these families, the parents had conflicts with their children around their homework and they basically gave up monitoring their mathematics' homework. In the other family, the mother reported that she did the monitoring for the entire nine weeks but that many times she forgot to sign the homework record.

In the following report the demographic characteristics of the interviewed families are reported. Second, excerpts of literal transcriptions of ten of the home interviews were translated and are presented to analyze several recurrent themes. The most prevalent themes include: an increase in perceived closeness between students and parents, the effects of the parental homework monitoring on parents and student's sense of responsibility towards the students homework and the conflictual issues encountered by both parents and students in carrying out the parental homework monitoring. Third, a compiled number of answers related to parents and

students easiest and most difficult aspects of their parental homework monitoring experience are presented. Lastly, some of the reasons why the parents and the students would recommend the parental homework monitoring to other parents and students are described.

In order to protect the families' privacy each family is identified with a number and each family member is recognized by his or her role. e.g., "student" refers to the child and "mother"/"father" to the parent or caretaker participating in the study.

Family Demographic Characteristics

All the sixteen families in the experimental group who participated in the homework monitoring program were interviewed after the study was completed. However, the tape recordings of the interviews with two families were unintelligible and it was not possible to transcribe them. Two of the students interviewed belonged to the same family. Thus, the results of the home interviews are based on fourteen interviews with fifteen students and their families. The parental level of education ranged from 5 to 15 completed school years (grade 5 to 3 years of college) (see Table 4.15).

TABLE 4.15

Parental Level of Education of the Families Interviewed

Number of School Years Completed ^a	f	%
5	1	7.1
6	1	7.1
7	2	14.2
9	3	21.4
10	2	14.2
11	1	7.1
12	2	14.2
14	1	7.1
15	1	7.1

N = 14

^aNumber of school years is equal to the average of school years completed by the parents or the caretakers at home.

Eleven families were of Puerto Rican origin, two were Salvadorean and in one family the father was Dominican and the mother Salvadorean (see Table 4.16).

TABLE 4.16

Hispanic Origin of the Families Interviewed

Origin	f	%
Puerto Rico	11	78.5
El Salvador	2	14.2
Blended: El Salvador/ The Dominican Rep.	1	7.1

N = 14

The source of income for eight of the families was AFDC and for the other six it was parental employment (see Table 4.17).

TABLE 4.17

Source of Income of the Families Interviewed

Source of Income	f	%
AFDC	8	57.1
Parental Employment	6	42.9
N = 14		

Seven of the students lived with single mothers, four lived with their biological parents, two lived with their biological mother and their step father or their mother's boyfriend, one lived with her biological father and her step mother and one lived with his aunt and step uncle (see Table 4.18).

TABLE 4.18
Living Arrangements of the Students of the Families
Interviewed

Arrangement	f	%
Living with Biological Parents	4	26.6
Living with Biological Father and Step-Mother	1	6.6
Living with Biological Mother and Mother's Boy Friend	2	13.3
Living with a Single Parent	7	46.6
Living with Other Relatives	1	6.6
N = 15 ^a		

^aTwo of the students came from the same family

Student and Parent Relationship

A semi-structured interview guide was used, therefore all the families were asked the same questions with similar probes about the nature of the student-parent relationships before, during and after the homework monitoring experience. For eight families, the homework monitoring activities served as a catalyst for the parents and students to experience positive feelings and a sense of closer relationship. Excerpts from 5 interviews (families number One, Four, Five, Eleven and Twelve) were selected to illustrate this theme.

Family Twelve. In the interview with family Twelve the mother, the step father, the student, the student's sister and the students's uncle and aunt were present in the interview.

Interviewer: How would you describe your relationship with each other before the homework monitoring experience?

Step father: There is more communication.

Interviewer: So, before was there less communication?

Mother: Before we were attentive to her assignments, but now we are attentive with more communication.

Interviewer: Student, do you agree with them?

Student: Yes.

Interviewer: Other relatives present in the interview, what did you observe about the relationship between the parents and the student before the homework monitoring experience?

Uncle: Before I was coming here more frequently and I would feel something like a certain thing was there, it is not a word, just things were different and now I see that it has been decreasing little by little.

Interviewer: Do you all agree with that?

Sister: Yes.

Mother: Before there was less communication. We were less attentive to her assignments but now, indeed,

there is more communication and we are more attentive to her assignments.

Interviewer: How would you describe your relationship with each other now?

Student: That now they give me more attention.

Interviewer: Other relatives, is there any thing that you have observed, that is different now in the relationship between the student and her parents?

Aunt: There is more happiness between the three of them. She does her things; they are attentive to her assignments.

Family Five. In the interview with family Five the only people present were the mother and the student. However the mother speaks in third person plural indicating that the father was also involved in the homework monitoring.

Interviewer: How would you describe your relationship with each other before the homework monitoring experience?

Student: Good.

Mother: We always have had a good relationship with him. That is, I think, a great deal because firstly before being parents, we are friends. In other words, that has helped us to have a good relationship with him.

Interviewer: How was your relationship different during the nine weeks of home work monitoring?

Mother: For us it was normal.

Interviewer: Unh huh.

Mother: That is, it was only the schedule that was assigned to him, at about five in the afternoon, then that was the only difference, nothing else.

Interviewer: The difference then was that there was a special schedule that you (mother and father) assigned to him?

Mother: Yes, because before we only would tell him "go study", "go do it" (homework) and we did not have a set time and then after he got a set time (pause).

Interviewer: How would you describe your relationship with each other now?

Student: Very good.

Interviewer: Very good.

Mother: Yes, it continues the same (pause).

The same harmony.

Interviewer: Student, before you said that the relationship was "good." Now you say "very good" I get the impression that something is different.

Student: (No response).

Interviewer: [to Student] When I asked that how was the relationship before you said "good". Then I asked

that how is it now (after the nine weeks) and you said "very good."

Student: Very good.

Interviewer: Very good.

Student: It is that today I have a very good relationship.

Family Four. For the interview with Family Four the mother and the student were present. A theme that seems to transpire from this interview is that the student has a level of independence (which seems appropriate for her age) and a sense of responsibility for her work. However, the mother who is not very involved in the student's school work tends to interpret the student's independence as negative or oppositional behavior. The interactions brought in by the homework monitoring program seem to have helped them to close the gap in their communication.

Interviewer: How would you describe your relationship with each other before the the homework monitoring experience?

Mother: That is, it is like sometimes it is difficult with these children of this age, a way for more closeness and a way to help.

Interviewer: And before how would you say the relationship was between you?

Mother: She appeared more negative and now she is more positive.

Interviewer: [to the student] Do you agree?

Student: What happened is that before I would not show her the things (homework) but I would do it! I would do my work and I would turn it in there (school) and she was not aware of any thing.

Interviewer: How was your relationship different during the nine weeks of homework monitoring?

Mother: Good.

Interviewer: Student, do you agree with her.

Student: Yes

Interviewer: How would you describe your relationship with each other now?

Student: Good.

Interviewer: What does it mean "good."

Student: Well, better than before.

Interviewer: In what way is it better?

Student: Well, in that before I had less communication with her.

Interviewer: O.K.

Student: Because she would come from work and she would come to do her things and I would do mine and we almost never talked about school, but now we do.

Interviewer: Mother, do you agree with that?

Mother: Yes.

Interviewer: And what does it mean for the two of you.

Mother: (Giggles as if with pride for having accomplished something). It means a lot.

Interviewer: In what way?

Mother: Well, as much for her as for me as well, because as she says, yes, I am always busy...but I would always ask her (about her homework), I would only ask and she would say "yes" or "no." I did not know if she was telling me the truth or not and now Student says "look this is the assignment and this and that and we talk then."

Family Eleven. In this family, there were two students who were part of the experimental group. Both students and Mother were present at the interview. The students are identified as Student One and Student Two. The most apparent theme in this interview is how the family seemed to have used the homework monitoring as a way to heighten their apparent trusting and close relationship.

Interviewer: How would you describe your relationship with each other before the homework monitoring experience?

Mother: Like friends because they look for my help.

Interviewer: Student One and Student Two, do you agree with Mother?

Student One: I say the same.

Interviewer: Student Two, what about you?

Student Two: The same.

Interviewer: How was the relationship different during the nine weeks of homework monitoring?

Student One: We had to bring our notebook home so mom would check it. Sometimes we did not bring it home and we would say that we left it at school and then we would bring it the next day.

Interviewer: Student Two, what would you say was different?

Student Two: I would tell her if I had done it (the homework) here or at school.

Interviewer: Mother, was this really different?

Mother: Yes, because I have always corrected, (their homework) but not as much as now. That is, with a kind of interest as if I were working with them.

Interviewer: Student One and Student Two, do you agree with mother?

Student One: Yes.

Student Two: Yes.

Interviewer: How would you describe your relationship each other now?

Mother: I'm very proud of having two intelligent daughters and I feel good with them and now we have had more pride.

Child One: Sharing more.

Interviewer: Student Two, and you?

Child Two: More closeness (between them).

Mother: Closer together.

Interviewer: Student One and Student Two, would you recommend to your classmates to have their parents monitor their mathematics homework like your mother monitored yours?

Student One: Yes.

Interviewer: What leds you to make this recommendation?

Student One: (One) feels closer to parents. (One) feels as if the parent had greater interest in oneself and one in themselves.

Interviewer: Student Two, and you?

Student Two: One feels happy.

Family One. The mother and the student were present for the interview. Although they were not very talkative it is perceived in the interview that the homework monitoring was an opportunity for them to increase their level of communication.

Interviewer: How would you describe your relationship with each other before the homework monitoring experience?

Mother: good.

Interviewer: Student, do you agree?

Student: Yes.

Interviewer: How was your relationship different during the nine weeks of homework monitoring?

Mother: There is better communication. I was attentive to make sure she would do her homework. There is greater trust between the two of us.

Interviewer: How would you describe your relationship with each other now?

Mother: There is better communication.

Interviewer: Student, and you?

Student: The attention (mother's attention) made me feel good.

Students and Parents' Sense of Responsibility

For at least three families the homework monitoring program seemed to have been an opportunity for parents and students to heighten their sense of responsibility towards their respective school related roles. Excerpts from two interviews (families number Seven and Three) were selected to illustrate this theme.

Family Seven. In this family the student lived with his aunt and step-uncle. The aunt was in charge of monitoring his homework. In the middle of the program his paternal uncle came to live with them and the aunt asked him to help her with the homework monitoring since she was going to be busy taking English classes. At the time of the interview, the student's biological parents were visiting and they participated in the meeting as well as his aunt and paternal uncle. A salient theme in the interview with this family was their feeling that the program improved the sense of responsibility for his homework.

Interviewer: How was your relationship different during the nine weeks of homework monitoring?

Aunt: Well, he would do his homework and I would always be attentive to that but there were only a few times that I would sit down to check his homework but since we have been involved in the program...the interactions have been more frequent between us.

Intreviewer: What is there that makes it more frequent?

Aunt: I have been more attentive to him and he always come and tells me "look I have to do this homework and this and that." There has been a closer relationship.

Interviewer: Student, do you agree with that?

Student: Yes.

Interviewer: [to Student] and what does it mean for you?

Student: (Pause, no response, aunt laughs as if covering for his silence.)

Aunt: (responding for Student) He feels more responsible, his sense of responsibility and he already knows that he has to do that (homework). Before, well, he would come and he would do them (assignments) in the living room watching TV as I had explained to you; but now, no, he comes home and because he knows that he is in the program and there is always supervision, well he has to go to his room and do his homework...

Interviewer: With no distractions, without watching TV.

Aunt: Nothing!

Paternal Uncle: He brings books from the library to study and he tells me "Uncle I have to study this for such and such date..." As I tell you he comes from school and tells me I am going to do my homework. He goes in there (points to the kitchen) eats something and goes to his room.

Interviewer: [to every body] Then the sense of responsibility for homework and school would you say is something different?

Aunt: Yes!

Uncle: Yes he has improved.

Aunt: He has improved a great deal!

Interviewer: [to aunt and uncle] What was easiest in monitoring the student's homework?

Aunt: ... I think it has been a little bit easier for him to have that, how could I say? responsibility.

Interviewer: [to student] Would you recommend to your classmates to have their parents monitor their mathematics homework like your aunt and uncle monitored yours?

Student: Yes.

Interviewer: What would make you to make this recommendation?

Student: Because it helps them.

Mother: It helps them to be responsible.

Student: That's right, it helps them to be responsible.

Family Three. The mother, the father and student participated in the interview. A theme that surfaced in the interview was that the participation in the homework monitoring program helped parents to become more conscious of their responsibility in being involved with student's homework and school.

Interviewer: How would you describe your relationship with each other before the homework monitoring experience?

Father: We have always been concerned about his homework, although maybe not in a very practical manner...Personally I am a little bit more conscious of his need, you see...Like the other day I asked him as you suggested "what are you doing?" (in mathematics) "are mathematics okay?" and he automatically (responded) "oh yes they are good, mathematics are going well" and now, (I ask myself) "the student, how is he doing?"

Mother: I asked him to bring his book from school to see what they are covering.

Interviewer: [to student] What would you say? Do you agree with them?

Student: Yes.

Interviewer: How was your relationship different during the nine weeks of the homework monitoring?

Father: The only thing I feel is that I am a little bit more concerned for having his needs expressed.

Interviewer: How would you describe your relationship with each other now?

Father: More conscious.

Mother: Although, it is only if one asks him a question whether he needs help or something, he does not ask for it.

Interviewer: [to father] You say more conscious, please elaborate on that.

Father: I would say more conscious because, well when trying to find out, you see, now I am more wishful about knowing what is he working on, how can he be helped, offering myself to him more often...

Interviewer: [to student] Do you agree with that?

Student: Yes.

Interviewer: What was easiest in monitoring the student's mathematics homework?

Father: Well, to be more conscious, well to ask with more interest. As I said before to try to find out, to investigate to see in what (areas) the student really needed help.

Mother: Yes, that it would not be left on simply "good!" "How is the homework?" "good!" but to deepen.

Interviewer: To deepen?

Father: The only question we would ask him before, "do you have homework?" "yes." "Did you do it?" "yes." "O.K." and there in ten seconds (laughs) it was already known (laughs), now it is a matter of looking for more skill than effort.

Parent-Student Conflict in Carrying out the Parental Homework Monitoring

Contrary to the themes revealed in the interviews analyzed before in which there were no apparent conflicts

between parents and students, the interviews of at least three families (Eight, Two and Fourteen) suggests that conflictual issues arose between parents and students in following the homework monitoring program.

Family Eight. The mother and the student were present in the interview. The central theme of this interview was the mother's frustration about the student's minimal compliance with her demands around homework and her passive participation in the interview.

Interviewer: How would you describe your relationship with each other before the homework monitoring experience?

Mother: Cordial, we got along well.

Interviewer: [to student] Do you agree with that?

Student: Yes.

Interviewer: How would you describe your relationship with each other now?

Mother: [to student] What would you say?
(pause) Say something girl! (pause) better.

Interviewer: How better?

Mother: As I said dedicating a little bit of time to be somewhat together, sharing.

Interviewer: Student, Do you agree?

Student: Yes.

Interviewer: Student, what do you think was hardest for your mother in monitoring your mathematics homework?

Student: (pause, no response).

Mother: Making sure that she would bring the assignments home. When she would tell me "no" I would tell her "yes" (bring them home), she would say "no."

Interviewer: [to Mother and Student] And what was most difficult for the student?

Mother: To cooperate, cooperate with me so I could supervise her.

Interviewer: [to the student] Do you agree with that?

Student: Yes.

Family Two. The mother, the mother's boy friend and the student were present in the interview. Although it is clear that some aspects of the homework monitoring were followed with no problem between the parent and student, other aspects seemed to have been a struggle. Subtle contradictions suggest that a degree of response effect was a factor in the interview.

Interviewer: How would you describe your relationship with each other before the homework monitoring experience?

Mother: The same.

Interviewer: The same.

Mother: But, that sometimes he does his homework and sometimes he doesn't.

Interviewer: [to boy friend] What did you observe about the relationship between the mother and the student before the homework monitoring experience?

Boy Friend: What I have noticed is that he is more concerned about doing his homework because before he was not concerned about his homework until she began supervising him more, and so, well he became more concerned about his homework.

Interviewer: How was your relationship different during the nine weeks of the homework monitoring?

Mother: The same, because since there were days that he missed school and there were days that I could not check his assignments because I was working and I would come home late.

Interviewer: [to the student] Do you agree with that?

Student: Yes.

Interviewer: How would you describe your relationship with each other now?

Mother: Good.

Interviewer: Student, do you agree with what your mother said.

Student: Yes.

Interviewer: [to Boy friend] What do you observe about the relationship between them now.

Boy friend: Good.

Interviewer: Good means?

Boy friend: I don't know, as always, the same.

Interviewer: Mother, what was easiest in monitoring the student's homework?

Mother: That he would do it and that he would turn it in (homework).

Interviewer: [to Mother] What was easiest for him?

Mother: To do it (homework) because giving him a set time, that he didn't (pause) it would be at any time (that he would do the homework) and sometimes he would not do it, but he always tells me that the teacher doesn't give him assignments every day.

Interviewer: [to Mother] And what was the most difficult for you?

Mother: To give him a set schedule (to do the homework).

Interviewer: [to Boy friend] What would you say was the most difficult for her?

Boy friend: To impose on him that he would do it (homework) at the same time (every day).

Interviewer: [to the student] And for you what was the most difficult?

Student: I don't know, nothing.

Interviewer: Student, Do you agree that it was difficult to do it on a set schedule.

Student: Yes.

Family Fourteen. The mother, the student and older brother were present at the interview. It appears that the mother attempted to work with the student on the homework monitoring program but it became a struggle between the mother (who would request Student to do her mathematics homework) and the student who would not even bring the book home.

Interviewer: How would you describe your relationship with each other before the homework monitoring experience?

Mother: Good.

Interviewer: Do you agree?

Student: Yes.

Interviewer: How was your relationship different during the nine weeks of the homework monitoring?

Mother: I would not let her watch TV nor listen to radio (while doing the homework).

Interviewer: [to the student] Do you agree with what your mother said.

Student: (pause, hesitates) Unh huh.

Interviewer: You can disagree. [to Mother] Is it O.K. to be in disagreement here, right?

Mother: (laughs) Why not?

Interviewer: Student, it seems like you are a little bit in disagreement. Why would you be in disagreement?

Student: Because I like to listen to music and do the homework.

Interviewer: [to Mother] Do you think you succeeded in monitoring her not watching TV or listening to music while doing homework?

Mother: Perhaps in part, (pointing to the Parental Homework Record) up to here was that she, (pause) listened to me.

Interviewer: (pointing to the homework monitoring sheet) and what about the blank ones?

Mother: Well, she did not do all this, she would not even start it...(the homework).

Interviewer: But even if she would not do it, would you ask her about it.

Mother: Yes, I only marked (in the Parental Homework Record) the ones she would bring, that I would sit down with her and that she would do...

Interviewer: And the times that she would not bring it, why not?

Student: Because I would not bring the books.

Mother: She says that her hands would freeze and I would tell her that's nothing if they freeze a little bit as long as you do it (homework).

Interviewer: Does she have a book bag?

Mother: No.

Interviewer: Maybe that's a good idea for next year.

Student: (speaking undertone)

Interviewer: I'm Sorry?

Student: I don't like to carry books.

Other Responses

Some of the responses given by parents when asked what was easiest in monitoring their child's mathematics homework included:

Asking her if she had homework

To be more conscious about investigating what kind of help the child may need.

To have the child do his homework in his own room without watching T.V.

To remind her to do her homework.

Since she had to show me her homework she put more interest (in doing it).

To be more attentive making sure she would do her homework.

To share with her after she would do her homework.
To have children do their homework in an appropriate place with no interruptions.

When parents were asked what was most difficult in monitoring their child's mathematics homework some parents provided the following responses:

To ask her if she had any (homework) because sometimes she would bring her homework to do it at home.

To keep the parental homework record.

Nothing was difficult.

To help her with homework that we did not know (subject matter).

To give her permission to go out and study with her friends.

To make sure she would bring her homework to do it at home.

To make sure she would do it (the homework).

The schedule (have him follow a consistent schedule to do his homework daily).

To separate the time (to monitor the homework)

Division and multiplication.

For the students what was easiest included:

That I don't have to study in bed because I fall asleep.

The responsibility (of doing the homework without watching TV at the same time).

To show the homework to mother.

To do it (homework).

Everything was easy, the only work was to show it (homework) and explain it (to mother).

For the students what was most difficult included:

To bring the books home.

To show the homework to mother.

The schedule (to follow a set schedule to do homework daily).

To cooperate with mother so she could provide monitoring.

Nothing.

Become used to do the homework without watching T.V.

The following are some of the reasons why parents would recommend to other parents to monitor their children's mathematics homework as they did (see Table 4.19

It is interesting, one fills with joy and happiness to see all the things that one's own children do...

It is interesting, one is more concerned about their homework and there is more communication.

...one has more closeness to them (children) and they pay more interest because if they see that one is not there very close to them, perhaps they become careless (pause) and they stop doing what they have to do.

One feels more comfortable that there is better communication and it is like a commitment, one feels good in helping her.

Because there one learns to have a relationship and a closer communication with them that they are needing...

Yes, because this helps that the parents be more attentive to the homework.

Because it is a good way for preparing the child and this way one knows about his (her) progress and the child is very enthusiastic and it is like habit that he (she) has to follow. It helps a lot to be responsible, the child and the mother.

Because one sees the work that he does. One is sure that he is doing it (homework).

Because it helps the student. It keeps him busy.

Learning does not happen only in school. It does not end there...it has to continue at home.

...it shows that the school attends to the students even when they are out of school and that's very important for me...it is very important that the

school devotes time to the student not only during class.

The following are some of the reasons why the students would recommend to other students that their parents monitor their mathematics homework (see Table 4.19)

One feels closer to the parents. One feels as if the parents had more interest in oneself and one in them.

One feels happy.

Because one feels better.

So the relationship with their parents improves.

So they improve in the classroom.

Well, because when one knows that they are going to check the things (homework) maybe one, the teacher gives an assignment that one would not do, maybe one would do it (laughs) because the father (pause) makes one.

So the students are attentive to the homework and are more responsible and more attentive.

So they do it (homework).

Yes, because if one is being supervised it is easier that one would do it (homework).

Because it would help them.

Yes, because they would learn more mathematics.

TABLE 4.19

Frequencies of Responses on Whether Parents and Students would Recommend the Parental Homework Monitoring Program to Other Parents and Students

	Yes f	%	No f	%	Unsure f	%
Parents	14	100	-	-	-	-
Students	13	86.6	-	-	2	13.3
	Parents N = 14		Students N = 15			

Table 4.20 presents the frequencies of parents/families who applied ideas of the mathematics homework monitoring training to the monitoring of other children and or other subjects.

TABLE 4.20

Frequencies of Parents/Families Who Applied Ideas of the Mathematics Homework Monitoring Training to the Monitoring of Other Children and or Other Subjects

	f	%
Other Subjects	10	71.4
Other Children ^a	8	57.1
	N = 14	

^a3 of the families did not have other children in school and 3 other families had other children in school but said they did not use some of the ideas with other children.

CHAPTER V

DISCUSSION

This chapter is organized in four major parts. The first part includes a summary of the rationale and design for the study. Next, a discussion of findings is presented. Third, limitations of the study are addressed and finally, implications and recommendations for future research are considered.

Rationale and Design

The main purpose of the intervention was to provide training to Hispanic parents on how to monitor the mathematics homework of their seventh grade children. Information was collected about the effects of the parental homework monitoring on students' mathematics achievement, self-esteem and perceptions of their teacher, their parents, and their own involvement in mathematics homework. As it was mentioned in Chapter II, various studies have reported significant relationships between parent involvement in monitoring homework and student achievement. However, no recent controlled studies could be found about parent involvement in monitoring homework with Hispanics.

The original number of families with students in seventh grade in the bilingual program of a middle school in Worcester who accepted the invitation to participate in

the study was 38 for a total of 41 students (three families had two students in the same grade). During, the study some of these students received special education services and others transferred to other schools or to the regular English program. Therefore, they were not included in the study. The final sample consisted of 31 students and 28 homes.

The students were randomly assigned to either an experimental (N=16) group or a control (N=15) group. The parents of the students in the experimental group were provided with one hour homework monitoring training by a Hispanic school psychologist at the beginning of the third quarter of the 1990-1991 school year. For ethical reasons, the parents of the students in the control group were provided with the same training at the beginning of the fourth quarter. Pretests and posttests were administered at the beginning and end of quarter 3 to both groups. They were administered the Mathematics Computation section of the mathematics subtest of the Stanford Achievement Test Intermediate 2 (Form E pretest; Form F posttest). A translation of the Coopersmith Self-Esteem Inventory (SEI) was administered as a pretest and posttest. The students also answered a pre and a post questionnaire regarding their perceptions of their parents, their teachers and their own involvement in mathematics homework. At the end of the third quarter, the parents/families and the students in the experimental

group were interviewed. Finally, the mathematics' teachers provided information about the percentage of homework completed and returned and grades obtained by the subjects in both groups for Quarters 1, 2 and 3.

T-tests were computed to determine if there were any significant differences between the two groups at the pre and post measures. Correlation analyses were performed to determine if there were significant relationships between: self esteem scores and mathematics achievement scores; the percentage of homework completed and returned and teacher's grades for students; parent level of education and students' mathematics achievement; and, the percentage of homework completed and returned, teachers' grades for the students and students' self esteem scores. The home interviews were analysed by recurrent themes within each family and between families. A number of responses related to parents and students easiest and most difficult aspects of their parental homework monitoring experience were compiled. The reasons why the parents and the students would recommend the parental homework monitoring to other parents and students were presented.

Parental Homework Monitoring and Achievement

A T-test was performed to test the hypothesis that there will be no significant differences between the students receiving the parental homework monitoring (experimental group) and the students not receiving the

parental homework monitoring (control group) in mathematics achievement scores. The t-test analysis showed that there were no significant differences between the mathematics achievement scores obtained by the two groups at the posttests. Therefore, Hypothesis 1 could not be rejected.

There are a number of plausible explanations for the finding of no significance in mathematics achievement between the two groups. First, it is possible that parental involvement does not have a strong effect on standardized achievement tests over this nine week period (Keith, Thomas, Reimers, Fehemann, 1986). Both a standardized achievement test and grades were used as measures of achievement in this study (the results of the grades will be discussed later). Second, it is reasonable to admit the possible presence of confounding variables in the study. For example, it is possible that the parents of the students in the control group became more involved in monitoring their children's mathematics homework during the third quarter. These parents like the parents in the experimental group were aware that they were participating in an experimental project. Although the parents in the control group were informed by a letter that their turn to receive the training in homework monitoring was going to be at the beginning of the fourth quarter, at least one student admitted that his mother had been more attentive to his homework during the third quarter after receiving

the letter. In fact, as it will be discussed later, there was no significant difference between the percentage of homework completed and returned by the two groups during the third quarter.

Furthermore, it is possible that the parental homework monitoring did not translate into significant gains in achievement because the experimental group sample on the average, even though randomly identified, was composed of students performing at below grade level. (See Appendix R for samples, raw scores and grade equivalent levels.) If indeed this is the case, the findings in this study would support the results reported by Doane (1973) who found that the association between homework and mathematics achievement was strong for high achievers but poor and non-significant for low achievers. He concluded that low achieving students benefited little from homework when they had not understood the concepts presented in class. Somewhat contrary to Doane's report, Keith and Page (1985) reported that homework had meaningful effect upon achievement for white and minority senior high school students. In particular, they found that time spent on homework had a stronger influence on the achievement of Hispanics and blacks than on the seniors in general. At this point, based on the results obtained in the present study, it is difficult to support or contradict Keith's and Page's findings because no record was kept of how much time the students spent doing mathematics homework.

Another factor that might have contributed to the non-significant results concerns the homework assignment structure of the mathematics teachers. For example the teachers did not assign homework everyday. Additionally, the two teachers handled the assignment of homework differently. One teacher had half of the "homework" done in class under the teachers' supervision. Students were expected to complete the other half at home and return it the next day. The supervised work in class was corrected and graded but not the other half or the actual "homework." Students received credit toward the final grade for the quarter just for turning in the completed homework. The fact that the assignments done at home were not graded and corrected counters the recommendations made by Foyle and Bailey (1985) that "homework must be regularly assigned, clearly stated, regularly collected, promptly graded and promptly returned" (p. 6). The other teacher indicated that he was inconsistent in collecting and grading the homework regularly. These teacher practices did not match the researcher's expectations. It was an oversight on the researcher's part not to have learned about the teachers particular ways of structuring their homework prior to the beginning of the study.

On a final note, although 75% of the parents completed the Parental Homework Record for the nine weeks and another 19% completed at least half it is possible

that the training and or the parental homework monitoring did not have an impact on the student achievement.

Students' grades in mathematics were also used as a basis for comparison in achievement between the experimental and control groups. A t-test was calculated to test Hypothesis 3 that there will be no significant differences between the grades obtained by the subjects in the experimental group and the grades obtained by the subjects in the control group in Quarter 3. Like Hypothesis 1, this hypothesis could not be rejected because there were no significant differences between the grades obtained by the two groups.

Before entering into a discussion of why no significant difference was observed between the two groups, it is important to look at the pattern of grades obtained by the two groups in Quarters 1, 2 and 3. Although there were no significant differences between the mean grades obtained by the two groups in any of the three quarters, the pattern of mean grades obtained by the two groups was very similar. The only difference was that the mean grades for the control group were higher than the experimental groups in Quarters 1, 2 and 3. This may suggest that, even though the subjects were randomly assigned to the two groups, the subjects in the control group on the average were slightly higher achievers than the subjects in the experimental group. In fact, similar non-significant differences were observed on the pretests

achievement scores for both groups (see Table 4-1) and on the pattern of homework completed and returned in Quarters 1, 2 and 3 (see table 4.3) that will be discussed in the next section.

Interestingly, however, although both groups decreased their grades from Quarter 1 to Quarter 2, by Quarter 3 the degree of recovery as compared to with Quarter 1 was better for the experimental group than for the control group. As a matter of fact, when the mean grade score obtained in Quarter 1 were compared with the mean grade score obtained by the same 16 subjects in the experimental group in Quarter 3 they appeared to be the same in both quarters. (See table 4.4). (In the t-test analysis by separate groups the experimental group included 17 subjects because one student who entered the school at the beginning of Quarter 3 became part of the study). In the control group the comparison between the mean grades of the same subjects included in Quarter 1 and in Quarter 3 showed that by Quarter 3 the mean grade score was still lower than their mean grade score obtained in Quarter 1.

In general, some of the reasons previously mentioned for not having reached a significant difference in Hypothesis 1 can be applied to Hypothesis 3 as well. In addition, it is possible that if the design, besides having divided the two groups randomly would have controlled for level of achievement and intellectual

ability, the comparison of the mean grades in Quarter 3 might have been significantly different. Even though a non-significant difference on pretest may not have been sufficient to guarantee similarity. With respect to Keith's et al's (1986) opinion that homework may have a stronger influence on grades than on achievement standardized tests, the results obtained in this study can neither support nor contradict that view.

Parental Homework Monitoring and Homework Completed
and Returned

The t-test performed to test the Hypothesis 2 that there will be no significant difference between the experimental and control groups in the percentage of homework completed and returned shows no significant difference between the two groups. Therefore, Hypothesis 2 could not be rejected. However, like the pattern of mean grades obtained in Quarters 1, 2 and 3 for the experimental and control groups, the pattern of homework completed and returned showed that the control group turned in higher percentage of homework in the three quarters.

The percentage of homework completed and returned by both groups decreased significantly from Quarter 1 to Quarter 2. The two groups showed recovery between Quarter 2 and Quarter 3. The degree of recovery, however, between Quarter 1 and Quarter 3 (which is when the intervention

took place) was higher for the experimental group than for the control group. (See table 4.3).

In general, although no significant difference was obtained between the two groups, it appears that the parental homework monitoring received by the subjects in the experimental group helped them to recover their percentage of homework completed and returned from Quarter 2 to Quarter 3 better than the recovery made by the non monitored subjects in the control group. The direction of these results suggests that, as it was mentioned before, if the design controlled for level of achievement, intellectual ability and pattern of homework completion, the results very likely might have produced significant differences of homework completed and returned by the two groups during the third quarter.

Differences of the Students' Perceptions of Their Teacher,
Their Parent and Their Own Involvement in Mathematics

Homework

The subjects in both the experimental and control groups were administered a questionnaire as a pretest and posttest to determine if the students perceptions about their teacher, their parents and their own involvement in mathematics homework would change after the parental homework monitoring. The t-tests calculated to test the hypothesis (Hypothesis 4) of no significant difference between the posttest scores of the experimental and

control groups with regard to their perceptions about their teacher, their parents and their own involvement in mathematics homework show a significant difference between the two groups at the posttest regarding their perceptions of their mathematics teacher involvement in homework. With regard to the students' perceptions of their parents, their own involvement and the total involvement no significant differences were obtained. Thus, Hypothesis 4 was rejected on the teacher involvement variable but not on the perception of parent involvement and the perception of self involvement.

The significant difference between the two groups on the posttest regarding their perceptions of their teachers' involvement in homework may be explained by considering how the experimental group scored on the posttest. On the posttest the subjects in the experimental group gave lower ratings to their teachers' involvement in mathematics homework (i.e., correction of homework, frequency of homework assignment and grading of homework and daily collection of homework) than their peers in the control group or than they themselves did at the pretest. This seems to suggest that the subjects whose homework was being monitored at home became more aware of the teacher's role in their homework. The relationship between how students perceive their teachers' involvement in homework and student achievement is an interesting question to be explored in further research.

In an indirect way, the fact that the students in the experimental group perceived their mathematics teacher as "less involved" than the the students in the control group perceived them supports some of the plausible reasons (stated earlier) as to why the achievement scores in Hypothesis 1 did not reach a level of significant difference. The fact that no significant quantitative differences were obtained with respect to the students' perceptions of parent involvement in homework and their own perception of their involvement in homework suggests that the parent involvement in monitoring homework did not alter the perceptions of the students in the experimental group of their parents and their own involvement in mathematics homework. However, the home interviews showed that as it was expected, the parent child relationship was altered. The parental homework monitoring program seems to have had an effect on the parent child relationship for the most part (as it was deduced from the interviews), but not on the grades and achievement scores. Based on this result it can be conjectured that homework monitoring alone was not strong enough for the type of students included in this study to improve their mathenatics achievement. It is possible that they needed tutoring or actual help with their homework.

Interestingly, for the experimental group the correlations between the pretests and posttests for the 3 variables (see Table 4.6) and the total scores were

highly significant. i.e., Students perceptions of their teacher involvement in mathematics homework ($r=.44$; $p=.07$); students perceptions of their parents involvement in mathematics homework ($r=.65$; $p<.01$); students perceptions of their own involvement in mathematics homework ($r=.56$; $p<.05$) and total scores ($r=.65$; $p<.01$). In the control group only the correlation between the pretest and posttest scores for perceptions of parent involvement ($r=.55$; $p<.05$) was significant. The correlation between pretest and posttest scores for perception of self involvement was marginally significant ($r=.48$; $p<.07$). In the experimental group, it is interesting to note that in addition to the significant correlation between the total pretest score and the total posttest score, a marginal significant ($p<.08$) difference was obtained between these two scores (pretest $M=92.4$ and posttest $M=87.2$). That is, at the posttest when the subjects responded about their perceptions of their teachers, their parents and their own involvement in mathematics homework they appeared to have lowered their ratings.

The significant correlation and significant difference of the total scores suggests that those who perceived the variables of involvement in homework in one way at the pretest tended to perceive them the same way at the posttest; however, at the posttest they became more cautious in their assessment. The caution at the posttest

may have been the result of the parental homework monitoring that brought up a new level of awareness about such perceptions.

Parental Homework Monitoring and Students' Self Esteem

The null hypothesis (Hypothesis 5) that there will be no significant differences between the parental and non-parental monitoring groups in the self esteem post test scores could not be rejected on any of the self esteem subscales or on the total self because the t-test analyses yielded nonsignificant differences between the two groups at the posttest.

These results deserve some discussion. First, in comparing the results of the experimental group with the control group, it appears that the parental homework monitoring did not alter the way the students in the experimental group felt about themselves after the intervention with regard to their General Self, Social-Peers, Home-Parents, School Academic and Total Self. Since the parental involvement in homework was designed for parents and children to build on their relationship it was thought that this type of intervention could have an effect on the students' self esteem. Thus, contrary to other interventions (Purkey, Graves and Zellner, 1970; Brookover and Erickson, 1975) that have been reported to increase students' self esteem this did not. However, it is important to note that other

interventions reported in the literature have taken place in a period of at least a year. In the work of Brookover and Erickson (1975), the students who improved their self-esteem were clearly identified as having low self-esteem of ability. In general the total mean self-esteem of the sample in this study was about the same or slightly higher than the ones cited by Coopersmith (1981) and which were obtained by (Ketcham and Morse, 1965; Owens and Gustafson, 1971 and Reed, 1972). The question of whether the parental homework intervention used in this study raises the self-esteem of students clearly identified as having low self-esteem (below the mean average as measured by the SEI) cannot be resolved and remains to be verified in future research. Similarly, whether a longer parental homework monitoring intervention continuing for at least a year will raise students' self-esteem is another question for future research. This may be particularly important for early adolescents because it is an age when self-esteem becomes more stable (Rubin, 1978). Therefore it is possible that a longer intervention than the one used in this study with early adolescents may produce significant differences.

One interesting and somewhat puzzling finding in this study was that while there was no significant difference between the mean posttest scores of the groups, there was a significant difference (increase) between the mean pretest and posttest scores of the control group. One

plausible explanation for this event is that, as it was mentioned earlier, the control group on the average were slightly higher achievers than the experimental group and as the quarter went on they might have experienced more success in school and felt better about it. In fact, one of the largest changes contributing to the total change was in the subscale School-Academic. Another plausible explanation is that the parents, as it was mentioned earlier, actually became more involved in the homework monitoring and the students felt good about it. Interestingly, the change in the posttest score of the Home-Parents subscale was one of the largest contributors to the Total Self score.

Self-Esteem and Achievement

The hypothesis (Hypothesis 6a) that within each group there will be no significant relationship between self esteem scores and mathematics achievement scores was tested to learn about the degree of relationship between these two variables. In addition, Hypothesis 6c, "within each group there will be no significant relationship between self-esteem scores and teachers' grades for students", was tested to find out about the degree and significance of association between students' grades and self-esteem.

Since no significant correlations were obtained between the Mathematics Computation score and the SEI

scores, Hypothesis 6a could not be rejected. That is, high self esteem pretest and posttest scores were significantly associated with low mathematics pretest and posttest scores or viceversa for either group.

These results are not consistent with the results obtained by other researchers (Campbell, 1967; Coopersmith, 1967; Rubin, 1978; Simon and Simon, 1975). Given that the ten correlations in the experimental group and seven out ten in the control group were positive non-significant suggests that the inconsistency of the results obtained in this study with those of prior researchers may be due to the fact that the samples in this study were too small to have reached a level of significance. Other researchers who have obtained significant correlations have used large samples. For example, Rubin (1978) who used the SEI as a measure of self-esteem and the Mathematics Computation of the Stanford Achievement test with a different grade level than the one used in this study used samples of close to 200 subjects and obtained correlations ranging between ($r=.24$) at age 9 to ($r=.42$) at age 15 ($p<.01$). Another important point is that the self esteem instrument used in this study was a translation of the SEI and therefore it needs to be validated with a larger sample. The fact that in the control group the posttest score of School-Academic subscale was associated ($r=.493$; $p=.07$) with the mathematics computation posttest score suggests that the

School-Academic subscale was the best predictor of posttest mathematics computation achievement as measured by a standardized test in this study.

Contrary to Hypothesis 6a that tested the relationship between self esteem and mathematics achievement as measured by the standardized measures, Hypothesis 6c tested the relationship between self-esteem and mathematics achievement as measured by teachers' grades in Quarters 1, 2, and 3. Interestingly, of the 5 significant correlations obtained in the experimental group between measures of self esteem and grades, two occurred in Quarter 3 when the homework monitoring took place. The General Self esteem correlated significantly with the students grades in Quarter 3. That is, high self-esteem scores were associated with high grades. Since this occurred in the experimental group between the grades obtained in Quarter 3 and the General Self posttest score, it seems to indicate that the students who felt better in the parental homework monitoring also obtained better grades. In addition, the Total Self posttest score correlated significantly with the mathematics grades in Quarter 3. Again this significant positive correlation suggests that the subjects who felt better in the parental homework monitoring also obtained better grades. The 3 other significant correlations in the experimental group occurred in Quarter 2 between Social-Peers pretest scores, Total Self pretest scores and School-Academic posttest

scores. In the control group the only significant correlation was between School-Academic posttest scores and grades in Quarter 2.

In summation, these significant correlations suggest that self-esteem scores correlate better or are better predictors of grades than they are of achievement scores as measured by standardized tests. Second, the effect of the parental homework monitoring seems to be better reflected in the correlation of self-esteem and grades than in self-esteem and achievement scores as measured by standardized tests. This supports the assertion made by Keith, Thomas, Reisners, Fehrman, Pottebaum and Aubrey (1986) who asserted that "parental involvement, like homework, may have a stronger effect on student grades than on achievement test scores" (p. 378). Finally, self-esteem scores and especially School-Academic scores correlate better with grades in Quarter 2, perhaps because underachieving students like the ones in this study) are not totally new in school nor totally immersed into the academic program, therefore their grades may be more consonant with their feelings about school-academics.

Self-Esteem and Homework Completed and Returned

A number of correlation analyses were performed to establish the degree and significance of association between the self-esteem measure and the percentage of

homework completed and returned. With the exception of the correlation between the Total Self-esteem pretest score and a percentage of homework completed and returned by the experimental group in Quarter 1, no other correlation reached a level of significance. Thus, with this exception, Hypothesis 6b could not be rejected. These results may suggest that in fact there is not much association between homework completed and returned and students' self-esteem. However, because of the lack of previous research in this area with different ethnic groups the results obtained here can be considered only as preliminary results. That is, based on the results obtained between self-esteem and homework completed and returned, it is too early to draw any conclusions.

Given the one significant correlation, it appears that Total Self-esteem score is a good predictor of at least homework completed and returned in Quarter 1. The question of whether there is a significant relationship between Hispanic students' self-esteem and percentage of homework completed and returned remains open for further research using larger samples than the one used in this study, using different ethnic groups, different research techniques and teachers with different views on homework (e.g., homework is or homework is not important).

Parent Level of Education and Student Achievement

The relationship between parent level of education and student achievement in mathematics was investigated in this study with Hispanic parents and students by using two different measures of achievement: mathematics computation scores as measured by the Stanford Achievement test and the grades obtained by students in Quarters 1, 2 and 3. Hypothesis 7a dealt with the relationship between parent level of education and students mathematics computation scores as measured by a standardized test while hypothesis 7c dealt with the relationship between parent level of education and students' mathematics grades in Quarters 1, 2, and 3. The statistical analysis for Hypothesis 7a shows that there were no significant relationship between parent level of education and student achievement and therefore Hypothesis 7a could not be rejected. This result is inconsistent with the findings of Blatchford et al., (1985) who found that mother's educational qualifications was one of the most important variables explaining the variance of test scores in children. It is important, however, to mention that Blatchford et al., used a much larger sample than the one used in this study and included only preschool children with an average age of four years nine months. In addition, this result is inconsistent with one of the conclusions reached by Henderson (1987) after her review of literature on parent involvement. Henderson concluded

that parent level of education is key to the relation of high or low educational performance. One important observation about the pattern of non-significant negative correlations in the experimental group between the parent level of education and the mathematics pretest is that this non-significant negative correlation was greatly reduced at the posttest. In the control group, the non-significant positive correlation at the pretest decreased at the posttest. This trend could be interpreted as indicating that the parents with higher levels of education could have had greater influence by the parental homework monitoring training. This would have contributed to students' higher scores and in turn reduced the negative relationship between parent level of education and mathematics test scores. The validity of this interpretation however, needs to be tested in further research with larger samples and with other research strategies.

In general the literature shows that most of the studies that have analyzed the relationship between parent level of education and student achievement have focused on comparing the parental strategies used to teach or help the child with academic matters (Baker and Stevenson, 1986; Laosa, 1982). Other studies (Benson, Buckley and Medrich, 1980; Revicki, 1981; Valencia et al., 1985) have used parental level of education in combination with income and occupation to determine SES level and using SES

they have analyzed its relationship to student achievement.

Hypothesis 7c was rejected in the experimental group for the correlation between parent level of education and students mathematics grades in Quarter 1 because the statistical analysis produced a significant negative correlation. In other words, in Quarter 1 the subjects in the experimental group who obtained higher grades were significantly associated with parents who had lower levels of education. However the correlation lost its negative significance in the second and third quarters. The unstable significant negative association between parents level of education and students grades suggests that it may be easier for students of parents with a lower level of education to obtain higher grades in Quarter 1, but in Quarters 2 and 3 the parents' level of education does not seem to make a difference. Although in the control group the correlations were not negative and not significant the pattern was similar. It is plausible that the difference of negative correlations in Quarter 1, 2 and 3 in the experimental group and not in the control group was due to the slightly higher achievement (mentioned before) in the control group. The negative correlation decrease in the experimental group and the non-significant positive correlation in the control during Quarters 2 and 3 shows a similarity to the trend observed in the correlations between parent level of education and students'

mathematics pretest and posttest scores (Hypothesis 7a) as well as to the trend observed in the correlation between parent level of education and percentage of homework completed and returned (Hypothesis 7c). These trends could be interpreted as indicating that the parental homework monitoring was better received by parents with higher level of education which, in turn would influence the students' grades and percentage of homework completed and returned thus, reducing the negative correlations.

In concluding this section, it appears that the relationship between parent level of education and student achievement is best predicted by grades than by test scores. However, this speculation and the trends previously mentioned are important questions that need to be addressed in future research with other research strategies, with larger samples and teachers consistently grading homework.

Parent Level of Education and Student Homework

Hypothesis 7b which states that within each group there will be no significant relationship between parent level of education and student percentage of homework completed and returned was tested using correlation analyses. Since only one of the six correlations reached statistical significance, then the hypothesis was rejected for that correlation but not for the others. The pattern of results for this hypothesis show a trend similar to

those mentioned in the last two hypotheses. The significant negative correlation occurred in the experimental group in Quarter 2. It is also worth mentioning that in Quarter 1 in this same group, the negative correlation between parent level of education and percentage of homework completed and returned reached no statistical significance (.07). By Quarter 3, the correlation of the negative coefficients were greatly reduced, losing their level of significance. This pattern of correlations indicates that students of parents with lower levels of education turned in a greater percentage of homework in Quarter 1 and Quarter 2 but in Quarter 3 this significant negative relationship disappeared. Since this trend was observed in the experimental group and a similar trend occurred in the control group with non-significant correlations, it is possible that the parental homework monitoring training might have had a greater effect on the ability of parents with higher education to influence their children to complete and return more homework, or perhaps the children of the lower educated parents were lower achievers whom as the year went on found it more difficult to turn in homework.

Although not exactly related to this study, there is evidence from the literature that reports that children of higher educated mothers may have an advantage over children of lower educated mothers because the teaching strategies of higher educated mothers more closely

resemble the strategies used in the classroom than the strategies used by lower educated mothers (Laosa, 1982.) Laosa also suggested that the continuity between home and school seems to depend a great deal on the parents' level of education. In addition, Baker and Stevenson (1986) found that the mother's level of education was significantly correlated ($r=.21$; $p=.05$) with the number of solutions to hypothetical academic problems. Then, taking into consideration these reports the previous discussion regarding the results in this study and the fact that 75% of the parents completed the Parental Homework Record and another 19% completed at least half of the nine weeks of the intervention, one question for further research should be whether more educated parents are more likely to implement strategies around monitoring homework when they are provided with a training.

Parent Level of Education and Student Self-Esteem

The relationship between parent level of education and student self-esteem (Hypothesis 7d) was tested using correlation analyses. In the control group, the relationship between parent level of education and the Social-Peers and Home-Parents pretest scores reached a level of significant negative relationship. Similarly the correlation of these two subscales with parent level of education reached a level of negative significance again at the posttests. Hypothesis 7d was then rejected on

those significant correlations but not on the other correlations between parent level of education and the self-esteem scores (General-Self, School-Academic and Total self.) These results suggests that students in the control group whose parents had a higher level of education did not feel very good about their social-peer relations at the beginning and at the end of the third quarter. Likewise, students in the control group whose parents had higher level of education did not score high on questions about their feelings toward Home-Parents on either the pretest or the posttest.

Some of the results obtained in this study (i.e., correlations of Total Self-Esteem scores with parental level of education) are consistent with the findings reported by Powers and Sanchez (1982), who found no significant relationships between parental education and student self esteem in their study with Mexican American students.

In addition since it has been repeatedly found (e.g., Coopersmith, 1967; Soares and Soares, 1969; Trowbridge, 1970, 1972) that children from low SES do not necessarily report lower self esteem than children from higher SES, it should not be a total surprise to find a negative relationship between parent level of education and student self-esteem in this study. Interestingly, in addition to the consistency of significant negative correlations from pretests to posttests obtained in the control group

between parent level of education and Social-Peers subscale score and Home-Parents subscale score, the general patterns in 18 out of the 20 correlations in the two groups was negative. It appears that the significant coefficients occurred in the control group and not in the experimental group because of the slightly higher self-esteem scores obtained by the subjects in the control group. These results definitely warrant further exploration of the relationship between parent level of education and students self-esteem with Hispanic populations.

The two significant negative associations between Social-Peers and parental level of education deserve some explanation or at least some speculation. In terms of Social-Peers it is important to keep in perspective that the subjects in the study are children of Puerto Rican migrant parents and children of Latin American immigrant parents. It is plausible that the children of the higher educated parents perceived a loss in their social status resulting from the change to a new culture and a new school with new and different children. For example, it is possible that a child who in her/his own culture might have felt popular among his/her peers may feel the contrary in the new culture. Levy-Warren (1987) addresses this issue to some extent when she suggests that "something that in one culture may be a source of pride may, in the other, be of little or no importance. This

might be of particular importance for the adolescent, whose standards are already in process of transformation: the youth will find the cultural relocation especially difficult if the move is made before stable standards are established (p. 307).

With respect to the negative relationship between Home-Parents and parental level of education, it is plausible that the children of higher educated parents may experience more pressure at home to perform well and if they do not measure up to those expectations, their self-esteem may be affected (Soares and Soares, 1969).

Quantitative Data and Home Interview

In addition to the quantitative data collected in this study, the families of the subjects in the experimental group were interviewed. This way adding a qualitative component to the study. Twelve (75%) of the sixteen families in the experimental group signed the Parental Homework Record for all the days in the third quarter as a recording that they supervised the childrens' mathematics assignments. Of the other 4 (25%), 3 signed about half of the days in the third quarter and one did not sign at all.

Three main themes were revealed in the interviews. For some families the parental homework monitoring helped them to measure or become aware of the close relationship between parents and students. For other families it had

an effect on the parents' and students' sense of responsibility toward the students mathematics homework and for others it brought conflictual issues between parent and students.

The interview data showed that more than half of the interviewed families indicated that the parental homework monitoring increased their sense of closeness between parent and child. It is possible that this effect was not reflected in the quantitative measures of the students self-esteem (Home-Parents subscale) because in that subscale they answered closed ended questions whereas in the interviews the questions tended to be more open ended questions. In addition the interactive aspect of the interview between the researcher and the families may have contributed to the difference of the data obtained between the quantitative strategy and the interview.

The theme that the parental homework monitoring increased the sense of responsibility towards mathematics homework for parents and students was perceived in at least three families. Finally, the students and parents in at least three families experienced conflicts regarding the homework monitoring activities. Interestingly, the students who experienced those conflicts were among the most low achieving students. It appears that those students found themselves, all of the sudden, expected to be completing work that was much higher than their grade level, therefore they "rebelled."

It is possible that greater effect of the program was on the parent-child relationship as it seems to be indicated by the home interviews and not on the students' achievement as it was shown in the quantitative analyses, because the extent of the parent involvement was only in monitoring the homework. That is, most of the parents and students used the homework monitoring experience as a way to enrich their relationship. This definitively can be considered as one positive step in the process of parental homework monitoring.

In the future when working with students with characteristics similar to the characteristics (low achievement, performance below grade level) of the students in this study (as it was mentioned elsewhere) it will be important to provide them with mathematics tutoring in addition to parental homework monitoring.

In general, the two research strategies used in this study contributed in two different ways to the results of the parental homework monitoring intervention. 1. The statistical analysis of the quantitative data showed that there were no significant differences between the computation posttest scores of the two groups. Similarly, no significant differences were obtained between the two groups for teachers' grades and the subjects' percentage of homework completed and returned. However, the grades and percentage of homework completed and returned of the subjects in the experimental group showed a trend in the

expected direction while it was not the case for the subjects in the control group. No significant differences were obtained between the self-esteem posttest scores of the two groups. A significant difference ($p < .05$) was obtained between the posttest scores of the two groups' perceptions of their teachers involvement in mathematics homework. The results showed significant negative correlations ($p < .05$) between parent level of education and self-esteem measures and significant correlations ($p < .05$) between teachers' grades and self-esteem measures for the experimental group in the first, second and third quarters. 2. Three main themes emerged from the home interviews: a) positive feelings and sense of closer relationship between parents and students; b) heightened sense of responsibility for mathematics homework by parent and students in their respective roles and c) conflictual issues between parent and students in following the homework monitoring program.

Limitations of the Study

Although the subjects in this study were randomly assigned to an experimental and to a control group, the generalizability of the results is limited because the total sample was made out of parents who volunteered to participate in the study. In addition this study is limited with regard to the age, grade and ethnic background of the sample. It is possible that the same

intervention can produce different results with younger subjects from different social class and ethnicity.

The data gathering and instrumentation are other sources of limitation in this study. Some of the instruments used in this study were self reports which can be biased by the respondents interest, motivation and social desirability. The way homework was assigned and corrected by teachers did not totally match the researcher expectations. For example, the mathematics teacher who had two thirds of the subjects in the study designed his homework in such a way that the students would do half of the "homework" in class under his supervision. The other half was supposed to be done at home and turned in the next day. The "homework" done in class was corrected and graded. The homework done at home was not corrected. However, the students received credit toward their quarter final grade if they just turned it in. The other teacher reported that all his homework was supposed to be done at home and turned in the next day. However, he indicated that although the homework was intended to be corrected all the time sometimes it was not.

Although the subjects were randomly assigned to the experimental and control groups, it did not guarantee total similarity between the groups. The subjects in the control group scored nonsignificantly higher in the pre achievement test than the control group. The subjects in the control also had a greater percentage of homework

completed and returned and higher mean grades in the two quarters prior to the intervention. Having controlled for past grades, prior pattern of homework completed and returned, and intellectual ability would have guaranteed greater similarity between the two groups.

Even though the parents of the students in the control group were informed by a letter that they were going to be receiving the training at the beginning of the fourth quarter, at least one family admitted to having become more attentive to the students' homework after the mother signed the permission form to be part of the study. This type of contamination is very difficult to avoid. One way to avoid such contamination in the future with the type of intervention used in this study would be making everyone who volunteers part of the experimental group (the group receiving the intervention) and comparing grades before and after the intervention. That is, using a single group design.

With respect to the intervention itself, it appears that a good proportion of the students and parents felt a sense of closer relationship. However, no improvement in achievement was observed. This suggests that for low achieving students, like many of the ones in this study, monitoring of homework alone is not enough. It appears that they need an intervention that includes tutoring in addition to homework monitoring and for a long period of time.

In order to obtain richer information about the effects of the intervention, an interview was conducted with the families and the subjects in the experimental group. Although the interview definitely added to the understanding of the intervention, one has to keep in mind that interviews are different than direct observation and therefore the results are likely to be influenced by issues of response effect, social desirability and individual's expectations.

Finally, because attrition is always a constant in this kind of research, it would have been an advantage to have included a larger sample in this study.

Implications

Some of the findings and conjectures of the results of this study have implications for educational practices and parent involvement. Because of the unique involvement that the school psychologist usually has with students, teachers and parents it is implied that the school psychologist is one of the school professionals well suited to promote and implement parent involvement programs.

A very important outcome of this project was the interest and willingness to participate in the project demonstrated by the parents. The majority of the parents who participated in this project showed great interest and motivation in receiving ideas and orientation on how to

monitor their children's mathematics homework. This implies as it was shown in this project, that when educators outreach to the Hispanic parents they have a response. In addition this offers evidence and hope that there is a community willing to be involved in similar projects in the future.

The finding that students' grades and percentage of homework completed and returned in the experimental group improved much better between Quarter 1 and Quarter 3 than students in the control group has an important implication for school psychologists, teachers and other school professionals. That is, knowing that there is a tendency for students to improve their grades and completion and return of homework when their parents monitor it, would help the school professional to advocate, plan and implement programs of parent involvement in monitoring homework. A similar implication can be deduced from the significant positive correlation obtained between the grades and the self-esteem of the subjects in the experimental group. That is, the implementation of parental homework monitoring programs like the one used in this project seem to support and promote a positive relationship between self-esteem and grades.

Given that the parental homework monitoring did not translate into significant gains in achievement in the experimental group it was conjectured that one of the possible reasons for this result was the fact that the

students on the average were performing below grade level. This implies that in future, professionals working in programs of parental homework monitoring need to be aware that if the students who are performing below grade level may need other interventions, such as tutoring, in addition to the parental homework monitoring.

Finally, it is possible that the negative correlation between self-esteem (Social-Peers) and parent level of education occurred because the children of the higher educated parents perceived a lost in their social status resulting from the process of adjustment to a new culture, new school and new peers. This interpretation has important implications for school psychologist, school counselors and educators in general because it reminds us the need for awareness, sensitivity and support to help migrant and immigrant students adjust to their new social and school environment. School psychologist and counselors could, for example, run groups to help the students in their adjustment process.

Future Research

The negative correlation between parent level of education and student self-esteem warrant further research to test the hypothesis that children of higher educated parents may perceive a lost in their social status due to their process of adjustment to the new culture, new school and new peers. One way to test this hypothesis would be

comparing the degree of dominant culture acquisition and self-esteem of migrant and immigrant Hispanic students. It also could be compared the ability of migrant and immigrant students (from parents with different level of education) to oscilate between their culture of origin (e.g., home) and dominant culture.

Since the students in the present study were not identified as having low self-esteem (below the mean average as measured by the SEI), further research may verify if the intervention applied in this study (parental homework monitoring) raises the self-esteem of students identified as having low self-esteem.

One of the most serious limitations of this study was the small samples. Therefore there are some hypotheses that remain open for further research with larger samples. For example, whether there is a significant relationship between Hispanic students' self-esteem and percentage of homework completed and returned needs to be verified with a larger sample than the one used in this study. Similarly the results of this study seemed to show a trend indicating that the parental homework monitoring training had a greater impact on the parents to influence their children to complete and return higher percentage of homework and obtain better achievement scores. This conjecture needs to be verified in future research with larger samples and using different research strategies.

APPENDIX A

PARENTAL HOMEWORK RECORD

Homework date.	Parent signature.	Homework Monitored		Comments
		YES	NO	
Week 2				
Jan. 22	_____	_____	_____	_____
Jan. 23	_____	_____	_____	_____
Jan. 24	_____	_____	_____	_____
Jan. 25	_____	_____	_____	_____
Week 3				
Jan. 28	_____	_____	_____	_____
Jan. 29	_____	_____	_____	_____
Jan. 30	_____	_____	_____	_____
Jan. 31	_____	_____	_____	_____
Feb. 1	_____	_____	_____	_____
Week 4				
Feb. 4	_____	_____	_____	_____
Feb. 5	_____	_____	_____	_____
Feb. 6	_____	_____	_____	_____
Feb. 7	_____	_____	_____	_____
Feb. 8	_____	_____	_____	_____
Week 5				
Feb. 11	_____	_____	_____	_____
Feb. 12	_____	_____	_____	_____
Feb. 13	_____	_____	_____	_____
Feb. 14	_____	_____	_____	_____
Feb. 15	_____	_____	_____	_____

Week 6

Feb. 25

Feb. 26

Feb. 27

Feb. 28

Mar. 1

Week 7

Mar. 4

Mar. 5

Mar. 6

Mar. 7

Mar. 8

Week 8

Mar. 11

Mar. 12

Mar. 13

Mar. 14

Mar. 15

Week 9

Mar. 18

Mar. 19

Mar. 20

Mar. 21

Mar. 22

Week 10

Mar. 25

Mar. 26

Mar. 27

Mar. 28

APPENDIX B

HOJA DE CONTROL DE ASIGNACIONES PARA LOS PADRES/MADRES

Fecha de asignación	Firma P/Madre	Asignación Supervisada		Comentario
		SI	NO	
Sem. 2 Ene. 22	_____	_____	_____	_____
Ene. 23	_____	_____	_____	_____
Ene. 24	_____	_____	_____	_____
Ene. 25	_____	_____	_____	_____
Sem. 3 Ene. 28	_____	_____	_____	_____
Ene. 29	_____	_____	_____	_____
Ene. 30	_____	_____	_____	_____
Ene. 31	_____	_____	_____	_____
Feb. 1	_____	_____	_____	_____
Sem. 4 Feb. 4	_____	_____	_____	_____
Feb. 5	_____	_____	_____	_____
Feb. 6	_____	_____	_____	_____
Feb. 7	_____	_____	_____	_____
Feb. 8	_____	_____	_____	_____
Week 5 Feb. 11	_____	_____	_____	_____
Feb. 12	_____	_____	_____	_____
Feb. 13	_____	_____	_____	_____
Feb. 14	_____	_____	_____	_____
Feb. 15	_____	_____	_____	_____

Sem. 6				
Feb. 25				
Feb. 26				
Feb. 27				
Feb. 28				
Mar. 1				
Sem. 7				
Mar. 4				
Mar. 5				
Mar. 6				
Mar. 7				
Mar. 8				
Sem. 8				
Mar. 11				
Mar. 12				
Mar. 13				
Mar. 14				
Mar. 15				
Sem. 9				
Mar. 18				
Mar. 19				
Mar. 20				
Mar. 21				
Mar. 22				
Sem. 10				
Mar. 25				
Mar. 26				
Mar. 27				
Mar. 28				

APPENDIX C

PARENTAL MATHEMATICS HOMEWORK MONITORING PROGRAM*

The basic assumption of this program is that parents are an important educational resource for students. There are many ways in which parents can play this function. However, this program is designed to deal only with parental monitoring of homework and more specifically homework in mathematics. That is, when parents become actively involved in monitoring their children's mathematics homework they can impact directly on their academic achievement.

The main purpose and long term goal of this type of parent involvement is to help parents help their children to develop, improve or maintain good study habits. With good study habits, it is expected that eventually, the student will acquire his/her own self discipline and sense of responsibility for homework and studying.

The parental monitoring training consists in working with parents at home and helping them to use their own strengths and resources in a systematic and consistent fashion. The training includes guidelines for parents to monitor their children's homework which can be adapted according to the family needs and resources.

In addition to parents making sure that their children complete and return their mathematics homework

assigned every day, monitoring of homework in this program also means the parental involvement in which parents give support, show appreciation and encouragement and enthusiastically ask and listen to their children talk about the content of their nightly completed mathematics homework. In this program the parents and the trainer discuss ways to provide the student with a comfortable environment and appropriate physical arrangement for studying free from distractions (i.e., television, radio) and interruptions, with appropriate lighting and place to write. Regular schedule and planning time for homework is presented and discussed as well. When parents are involved with early adolescents planning time and other tasks are discussed in light of developmental changes. For example, because of the fact that young adolescents are beginning to think abstractly and because they feel that they have more options and possibilities, it is important to provide them with opportunities and alternatives within an appropriate structure.

Parental Training Process

Background Information

Parents are provided with oral information about programs and research studies that have shown positive results related to different aspects of parent involvement in monitoring their children's homework (Rodick and Henggeler, 1980; Mills 1989; Barber, 1987; Tomlinson,

1987; Mucha 1987; Bauch, 1989; McKenney, 1975; Maertens and Johnston, 1972).

Parents are reminded that this program is not designed to train them to help their children with their actual homework. Therefore if their children have difficulties completing a particular assignment and asks for their help they should do what they usually do when this happens. However, they are informed that as part of their monitoring they should encourage their children to come up with his/her own solutions and support him or her to look for help with his/her friends and classmates or in books at the local library.

Parental Checklist

Parents are provided with a checklist (see appendices D and E) in which they write "yes" or "no" on different questions regarding what they do or do not do around their children's mathematics homework. Every point whether the parent is already practicing it or not is discussed. (See Appendixes P and Q for guidelines in English and Spanish respectively.) The parents are given positive feedback on the points they are already practicing. The items that the parents are not practicing at all, the ones that they are not working on consistently and the ones they feel that are not working well for them make the bulk of the training and they are elaborated and discussed by the researcher and the parents, taking into consideration the

parents' own knowledge, experiences and ideas. In other words each one of the items serves as a guideline for the parental monitoring of mathematics homework.

Parental Homework Record

The parents are provided (see appendixes A and B) with a Parental Homework Record (Hoja de Control de Asignaciones para los Padre/Madres) where they check, make comments and sign every time they monitor their children's homework. Parents are encouraged to view the homework record as a useful tool or a reminder of both, parents and children homework responsibilities.

Certificate of Participation

At the end of the project, that is, after the parents have monitored their children's mathematics homework for a determine amount of time they are awarded a certificate for their participation and completion of the project (see Appendix O) Parents are informed in advance, during the training that they will be awarded a certificate of participation at the end of the project.

APPENDIX D

CHECK-LIST ABOUT HOW PARENTS MONITOR THEIR CHILDREN'S
MATHEMATICS HOMEWORK

Please write YES next to the statements that apply to you and NO next to the ones that do not apply to you.

YES NO

- 1 My son/daughter has a set schedule for doing his/her mathematics homework every day.
- 2 My daughter/son has a comfortable place with appropriate lighting where she/he does her/his mathematics homework all the time.
- 3 My son/daughter generally is not interrupted when he/she is doing his/her mathematics homework.
- 4 My daughter/son does his mathematics homework and watches television or listens to the radio at the same time.
- 5 My son/daughter often complains that he/she needs paper, pencils or other materials to be able to do his/her homework.
- 6 Every day I know whether or not my daughter/son has done her/his mathematics homework.
- 7 I always make sure that my son/daughter returns his/her mathematics homework to his/her teacher.
- 8 I usually ask my son/daughter to tell me about the content of his/her mathematics homework.
- 9 I am usually enthusiastic about listening to my daughter/son talk about his/her mathematics homework.
- 10 I am usually interested in knowing how my daughter/son feels about her/his mathematics homework.

- 11 ___ ___ I usually praise my son/daughter when he/she finishes doing his/her mathematics homework.
- 12 ___ ___ I usually let my daughter/son know how important it is to study and learn mathematics.
- 13 ___ ___ I usually let my daughter/son know that I expect him/her to do his/her mathematics homework.
- 14 ___ ___ I usually let my son/daughter know that he/she has opportunities and alternatives that can make his/her homework responsibilities easier.
- 15 ___ ___ Usually when my son/daughter asks me to help him/her with his/her mathematics homework and I do not know how to help him/her I encourage him/her to look for help from his/her classmates.

APPENDIX E

LISTA DE VERIFICACION SOBRE COMO LAS MADRES/PADRES SUPERVISAN A SUS HIJOS/AS PARA QUE HAGAN SUS ASIGNACIONES DE MATEMATICAS

Por favor escriba SI al lado de cada una de las siguientes afirmaciones con las cuales usted está de acuerdo y NO al lado de cada una con las cuales usted no esta de acuerdo.

- | | SI | NO | |
|----|--------------------------|--------------------------|--|
| 1 | <input type="checkbox"/> | <input type="checkbox"/> | Mi hijo/a tiene un horario fijo para hacer sus asignaciones the matemáticas todos los días. |
| 2 | <input type="checkbox"/> | <input type="checkbox"/> | Mi hijo/a tiene un lugar cómodo y con buena luz donde siempre hace sus asignaciones de matemáticas. |
| 3 | <input type="checkbox"/> | <input type="checkbox"/> | A mí hijo/a generalmente no se le interrumpe cuando está haciendo sus asignaciones de matemáticas |
| 4 | <input type="checkbox"/> | <input type="checkbox"/> | Mi hija/o hace sus asignaciones de matemáticas y ve televisión o escucha la radio al mismo tiempo. |
| 5 | <input type="checkbox"/> | <input type="checkbox"/> | Mi hija/o se queja con frecuencia que necesita papel, lápices u otros materiales para poder hacer sus asignaciones de matemáticas. |
| 6 | <input type="checkbox"/> | <input type="checkbox"/> | Todos los días me doy cuenta si mi hija/o ha hecho sus asignaciones de matemáticas. |
| 7 | <input type="checkbox"/> | <input type="checkbox"/> | Siempre hago todo lo posible para que mi hija/o devuelva sus asignaciones de matemáticas al maestro/a |
| 8 | <input type="checkbox"/> | <input type="checkbox"/> | Generalmente le pido a mí hijo/a que me hable en que consisten sus asignaciones de matemáticas. |
| 9 | <input type="checkbox"/> | <input type="checkbox"/> | Generalmente tengo mucho entusiasmo para escuchar a mí hijo/a hablar de sus asignaciones de matemáticas. |
| 10 | <input type="checkbox"/> | <input type="checkbox"/> | Generalmente tengo interés en saber como mi hijo/a se siente con las asignaciones de matemáticas. |

- 11 — — Generalmente cuando mi hija/o termina de hacer sus asignaciones de matemáticas la/o estimulo o elogio.
- 12 — — Generalmente le dejo saber a mi hijo/a lo importante que es estudiar y aprender las matemáticas.
- 13 — — Generalmente le dejo saber a mí hijo/a que espero que el/ella cumpla con sus asignaciones de matematicas.
- 14 — — Generalmente le dejo saber a mí hijo/a que el/ella tiene diiferentes oportunidades y alternativas que pueden ayudarle para que la responsabilidad con sus asignaciones sea más fácil.
- 15 — — Generalmente cuando mi hija/o me pide ayuda con sus asignaciones de matemáticas y no se como ayudarla/o la/o animo para que busque ayuda con sus compañeros/as.

APPENDIX F

PERMISSION REQUEST LETTER

Mr. Thomas Friend
Associate Superintendent
Research and Development
Worcester School Department
20 Irving St.
Worcester, MA.

November 20, 1990

Dear Mr. Friend,

I am a graduate student in the School of Education at the University of Massachusetts, Amherst. I am writing to ask your permission to conduct a research project for my dissertation with seventh grade bilingual (Hispanic) students at the Burncoat Middle School.

The purpose of the study will be to obtain information on whether parental involvement in monitoring mathematics homework of seventh grade Hispanic students will improve their achievement in mathematics over a control group. To pursue the study I would like to have a sample of 40 students. Twenty of these students will be assigned to an experimental group and their parents will receive training on how to monitor their children's homework. Parents will receive the training before the start of the third quarter of the current school year. These parents will monitor their children's mathematics homework for the same quarter. The other twenty students will be assigned to a control group and their parents will not receive training. (They will do what they usually do around their children's mathematics homework).

The students' scores on the computation section of the Sequential Tests of Educational Progress: Math Series II as well as teachers' grades and percentage of homework completion and return for the third quarter will be used as dependent measures for both groups. The mathematics tests will be administered in class at the start and at the end of the third quarter. Administration of the test will take approximately 30 minutes. A self-esteem inventory will be administered at home during a home interview.

Several benefits may be obtained from this study:

- 1) It is expected that the students will improve their mathematics grades as a result of parental monitoring of their homework.

2) Important information about how Hispanic children respond to parental monitoring of homework will be obtained. This information could be used for further training of other parents in this school or other schools.

3) The training and homework monitoring provide opportunities for communication between parents and teachers. Parents may perceive this as an inclusion in the educational process of their children. Thus they may feel good about their relationship with the school and teachers.

4) Administration of the STEP mathematics test can be seen as part of their mathematics instruction as it provides an opportunity for them to strengthen their skills in taking standardized tests.

5) This study will provide useful information about how parental participation can help Hispanic students improve their achievement in mathematics.

If you have further questions about this study please contact me at (w) 791-3261 on Monday, Tuesday and Wednesday or at (h) 617-524-0961 on Thursday, Friday, evenings and weekends. I thank you in advance for your consideration of this request and I will contact you the week of December 3rd for your response.

Sincerely,

Luis F. Tamayo

P.S. Letter to parents and parental consent form are attached.

APPENDIX G
DEMOGRAPHIC INFORMATION

Parents Level of Education

Father:

Mother:

Other:

Country of Origin

Source of Income

Father:

Mother:

Other:

Living Arrangement

Single parent home:

Two parent home:

Other:

APPENDIX H

HOME INTERVIEW GUIDE (PARENTS AND CHILD TOGETHER)

- To parent/s and child: How would you describe your relationship with each other before the homework monitoring experience?
- To each other: (to parent/s) Do you agree or disagree with what your child said?
- (to child) Do you agree or disagree with what your parent/s said?
- To other family members: What did you observe about the relationship between (parent/s' name) and (child's name) before the homework monitoring experience?
- To parent/s and child: How was your relationship different during the 9 weeks of homework monitoring?
- To each other: (to parent/s) Do you agree or disagree with what your child said?
- (To child) Do you agree or disagree with what your (parent/s) said?
- To other family members: What did you observe about the relationship between (parent/s' name) and (child's name) during the 9 weeks of homework monitoring?
- To parent/s and child: How would you describe your relationship with each other now?
- To each other: (to parent/s) Do you agree or disagree with what your child said?
- (to child) Do you agree or disagree with what your parent/s said?
- To other family members: What do you observe about the relationship between (parent/s' name) and (child's name) now?

To parent/s: What was easiest in monitoring your child's mathematics homework/ most difficult?

What do you think was easiest for your child/ hardest?

To child: Do you agree or disagree with what your parents said? If child disagrees: What was easiest/ hardest for you?

To child: What do you think was easiest/ hardest for your parents?

To parent/s: Would you recommend the parental homework monitoring training and involvement to other parents?

To parent/s: What does make you to recommend/not recommend the parental homework monitoring training and involvement to other parents?

To child: Would you recommend to your classmates to have their parents monitor their mathematics homework like your parents monitored yours?

To child: What does make you to make this recommendation?

To parent/s: Did you apply any of the ideas you use to monitor your child's mathematics homework to monitor any of his/her other subjects?

To monitor the homework of any of your other children.

APPENDIX I

ESCALA DE PERCEPCIONES SOBRE LAS ASIGNACIONES DE MATEMATICAS* (MATHEMATICS HOMEWORK PERCEPTION SCALE)

Nombre: _____

El propósito de este cuestionario es saber lo que piensan los estudiantes de séptimo grado sobre sus asignaciones de matemáticas. Recuerda que esto no es un exámen para dar nota. Tus respuestas NO se le dirán a tu maestro de matemáticas ni a nadie. Lee cada oración y haz un círculo alrededor del número que mejor indique lo que tú piensas.

Los números quieren decir lo siguiente:

- 1 = Estoy muy en desacuerdo.
- 2 = Estoy en desacuerdo.
- 3 = Estoy en el medio.
- 4 = Estoy de acuerdo.
- 5 = Estoy muy de acuerdo.

Ejemplo:

Para mí, hacer las asignaciones de matemáticas es lo mejor de mi vida.

_____ 1 _____ 2 _____ 3 _____ 4 _____ 5 _____

1. Me gusta hacer las asignaciones de matemáticas todos los días

_____ 1 _____ 2 _____ 3 _____ 4 _____ 5 _____

2. Cuando me pongo a hacer la asignación de matemáticas en casa siempre estoy seguro cual fue la asignación que el maestro dio .

_____ 1 _____ 2 _____ 3 _____ 4 _____ 5 _____

3. El maestro de matemáticas me da asignaciones todos los días.

_____ 1 _____ 2 _____ 3 _____ 4 _____ 5 _____

4. El maestro de matemáticas siempre me corrige las asignaciones.

_____ 1 _____ 2 _____ 3 _____ 4 _____ 5 _____

5. Mi papá/mamá nunca se da cuenta cuando hago las asignaciones de matemáticas.
_____ 1 _____ 2 _____ 3 _____ 4 _____ 5 _____
6. El maestro de matemáticas debiera dar menos asignaciones.
_____ 1 _____ 2 _____ 3 _____ 4 _____ 5 _____
7. El maestro de matemáticas no se pone contento cuando le entrego la asignación.
_____ 1 _____ 2 _____ 3 _____ 4 _____ 5 _____
8. Es importante hacer las asignaciones de matemáticas para poder sacar buenas notas.
_____ 1 _____ 2 _____ 3 _____ 4 _____ 5 _____
9. El maestro de matemáticas nunca quiere que yo haga las asignaciones.
_____ 1 _____ 2 _____ 3 _____ 4 _____ 5 _____
10. Mi papá/mamá casi todos los días me pregunta sobre lo que estoy aprendiendo en matemáticas.
_____ 1 _____ 2 _____ 3 _____ 4 _____ 5 _____
11. El maestro de matemáticas nunca explica bien lo que es la asignación.
_____ 1 _____ 2 _____ 3 _____ 4 _____ 5 _____
12. Muchas veces no llevo el libro de matemáticas para hacer las asignaciones de matemáticas en casa.
_____ 1 _____ 2 _____ 3 _____ 4 _____ 5 _____
13. Muchas veces no tengo interés en hacer las asignaciones de matemáticas.
_____ 1 _____ 2 _____ 3 _____ 4 _____ 5 _____
14. Me da coraje cuando mi mamá/papá me dice que haga la asignación de matemáticas.
_____ 1 _____ 2 _____ 3 _____ 4 _____ 5 _____

15. El maestro de matemáticas me pide las asignaciones todos los días.
 _____ 1 _____ 2 _____ 3 _____ 4 _____ 5 _____
16. El maestro de matemáticas me da nota por cada asignación.
 _____ 1 _____ 2 _____ 3 _____ 4 _____ 5 _____
17. Para mí, hacer las asignaciones de matemáticas no es muy importante.
 _____ 1 _____ 2 _____ 3 _____ 4 _____ 5 _____
18. Mi papá/mamá me demuestra que está muy contento/a cuando yo hago las asignaciones de matemáticas.
 _____ 1 _____ 2 _____ 3 _____ 4 _____ 5 _____
19. Siempre estoy atento/a cuando el maestro está dando las asignaciones de matemáticas.
 _____ 1 _____ 2 _____ 3 _____ 4 _____ 5 _____
20. Mi mamá/papá nunca quiere que yo haga las asignaciones de matemáticas.
 _____ 1 _____ 2 _____ 3 _____ 4 _____ 5 _____
21. Mi mamá/papá siempre se preocupa para que yo pueda hacer las asignaciones de matemáticas en un lugar tranquilo.
 _____ 1 _____ 2 _____ 3 _____ 4 _____ 5 _____
22. Generalmente nadie me distrae en casa cuando estoy haciendo las asignaciones de matemáticas.
 _____ 1 _____ 2 _____ 3 _____ 4 _____ 5 _____
23. Siento que mi papá/mamá se pone contento/a cuando hago las asignaciones de matemáticas.
 _____ 1 _____ 2 _____ 3 _____ 4 _____ 5 _____
24. Muchas veces me olvido de hacer las asignaciones de matemáticas en casa.
 _____ 1 _____ 2 _____ 3 _____ 4 _____ 5 _____

APPENDIX J
CERTIFICATE

UNIVERSITY OF MASSACHUSETTS
SCHOOL OF EDUCATION
AMHERST, MASSACHUSETTS

CERTIFICATE OF PARTICIPATION

This document certifies that:

completed the training program on monitoring mathematics
homework for:

Date

Instructor

Principal Burncoat Middle school

Advisor

APPENDIX K

CARTA DE INFORMACION A LOS PADRES/MADRES

2 de enero de 1991

Estimada madre/ Padre:

Yo soy estudiante de la escuela de educación en la Universidad de Massachusetts en Amherst. También soy sicólogo escolar con certificación del estado de Massachusetts y con tres años y medio de experiencia. Una de mis creencias más importantes es que todas las madres/ padres pueden influenciar a sus hijos/as para que tengan una actitud positiva sobre la educación. También estoy convencido que todos los padres/madres pueden ayudar a sus hijos/as para que obtengan buenas notas en la escuela. Por estas razones he diseñado un estudio en el cual usted y su hijo/a tendrán la oportunidad de ser seleccionados para participar. Estoy interesado en los efectos que usted tiene en el aprendizaje de su hijo/a cuando usted lo/a supervisa para que cumpla con sus asignaciones de matemáticas. En este proyecto usted tendrá la oportunidad de recibir de una a dos horas de entrenamiento gratis sobre como supervisar las asignaciones de matemáticas de su hijo/a. Su participación en este proyecto sera de gran beneficio para usted y su hijo/a. Su participación puede ayudar a que su hijo/a mejore sus notas en matemáticas o a que mantenga sus buenas notas.

Para que su hijo participe en el proyecto lo único que el/ella tiene que hacer es tomar dos pruebas en matemáticas y responder a algunas preguntas relacionadas con sus sentimientos sobre sus clases y sobre si misma/o. Las pruebas serán administradas por el maestro de matemáticas o por mi. Las pruebas tomarán aproximadamente de 20 a 30 minutos. El cuestionario tomará de 15 a 20 minutos y será administrado por mi en horas fuera de la escuela. Su participación como madre/padre envolverá de una a dos horas de entrenamiento gratis sobre como supervisar a su hijo/a para que cumpla con las asignaciones de matemáticas, una entrevista en su casa que tomará aproximadamente 45 minutos y la supervisión de su hijo/a en el cumplimiento con las asignaciones de matemáticas.

Toda la información obtenida será confidencial y sera usada solamente con fines de investigación. Esta información no será parte de la hoja de vida de su hijo/a y los resultados de las pruebas no serán parte de sus notas. Usted y su hijo/a tienen el derecho de retirarse del proyecto en cualquier momento que usted así lo desee.

Al final del proyecto estaré dispuesto a proveer información sobre los resultados del estudio a los participantes y colaboradores que estén interesados.

Espero que usted y su hijo puedan participar en este importante proyecto. Para dar su permiso por favor indique su decisión en la forma de autorización adjunta. Si usted tiene alguna pregunta por favor siéntase libre en llamarme al telefono número: 791-3261 o a mi supervisor, el doctor Ronald Fredrickson de la Universidad de Massachusetts en Amherst, 413 545-4193. Mil gracias por su ayuda y cooperación.

Cordialmente,

Luis F. Tamayo.

APPENDIX L

PARENTAL INFORMATION LETTER

January 2, 1991

Dear Parent:

I am a graduate student at the University of Massachusetts, Amherst, School of Education. I am a certified school psychologist with three and half years of experince. Because of my strong believe that all parents can have a positive influence on their children's attitude toward education and because all parents can help their children make good grades in school I have designed a study in which you and your child will have the opportunity to be selected to participate. I am interested in the effects that your parental involvement in monitoring mathematics homework produces on your child's achievement in mathematics. You will be provided with one to two hours of free training on how to monitor your child's daily mathematics homework. Having the opportunity to participate in this study will be of great benefit to you and your child since it can help your child maintain or improve his or her mathematics achievement.

Your child's participation in the study will involve taking two tests in mathematics and responding to some questions related to his or her feelings about himself or herself and about his or her attitudes toward mathematics homework. The mathematics tests will be administered by the mathematics teacher or by myself, the researcher. The test will take approximately 20 to 30 minutes. The questionnaires will take about 15 to 20 minutes and will be administered by the researcher outside of school.

Your participation as a parent will involve 1 to 2 hours of free training on how to monitor your child's mathematics homework, a home interview that will last about 45 minutes, and monitoring your child's math homework for the 3rd quarter of this school year.

All the information obtained will be kept strictly confidential. It will be used only for research purposes and it will never become part of your child's school record. The test results will not be used as part of his or her grade in the class. You and your child will have the right to withdraw at any time from the study.

At the end of the project I will be happy to discuss the results of the study with any of the participants or collaborators who would like this information.

I hope you and your child can participate in this important project. To give permission please indicate your decision on the attached consent form.

If you have any questions please feel free to call me at 791-3261 or my advisor, Dr. Ronald Fredrickson at the University of Massachusetts, Amherst, Tel. (413) 545-4193.

Thank you very much for your help and cooperation.

Cordially,

Luis F. Tamayo

APPENDIX M

CONSENTIMIENTO DE LOS PADRES/MADRES

Por favor indique su decisión marcando una X en el lugar apropiado.

He leído la información sobre el proyecto y doy _____, no doy _____ permiso para que a mí hijo/a,

_____ se le administren los exámenes de matemáticas y otras pruebas pertinentes. Yo como madre/padre estoy dispuesta/o a participar y cooperar en el proyecto.

También doy permiso al señor Luis F. Tamayo para que vea las notas de matemáticas de mi hijo/a y obtenga información de su maestro de matemáticas sobre el cumplimiento con sus asignaciones.

Firma del padre/madre o encargado legal

Fecha

Por favor firme y entregue esta forma a su hijo/a para que la devuelva a su maestro de matemáticas a la mayor brevedad posible.

APPENDIX N

PARENTAL CONSENT FORM

Please indicate your decision writing an X in the appropriate space.

I have read the information about the project and I _____ give my consent _____ do not give my consent for my child _____ to be administered the mathematics tests and any other pertinent inventories.

I, as a parent am willing to participate and cooperate in the project. I also give permission to Mr. Luis F. Tamayo to see my child's mathematics grades and obtain information from his/her mathematics teacher about his pattern of homework completion.

Signature of parent or legal guardian

Date

Please sign and have your child return this form to his or her mathematics teacher as soon as possible.

APPENDIX O
CERTIFICADO

UNIVERSITY OF MASSACHUSETTS
SCHOOL OF EDUCATION
AMHERST, MASSACHUSETTS

CERTIFICADO DE PARTICIPACION

Este documento certifica que:

completó el programa de entrenamiento sobre como supervisar las
asignaciones de matemáticas de su hijo/a:

Fecha

Instructor

Principal Burncoat Middle School

Supervisor del proyecto

APPENDIX P

GUIDELINES ABOUT HOW TO MONITOR YOUR CHILD'S MATHEMATICS HOMEWORK

Each number of these guidelines corresponds to its respective item of the parental check list.

- 1 Having a regular schedule for a child to do his/her mathematics homework is important because it helps the student make homework part of his/her everyday routine making it less likely that they neglect it or underprioritize it.
- 2 Many families live in crowded apartments and this makes it difficult for the student to have a comfortable place to do her/his homework. However, most apartments have at least one bedroom that is unoccupied in the early evening. Arrangements could be made to make that bedroom the study room. Also, appropriate lighting in the study area is important because it helps to keep the person "awake" and makes the work less boring. As a last resort most communities have a local library that is open until 5 or 6 PM or even later.
- 3 For many families "interruptions", that is, needing to stop what one is doing to attend to someone or to take care of other things, are a normal part of their every day interactions. Some children learn differently than others. While for some children interruptions when doing their homework is not a major problem for others it can be a source of frustration affecting their ability to concentrate on their work. Therefore, it is important that you as a parent be aware of how your child works best and support him/her in that respect.
- 4 Most children who study and watch television or listen to music at the same time say that it is not a problem for them. However, studies have shown that when a child has to concentrate on his/her homework and listen to the TV or radio at the same time his/her work is not as neat as the work of children who do not do both tasks simultaneously. In general the problem seems to be having to concentrate to two things at the same time.
- 5 Although children in early elementary grades usually do not need more than a pencil and paper to do their mathematics homework, it is important for parents to be aware that seventh graders usually need special tools

and materials such as a ruler, a protractor or compass, and graph paper. You may find out what materials your child needs by asking his/her mathematics teacher.

- 6 By seventh grade many children have acquired study habits and self discipline around their homework. However, others expect their parents to remind them of their homework responsibility. By seventh grade school becomes more demanding and it can become very difficult for a child who does not clearly understand his/her homework responsibilities. It is important for parents to be aware of their child's sense of responsibility for their homework. Parents may need to provide consistent guidance, supervision and support to help their children complete their mathematics homework and help them acquire their own sense of responsibility for its completion.
- 7 It is not uncommon for seventh graders to fail to bring their completed mathematics homework to school. They may do this for different reasons. It is important that parents know that the child is returning his/her completed homework every day. If they often fail to return it, it is important that parents think about what may be happening that the child is not returning his/her homework. Is it because he/she forgets to return it? Is it because his/her system to organize his/her school materials is erratic? Whatever the reason, parents need to work with the child to insure that the completed homework is returned to the teacher.
- 8 Even if you as a parent do not totally understand the content of your child's homework it is important to let your child know that you are interested in what he/she is learning. The more your child perceives you as interested in knowing about what he/she is doing for homework the more likely it is that he/she feels that it is important to accomplish it.
- 9 One way for parents to let their children know that they genuinely care about what they are doing for homework is by showing enthusiasm. This means that the parents need to sit down with the child, listen to him/her and show their enthusiasm with verbal expressions and body language (for example, pleasant facial and vocal expressions and undivided attention). For many children it is not enough that their parents listen to them while they are cooking or cleaning.
- 10 It is common for children to have feelings of frustration and discouragement when they have difficult or a lot of mathematics homework to do. It is important that you as a parent reflect those feelings

back to your child. It is easier for your child to deal with those feelings if he/she knows that you empathise with him/her and that he/she knows that it is OK for him/her to talk about those feelings with you.

- 11 Another way for parents to make their child interested in doing his mathematics homework is by constantly rewarding them for their efforts. Although younger children often respond well to material rewards, seventh graders many times respond better to non-material forms of rewards such as praising and the acknowledgement and recognition of their efforts. Parents can do this by telling their child that they believe that he/she has the capacity to work hard and that they are happy and proud of their efforts to do their mathematics homework.
- 12 Parents do not need to make long speeches and sermons to communicate to their children how important it is to learn and study mathematics. Parents can do this by showing interest in their work and efforts and by enthusiastically fostering their natural interest in learning and discovering.
- 13 If your child knows that you expect him/her to do his mathematics homework every evening it is a lot more likely that he/she will do it than if he/she knows that you do not expect him to do it. One way to keep this expectation alive in your child is to frequently and consistently communicate to your child that you expect him/her to do his mathematics homework, that you know he/she can do it and that it is his/her responsibility.
- 14 As much as parents need to provide their seventh graders with guidance, positive expectations, support and structure to organize their time and schedules, it is important that parents also remember that because of their age seventh graders need to be provided with different opportunities and alternatives for learning than younger children. For example, seventh graders should be allowed and encouraged to work with their classmates and go to the library.
- 15 It is true that many times parents do not know how to help their child with their mathematics homework. However, they can help him/her to explore other alternatives, like seeking help from his/her classmates, friends, other relatives and teachers.

APPENDIX Q

GUIAS SOBRE COMO SUPERVISAR LAS ASIGNACIONES DE MATEMATICAS DE SU HIJO/A

Cada número de esta lista corresponde a su respectivo número en la lista de verificación.

- 1 El tener un horario fijo para que su hijo/a haga las asignaciones de matemáticas es importante porque esto ayuda a que las asignaciones de matemáticas se formen parte de la rutina diaria de su hijo/a. De esta manera es más posible que no las descuide y que les de más importancia.
- 2 Muchas familias viven en apartamentos pequeños y esto hace difícil para que el estudiante tenga un lugar comodo para hacer sus asignaciones. Sin embargo, la mayoría de los apartamentos tienen por lo menos un cuarto que está desocupado en las tardes. Algunos arreglos se pueden hacer para convertir ese cuarto en el cuarto de estudio durante las tardes. Buena luz en el cuarto de estudio es importante porque esto ayuda a mantener la persona despierta y hace el trabajo menos aburridor. Como último recurso la mayoría de los barrios tienen una biblioteca pública que esta abierta generalmente hasta las 5 o 6 PM o más tarde y que puede ser usada por aquellos estudiante que se le hace difícil trabajar comodamente en casa.
- 3 Para muchas familias las interrupciones, o sea, el tener que dejar de hacer lo que uno está haciendo para atender a otra persona o para hacer otras cosas es la forma normal de sus interacciones diarias. Los niños/as aprenden en formas diferentes. Para algunos niños/as las inerrupciones cuando estan haciendo las asignaciones de matemáticas no es mayor problema. Sin embargo, para otros esto es un problema porque les perturba su concentración para hacer su trabajo. Por lo tanto, es importante que usted como madre/padre tenga conocimiento de como su hijo/a aprende mejor y apoyarlo/a en tal manera.
- 4 La mayoría de los muchachos/as que hacen las asignaciones y ven televisión o escuchan la radio al mismo tiempo dicen que esto no es problema para ellos. Sin embargo algunos estudios han demostrado que cuando el estudiante se concentra a ver la televisión o

escuchar la radio y hace las asignaciones al mismo tiempo su trabajo no es tan ordenado y pulido como el de otros que no hacen las dos cosas al mismo tiempo.

- 5 Niños/as en grados elementales generalmente solamente necesitan papel y lápiz para hacer sus asignaciones de matemáticas. Pero niños/niñas en séptimo grado usualmente necesitan materiales especiales como regla, compás y papel cuadriculado. El padre/madre debe animar a su hijo para que le pregunte a sus maestros que clase de materiales necesita.
- 6 Muchos niños/as que están en séptimo grado han adquirido buenos hábitos de estudio y auto disciplina con respecto a sus asignaciones de matemáticas. Sin embargo otros esperan que su padre/madre les recuerden que ellos deben cumplir con dicha responsabilidad. En séptimo grado la escuela exige bastante trabajo y puede ser algo muy frustrante y difícil para un estudiante que no tiene bien claro cual es su responsabilidad con las asignaciones. Es importante que el padre/ la madre tenga conocimiento sobre el sentido de responsabilidad que su hijo/a tiene con respecto a sus asignaciones de matemáticas. El padre/ la madre debe proveer orientación, supervisión y apoyo consistentemente para que su hijo/a cumpla con sus asignaciones de matemáticas y para ayudarlo a adquirir su propio sentido de responsabilidad con las asignaciones.
- 7 No es muy raro que un estudiante de séptimo grado que ha hecho sus asignaciones de matemáticas no las devuelva a su maestro/a todos los días. Hay varias razones por las cuales esto puede ocurrir. Es importante que el padre/ la madre sepa que su hijo/a devuelve las asignaciones todos los días. Si el estudiante con frecuencia no devuelve sus asignaciones el padre/ madre debe pensar sobre que podrá estar pasando. Es porque se le olvida entregarlas? O es porque es muy desorganizado/a con sus materiales de la escuela? Cualquiera que sea la razón el padre/ la madre necesita trabajar con su hijo/a para que devuelva las asignaciones de matemáticas al maestro diariamente.
- 8 Aunque usted como padre/ madre no entienda completamente lo que su hijo/a esta haciendo en las asignaciones es importante que usted le deje saber que usted esta interesado/a en lo que el ella está aprendiendo. Mientras mas su hijo/a perciba que usted está interesado/a en saber en que consiste lo que él/ella está haciendo en las asignaciones lo más probable es que el/ella sienta que es importante hacerlo.

- 9 Una forma como el padre/madre puede dejarle saber a su hijo/a que el/ella verdaderamente se preocupa y se interesa por lo que el/ella esta haciendo es sentándose con él/ella y escuchándolo/a con toda su atención y entusiasmo. El entusiasmo se puede demostrar con expresiones verbales y no verbales (for ejemplo expresiones de animo y cara placentera). Para muchos niños/as no es suficiente que sus padres los escuchen mientras que cocinan o limpian.
- 10 Es común que los niños/as tengan sentimientos de frustración y desanimo cuando ello/as tienen muchas asignaciones o asignaciones de matemáticas difíciles. Es importante que usted como padre/madre le deje saber a su hijo/a que usted sabe que el/ella tiene esos sentimientos. Es mas fácil para su hijo/a bregar con esos sentimientos sí él/ella sabe que usted se los acepta y le deja saber que puede expresarlos.
- 11 Otra cosa muy importante que los padres/madres pueden hacer para que sus hijos/as se interesen en hacer las asignaciones de matemáticas es gratificándolos y elogiándolos constantemente por sus esfuerzos. Aunque niños/as pequeños responden bien a gratificaciones materiales, muchachos/as de séptimo grado muchas veces responden mejor al reconocimiento y aceptación de sus esfuerzos y a los estímulos y elogios verbales. El padre/madre puede hacer esto diciéndole a su hijo/a que el/ella cree que el/ella tiene la capacidad para trabajar fuerte y que el/ella está contento/a y orgulloso/a de sus esfuerzos para hacer sus asignaciones de matemáticas.
- 12 Los padres/madres no necesitan predicar sermones o decir discursos para comunicarle a sus hijos/as que tan importante es aprender y estudiar las matemáticas. El padre/madre puede hacer esto mostrándole a su hijo/a que el/ella esta interesado/a en sus esfuerzos y en su trabajo. El padre/madre puede alimentar con entusiasmo el interés natural que su hijo/a tiene en aprender y descubrir.
- 13 Si su hijo/a sabe que usted espera que el/ella haga sus asignaciones de matemáticas todos los días es mucho más posible que el/ella si las haga que si el/ella sabe que usted no espera que el/ella las haga. Una forma de mantener esta esperanza siempre viva en la mente de su hijo/a es comunicándole frecuentemente y con consistencia que usted espera que el/ella cumpla con sus asignaciones de matemáticas, que usted sabe que el/ella las puede hacer y que esto es su responsabilidad.

- 14 Tanto como el padre/madre necesita proveer a su hijo de séptimo grado con orientación, expectativas positivas, apoyo y ayuda para organizar su tiempo y horario, también es importante que el padre/madre recuerde que dada la edad del estudiante de séptimo grado el/ella necesita oportunidades y alternativas diferentes en su aprendizaje que las que necesitan niños/as menores. Por ejemplo, muchachos/as de séptimo grado deben tener permiso y ser animados para que trabajen con sus compañeros y vayan a la biblioteca.
- 15 Es cierto que muchas veces el padre/madre no sabe como ayudar a su hijo/a con las asignaciones de matemáticas. Sin embargo, el/ella puede animar a su hijo a explorar otras alternativas, como por ejemplo, pidiéndole ayuda a sus compañeros/as o a su maestro/a.

APPENDIX R

MATHEMATICS COMPUTATION PRE AND POSTTEST RAW SCORES AND
GRADE EQUIVALENT SCORES FOR THE SUBJECTS IN THE
EXPERIMENTAL AND CONTROL GROUPS

Subject	Group ^a	Pretest		Posttest	
		Raw Score	G.E.	Raw Score	G.E.
01	0	10	3.7	16	4.6
02	1	24	5.8	28	6.5
03	1	19	5.0	29	6.7
04	0	33	7.8	--	--
05	1	12	4.0	12	4.0
06	0	10	3.7	11	3.8
07	0	27	6.3	30	6.9
08	0	29	6.7	20	5.2
09	0	11	3.8	20	5.2
10	1	31	7.2	36	8.9
11	1	18	4.9	17	4.7
12	1	16	4.6	17	4.7
13	1	20	5.2	26	6.1
14	1	23	5.6	20	5.2
15	1	20	5.2	19	5.0
16	1	23	5.6	--	--
17	0	19	5.0	20	5.2
18	1	21	5.3	18	4.9
19	1	23	5.6	22	5.4
20	1	9	3.5	9	3.5
21	0	16	4.6	10	3.6
22	1	27	6.3	30	6.9
23	1	29	6.7	35	8.5
24	1	31	8.6	30	6.9
25	0	10	3.7	21	5.3
26	0	31	7.2	--	--
27	0	19	5.0	--	--
28	0	27	6.3	38	10.2
29	1	--	--	--	--
30	0	27	6.3	23	5.6
31	0	7	3.1	27	6.3
32	1	--	--	--	--
33	0	30	6.9	--	--
34	1	--	--	--	--
35	1	8	3.3	10	3.6
36	0	30	6.9	19	5.0
37	0	16	4.6	37	9.5
38	0	29	6.7	26	6.1
39	0	31	7.2	40	12.4

Note: G.E. = Grade Equivalent.

^a0 = Control Group; 1 = Experimental Group.

REFERENCES

- Baker, D. P. & Stevenson, D. L. (1986). Mother's strategies for children's school achievement: Managing the transition to high school. Sociology of Education, 59, 156-166.
- Barber, G. M. (1987). Increasing parental involvement in helping four grade children to learn through home curriculum to improve homework habits. (ERIC Document Reproduction Service No. ED 291 520).
- Bauch, J. P. (1989). The transparent school: Using new technology to improve parent involvement. (Eric Document Reproduction Service No. ED 312 782).
- Bauch, P. A. (1988). Is parent involvement different in private schools? Educational Horizons, 66, 78-82.
- Benson, C. S., Buckley, S., & Medrich, E. A. (1980). A new view of school efficiency: Household time contributions to school achievement. In Guthrie, J. (ed) School Finance Policy in the 1980's: A Decade of Conflict. Cambridge: Ballinger.
- Blatchford, P., Burke, J., Farquhar, C., Plewis, I. & Tizard, B. (1985). Educational achievement in the infant school: The influence of ethnic origin, gender and home on entry skills. Educational Research, 27, 52-60.
- Bledsoe, J. (1967). Self concept of children and their intelligence, achievement, interests, and anxiety. Childhood Education, 43, 436-438.
- Bloom, B. S. (1986). The home environment and school learning. (ERIC Document Reproduction Service No. ED 279 663).
- Brookover, W. B. & Erickson, E. L. (1975). Sociology of Education. Homewood, Illinois; The Dorsey Press.
- Campbell, P. B. (1967). School and self-concept. Educational Leadership, March, 510-515.
- Carter, T. P. (1968). The negative self-concept of mexican-american students. School & Society, March 30, 217-219.

- Cattermole, J. & Robinson, N. (1985). Effective home/school communication: From the parents' perspective. Phi Delta Kappan, September, 48-50.
- Chavkin N. F. & Williams, D. L. Jr. (1985). Parent involvement in education project. Executive summary of final report. (ERIC Document Reproduction Service No. ED 266 874).
- Check, J. F. (1966). Homework, is it needed? Clearinghouse, 41(3), 143-147.
- Cohen, M. (1990, October 28). High school dropout rate down, study finds. The Boston Globe. pp. 29, 32.
- Coleman, J. S. (1982). Public schools, private schools, and public interest. American Education, 18, 17-22.
- Coopersmith, S. (1967). The Antecedents of Self-Esteem. Palo Alto, CA: Consulting Psychologists Press, Inc.
- Coopersmith, S. (1981). Self-Esteem Inventories. Palo Alto, CA: Consulting Psychologists Press, Inc.
- Czech, R. H. (1988). Homework as a means of improving reading achievement of first grade students by involving parents and school in a cooperativ effort. (ERIC Document Reproduction Service No. ED 297 865).
- Dauber, S. L. & Epstein, J. L. (1989). Parent Attitudes and Practices of Parent Involvement in Inner-City Elementary and Middle Schools. Report No. 33. (ERIC Document Reproduction Service No. ED 314 152).
- Doane, B. D. (1973). The effects of homework on locus of control on arithmetic skills achievement in fourth grade students. Dissertation Abstracts International, 33, 5548A.
- Donato, M. (1989). Positive experiences to lessen mathematics apprehension in fifth grade students. (ERIC Document Reproduction Service No. ED 308 087).
- Dornbusch, S. (1986). Helping your kid make the grade. (ERIC Document Reproduction Service No. ED 275 406).
- Dornsbusch, S. M. & Ritter, P. L. (1988). Parents of high school students a neglected resource. Educational Horizons, 66, 75-77.
- Doty, J. (1986). Increasing parent involvement in a first grade chapter I public school classroom program. (ERIC Document Reproduction Service No. ED 272 292).

- Epstein, J. L. (1983). Homework practices, achievements, and behaviors of elementary school students. (ERIC Document Reproduction Service No. ED 250 351).
- Foyle, H. C. & Bailey, G. D. (1984). Homework. Selected References. (ERIC Document Reproduction Services No. ED 250 275).
- Foyle, H. C. & Bailey, G. D. (1985). A homework guide: Winning the game of student achievement. Kappa Delta Pi Record, 21(3), 68-70.
- Foyle, H. C. & Bailey, G. D. (1986). Homework: The Human Relations Bridge between School and Home. (ERIC Document Reproduction Service No. ED 268 106).
- Foyle, H. C. & Bailey, G. D. (1988). Homework: Suggestions for Educators. (ERIC Document Reproduction Service No. ED 294 504).
- Foyle, H. C. & Bailey, G. D. (1985). Homework in the classroom: Can it make a difference in student achievement? (ERIC Document Reproduction Service No. ED 257 796).
- Foyle, H. C., & Lawrence, L. (1989). Homework: research, policy, and implementation. (Eric Document Reproduction Service No. ED 303 919).
- Gallup, A. M. (1985). Gallup Poll of the public's attitudes toward the public schools. Phi Delta Kappan, 67, 35-37.
- Ginsburg, A. L. & Hanson, S. L. (1985). Values and educational success among disadvantaged students. (ERIC Document Reproduction Service No. ED 268 068).
- Harris, J. R. (1983). Parent-aided homework: A working model for school personnel. School Counselor, 31, 171-76.
- Henderson, A. (1987). The evidence continues to grow. National Committee for citizens in education.
- Herman, J. L. & Yeh, J. P. (1980). Some effects of parent involvement in schools. (ERIC Document Reproduction Service No. ED 206 963).
- Iverson, B. K. & Walberg, H. J. (1982). Home environment and school learning: A quantitative synthesis. Journal of Experimental Education, 50, 144-151.

- Karraker, R. J., (1972). Increasing academic performance through home-managed contingency programs. Journal of School Psychology 10, 2, 173-179.
- Keith, T. Z. (1982). Time spent on homework and high school grades: A large-sample path analysis. Journal of Educational Psychology, 74(2), 248-253.
- Keith, T. Z. & Page, E. B. (1985). Homework works at school: national evidence for policy changes. School Psychology Review, 14, 351-359.
- Keith, T. Z., Reimers, T. M., Fehrmann, P. G., Pottebaum, S. M. & Aubey, L. W. (1986). Parental involvement, homework, and TV time: Direct and indirect effects on high school achievement. Journal of Educational Psychology, 78(5), 373-380.
- Kerensky, V. M. (1967). Reported self concept in relation to academic achievement in an inner city setting. Dissertation Abstracts, 27, 2325.
- Laosa, L. M. (1982). School, occupation, culture, and family: The impact of parental schooling on the parent-child relationship. Journal of Educational Psychology, 74(6), 791-827.
- Levy-Warren, M. H. (1987). Moving to a new culture: cultural identity, loss, and mourning. In J. Bloom-Feshback, S. Bloom-Feshback, and Associates, The psychology of separation and loss. San Francisco: Jossey-Bass Publishers.
- Linney, J. A. (1982). School achievement: from deficient dialectics to domestic dialogue. (Eric Document Reproduction Service No. ED 227 384).
- Maertens, N. & Johnston, J. (1972). Effects of arithmetic homework upon the attitudes and achievement of fourth, fifth, and sixth grade pupils. School Science and Mathematics, 72(2), 117-126.
- Marjoribanks, K. (1972). Environment, social class, and mental abilities. Journal of Educational Psychology, 63(2), 103-109.
- Mayeske, G. W. (1973). A study of the achievement of our nation's students. Washington, DC, U. S. Department of Health, Education and Welfare. (ERIC Document Reproduction Service No. ED 102 666).

- McDermott, R. P., Goldman, S.V. and Varenne, H. (1984). When school goes home: Some problems in the organization of homework. Teachers College Record, 85, 391-409.
- McKinney, J. A. (1975). The development and implementation of a tutorial program for parents to improve the reading and mathematics achievement of their children. (ERIC Document Reproduction Service No. ED 113 703).
- Mills, J. (1989). Increasing parental awareness of the importance of math homework for third grade students. (ERIC Document Reproduction Service No. ED 310 921).
- Morgan, R. & Lyon, E. (1979). "Paired reading" - A preliminary report on a technique for parental tuition of reading-retarded children. Child Psychology Psychiatry, 20, 151-160.
- Mucha, L. (1987). Attitudes and achievement effects of mathematics homework games on second grade students and their parents. (ERIC Document Reproduction Service No. ED 283 698).
- National Commission on Excellence in Education (1983), A Nation at Risk: The Imperative for Educational Reform. (Washington, D.C.: U.S. Government Printing Office).
- Olmsted, P. P. & Jester, R. E. (1972). Mother-child interaction in a teaching situation. Theory into Practice, XI(3), 163-169.
- O'Malley, P. M. & Bachman, J. G. (1976). Self-esteem and educational attainment: A longitudinal analysis.
- Penn, P. (1982). Circular Questioning. Family Process, 21, 267-280.
- Peterson, C., & Austin, J. T. (1985). Review of Coopersmith Self-Esteem Inventories. In J. V. Mitchell (Ed.), The ninth Mental Measurement Yearbook: Vol.1, (pp. 396-397). University of Nebraska Press.
- Powers, S. & Sanchez, V. V. (1982). Correlates of self-esteem of Mexican-American adolescents. Psychological Reports, 51, 771-774.
- Purkey, W. W. (1970). Self Concept and School Achievement. Englewood Cliffs, New Jersey: Prentice-Hall, Inc.

- Purkey, W. W., Graves, W. & Zellner, M., (1970). Self-perceptions of pupils in an experimental elementary school. The Elementary School Journal, 71, 166-171.
- Rankin, P. T. Jr. (1967). The relationship between parent behavior and achievement of inner-city elementary school children. (ERIC Document Reproduction Service No.ED 017 550).
- Revicki, D. A. (1981). The relationship among socioeconomic status, home environment, parent involvement, child self concept and child achievement. (ERIC Document Reproduction Service No. ED 206 645).
- Ribadeneira, D. (1990, October 26). Schools are seen failing Hispanics. The Boston Globe. pp.23, 28.
- Rubin, R. A., (1978). Stability of self-esteem ratings and their relation to academic achievement: A longitudinal study. Psychology in the Schools, 15 (3), 430-433.
- Rubin, R. A., Dorle, J. & Sandidge, S. (1977). Self-esteem and school performance. Psychology in the Schools, 14(4), 503-507.
- Schnobrich, J. (1986). Homework as a means of parental involvement in the primary grades of an inner-city school. (ERIC Document Reproduction Service No. ED 282 648).
- Shipman, V. C. (1981). Schools can and do make a difference: Findings from the ETS longitudinal study of young children and their first school experiences. (ERIC Document Reproduction Service No. ED 243 984).
- Simon, W. E. & Simon, M. G. (1975). Self-esteem, intelligence and standardized academic achievement. Psychology in the Schools, 32, 97-100.
- Soares, A. T. & Soares, L. M. (1969). Self-perceptions of culturally disadvantaged children. American Educational Research Journal, 6(1), 31-45.
- Strassburger, L. A., Rosen, L. A., Miller, C. D. & Chavez, E. L. (1990). Hispanic-anglo differences in academic achievement: the relationship of self-esteem, locus of control and socioeconomic level with grade-point average in the usa. School Psychology International, 11, 119-124.

- Tomlinson, A. E. (1987). Increasing parent involvement in the learning activities of intermediate (grades 4-6) students. (ERIC Document Reproduction Service No. ED 287 616).
- Tomm, K. (1988). Interventive interviewing: part III. Intending to ask lineal, circular, strategic, or reflexive questions? Family Process, 27, 1-15.
- Trowbridge, N. (1970). Effects of socio-economic class on self-concept of children. Psychology in the Schools, 7, 304-306.
- Trowbridge, N. (1972). Self concept and socio-economic status in elementary school children. American Educational Research Journal, 9(4), 525-537.
- U.S. Department of Commerce and Bureau of the Census. Current Population Report 1988 and 1989, Washington, DC: US Government Printing Office.
- U.S. Department of Education, Office of Educational Research and Improvement. (1989). Digest of Educational Statistics. Washington, DC: US Government Printing Office.
- Valencia, R. R., Henderson, R. W. & Rankin, R. J. (1985). Family status, family constellation, and home environmental variables as predictors of cognitive performance of Mexican American children. Journal of Educational Psychology, 77, 323-331.
- Vratanina, G. M. (1988). The effects of homework on learning. (Eric Document Reproduction Service No. ED 299 237).
- Walberg, H. J. (1984). Families as partners in educational productivity. Phi Delta Kappan, February, 397-400.
- Walberg, H. J., Paschal, R., & Weinstein, T. (1985). Homework's powerful effects on learning. Educational Leadership, 42, 7.
- Watson, T., Brown, M., Swick, K. J. (1983). The relationship of parents' support to children's school achievement. Child Welfare, 62, 175-180.
- Williams, R. L. & Cole, S. (1968). Self-concept and school adjustment. Personnel and Guidance Journal, January, 478-481.

Witt, J. and Others (1983). Home based reinforcement: Behavioral covariation between academic performance and inappropriate behavior. Journal of School Psychology, 21, 337-348.

Yeary, E. E. (1978). What about homework? Today's Education, 67(3), 80-83.

Ziegler, S. (1986). Homework. (ERIC Document Reproduction Service No. ED 274 418).

