

THE ROLE OF PARENTAL INVOLVEMENT IN THE AMELIORATION OF THE
EFFECTS OF LOW SOCIOECONOMIC STATUS ON ACADEMIC ACHIEVEMENT

A Dissertation

by

NANCY E. GRAYSON

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

May 2004

Major Subject: Psychology

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ABSTRACT

The Role of Parental Involvement in the Amelioration of the Effects of Low Socioeconomic Status on Academic Achievement. (May 2004)

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Previous studies in the area of parental involvement in the education system were based on inconsistent parameters or definitions of the construct (Baker and Soden, 1997). The present study seeks to more clearly define and quantify parental involvement and examine the reduction of academic risk factors for economically disadvantaged students through a program of parental involvement in the educational setting. This study compares the academic achievement (ITBS scores) of 70 students enrolled in 1st thru 5th grades at an elementary public charter school in relation to the level of documented parental involvement (PI). Data indicate that in comparison to students enrolled at two neighborhood traditional public elementary schools, students at the charter school are 1.2 to 1.7 times more likely to pass the state mandated TAKS test in grades three through five. However, statistical analyses did not support the hypothesis that level of parental involvement was associated with academic achievement.

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INTRODUCTION

Current education reform includes multiple initiatives designed to increase academic achievement with parental involvement (PI) as the potential catalyst that is pivotal in student success. A review of the literature on PI reveals a body of growing evidence that supports the positive relationship between PI and student academic success, particularly for students of low socioeconomic status (SES). The literature shows that PI impacts positively not only the students but also the parents themselves. Moreover, the benefits of PI often follow a “dose-response” relationship such that the greater the level of PI the greater the resulting student achievement. The present paper concludes with a description of a program developed to increase PI at a low SES school (the Rapoport Academy) and a proposal to investigate whether the program produced the expected levels of PI.

Planning for the development of the Rapoport Academy Charter School in Waco, Texas began in 1996 as a response to published pass rates in 1995 and 1996 on the Texas Assessment of Academic Skills Test (TAAS), the state mandated assessment tool. Third grade students in the 76704 zip code of Waco, Texas, an area of severe economic disadvantage, had a 30% pass rate whereas only 10% of fifth grade students achieved passing scores. Family demographics of the 1990 census report for this geographic area include 97% minority population (94% African American, 3% Hispanic) and list only

This dissertation follows the style and format of *Developmental Psychology*.

44% of adults having graduated from high school. The picture was bleak; the available educational system was not effective for poor, minority children from educationally unprepared families. The Academy was designed as a remedy to a fruitless system. The approach was to create a multifaceted program that emphasized rigorous academics, competent teachers (i.e., knowledgeable, compassionate, and with high expectations for both academics and behaviors), and a potent component of PI. Thus, the charter school opened its doors in 1998 to serve economically disadvantaged, minority students with a clearly defined program of parental support and the goal of increased academic performance.

The rigorous academic program included state mandated TEKS (Texas Essential Knowledge and Skills components), Core Knowledge curriculum content (based on work by E.D. Hirsch at U. of Va.), and an in-house curriculum of entrepreneurship in which students apply knowledge to real-life situations. Competent teachers are defined as those having both content knowledge and a compassionate way of relating to the students and families while also maintaining a high degree of flexibility in managing the school day. Staff received training in establishing and maintaining high expectations for academic success and school-appropriate behaviors, holding students to those consistent expectations with a philosophy of self discipline and “no excuses.” PI was infused across all components of the students’ experiences throughout the educational process. PI at the Academy is defined as integrated family support both at school and home that fosters student achievement: help in both short-term and long-term school planning, attending and participating in classroom activities as a volunteer, sharing breakfast and

lunch times with students, participation in parent organizations, attendance at student-centered school related activities, assisting in homework and reading with the child, and assuring that the student is at school on time for the full day.

Research on Parental Involvement and Academic Achievement

Using science to develop a program to increase PI and, through it, children's academic success is not a straightforward task. Baker and Soden (1997) reviewed 145 empirical studies on PI, and of these only three used a true experimental design. These authors concluded that the quality of the studies was generally poor in that most investigations used designs that confounded the effects of PI with other variables, defined PI inconsistently, and seldom measured PI objectively.

Likewise, Fan and Chen (1999) reported that of 2000 studies only 25 had "true research merit". These authors also observed that the field defined PI inconsistently. Fan and Chen classified PI definitions into five major categories: a) parental expectations for student performance, b) communication about homework and school programs, c) parental supervision of student activities in the home environment (television, homework, after school activities), d) parental attendance at school events as well as volunteering in the school facility, and e) general parental involvement.

Downey (2002) added that PI investigations typically lack understanding of the characteristics of family dynamics and activities that might interact in causing poor school performance. Epstein and Sanders (2000) summarized the researchers' concerns with the following statement:

Researchers must continue to ask deeper questions, employ better samples, collect useful data, create more fully specified measurement models, and conduct more elegant analyses to more clearly identify the results of particular practices of partnership. An added challenge is to continue to conduct research that helps improve educational policies and school practices of partnership. Studies are needed at all grade levels, in differently organized schools, in varied locations, and with students and families with diverse racial, cultural, and linguistic backgrounds (p. 290).

Parental Involvement and Socioeconomic Status

In reviewing 49 studies of programs focusing on parental involvement, Henderson (1988) found across the board that parental involvement maximizes student achievement. This author emphasized that it is particularly important that children from low SES gain access to the educational processes and tools that provide knowledge and skills to move forward in order to attain a higher level of education. It is noted that, historically, low SES students fall through the cracks within the walls of educational institutions; they are the students whose struggle for academic success is most hampered (or least successful). Henderson's review listed the benefits of PI as "higher grades and test scores, long-term academic achievement, positive attitudes and behavior, more successful programs, and more effective schools" (p.60). Despite the overall support for the benefits of parental involvement in the educational system, it is lamentable that there seems to be little practical application that is successful in *drawing in* the parents.

Whereas schools purport to need and want parents to be involved and parents express both willingness to participate and concern about their children's success, the intersection of the two in a successful practical application format is not extant.

The focus of parental involvement as a key predictor of academic success is clearly supported by Marcon (1999) in a three-year study of a sample of 708 mostly low income African American preschoolers. PI in this study was defined by parental behaviors that teachers could readily observe: conferences, home visits, school volunteerism, helping in the classroom. Level of parent involvement and scores reflecting student achievement were collected by 62 teachers from 49 public schools in the Washington, D. C. area. The study found that a) the more child centered the approach, the greater the parental involvement and b) the greater the parental involvement, the higher the grades/scores regardless of level of income. Also, the more active (time spent in the classroom) the parental involvement, the greater the effect on academic achievement. The study was not precise enough to determine the point at which parental involvement had an effect, at what point the effect declined in relation to declines in involvement, or the reason for the relationship between parental involvement and academic achievement. Regarding the latter, perhaps parents who spent more time in the classroom were also involved in other activities with their children that would foster academic achievement. Nonetheless, at the very least, the study found that parental time in the classroom and student academic achievement were positively correlated.

The Westat and Policy Studies Associates (2001) report also identified PI as a key component for student success. After studying 71 high poverty schools from seven

different states from 1996 to 1999, the results showed that outreach to parents had a positive effect on student scores. Teacher outreach to parents included face-to-face meetings, sending materials home with instructions on how to help the child, and telephoning parents regularly including, but not limited to, communications about the difficulties the children were having. Data included standardized math and reading test scores, teacher surveys, administrative interviews, observations in the classroom, small group discussions including staff and parents, and school district policies and procedures. Researchers utilized hierarchical linear modeling to analyze the relationships of the variables. Poverty was negatively related to student achievement. However, there was a 40% increase in math scores between the 3rd and 5th grade administration for low achieving students when teachers had high levels of parent outreach. This study begins the process of understanding the quality of the teacher outreach to parents that can potentially mitigate the effects of low SES on academic achievement.

Clark (2002) looked at student achievement in relation to family and community involvement asking two questions: a) Does academic achievement increase when students engage in activities outside of the school while guided by adults, and b) does academic achievement increase when adults guide students in their reading, writing, and study activities? Clark analyzed data sets from 13 states that totaled 1,058 students ranging from grades 1-12, as well as college students and young adults. In comparing academic achievement outcomes of those students spending at least nine hours a week reading, writing, and studying at home under parental supervision versus those students

who spent their time in unstructured activities (e.g., hanging out at the mall, playing games, watching television, talking on the phone), students who were supervised at home scored at or above the 50th percentile whereas those in unstructured activities scored at or below the 25th percentile. This investigator also examined whether ethnicity was predictive of academic achievement and found that was not the case once adult investment in student activities was taken into account.

In understanding factors involved in student achievement, it is essential to look at parental level of education and socioeconomic status before specifically addressing parental involvement. Though “intelligence” is a predictor of academic achievement, intelligence alone does not provide robust predictions. According to Guo (1998), childhood is rather like a “critical period” in cognitive development, a period which is profoundly impacted by poverty. This interaction effect dynamically impacts future academic achievement. Interestingly, SES and level of education appear to influence the degree to which parents can motivate their children.

Heath (1983) found gross, SES-based differences in children’s language abilities. She compared child-parent interactions across white, low SES families and white, middle class families. Heath observed that babies from both communities were sent home to similarly equipped nurseries (books, mobiles, pictures, etc.), and that children from both groups were held, read to, talked with, and attended to equally. However, the communication interchanges across both samples varied in content. For example, during bed-time stories, middle class parents asked about story content, pointed out pictures in the story, and asked about meaning. These parents reinforced correct answers and

explained incorrect answers. The lower class families lacked this quality of verbal interchange. Low SES families gave more directives and less explanation; i.e., they engaged in less meaningful dialogue with their children.

The observations by Heath (1983) are not surprising if we consider that there is a strong correlation between SES and level of education. Parents who are poorer tend to have lower levels of education, and thus lack the verbal skills for more enriched dialogue with their children. Unfortunately, this process can easily become a self-perpetuating cycle in that children of low SES parents become adults with low educational levels and low ability to improve their children's verbal development. Therefore, preventive interventions must occur at the level of the early learner, and must include training and participation of parents to increase the quality of the verbal interchanges with the children.

Barriers to Parental Involvement

Smrekar and Cohen-Vogel (2001) studied the attitudes of low-income, minority parents toward education and found that "low instances of parent involvement did not reflect a parental lack of interest in their child's development" (p. 75). After interviewing 30 families from a minority community in California, Smrekar and Cohen-Vogel found that parents experienced barriers to involvement in the schools. Parents described their roles in the school as task oriented, consisting of attending meetings and assisting with homework. The parents saw themselves as mere observers rather than as decision makers. Moreover, parents identified both external barriers (i.e., work, child

care, church, and household chores) and internal barriers (i.e., feelings of distrust, distance, and disillusionment) that prevented them from becoming more involved. Smrekar and Cohen-Vogel also noted parents and schools did not coincide in their definitions of PI. Such disagreements likely block successful integration of PI into the educational system.

Certainly the barriers to parent-school relationships are real, barriers that are more numerous among the economically disadvantaged population. However, there is also evidence that these barriers can be removed to allow PI to play a role in the education of children (Henderson, 1998; Pena, 2000).

Parental Trust

In order for parents to feel comfortable within the school venue, there must be trust among parents, administration, and faculty. Otherwise parents may only visit their children's schools when they are summoned for behavior problems and/or academic failure. There exists a dichotomy of thought between parents and school staff. Parents claim they want to be involved but do not feel welcomed by the schools, whereas teachers and staff report that low SES parents just don't care, as "proven" by the lack of involvement of these families (Lazar & Slostad, 1999).

Sanders, Epstein, & Connors-Tadros (1999) suggested that the cleft between school and home is the result of no outreach rather than lack of concern or caring by the parents. Lareau and Horvath (1999) compared the perceptions of teachers and of African American and Anglo parents of third-grade students. Teachers preferred black

parents who deferred to them, who agreed with their comments about the children, whereas black parents preferred teachers who listened to their descriptions of their children and agreed with their parental comments. Middle class parents saw student problems as a reflection of dysfunction of the school “system,” whereas working class parents blamed singular teachers rather than the system. Interestingly, white parents did not exhibit the high levels of suspicion, distrust, and hostility toward schools that were observed among some black parents. Thus, white parents began to construct their relationships with the schools with more comfort and trust than black parents.

The Westat/Policy Studies Associates (2001) study found that: (a) engaged parents increases teaching quality and standards, (b) increased teaching and standards augments parental engagement, and (c) each of these improves academic performance equally. This study found that effective parental outreach programs include face-to-face meetings with parents, sending homework to the parents to help their children, and frequent contact with parents for both positive and negative feedback. These authors posit that it is this enriched interaction between parents, children, and the school that increases student academic performance.

Parental Competence

Clark (1993) studied 460 third-grade minority students from 71 schools in the Los Angeles area. This investigator found four variables that increased the correlation between parental involvement and academic success: making parents aware of homework assignments, parental awareness of student’s focus on homework, helping

children understand the use of reference materials (e.g., dictionaries), and overall parental expectations for the child's education. Students and families were divided into two groups: a) high achievers who scored for two years above the 50th percentile on the Comprehensive Test of Basic Skills and b) low achievers who scored below the 25th percentile. Clark found that high achieving students came from families that maintained high expectations for educational achievement and established home environments that supported academics. The results indicated that there were not significant differences between the groups in the number of parents who read to the children and checked homework completion. However, high achieving students spent more time on their homework, used a dictionary more often, and had families who held higher expectations for educational outcomes than low achieving students. In turn, low achieving students belonged to younger parents with little educational attainment, were low SES, had two or more siblings, and their parents were more likely to be unemployed.

Shaver and Walls (1998) researched academic success (as measured by the Comprehensive Test of Basic Skills, CTBS) in relation to level of parental involvement and level of income (high vs. low). Studying 335 Title I students in 2nd through 8th grades, they found that parents who attended training workshops, received learning packets in the core academic subjects, and received training in working with their students at home had children who had higher academic achievement than those who did not do these things. Interestingly, parental involvement was higher for early grades than for later grades and second through fourth graders made greater gains than fifth through eight graders. Children from lower income families also saw gains, but not as sizable as

those from higher income families (perhaps a factor of the parental level of education and ability to interface with students at an enriched level).

A major effect of training parents is described in the Shumow and Lomax study (2001). In a national sample of 929 families of children 10-17 years old, these authors found that the greater the parental sense of competency, the more the parents monitored their children and became involved within the school environment, and the more student achievement increased. Parent sense of competency in this study was defined as parents feeling they were successful in positively influencing their children (helping them feel safe, happy, and academically successful), helping their children remain drug and alcohol free and out of gangs, and working to strengthen the schools and neighborhoods. They also measured how effective parents felt they had been in the school environment (talking with teachers, attending school functions, etc), how much they knew about what their children were doing and with whom they were involved, and how much they talked with their children about drugs, family, and friends.

Based on their study, the researchers outlined the formula for parental feelings of efficacy that affects how involved parents are in the school environment: family background, SES, and neighborhood surrounds. These components of parental sense of efficacy and parental involvement then lead to student achievement. There were, however, differences in findings in relation to racial and ethnic parameters: a) for Hispanic families, SES and education level were not related to sense of efficacy, and b) for African American families the quality of the neighborhood was not related to feelings of efficacy. The study has a major limitation in that it was based on self report

of students and families. Another limitation is the inability to design interventions because there are no studies addressing active change of parental sense of efficacy in academic situations. However, it does substantiate that parental sense of competency is an important factor in PI and is likely one of the factors in ameliorating the negative effects of low SES on academic performance, involvement based on parents attending workshops for increasing the level of interaction with their children as they help with homework and understand scores and tests. For instance, Henderson (1988) found that training low-income families to participate helped those parents develop more positive attitudes, increase level of participation, become more supportive of school activities, and actually begin to reenlist in the educational system themselves, a sign of increased level of competency among parents.

School Accessibility

Time constraints for hourly wage parents can prove to be a major barrier in their becoming and remaining involved in the schools. These parents do not have the luxury of leaving the job site for a few hours to attend an established school event or training session. To leave the job might mean giving up that hourly wage job. It is not atypical for traditional schools to stipulate within strict parameters exactly when parents are welcome in the school environment. Parents are called to the school to respond to problems that arise, and are chastised by the administration when they do not attend. Here again is a formula that dictates decreased parental involvement: the school demands that the parent come when problems arise, or invites the parent to attend a

structured program occurring during his/her work-shift schedule. The parents may not be welcome in the building when it is convenient or possible for them to be there because there is no structured event or demand to appear. It would not mesh with the school schedule to have parents enter at will.

Hoover-Dempsey and Sandler (1997) found that PI was shaped partially by the extraneous demands on their parental time and energy. Along these lines, Mapp (2002) also describes time constraints as one determinant of poor school involvement for economically disadvantaged parents. Schools must make it possible and appealing for parents to become involved. Starkey & Klein (2000), in their study of 30 families of Head Start Pre-K children, outlined the following as major barriers in the study: transportation, child care, and scheduling. They overcame the barriers by providing child care during programs and meetings, arranging transportation for parents, encouraging substitute family when immediate family members are unable to attend, and providing learning materials to use in the home. Thus, these accommodations allow for more flexible times and schedules for involvement.

Staff Development for Parental Involvement

Another important facet of PI is teacher preparation for supporting parental involvement. The federal legislation, No Child Left Behind, stresses teacher training through continuous staff development, but with no emphasis on preparing teachers to partner with parents. “Most educators enter schools without an understanding of family background, concepts of caring, or the framework of partnerships...most teachers and

administrators are not prepared to understand, design, implement, and evaluate practices of partnerships with the families of their students” (Epstein, 1995, 21). Thus teachers may well have a sense of distrust in working with parents, or may feel inadequate in designing appropriate interfaces for parents in the school environment. Teachers may fear that they will be relinquishing their power and authority, that parents may question their teaching techniques or knowledge base. However, contrary to teachers’ fears, Lazar and Slostad (1999) concluded that parental collaborations increased teaching effectiveness by enlisting parents as part of the team and gaining much needed information about the students through parent contacts.

Moon and Callahan (2001) found that teachers need high quality staff development in order to increase direct involvement of the parents in the educational process. Their study was conducted on intervention strategies to have a positive impact on the academic achievement of primary grade students from low SES environments in a large urban district. One of the intervention strategies involved the Family Outreach Program, with each school designating individuals within the school to become trained to understand the characteristics of their diverse population of students (both racial and SES factors) and to train parents to recognize and maximize their children’s talents. Their conclusions were that “teachers must be afforded high-quality staff development to aid them in (a) creating environments that support and nurture these children rather than ignore or complicate their already challenging circumstances, and (b) involving parents of these children more directly in the educational endeavors of the school system” (p. 315).

SCOPE OF STUDY

Realizing the tremendous influence of the barriers preventing parents from becoming involved, it is so very important to design a paradigm for infused parental involvement. The involvement must be so integral that the very system of education exudes teamwork, an approach in which shareholders understand the essential role played by each in effecting successful academic outcomes for the child. Thus, this paradigm is one that holds PI at the core of restructuring school functions and sees the child as thriving in an environment at school and at home in which parents are truly invested. The parameters must be clear and parents must accept the opportunities and responsibilities inherent in their role as they are supported by school staff and administration.

The approach described above cuts to the very core of the traditional power structure of school systems where administrators and boards are the decision makers, the ones responsible for student success. Team players must accept that the part they play is essential in the success of the child and that their roles are of equal power and quality in serving the child. The PI program included facets to invite the parent in a welcoming fashion, provided training for parents to interface with the school and students, empowered the parents to support the educational program, and measured the accountability for parents to show levels of participation. Faculty and staff were trained in working with economically disadvantaged students and their families, and given ways

to specifically address the parental involvement component. Once in place, we hoped this paradigm would result, in part through increased PI, in increasing student success. Although the study is based on archival data and the design cannot separate the effects of PI from the effects of other components of the educational plan of the school, we *hypothesized* that parental involvement would be positively associated with level of academic success, measured as academic performance in math and reading, as well as attendance rates. The children's scores on standardized achievement tests were compared also with those of children of traditional public schools in the same neighborhood.

Methods

Participants

Data were recorded from parental participation for and student academic achievement of 70 elementary-age children, first (N =18), second (N =23), third (N =14), fourth (N =7) and fifth (N = 8) grades. All students enrolled in first thru fifth grades at the Rapoport Academy during the academic year 2002/2003 were included in this study. Most students were minorities (97%) of low socioeconomic status (92%), who lived in a high poverty, urban area of central Texas. Level of economic disadvantage was measured by the free/reduced lunch program parameters of the National School Lunch Program, and minority status was calculated through the PEIMS (Public Education Information Management System) accountability system (94% African American and 3% Hispanic).

The average annual earned income per family in this geographic region as listed in the 2000 census data is around \$12,000. All families are English speakers in the home.

Measures

Parental Involvement Index (PII). The PII score is comprised of 4 components derived from the parental agreement form parents are asked to sign at the beginning of the school year (see Table 1, Appendix 1): (a) number of volunteer hours parent spent on campus during school hours thru the year, (b) parental completion of weekly at-home reading logs (maximum of 30 weeks with one point per week completed), (c) parent teacher conference attendance at 9-week intervals (maximum of 4 conferences with one point per conference), and (d) attendance at the three Parent Academies (up to 3 points). The data are reported as total level of participation for each of the four items, as well as the overall summed score of the four items together.

Standardized Achievement Measures. Academic achievement was measured taking into consideration individual *pre* and *post* scores in the content areas of reading, math, and their composite on the Iowa Test of Basic Skills (ITBS). ITBS scores were correlated with PII scores. TAKS scores were used for purposes of comparing the academic achievement of students at the Rapoport Academy with the performance of students at the two other schools that draw children from the same neighborhood as the Rapoport Academy.

Table 1
Composition of Parental Involvement Index (PII).

PI component	Volunteer hours	Reading logs	Parent/teacher conferences	Academies attended
Points	No maximum	30	4	3

Procedures

Building the Culture. An important guiding goal in the design of the Rapoport Academy was to establish a school culture inclusive of parental involvement in which the normative behaviors of parents included investment in and participation with the educational lives of their children. The parameters of parental involvement were designed in a format that made the requirements concrete and understandable for staff and parents at the Academy. This format is captured by a parental agreement (Appendix I) signed after parents understand the school's expectations for PI. In signing such a document, the parents "verbalize" a commitment to the educational process of their children. Nothing is left to individual inferences and there is a paper trail that is used to show parents exactly what the expectations of the school have been for the past year as well as how the parents will be held accountable. The agreement gives parents specific goals for helping their children. In order to ensure that the parent understands the language of the agreement, a trained staff member reads and explains the agreement to each parent at the time of enrollment. This provides the parent with the opportunity to ask questions and clarify any components of the agreement while giving the school the

time to have a meaningful interchange with each parent, building the relationship between school and parent using vocabulary appropriate to the level of the individual parent.

Parental Information Sessions. The relationship between parent and school is reinforced at required enrollment meetings before the beginning of the school year. The meeting is offered on four dates, varying the days of the week and hours of the day to facilitate attendance rates. At the meeting, the school's director outlines the team approach to educating the children, stressing the important role that parents play in the process. The agreement is again outlined and parents are asked to provide input about their understanding of the PI components. The meeting is held in a way that encourages an open communication format among all the "team players". Parents are required to sign the agreement and commit to attend one of the orientation sessions, which serves to raise consensus among parents in understanding that the standard for parental involvement is high. It is hoped, that the group meeting will create parental peer-pressure to comply with the commitment to be involved.

Staff Development. Staff training begins before the start of the school year with each member completing the "Ruby Payne Training" in working with economically disadvantaged students and families. This training covers understanding successful approaches in communication interchanges, parenting styles, family priorities, and educational expectations of low SES families. Staff members gain insight and appreciation for the differences based on economic standing while learning how to communicate successfully and incorporate parents into the process of teaching their

children. The Academy administration offers further training throughout the year so that staff members can help parents tutor their children at home, understand the grading system and interpretation of test scores, and feel positive about their pivotal role in the education of their own children

Parenting Classes. Parents are invited to attend parenting sessions led by a community mental health care provider who specializes in behavior and school academic interventions. The training focuses on a) helping parents feel empowered to tutor their children at home, and b) learning positive behavior management skills that mesh smoothly with the approaches used in the school environment. These training sessions were developed to better address questions parents asked frequently (e.g., What can I do to help my child academically? How can I help with behavior problems at school?) The philosophy is that schools must respond positively when parents present with questions and ideas that will increase their involvement. For example, the Academy's library allows parents to check out materials and meet the needs of their children, and provides a venue for parents who cannot attend the bi-weekly, evening training sessions.

Supper for the families immediately prior to the parenting classes, as well as developmentally appropriate child care activities during the actual sessions, are provided to facilitate attendance and maximize attention to the content of the sessions. The session leader prepares and delivers instructional hands-on approaches for the parents and allows time for free expression/discussion of problems parents have incurred in the home environment in dealing with their children. Parents often express that the classes help them to understand their children better and provide them with skills on how to help

their children with school work, as well as on how to take new approaches to discipline problems.

Attendance Expectations. Some elements of the PI program are explicit instructions about facets that are usually implied in traditional schools. We also provide measurable accountability points, including such elementary points as getting the child to school every day on time and picking them up on time. Tardy arrivals and early pick ups count against their attendance track record, encouraging parents to have their children participate in the full school day by accepting the responsibility to have them there on time and for the entire day. This helps parents understand the disappointment students feel when they enter a classroom late, or leave before all assignments have been completed. During the parent training session we stress that having the student at school every day for the full day maximizes the learning: “We can’t teach a child who isn’t here.” Again, the focus is on the success of the child, empowering the parent to help in that process: the parent is the conduit, the child is the target. Data are maintained on each student’s parents in these areas and parents are sent notices each quarter of the school year if the expectations are not being met.

Nightly Reading Logs. Every night parents are to read to or with the student for fifteen to thirty minutes (seven nights a week) and sign a reading log with the title of the volume and the number of pages covered. This accomplishes several essential goals: a) providing the parent with concrete information about how the child is performing, b) providing an opportunity for the parent to increase verbal interaction with the child, and c) giving the parent a chance to help with the reading skills (parental empowerment).

Parents are given reading suggestions for increasing comprehension skills for the students as well as specific reading techniques so they increase competency as they help.

Three times during the year, a “Book of the Quarter” event is held. All students, parents, and staff read the same book (all copies are provided through our library).

During a brief evening event, the classrooms are filled with parents, students, and staff holding an intergenerational discussion of the book. Parents who have limited reading skills gain by having their children read to them in preparation for this night as well as gaining insight and comprehension during the discussion time in the classroom. It is hoped that as parents spend more time in the school facility, they become more invested in the education of their students.

Parent Academies. To decrease the reticence of parents to become involved, the Academy provides the opportunity for participation in many happy events. Parent Academies are held three times per year focusing on student performance. During these evening events, students teach their parents/families a science or math experiment that they have learned during that quarter. Parents are drawn to the event to see their children “perform” and while there, become involved in hands-on activities that parents feel capable of learning. Students and parents increase verbal skills with one another while also learning new vocabulary and terminology. Parents return home with activities about which they can have many discussions, thus increasing communication skills with their children. Parents again become more invested, students take pride in their ability to teach their own parents, motivation on both parts increases, and the end

result is an increase in academic performance. Parents become excited about being in the building, being a part of education.

Parent/Teacher Conferences. It is essential to keep parents posted on the progress of their children in order to solicit their help and support. Teachers, having been trained to increase communication with parents, phone, write, and meet with parents regularly. Every communication with a parent opens with a compliment for that student. Parents are far more receptive to a discussion about their children when they know the faculty/staff value the children in a positive light. There are also four formally arranged parent conference times throughout the year to discuss progress in relation to report cards. This provides the opportunity for parents to give teachers insight into student needs. Likewise, teachers have the opportunity to review student work, behaviors, and attitudes so that the parent is in tune with the progress and struggles of the student. Teachers are instructed to conduct a two-way dialogue, with both parties coming together collaboratively to increase student achievement. The conference must be structured in a way that is realistic as well as optimistic. Teachers are made aware that patronizing parents is unproductive as well as detrimental to student progress. Faculty and staff are trained throughout the year by the administration in presenting information during the parent conferences. The formal conferences also serve as a springboard for the parent feeling comfortable interacting with the staff in between quarterly reports.

Parental Volunteer Time. One of the main barriers to parental involvement is “comfort zone” within the parameters of the school. The Academy requires one hour per semester per child of parental (family) volunteer time on site. The philosophy is not to

overwhelm family members with a responsibility that they might perceive as uncomfortable or overly time consuming, but rather to expose them to this happy, learning environment in small doses while hoping that they will elect to be in the school environment more often once exposed. Students become quite excited to see a family member in the building, and begin to realize that the adult values what the child is doing. We have observed that parents (families) are reluctant on their first visit, but find their presence supported in that the task given to them is easy, fun, and encourages a sense of self-competence. Parents report feeling wanted and needed on these occasions.

The Academy makes it possible for all families to provide their volunteer time by opening the doors of the school to them at ANY time (with the exception of state mandated test dates), and allowing immediate family members (grandparents, aunts, uncles) to substitute for the parent who is unavailable. The student services director at the front desk greets each family member with a smile and welcoming message in order to make them feel wanted and needed by the school. The families also report feeling that they have had an opportunity to give input while in the building, are better acquainted with the staff, and feel that they have “earned” the spot for the child at the Academy. To further the comfort zone, the Academy encourages parents to join their students for breakfast or lunch with the Academy footing the bill. The time spent in the building helps the efficiency of the faculty and staff, and increases the respect among families, students, and staff. Most important, barriers for participation are removed.

Parents as Planners. As family members become involved and invested in the Academy, it is important that they share in the decision-making processes and are

empowered to make a difference. Several parents serve on the Campus Planning Committee which meets bi-annually with the task of evaluating current operations and making recommendations for long-range decisions. There is also a parent who serves on the Board of Directors of the Academy as a voting member. The parents maintain an internal organization which equates as a parent/teacher group to help meet the needs of the school. The parents set a goal for fundraising in order to provide something essential for the students, then establish ways to raise the funds. The organization also helps with special events at the school, including planning and carrying out graduation from the elementary campus to the middle school campus.

Results

Descriptive statistics were computed for each of the variables used in this study. Mean, range, and standard deviation are presented in Table 2. Table 3 describes the percentage of parents achieving expected (100%) compliance with the parental involvement indicators. Overall PI was good. Parents of all but 6 children volunteered at least 1 hour to the Academy, with 90% volunteering 5 or more hours. Parents of 56 children attended at least 1 parent academy (80%), and 41 parents attended at least two academies (59%). Attendance to conferences was excellent, with 83% of the parents attending all 4 meetings and 95% attending at least 3 of the meetings. Compliance with reading logs was also exceptional. Most (60%) of the children returned reading logs for each of the 30 weeks. Sixty one families (87%) completed the assignment at least 20 of the 30 weeks. The high levels of compliance (and thus low variance or restriction of

range of the independent measures) compromises the study's ability to find statistically significant relationships between PI and academic achievement.

Table 2
Means, Ranges, Standard Deviations for All Study Variables

Variable	Mean	Range	Std. Dev.
Pre test Math Standard Score	158.07	122.00	29.69
Pre test Reading Standard Score	162.30	120.00	28.23
Pre test Core Standard Score	159.63	121.00	28.31
Post test Math Standard Score	175.23	138.00	31.09
Post test Reading Standard Score	178.04	102.00	27.54
Post test Core Standard Score	175.11	130.00	30.97
PI Index Score – total	34.67	39.00	7.95
Hours volunteered	2.98	15.00	2.92
Parent Academy Attendance	1.67	3.00	1.09
Parent Conference Attendance	3.77	3.00	.56
Reading Logs # weeks complete	26.24	20.00	5.92
Attendance – days absent	3.90	16.00	3.80

Table 3
Percentage Parental Compliance to Standard Expectations of Involvement

Parental Involvement Item	100 % Compliance	>75% Compliance	> 50% Compliance
Hours volunteered (2 required)	65.71%	NA	22.85%
Parent Academies (expectation = 3)	28.57%	NA	NA
Parent Conferences (expectation = 4)	82.85%	12.8%	2.8%
Reading Logs Signed (expectation = 30)	58.57%	18.6%	14.3%

Table 4 presents the correlation analysis between PI, attendance, gender, number of years that the child was enrolled in the school, posttest minus pretest scores for each of the achievement measures, and posttest scores for each of the achievement measures.

The values clearly show that there were no associations between level of PI and any of the achievement measures.

Table 4
Summary of Correlation Results

	PI	Years	Attendance	Gender
PI	1	.084	-.174	-.030
DIFF_R	-.116	-.024	.174	.148
DIFF_M	-.083	-.156	-.022	-.080
DIFF_C	.012	.049	-.010	.100
POST_RSS	.121	.104	-.079	-.044
POST_MSS	-.015	.068	-.121	-.013
POST_CSS	.065	.130	-.126	-.033

Note. None of the correlations was statistically or substantially significant. PI = Parental Involvement, DIFF_R = IOWA post reading score minus pre reading score, DIFF_M = IOWA post math score minus pre math score, DIFF_C = IOWA post core score minus pre core score, POST_RSS = IOWA post reading standard score minus pre reading standard score, DIFF_MSS = IOWA post math standard score minus pre math standard score, DIFF_CSS = IOWA post core standard score minus pre core standard score, Years = years attended academy, Attendance = # days absence.

Descriptive data are also presented showing the comparison scores of the two other schools from the same neighborhood. The children who attend these two schools are also economically disadvantaged (91%) and minorities (97%). All three schools draw from the same geographic space, thus it is assumed the students from all the schools have similar potential for academic success.

Table 5 shows that the children at the Rapoport Academy outperform the children at the other two schools on each of the measures of achievement. Table 6 characterizes the extent to which the children at the academy, as a group, have different academic success than the children at the two socio-demographically-matched schools.

Effect size was calculated using an odds ratio formula (percentage passing at the Rapoport Academy divided by the combined percentage passing at the other schools). The odds ratio was calculated to determine the degree to which Rapoport Academy students were more or less likely to pass the TAKS tests. Values below 1 are indicative of poorer performance, values close to 1 are indicative of similar performance, and values above are indicative of superior performance by the students attending the Rapoport Academy. As indicated by Table 6, students at the Rapoport Academy were anywhere from 1.2 to 1.7 times more likely to pass the TAKS test than children at the other two schools.

Finally, using two mixed repeated measures ANOVA, the data were analyzed to test the extent to which the children had improved their reading and math IOWA scores over the duration of the academic year, as well as whether achievement scores changed across genders and seniority at the Academy. That is, the within factor consisted on the two testing times, whereas the two between factors were gender and seniority (new vs returning students). The results were very similar across both sets of dependent variables. As a group, achievement scores improved significantly and substantially (effect sizes were rather large) from pretest to posttest regardless of the students gender or seniority at the school: for reading, $F(1, 66) = 133.37, p < .0001, \eta^2 = .67$, and for math, $F(1, 66) = 158.06, p < .0001, \eta^2 = .70$. Gender, seniority, and all the possible interactions were not statistically significant.

Table 5
2002/2003 TAKS Scores % Passing by Grade Level for Three Schools with Similar Demographics

School	Reading TAKS	Math TAKS	Both Tests
Third Grade			
– School #1	54.1%	56.7%	40%
– School #2	58.7%	68.9%	48.4%
– Rapoport Aca	93.3%	80%	73.3%
Fourth Grade			
– School #1	60.7%	71.4%	50%
– School #2	57.1%	51.4%	40%
– Rapoport Aca	88.9%	77.8%	44.4%
Fifth Grade			
– School #1	62%	74%	40%
– School #2	65%	62.5%	40%
– Rapoport Aca	87.5%	100%	75%

Table 6
Odds Ratio for Rapoport Academy Students vs Comparable Schools

Grade Level	Content Area	Effect Size
3 rd	Reading	1.7
4 th	Reading	1.5
5 th	Reading	1.4
All students	Reading	1.5
3 rd	Math	1.3
4 th	Math	1.2
5 th	Math	1.5
All students	Math	1.3

CONCLUSIONS

The goal of this study was to assess the relationship between parental involvement and academic achievement for low SES students who are at risk in the educational system. The results could not confirm a statistical relationship between PI and achievement. However, the archival nature of the study limited the manner in which PI could be measured, and thus the ability of the study to detect any existing relationships. That is, whereas the quantity of parental involvement was to some extent measured, there was not an assessment of the quality of the parental involvement. Although the assignment of concrete or finite values to the quality of parental involvement may be difficult, such an index could have been more sensitive to detect a relationship between PI and academic achievement.

Another reason why PI may not have been associated with academic achievement was that most parents complied with the expectation of involvement, thus reducing the variance of this variable and the variable's ability to correlate with the dependent variable. That is, the procedures to involve parents worked so well that most of the parents could have reached the minimum level of involvement required to make a difference (Marcon, 1999). A better research design would have been to have two charter schools sharing the same population demographics, the same educational format, but with only one school setting up the required expectations of PI. This would allow a comparison of the extent to which parental involvement adds to the other curricular activities in improving the children's academic achievement. In sum, the design would

provide a more accurate view through which to compare the “treatment” of PI in the school setting as it impacts academic achievement.

It is ambitious but perhaps too simplistic to quantify PI within the educational arena. As researchers have found prior to this study, parental involvement as social capital is dependent on the educational level of the parent, with socio-economic level as an intervening variable (McNeal, 1999). From the study by Blair, Blair, and Madamba (1999), we also know that there is a relationship between students’ and families’ cultural values and practices, as defined by differences between ethnic groups, and the values and practices within the schools.

Among African American families, culturally defined norms can have a mitigating effect on typical educational variables for academic achievement. It is not atypical for African American families to have extended kin within the home environment, a situation that correlates with increased student academic success even in light of low SES. But the best predictors among African American students for academic achievement remain family SES, education level of parents, and level of income with which to provide resources. These findings however are not indicative of a fatalist approach to educating children from poor homes. Guang Guo (1998) provided research supporting early intervention as the route to providing benefits for children of poverty in the educational system. Early intervention is effective for these children when it addresses cognitive development. Another factor to take into consideration is the quality of the conversation transpiring daily between parent and child. The higher the quality of conversation, the higher the level of academic success for the child

(McNeal, 1999 and Heath, 1983). Higher quality conversational interchange is also positively correlated with level of SES. Perhaps there is no way to untangle these factors as they impact academic achievement for children of low SES from minority groups.

The findings of this study certainly add to the complexity of the role of parental involvement in the academic attainment of children. The Rapoport Academy is a public school that has been developed since day one to address this specific population by building a school culture fostering a very high level of parental involvement across all facets of the educational process. Although the Academy is clearly successful at improving the knowledge and skill of its students, the correlation analyses did not show any relationship between academic achievement and parental involvement. In the present design, parental involvement was certainly not the only component integral to the success of the Academy. Other parameters include rigorous curriculum, high expectations for student both academically and behaviorally, competent teachers, continued staff training, and a safe environment in a neighborhood riddled with crime, drugs, and danger.

The comparison data of TAKS scores from two neighborhood schools also lends credence to the strength of the overall program at the Academy. In reading, the Academy handily outperforms the other two neighborhood schools in the TAKS reading scores. The results in the math scores of the TAKS are not as variant in comparison to the other schools as the reading scores, but a higher percentage of students passed math than in any of the two comparison schools.

In summary, the results of this study failed to find a relationship between parental involvement and academic achievement among economically disadvantaged students. However, the data clearly showed that most students at the Academy are doing very well academically, and that most parents are involved in the education process of their children. Thus, although the present study cannot tease apart the extent to which each of the different components of the program are responsible for the success of the children, the data indicate that the program as a whole is very successful.

REFERENCES

- Baker, A. J. L., & Soden, L. M. (1997) *Parent involvement in children's education: A critical assessment of the knowledge base*. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, IL. (ERIC Document Reproduction Service No. ED 407 127)
- Blair, S. L., Blair, M. C. L, & Madamba, A. B. (1999). Racial/ethnic differences in high school students' academic performance: Understanding the interweave of social class and ethnicity in the family context. *Journal of Comparative Family Studies* 30, 539-555.
- Clark, R. (1993). Homework-focused parenting practices that positively affect student achievement. In N. F. Chavkin (ED.), *Families and schools in a pluralistic society* (pp. 85-105). Albany, NY: State University of New York Press.
- Clark, R. (2002). Ten hypotheses about what predicts student achievement for African American students and all other students: What the research shows. In W. R. Allen, M. B. Spencer, & C. O'Conner (Eds.), *African American education: Race, community, inequality, and achievement: A tribute to Edgar G. Epps* (pp.155-178). Oxford, UK: Elsevier Science, in press, 2002.
- Downey, D. B. (2002). Parental and family involvement in education. In A. Molnar (Ed.), *School reform proposals: The research evidence*. Tempe, AZ: Education Policy Unit (EPRU), College of Education. Arizona State University.

Available: <http://www.asu.edu/educ/eps1/EPRU/documents/EPRU%202002-101/Chapter%2006-Downey-Final.pdf>

Epstein, J. L. (1995). School/families/community partnerships: Caring for children we share. *Phi Delta Kappan*, 76, 101-702.

Epstein, J. L., & Sanders, M. G. (2000). Connecting home, school, and community: New directions for social research. In M. T. Hallinan (Ed.), *Handbook of the sociology of education* (pp. 285-306). New York, NY: Kluwer Academic/Plenum Publishers.

Fan, X., & Chen, M. (1999). *Parental involvement and students' academic achievement: A meta-analysis*. Arlington, VA: National Science Foundation, National Center for Education Statistics. (ERIC Document Reproduction Service No. ED 430 048)

Guo, G. (1998). The timing of the influences of cumulative poverty on children's cognitive ability and achievement. *Social Forces* 77, 257-287.

Heath, S. B. (1983). *Ways with words*. New York: Cambridge University Press.

Henderson, A. (1988). Good news: An ecologically balanced approach to academic improvement. *Educational Horizons* 66, 60-62.

Henderson, A., & Mapp, K. (2002). *A new wave of evidence: The impact of school, family, and community connections on student achievement*. Austin, TX: National Center for Family & Community Connections with Schools, Southwest Educational Development Laboratory.

- Hoover-Dempsey, K. V., & Sandler, H. M. (1997). Why do parents become involved in their children's education? *Review of Educational Research, 67*, 3-42.
- Lareau, A., & Horvat, E. M. (1999). Moments of social inclusion and exclusion: Race, class, and cultural capital in family-school relationships. *Sociology of Education, 72*, 37-53.
- Lazar, A., & Slostad, F. (1999). How to overcome obstacles to parent-teacher partnerships. *The Clearing House, 72*, 206-210.
- Mapp, K. L. (2002). *Having their say: Parents describe how and why they are involved in their children's education*. Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA.
- Marcon, R. A. (1999). Positive relationships between parent school involvement and public school inner-city preschoolers' development and academic performance. *School Psychology Review, 28*, 395-412.
- McNeal, R. B. (1999). Parental involvement as social capital: Differential effectiveness on science achievement, truancy, and dropping out. *Social Forces, 78*, 117-44.
- Moon, T., & Callahan, C. (2001). Curricular modifications, family outreach, and a mentoring program: Impacts on achievement and gifted identification in high-risk primary students. *Journal for the Education of the Gifted, 24*, 305-321.
- Pena, D. (2000). Parent involvement: Influencing factors and implications. *Journal of Educational Research, 94*, 42-54.
- Sanders, M. G., Epstein, J. L., & Connors-Tadros, L. (1999). *Family partnerships with*

high schools: The parents' perspective (CRESPAR Report 32): Baltimore, MD: Johns Hopkins University. (ERIC Document Reproduction Service No. ED 428 148) Available: <http://www.csos.jhu.edu/crespar/Reports/repport32entire.htm>

Shaver, A. V., & Walls, R. T. (1998). Effect of Title I parent involvement on student reading and mathematics achievement. *Journal of Research and Development in Education, 31*, 90-97.

Shumow, L., Lomax, R. (2001) *Parental efficacy: Predictor of parenting behavior and adolescent outcomes*. Paper presented at the Annual Meeting of the American Educational Research Association, Seattle, WA.

Smrekar, C., and Cohen-Vogel, L. (2001). The voices of parents: Rethinking the intersection of family and school. *Peabody Journal of Education, 76*, 75-100.

Starkey, P., & Klein, A. (2000). Fostering parental support for children's mathematical development: An intervention with Head Start families. *Early Education and Development, 11*, 659-680.

Westat and Policy Studies Associates, (2001). *The longitudinal evaluation of school change and performance in Title I schools*. Washington, DC: U. S. Department of Education, Office of the Deputy Secretary, Planning and Evaluation Service. Available: http://www.ed.gov/offices/OUS/PES/esed/lescpl_highlights.html

APPENDIX A

Parental Agreement

I agree to support the following to help ensure the success of this child's education. If I do not follow through, I understand that this can affect my child's academic progress.

1. I will get this child to school each day ON TIME - before 7:50 a.m.
2. I will make sure that this child attends school EVERY day except in cases of illness.
3. I will notify the school by 8:30 a.m. when my child is ill and cannot attend.
4. I will make sure that this child is picked up from school within 15 minutes of the end of the school day schedule – 3:00.
5. I will ask each afternoon/evening about this child's day at school:
 - a. "What did you learn?"
 - b. "Tell me about your day."
 - c. "Did your teacher send any daily work or tests home?"
 - d. "Do you have homework to complete?"
6. I will sign any daily work or tests that are sent home.
7. I will provide a quiet place without television or radio for this child to complete homework and study.
8. I will read with/to/or listen to this child **read every evening for 15 to 30 minutes.**
I will sign the reading log each evening and make sure the signature sheet is returned on the due date.
9. I will arrange for a conference with this child's teacher each quarter (9 wk period) and I will attend the conference as scheduled.
10. I (or another family member) will participate at the school or at a school-related function one hour each semester in this child's name.
11. I will attend 3 required evening Book of the Quarter and Science Parent Academies during the year.
12. I will be a partner in this child's education so that this child understands how important learning is.

Parent Signature: _____ Date: _____

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Fellers, L., Grayson, N., Sullivan, M., & Whitacre, M. (1993). *Development: Five day unit plan*, C. Blair-Broeker (Ed.). Washington, DC: American Psychological Association.

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