DOCUMENT RESUME

ED 361 888 EA 025 275

AUTHOR Muller, Chandra
TITLE Parent Involvement in Education and School Sector.
PUB DATE Apr 93
NOTE 45p.; Paper presented at the Annual Meeting of the American Educational Research Association (Atlanta, GA, April 12-16, 1993).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Academic Achievement; *Catholic Schools; Educational Environment; Elementary Secondary Education; Family Environment; Family School Relationship; *Parent Child Relationship; *Parent Influence; *Parent Participation; Parent Role; Public Schools; Regression (Statistics)

ABSTRACT

Findings of a study that examined the impact of parent involvement on student performance in Catholic and public schools are presented in this paper. Methodology involved regression analysis of the National Education Longitudinal Study of 1988 (NELS:88) database, which contains information on 1,035 schools (802 public and 233 private schools) and findings of a survey and series of standardized tests administered to 24,599 eighth-graders. First, in terms of external involvement, Catholic parents were much more involved than their non-Catholic counterparts. However, Catholic parents and public school parents did not interact differently in the home. Second, a strong verbal relationship between parent and child was an important factor of student academic performance in both public and Catholic schools. Parental regulation of children's extracurricular activities appeared to contribute to improved achievement for public school children, but not for Catholic students. Finally, increased parent involvement in Catholic school activities appeared to facilitate improvements in the performance of all students in the school. The findings suggest that there may be some measurable differences in the climate of public schools compared with Catholic schools and in the association of climate with performance. Much of the differences appeared to be related to the ways parents interact with their children outside the home, in the context of the school and community. Three tables and an appendix containing 12 statistical tables are included. (LMI)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 361 888

Parent Involvement in Education and School Sector

By
Chandra Muller

University of Texas at Austin

April, 1993

U S DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it
☐ Minor changes have been made to improve reproduction quality
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
C. Muller
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)"

This paper was prepared for presentation at the AERA Annual Meeting, Atlanta, Georgia, April, 14, 1993 The research reported in this paper was supported by a Spencer Foundation Post-doctoral Fellowship from the National Academy of Education. The opinions expressed herein are those of the author and not of the sponsoring agency.

EA 025 275

Parent Involvement in Education and School Sector

What is it about Catholic schools that accounts for the higher performance of students on standardized tests? One conjecture is that there is something different about parents who send their child to Catholic school, and therefore something different about the students themselves that is associated with better preparation, ability and performance. It is true, by definition that parents who choose Catholic school for their child are engaging in one form of parent involvement: school choice. Evidence suggests that this form of involvement does make a difference in the academic performance of a child. But do these parents act measurably different in other ways also? If so, then the ways that they differ may shed light on one mechanism by which Catholic school students, on average, outperform public school students.

There are many other ways parents might be involved. Implicit in some arguments about selection is the idea that parents who send their child to Catholic school are also more involved with their child in other ways than parents who send their child to public school.[1] This paper examines whether this is in fact so, and if so whether it makes a difference in the performance of the student. Here I seek to answer two main questions. First, are parents who send their child to Catholic school involved in their child's education differently than parents who send their child to public school, and if so, what are those differences? Second, does parent

[1]There is also choice within the public sector, and according to this argument parents who exercise public sector choice may be involved in ways that are similar to Catholic school, or other private school choice. Because of data limitations this cannot be examined here

involvement have the same affect on performance for public and Catholic school students?

Coleman, Hoffer, and Kilgore (1982), in their controversial study of Catholic schools, hypothesized that one factor that might account for differential performance of students in Catholic compared to public schools is the involvement of parents in the community which also includes the school. They suggested that the normative structure and disciplinary climate inherent in Catholic schools could, in part, be attributed to the greater degree of closure of the community made up of parent friendships. When parents know each other students in the school are likely to act differently, and these differences in behavior may be associated with differential performance.

There is an growing body of research on parent involvement in the school to support the idea that parent involvement has a positive influence on a child's achievement (c.f. Dornbusch, Ritter, Leiderman, Roberts, and Fraleigh, 1987; Baker and Stevenson, 1987; Fehrmann, Keith, and Reimers 1987; Epstein, 1991; Muller, 1993). Rumberger, Ghatak, Poulos, Ritter, and Dornbusch (1990) suggest that parent involvement reduces negative behavior such as dropping out of school, although they refer mainly to parenting style, which includes mostly activity outside the school.

Muller (1991, 1993) distinguishes between the context of involvement (in the home, community and school) and between motivation for involvement (instrumental and affective) to find that differences in involvement have different relationships with academic outcomes. In general, affective involvement in the home is most related to test score performance and to preparation for learning while instrumental involvement at school is most related to positive evaluations by teachers, independent of ability and test performance. In other words, not all forms

of parent involvement appear to be associated with uniform consequences for the student.

Even though research on parent involvement may have been, in part, motivated by the findings of Coleman, Hoffer, and Kilgore (1982) and others about school climate and the differential impact on student learning, very little research has been done to systematically examine differences in parent involvement in Catholic schools compared with public schools.

Method

Data

The database upon which this analysis will draw is the National Education Longitudinal Study of 1988 (NELS:88). It is the first wave of a longitudinal study of a nationally representative sample of American youth. The data collection is sponsored by the National Center for Educational Statistics (NCES) and conducted by the National Opinion Research Center at the University of Chicago. The sampling was carried out in two stages following a two-stage stratified probability design. The first stage resulted in the selection of 1,234 schools, of which 1035 participated in the regular sample, including 802 public school and 233 private schools, of which 105 were Catholic, 68 other religious and 60 private schools with no religious affiliation. The second stage produced 26,435 randomly selected eighth grade students, 24,599 of whom participated. Thus, each school has, on average, almost 24 students in the sample.

Students were asked to complete an interview questionnaire about their background, school work and activities, home life, attitudes and social relationships. In addition each student was administered a series of curriculum based cognitive tests prepared by Educational Testing Service to measure ability in reading, mathematics, science and social studies. Ninety-six percent (or 23, 697) of the

students interviewed completed the test battery. Parents of each student were asked to complete a questionnaire asking about family characteristics, involvement with the educational process, commitment of family resources to education and attitudes of the parents about the child's school and education. The completion rate for parent questionnaires is 92%, or 22,651 parents. A complete description of the data base may be found in NCES (1989).

Native Americans will be excluded from the analysis. They account for only 1.3% of the weighted sample, thus are not a large enough group to comprise a separate racial category, yet exploratory analysis suggests that they are distinct from the other racial and ethnic groups and should not be included as part of any other subgroup. The exclusion of native Americans reduces the sample size to 24,300 students.

Variables

Parent Involvement

The central theme of the analysis has to do with the actions taken by parents and the ways they are involved with the education of their child. From this data base, which includes some 160 measures of parental involvement, ten have been selected for analysis here.[2] The measures are briefly summarized in table A of the appendix. A detailed expository summary of each measure may be found in Muller and Kerbow (1993). They include five measures which originate in the home and vary primarily according to individual characteristics of the family including (1) discussion with parents about current school experiences; and (2) discussion about high school program planning; (3) the frequency a parent checks homework; (4) the frequency a parent restricts television on weekdays; (5) the amount of after school

[2]They were selected after exploratory analysis suggested that they each represented a different aspect or dimension of nvolvement and that they had reasonably high face validity.

supervision provided for the child; and (6) whether the child is enrolled in extra music classes. Also, (7) parent ties to the social community of the child are measured by the number of parents of the child's friends who are known by the parent; and ties of parents to the school are evaluated by (8) the frequency of parental contact of the school; (9) the level of parent participation in a parent-teacher organization; and (10) whether the parent volunteers at the school. The forms of involvement which demand an interaction with actors outside the family, especially other parents and the school are likely to be forms of involvement which are most subject to additional constraints and therefore may be less stable or reflective of individual characteristics of the family including values and priorities.

Background Measures, Mathematics Achievement Test Scores and Grades

Achievement test scores and grades are the two most common measures of academic outcomes. The NELS:88 data base includes four achievement tests, in reading, mathematics, science and social studies (history and government). The measure used here is the standardized mathematics test scores compiled by NCES. Students in NELS:88 were asked to report their grades "from sixth grade up till now" in four subject areas (English, mathematics, science and social studies). The measure used here is the student report of math grades. Since this measure has a historical and cumulative component because students were asked about their grades over almost a three year period it is conceivable that the student's grades affect their score on the achievement test administered for NELS:88. This could come about because a student may have been tracked according to grades given in the sixth or seventh grade, from which the student would then have been provided with more or less opportunity for learning material relevant to test performance.

The background variables which are used throughout the analysis are derived directly from NCES variables. They include family income, parents' highest education, sex of student, family structure (single mother, stepparent, or intact

family), race and ethnicity, and urbanicity. Parent reported educational expectations of the child are also included in analyses presented here since they are associated with both involvement and school choice.

Results

Level of Parent's Involvement

The first question of interest is whether parents in Catholic schools differ from public school parents with respect to forms of involvement other than school choice. Table 1 shows the regression coefficients for the dummy variable for Catholic school from a regression of student background characteristics, parents' educational expectations for the child and school sector on each of ten forms of parent involvement. This allows us to examine the difference in level of involvement between parents whose child attends Catholic compared with public school when other important background characteristics like family income, parents' highest education and race are held constant.[3]

Table 1--Coefficients and Standard Errors (in Parentheses) for Catholic School Dummy (base is Public School) from Regressions on Each of Ten Forms of Parent Involvement Holding Constant Family Background and Student Characteristics

talk about current school experiences	talk about high school program	parents check homework	frequency parents restrict television	child enrolled in extra music class	amount of after school supervision	number friends' parents known	frequency parents contact school	PTO participation	parent volunteers at school
.023	.090*	-.171*	.036	-.017	.015	.628*	-.040	.784*	.396*
(.017)	(.019)	(.031)	(.033)	(.013)	(.035)	(.048)	(.036)	(.032)	(.012)

* $p < .001$

Table 1 illustrates two striking features of difference in involvement, one about the forms of involvement in which Catholic school parents engage at a comparatively high rate and the other about how they do *not* differ from public school parents. Catholic school parents are much more involved with the school than are their public school counterparts. They are roughly 40% more likely to

[3]Complete regressions may be found in the appendix.

volunteer, participate much more in the parent teacher organization, and know more parents of their child's friends when compared to parents with similar characteristics who send their child to public school.

The ways Catholic school parents do not differ from public school parents also follows a clear pattern. They tend not to engage in forms of involvement that are home-based at higher rates. Public and Catholic school parents show no difference in frequency of talking with their child about current school experiences which is possibly the best measure of the history of the parent child relationship and of the early learning environment of the child. Parents also do not differ in the amount they restrict television, enroll their child in music class, and supervise them after school. Restriction of television and after school supervision are probably also related to the extent to which parents are positioned to regulate and structure their child's out-of-school environment for learning. Thus, both on measures of an everyday verbal relationship, and on regulation in the home environment there is no measurable difference.

It may be quite significant that the Catholic school students do not differ appreciably from public school parents on so many of these home-based measures. It is likely that these home-based measures are indicative of aspects of the child's home environment from an early age. Involvement in the home is less likely to be constrained by outside forces than forms of involvement that are external to the home. For instance, parents who talk with their child about current school activities probably have an ongoing verbal relationship with their child that includes talking about school. On the other hand, parents' involvement outside the home, say knowing other parents, is likely to be limited by the availability of other parents for acquaintance. Likewise, involvement in the school may also be related to the extent to which the school encourages (or in some cases possibly requires) involvement.

It is only on the frequency parents talk about high school program planning and check homework that public and Catholic school parents differ about home-based involvement. Catholic school parents are slightly more likely to talk about high school program planning and less likely to check homework. The difference in talking about high school program planning may, in part, be attributable to differential opportunity structures of parents. Catholic school parents may perceive (perhaps accurately) more options for their child's high school program and school.

As we shall see in the next section, homework checking is probably an intervention activity of parents in response to poor grades. It may be that parents of children in Catholic schools respond differently to poor grades, or that Catholic schools expect (and encourage) parents to respond differently to poor grades. Possibly, in some fashion, Catholic schools manage the question of the adequacy of the child's homework differently than public schools. Where public schools may view it as the parents' responsibility that homework be completed properly, Catholic schools may view ensuring proper completion as part of the task of the school.

Taken together, these findings suggest that the spheres of educational activity for the child may be more merged between the school and family for Catholic school students and their families compared with public school students. It appears that families of Catholic school students may be more integrated into school life and the community of other parents than public school students and families. In addition, the distribution of responsibility for educating the child may be viewed differently in public and Catholic schools, with the expectations of parent activity different depending on sector.

Involvement and Achievement Test Performance

We have seen that there are differences in the ways parents get involved depending upon the sector of their child's school. They differ least in home-based

forms of involvement. An important, but unanswered question, then, is if the associations between performance and involvement are the same for public and Catholic school students. Does parent involvement make the same kind of difference in test score performance among Catholic and public school students? It is to this question that we now turn.

Involvement might be associated with achievement test performance differently depending on school sector for several reasons. For instance, some forms of involvement have more to do with preparation while others have to do with managing or with supporting the child's current educational environment. Each form of involvement could potentially have different associations with performance depending on school context because of the additional relationships between school characteristics and performance. One argument made about Catholic schools, for example, is that they teach students differently and that students who might be at risk in public school would perform better in Catholic school.

Table 2 shows results from regressions of background and parent involvement on math achievement test scores for public and Catholic school students separately. I have included math grades in each model since grades influence opportunity to learn, which in turn influences test scores. I have also included parents' educational expectations for their child, since expectations make a difference in involvement, in test scores and in choice of school. While the amount of variation explained in the two models is essentially the same (about 35% in both cases), the variables that predict test scores are different depending on sector.

Among both Catholic and public school students, talking with parents about current school experiences is strongly associated with math test performance. In fact, as a predictor of test scores, talking about current school experiences is about as good a predictor as parents' highest education for public school students, and is

more powerful for Catholic school students. Enrollment in extra music classes is also highly associated with math test scores for both groups of students, however the relative association is slightly higher among Catholic school students. Enrollment in outside music classes probably represents an array of factors associated with learning. First, there is the parents' willingness to invest in outside classes (both financially and with time). Also, music class involves practice outside of class, representing additional structuring of the child's out-of-school time.

TABLE 2.--Regressions on [illegible] Achievement Test Score by School Sector

	Public		Catholic	
Variable	Coefficient	Standard Error	Coefficient	Standard Error
intercept	29.120*	.384	28.168*	1.433
family income	.407*	.031	.274*	.096
parents' highest education	1.183*	.065	1.045*	.173
sex of student (male=1, female=0)	1.183*	.125	1.220*	.347
single mother	.938*	.183	.793	.542
mother, stepfather	-.249	.190	1.253	.713
Asian American	-.115	.346	-.321	.859
Hispanic	-3.227*	.213	-2.820*	.561
African American	-5.451*	.198	-4.684*	.604
urban	-.241	.179	-1.043	.762
suburban	.208	.143	-.228	.762
math grades	2.437*	.063	3.494*	.191
parents' educational expectations	.663*	.024	.675*	.078
talk about current schl experiences	1.978*	.124	1.776*	.357
talk about high school program	-.073	.105	-.576	.307
parents check homework	-.803*	.065	-.529*	.179
frequency parents restrict TV	.403*	.060	.122	.172
child enrolled in extra music class	1.552*	.154	1.024*	.378
amount of after school supervision	-.420*	.054	-.170	.153
number friends' parents known	.146*	.040	.182	.113
frequency parents contact school	-.552*	.054	-.647*	.144
PTO participation	-.012	.065	.55	.154
parent volunteers at school	-.222	.184	-.051	.359
R^2	.386		.357	

* $p < .001$

Interestingly, there is also a positive association between test scores and three forms of parent involvement that may have to do with the extent to which parents

are in a position to regulate the child's activities among public school students, but not among Catholic school students. The amount parents restrict television on weekdays, the amount their child is supervised by an adult after school, and the number of friends parents known are all good predictors of math test scores for public school students, but make no difference for Catholic school student. Possibly explanation for this is that Catholic schools impose more regulation on the lives of all students than public schools, and in so doing remove any association between the activity and performance for any individual child-parent relationship.

It is interesting to note that the association between family background variables and test scores relative to the association between math grades and math test scores are larger for public school students. The same may be said about parents' educational expectations for their child. In other words, Catholic school students are more likely to have grades consistent with their tests score than students in public schools, who have test scores that are associated with factors related to family background and characteristics of the parents.

Both Catholic and public school parents are more likely to check homework and contact the school at higher rates if their child's test scores are lower. Each of these activities is probably an attempt on the part of parents to intervene in a negative situation. The relative magnitude of the coefficient is greater for Catholic school parents, suggesting that they may respond even more to negative test score performance than public school parents. This might be because they are more likely to intervene, or it could have to do with the higher association between grades and test scores in Catholic schools. When there is more consistency between the two, parents are more likely to get more consistent danger signals about a problem, which could prompt action.

In summary, the relationships between parent involvement and math test performance are somewhat different depending on whether the child attends public

or Catholic school. In both sectors, a strong verbal relationship is strongly associated with a child's test scores. To a lesser extent enrollment in extra music class also makes a difference in both sectors. Beyond that, when parents are in a position to regulate a child's environment, especially outside of school, as measured by television restriction, after school supervision and parent acquaintance networks, it makes a difference in pubiic school student test scores but not those of Catholic school students.

It is interesting that the elevated levels of school involvement among Catholic school parents do not translate directly into higher test performance for their child. It is impossible to tell from these analyses what the sources of the observe differences in school-based involvement are. It may be that parents who send their child to Catholic school are already selected according to their level of involvement, since choice is a form of involvement. If this were the case one would expect that these parents would be uniformly more involved, which they do not appear to be. One might argue that these parents have a different style of parenting, perhaps emphasizing regulation more than a verbal relationship. If this were so, however, again one would expect to find that Catholic school parents would have higher levels of involvement associated with restrictive behavior.

It seems most plausible that Catholic school parents differ most from public school parents in the degree to which they make the school a part of their involvement. The direction of causality is impossible to determine. It may be that they have a propensity to reach out to the school more, and that is why they choose Catholic school, or it may be that there is something about the school which encourages parents to reach out.

Differences in levels of involvement in the school may also be related to the schools themselves. That Catholic school parents are so much more involved in school and community suggests that Catholic schools may encourage or even

require more involvement of parents. This argument seems particularly persuasive about volunteering because of the extraordinary differences in rates of volunteering. Remember, however, that the elevated levels of involvement make no difference in the test scores of individual students in Catholic school. And only parent acquaintance networks make a difference in the performance of public school students.

The School Context of Involvement and Math Test Performance

Levels of parent involvement in the school may also make a difference in the climate of the school itself. It is partly along these lines that Coleman, Hoffer and Kilgore hypothesized that Catholic schools differ from public schools. They suggest that parents whose children attend Catholic schools are more likely to know one another, creating a normative environment for the students and a climate more conducive to academic learning, which in turn influences performance.

It is not possible with these data to assess whether a difference in environment *causes* higher performance. It is, however, possible to examine some of the schools in the sample to evaluate whether there are differences in average levels of involvement, and if those forms of involvement are associated with performance.

Table 3 shows distributions for the three school averages of forms of involvement external to the family that are positively related to test performance. Not surprisingly, Catholic schools have higher average levels of involvement, however there is substantial variation even among them.[4]

[4]Each variable only includes schools with responses from ten or more students (or parents) in any given school to eliminate instability of estimates due to very small n.

Table 3--Distributions for School Average Levels of Involvement in School

	Friend's Parents Known		PTO Participation		Volunteering at School	
	Public	Catholic	Public	Catholic	Public	Catholic
Mean	2.512	3.207	.802	1.718	.138	.503
Standard Deviation	.658	.532	.421	.487	.101	.198
N	790	85	792	85	790	85

Table 4 shows the regression coefficients for each of these forms of involvement when regressed on math test scores.[5] Previous research has shown that involvement is related to parents' level of education (c.f. Baker and Stevenson, 1986; Lareau, 1989; Muller, 1991). Moreover, there is preliminary evidence that involvement may be clustered in certain schools, possibly related to the characteristics either of parents or the school. For this reason I include as a control

Table 4--Selected Coefficients for Regressions on Eighth Grade Math Test Including All Variables From Table 2 Plus Average Levels of Involvement for Each School (Standard Error in Parentheses)

	Public School	Catholic School
average parents' highest education	2.053**	1.593**
	(.203)	(.497)
average number of friends' parents known	.308	1.208*
	(.183)	(2.050)
average PTO participation	-.302	2.167**
	(.244)	(.612)
average volunteering	.050	-1.891
	(.916)	(1.576)
R^2	.400	.377

* $p < .05$
** $p < .001$

[5]In calculating each average level of involvement I have removed the student's own value on that form of involvement. Only schools for which there were at least ten responses on a given item were included in the regression. In these regression, as all others presented in this paper, deletion was used.

the average level of parents' highest education in the school in each model. The coefficients for the school means only are shown.[6]

We see that in both public and Catholic schools the average level of parents' education makes a difference in the test scores of the individual child, irrespective of the educational attainment of that child's own parents. No contextual measures of average levels of involvement make a difference in public schools. In Catholic schools the average number of friends' parents known and the average level of PTO participation also makes a difference in the test performance of each student, regardless of the participation level of the child's parents. The average level parents volunteer does not make a difference in either sector.

This suggests that there may be something about the school climate which is associated with parents knowing one another and working with the school which makes a difference in the performance of all students in Catholic schools but not in public schools. The association between average level of parents' education and performance of all students is well known (e.g. Coleman et al., 1966).

Apparently, however, for Catholic school students there is additional benefit of parents involvement in the school regardless of the participation of an individual student's parents. How this benefit works, that is the mechanism, remains only source of speculation. It may be that it is a form of normative control and regulation in Catholic schools. In public schools a similar need of the child might be provided by the individual child's parents in the form of restrictive activity at home, possibly measured here by television restriction, after school supervision, and parent acquaintance networks. This could explain the relationship of those restrictive activities to performance among public school students but not Catholic school students. Yet it seems unlikely that the climate is a direct

[6]The entire regression may be found in the appendix.

substitution for parental regulation. Undoubtedly the process is considerably more complex.

Summary and Conclusion

The questions this paper set out to answer were whether there are discernible differences in the involvement level of parents depending on the sector of school their child attends, and if any differences found matter in the academic performance of the child. First, it appears that there are some differences in levels of involvement, but primarily in involvement that is external to the family, in parent acquaintance networks, PTO participation, and volunteering. There were few measured differences in the ways Catholic and public school parents interact within the home. Talking about high school program planning was one difference. It is not clear why this difference (which is small) exists, but it may be because parents of Catholic school students perceive more school options.

Second, we found some differences between the relationship of involvement and performance depending on sector, however there were similarities, as well. A strong verbal relationship between parents and child is important in each sector, and to a lesser extent so is enrollment in outside music classes.

The main difference in the relationship between involvement and test scores was found in activities that are probably most clearly associated with parents being in a position to regulate the child's activities outside of school, both through normative pressure, in the case of parent acquaintance networks, and more directly with after school supervision and regulation of television watching. If these out of school activities are restricted then there is a better chance that they will be conducive, or at least consistent with a positive environment for learning and completion of school work. *These forms of involvement that probably measure parents ' a position to regulate the child's out of school activity make a difference for public school students, but not for Catholic school students.* One explanation for

this difference is that there is something about Catholic schools that provides a structure, making this kind of activity less important for individual parents. It may also be that all Catholic school parents are doing something else which is unmeasured (aside from sending their child to Catholic school) which serves the same function. Recall, however, that only on parent acquaintance networks did Catholic school parents indicate significantly higher levels of these kinds of regulatory involvement.

Finally, differences in the association between contextual variables (measuring something about the climate related to higher levels of parent participation) and performance were examined. When more parents know one another, the performance of all students in Catholic school is likely to improve. The same maybe said about PTO participation in Catholic school. Neither of these is true for public schools. In public schools the only contextual variable that is related to math test scores is the average level of parents' education. Thus, even in public schools in which there are high levels of parent participation there is no increase in performance of all students on math scores which is attributable to those higher levels of parent participation independent of the average level of parents' education.

These findings suggest that there may be some measurable differences in the climate of public school compared with Catholic schools and in the association of climate with performance. Much of the difference appears to be related to the ways that parents interact with their children outside of the home, in the context of the school and community. Coleman et al. (1982) have suggested that these differences may also be associated with the way the child's environment is structured, which may also have a positive relationship with test score performance, although that relationship has not been examined empirically here.

Bibliography

Baker, D. P., and D. L. Stevenson. 1986. "Mother's Strategies for School Achievement: Managing the Transition to High School." Sociology of Education 59:156-167.

Coleman, J. S., T. Hoffer, and S. Kilgore. 1982. High School Achievement: Public, Catholic, and Private Schools Compared. New York: Basic Books.

Coleman, J. S., E. Q. Campbell, C. J. Hobson, J. McPartland, A. M. Mood, F. D. Weinfeld, and R. L. York. 1966. Equality of Educational Opportunity. Washington, D.C.: U.S. Government Printing Office.

Dornbusch, S. M., P. L. Ritter, P. H. Leiderman, D. F. Roberts, and M. J. Fraleigh. 1987. "The Relation of Parenting Style to Adolescent School Performance." Child Development 58:1244-1257.

Epstein, J. L. 1991. "Effects on Student Achievement of Teachers' Practices of Parent Involvement." In Advances in Readings/Language Research, Volume 5 edited by Steven B. Silvern. Greenwich, Connecticut: JAI Press.

Fehrmann, P. G., T. Z. Keith, and T. M. Reimers. 1987. "Home Influence on School Learning: Direct and Indirect Effects of Parental Involvement on High School Grades." Journal of Educational Research 80:330-337.

Lareau, A. 1989. Home Advantage: Social Class and Parental Intervention in Elementary Education. New York: Falmer.

Muller, C. 1991. Parental Involvement in the Education Process: An Analysis of Family Resources and Academic Achievement. Ph.D. Dissertation, University of Chicago.

_____ (1993). "Parent Involvement, and Academic Achievement: An Analysis of Family Resources Available to the Child." In Parents, Their Children and Schools, eds. Barbara Schneider and James S. Coleman. Boulder, Colorado: Westview Press.

Muller, C. and D. Kerbow. (1993). "Parent Involvement in the Home, School and Community" (with David Kerbow). In Parents, Their Children and Schools, eds. Barbara Schneider and James S. Coleman. Boulder, Colorado: Westview Press.

Rumberger, R. W., R. Ghatak, G. Poulos, P. L. Ritter, and S. Dornbusch. 1990. "Family Influences on Dropout Behavior in One California High School." Sociology of Education 63:283-299.

Stevenson, David L., and David P. Baker. 1987. "The Family-School Relation and the Child's School Performance." Child Development 58:1348-1357.

Table A
Description of Parent Involvement Variables

talk about current school experiences	Constructed from student responses to the questions "Since the beginning of the school year, how often have you discussed the following with either or both of your parents/or guardians?" (1) "school activities" , and (2) "things you've studied in class" . Responses were summed to range from 0 to 4 and divided by two, thus the variable construct ranges from 0 to 2. The category for a single variable with the value of 0 represents a response category of "not at all" and a 2 represents "three or more times."
talk about high school program	Constructed from student responses about the frequency with which the student has talked with the (1) father or (2) mother "about planning your high school program." If the student response to the question of talking with the father was greater than zero, then the value for that response was used. Otherwise the response for talking with the mother was used. The range is 0 to 2, with 0="not at all" and 2="three or more times."
frequency parent checks homework	Student response to the question "How often do your parents or guardian check your homework." Responses were coded so that a zero represents "never" and 3 represents "often."
frequency parents restrict TV	Student response to the question "How often do your parents or guardian limit the amount of time you can spend watching TV." Responses were coded so that a zero represents "never" and 3 represents "often."
after school supervision	Constructed from the student response to the question "On average, how much time do you spend after school each day at home with no adult present?" The variable is coded -4="more than three hours" and 0="none--never happens."
extra music class	Parent response to the question "Has your eighth grader attended classes outside of his or her regular school to study any of the following?--music" 1=attended, 0=not attended.
friends' parents known	Summation of the the parents of the child's friends known. Parents were first asked to identify the first names of up to five of the child's friends. Then parents were asked "whether you know the parents of that child." The variable was coded "yes"=1, "no"=0. Responses of "yes" were summed so range is 0 to 5.
frequency parents contact school	Constructed from parent responses to two questions "Since your eighth grader's school opened last fall, how many times have you or your spouse/partner contacted the school about each of the following:" (1) "Your eighth grader's academic performance?"; and (2) "Your eighth grader's academic program for this year?". Two response categories, "Three or four times" and "More than four times," are combined and the variables rescaled to range from 0 to 2 where 0=none. The two responses are then summed to produce a variable ranging from 0 to 4.
PTO participation	Constructed from parent responses to the questions: "Do you and your spouse/partner do any of the following at your eighth grader's school?" (1) "Belong to a parent-teacher organization"; (2) "Attend meetings of a parent-teacher organization"; and (3) "Take part in the activities of a parent-teacher organization". Responses are 1=yes, 0=no and summed for a variable ranging from 0 to 3;
parent volunteers at school	Parent response to "Do you and your spouse/partner do any of the following at your eighth grader's school?--Act as a volunteer at the school." Responses are 1=yes, 0=no.

Model: MODEL1
Dependent Variable: GENTALK talk about current school experiences

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	14	284.32434	20.30888	114.366	0.0001
Error	15160	2692.07100	0.17758		
C Total	15174	2976.39534			

Root MSE	0.42140	R-square	0.0955
Dep Mean	1.43520	Adj R-sq	0.0947
C.V.	29.36166		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|	Standardized Estimate	Variable Label
INTERCEP	1	0.932602	0.02242370	41.590	0.0001	0.00000000	Intercept
BYP80	1	0.020477	0.00222399	9.207	0.0001	0.09548882	TOTAL FAMILY INCOME FRM ALL SOURCES 1987
BYPARED	1	0.037873	0.00434299	8.720	0.0001	0.08397820	PARENTS' HIGHEST EDUCATION LEVEL
MALE	1	-0.120064	0.00859024	-13.977	0.0001	-0.10841532	
ASIAN	1	-0.166506	0.02365140	-7.040	0.0001	-0.05525274	
HISP	1	-0.091705	0.01494943	-6.134	0.0001	-0.05085783	
BLACK	1	-0.032428	0.01388860	-2.335	0.0196	-0.01993966	
SINGLMOM	1	0.016123	0.01341791	1.202	0.2295	0.01042136	
STEPFAT	1	0.029557	0.01353086	2.184	0.0289	0.01726789	
URBAN	1	-0.041877	0.01237589	-3.384	0.0007	-0.03304787	
SUBURB	1	-0.029482	0.01044176	-2.823	0.0048	-0.02638394	
CATHOLIC	1	0.022952	0.01663376	1.380	0.1677	0.01101929	
ORELIG	1	0.062137	0.02612822	2.378	0.0174	0.01885986	
PRIVATE	1	0.062544	0.03527732	1.773	0.0763	0.01400671	
BYP76	1	0.033228	0.00167431	19.846	0.0001	0.16996825	HOW FAR IN SCHOOL R EXPECT CHILD TO GO

Model: MODEL2
Dependent Variable: DIRTALK talk about high school program planning

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	14	166.51676	11.89405	50.210	0.0001
Error	15160	3591.20321	0.23689		
C Total	15174	3757.71997			

Root MSE	0.48671	R-square	0.0443
Dep Mean	1.29104	Adj R-sq	0.0434
C.V.	37.69922		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|	Standardized Estimate	Variable Label
INTERCEP	1	0.794998	0.02589906	30.696	0.0001	0.00000000	Intercept
BYP80	1	0.022225	0.00256867	8.652	0.0001	0.09223652	TOTAL FAMILY INCOME FRM ALL SOURCES 1987
BYPARED	1	0.021869	0.00501610	4.360	0.0001	0.04315621	PARENTS' HIGHEST EDUCATION LEVEL
MALE	1	-0.065536	0.00992161	-6.605	0.0001	-0.05266769	
ASIAN	1	-0.107835	0.02731703	-3.948	0.0001	-0.03184684	
HISP	1	0.016332	0.01726638	0.946	0.3442	0.00806099	
BLACK	1	0.058795	0.01604114	3.665	0.0002	0.03217469	
SINGLMOM	1	0.069441	0.01549750	4.481	0.0001	0.03994621	
STEPFAT	1	-0.044647	0.01562795	-2.857	0.0043	-0.02321476	
URBAN	1	0.031567	0.01429398	2.208	0.0272	0.02217100	
SUBURB	1	0.018999	0.01206009	1.575	0.1152	0.01513204	
CATHOLIC	1	0.090462	0.01921176	4.709	0.0001	0.03865322	
ORELIG	1	0.008840	0.03017773	0.293	0.7696	0.00238787	
PRIVATE	1	-0.121758	0.04074481	-2.988	0.0028	-0.02426771	
BYP76	1	0.025297	0.00193380	13.082	0.0001	0.11516369	HOW FAR IN SCHOOL R EXPECT CHILD TO GO

Model: MODEL9
Dependent Variable: BYS38A HOW OFTEN PARENTS CHECK ON R'S HOMEWORK

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	14	119.61622	8.54402	13.746	0.0001
Error	15160	9423.20503	0.62158		
C Total	15174	9542.82124			

Root MSE	0.78841	R-square	0.0125
Dep Mean	2.09353	Adj R-sq	0.0116
C.V.	37.65914		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|	Standardized Estimate	Variable Label
INTERCEP	1	1.891966	0.04195303	45.097	0.0001	0.00000000	Intercept
BYP80	1	0.004617	0.00416091	1.109	0.2672	0.01202269	TOTAL FAMILY INCOME FRM ALL SOURCES 1987
BYPARED	1	0.033827	0.00812541	4.163	0.0001	0.04188924	PARENTS' HIGHEST EDUCATION LEVEL
MALE	1	0.099900	0.01607169	6.216	0.0001	0.05037940	
ASIAN	1	-0.077138	0.04424996	-1.743	0.0813	-0.01429545	
HISP	1	0.013511	0.02796924	0.483	0.6291	0.00418452	
BLACK	1	0.153172	0.02598452	5.895	0.0001	0.05259903	
SINGLMOM	1	-0.093628	0.02510389	-3.730	0.0002	-0.03379819	
STEPPAT	1	0.007036	0.02531520	0.278	0.7811	0.00229558	
URBAN	1	0.124893	0.02315435	5.394	0.0001	0.05504391	
SUBURB	1	0.026490	0.01953574	1.356	0.1751	0.01323957	
CATHOLIC	1	-0.170594	0.03112050	-5.482	0.0001	-0.04574136	
OPELIG	1	-0.045456	0.04888391	-0.930	0.3524	-0.00770524	
PRIVATE	1	-0.257755	0.06600117	-3.905	0.0001	-0.03223769	
BYF76	1	-0.003104	0.00313250	-0.991	0.3218	-0.00886633	HOW FAR IN SCHOOL R EXPECT CHILD TO GO

Model: MODEL10
Dependent Variable: BYS38C HOW OFTEN PARENTS LIMIT TIME WATCHING TV

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	14	521.97540	37.28396	54.468	0.0001
Error	15160	10377.21054	0.68451		
C Total	15174	10899.18593			

Root MSE	0.82735	R-square	0.0479
Dep Mean	1.14019	Adj R-sq	0.0470
C.V.	72.56264		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|	Standardized Estimate	Variable Label
INTERCEP	1	0.563712	0.04402551	12.804	0.0001	0.00000000	Intercept
BYP80	1	-0.004229	0.00436645	-0.969	0.3328	-0.01030606	TOTAL FAMILY INCOME FRM ALL SOURCES 1987
BYPARED	1	0.115122	0.00852680	13.501	0.0001	0.13339614	PARENTS' HIGHEST EDUCATION LEVEL
MALE	1	0.014333	0.01686563	0.850	0.3954	0.00676345	
ASIAN	1	0.252160	0.04643590	5.430	0.0001	0.04372673	
HISP	1	0.342314	0.02935092	11.663	0.0001	0.09920585	
BLACK	1	0.035411	0.02726815	1.299	0.1941	0.01137825	
SINGLMOM	1	-0.126845	0.02634401	-4.815	0.0001	-0.04284488	
STEPFAT	1	-0.070158	0.02656577	-2.641	0.0083	-0.02141960	
URBAN	1	0.049464	0.02429817	2.036	0.0418	0.02039882	
SUBURB	1	0.045355	0.02050081	2.212	0.0270	0.02121076	
CATHOLIC	1	0.036110	0.03265784	1.106	0.2689	0.00905956	
ORELIG	1	0.479726	0.05129876	9.352	0.0001	0.07608987	
PRIVATE	1	0.037027	0.06926161	0.535	0.5929	0.00433333	
BYP76	1	0.022147	0.00328724	6.737	0.0001	0.05920010	HOW FAR IN SCHOOL R EXPECT CHILD TO GO

Model: MODEL8
Dependent Variable: BYP60B CHILD STUDY MUSIC OUTSIDE REGULAR SCHOOL

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	14	227.66586	16.26185	154.356	0.0001
Error	15160	1597.15228	0.10535		
C Total	15174	1824.81814			

Root MSE	0.32458	R-square	0.1248
Dep Mean	0.25047	Adj R-sq	0.1240
C.V.	129.58970		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|	Standardized Estimate	Variable Label
INTERCEP	1	-0.202791	0.01727178	-11.741	0.0001	0.00000000	Intercept
BYP80	1	0.017200	0.00171302	10.041	0.0001	0.10243612	TOTAL FAMILY INCOME FRM ALL SOURCES 1987
BYPARED	1	0.062535	0.00334518	18.694	0.0001	0.17708909	PARENTS' HIGHEST EDUCATION LEVEL
MALE	1	-0.099737	0.00661661	-15.074	0.0001	-0.11501892	
ASIAN	1	0.002962	0.01821741	0.163	0.8708	0.00125543	
HISP	1	-0.050722	0.01151475	-4.405	0.0001	-0.03592510	
BLACK	1	-0.024195	0.01069765	-2.262	0.0237	-0.01900027	
SINGLMOM	1	0.026410	0.01033510	2.555	0.0106	0.02180159	
STEPFAT	1	-0.064569	0.01042210	-6.195	0.0001	-0.04817754	
URBAN	1	-0.001716	0.00953249	-0.180	0.8571	-0.00172964	
SUBURB	1	0.017077	0.00804274	2.123	0.0337	0.01951794	
CATHOLIC	1	-0.017267	0.01281210	-1.348	0.1779	-0.01058763	
ORELIG	1	0.083839	0.02012518	4.166	0.0001	0.03249871	
PRIVATE	1	0.036550	0.02717224	1.345	0.1786	0.01045362	
BYP76	1	0.017765	0.00128963	13.775	0.0001	0.11605482	HOW FAR IN SCHOOL R EXPECT CHILD TO GO

Model: MODEL7
Dependent Variable: BYS41 TIME SPENT AFTER SCHL WTH NO ADULT PRSNT

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	14	192.04282	13.71734	17.325	0.0001
Error	15160	12002.94133	0.79175		
C Total	15174	12194.98415			

Root MSE	0.88980	R-square	0.0157
Dep Mean	1.37216	Adj R-sq	0.0148
C.V.	64.84699		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|	Standardized Estimate	Variable Label
INTERCEP	1	1.210148	0.04734868	25.558	0.0001	0.00000000	Intercept
BYP80	1	0.019734	0.00469605	4.202	0.0001	0.04546193	TOTAL FAMILY INCOME FRM ALL SOURCES 1987
BYPARED	1	-0.007545	0.00917043	-0.823	0.4107	-0.00826469	PARENTS' HIGHEST EDUCATION LEVEL
MALE	1	0.023669	0.01813870	1.305	0.1920	0.01055872	
ASIAN	1	0.092241	0.04994102	1.847	0.0648	0.01512173	
HISP	1	-0.088491	0.03156641	-2.803	0.0051	-0.02424475	
BLACK	1	0.168854	0.02932643	5.758	0.0001	0.05129302	
SINGLMOM	1	0.251733	0.02833254	8.885	0.0001	0.08038461	
STEPFAT	1	0.145211	0.02857103	5.082	0.0001	0.04191189	
URBAN	1	0.042614	0.02613226	1.631	0.1030	0.01661373	
SUBURB	1	0.029174	0.02204827	1.323	0.1858	0.01289847	
CATHOLIC	1	0.015032	0.03512295	0.428	0.6687	0.00356532	
ORELIG	1	-0.331755	0.05517094	-6.013	0.0001	-0.04974603	
PRIVATE	1	-0.327375	0.07448968	-4.395	0.0001	-0.03622012	
BYP76	1	-0.011572	0.00353537	-3.273	0.0011	-0.02924346	HOW FAR IN SCHOOL R EXPECT CHILD TO GO

Model: MODEL3
Dependent Variable: PARFRND

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	14	4225.92924	301.85209	205.248	0.0001
Error	15160	22295.33362	1.47067		
C Total	15174	26521.26287			

Root MSE	1.21271	R-square	0.1593
Dep Mean	2.72043	Adj R-sq	0.1586
C.V.	44.57795		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|	Standardized Estimate	Variable Label
INTERCEP	1	1.350509	0.06453139	20.928	0.0001	0.00000000	Intercept
BYP80	1	0.080734	0.00640023	12.614	0.0001	0.12612027	TOTAL FAMILY INCOME FRM ALL SOURCES 1987
BYPARED	1	0.108784	0.01249835	8.704	0.0001	0.08080688	PARENTS' HIGHEST EDUCATION LEVEL
MALE	1	-0.107470	0.02472118	-4.347	0.0001	-0.03250986	
ASIAN	1	-0.985254	0.06806448	-14.475	0.0001	-0.10952655	
HISP	1	-0.571772	0.04302178	-13.290	0.0001	-0.10622715	
BLACK	1	-0.547143	0.03996891	-13.689	0.0001	-0.11270448	
SINGLMOM	1	0.089990	0.03861434	2.330	0.0198	0.01948583	
STEPFAT	1	-0.192587	0.03893938	-4.946	0.0001	-0.03769280	
URBAN	1	-0.585669	0.03561559	-16.444	0.0001	-0.15483364	
SUBURB	1	-0.411668	0.03004952	-13.700	0.0001	-0.12341773	
CATHOLIC	1	0.627773	0.04786898	13.114	0.0001	0.10096906	
ORELIG	1	0.495207	0.07519233	6.586	0.0001	0.05035246	
PRIVATE	1	0.388467	0.10152179	3.826	0.0001	0.02914417	
BYP76	1	0.088440	0.00481835	18.355	0.0001	0.15155101	HOW FAR IN SCHOOL R EXPECT CHILD TO GO

Model: MODEL4
Dependent Variable: PCONTCT parent contact of school about academics

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	14	809.55060	57.82504	68.813	0.0001
Error	15160	12739.32907	0.84033		
C Total	15174	13548.87967			

Root MSE	0.91669	R-square	0.0598
Dep Mean	1.08730	Adj R-sq	0.0589
C.V.	84.30940		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|	Standardized Estimate	Variable Label
INTERCEP	1	0.067151	0.04877950	1.377	0.1687	0.00000000	Intercept
BYP80	1	0.044760	0.00483796	9.252	0.0001	0.09782817	TOTAL FAMILY INCOME FRM ALL SOURCES 1987
BYPARED	1	0.143602	0.00944755	15.200	0.0001	0.14924152	PARENTS' HIGHEST EDUCATION LEVEL
MALE	1	0.270664	0.01868683	14.484	0.0001	0.11455209	
ASIAN	1	-0.310242	0.05145017	-6.030	0.0001	-0.04825228	
HISP	1	0.200146	0.03252031	6.154	0.0001	0.05202408	
BLACK	1	0.100969	0.03021264	3.342	0.0008	0.02909875	
SINGLMOM	1	0.051563	0.02918871	1.767	0.0773	0.01562118	
STEPFAT	1	0.021801	0.02943441	0.741	0.4589	0.00596961	
URBAN	1	0.121363	0.02692195	4.508	0.0001	0.04488942	
SUBURB	1	0.090636	0.02271454	3.990	0.0001	0.03801705	
CATHOLIC	1	-0.040476	0.03618432	-1.119	0.2633	-0.00910804	
ORELIG	1	0.148664	0.05683814	2.616	0.0089	0.02114872	
PRIVATE	1	-0.088613	0.07674067	-1.155	0.2482	-0.00930120	
BYP76	1	-0.010050	0.00364221	-2.759	0.0058	-0.02409495	HOW FAR IN SCHOOL R EXPECT CHILD TO GO

The SAS System

Model: MODEL5
Dependent Variable: PTO participation in PTO

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	14	1806.71149	129.05082	191.053	0.0001
Error	15160	10240.14613	0.67547		
C Total	15174	12046.85762			

Root MSE	0.82187	R-square	0.1500
Dep Mean	0.94096	Adj R-sq	0.1492
C.V.	87.34366		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|	Standardized Estimate	Variable Label
INTERCEP	1	-0.439563	0.04373379	-10.051	0.0001	0.00000000	Intercept
BYP80	1	0.053674	0.00433752	12.374	0.0001	0.12440924	TOTAL FAMILY INCOME FRM ALL SOURCES 1987
BYPARED	1	0.105436	0.00847030	12.448	0.0001	0.11620787	PARENTS' HIGHEST EDUCATION LEVEL
MALE	1	0.050228	0.01675388	2.998	0.0027	0.02254419	
ASIAN	1	-0.044769	0.04612821	-0.971	0.3318	-0.00738431	
HISP	1	0.056136	0.02915644	1.925	0.0542	0.01547443	
BLACK	1	0.299132	0.02708747	11.043	0.0001	0.09142451	
SINGLMOM	1	-0.005146	0.02616946	-0.197	0.8441	-0.00165341	
STEPFAT	1	-0.125038	0.02638974	-4.738	0.0001	-0.03631056	
URBAN	1	0.135969	0.02413717	5.633	0.0001	0.05333503	
SUBURB	1	0.060176	0.02036497	2.955	0.0031	0.02676775	
CATHOLIC	1	0.783861	0.03244145	24.162	0.0001	0.18706164	
ORELIG	1	0.638414	0.05095885	12.528	0.0001	0.09631549	
PRIVATE	1	0.475466	0.06880268	6.911	0.0001	0.05292694	
BYP76	1	0.040221	0.00326546	12.317	0.0001	0.10226465	HOW FAR IN SCHOOL R EXPECT CHILD TO GO

Model: MODEL6
Dependent Variable: BYP59D ACT AS A VOLUNTEER AT THE SCHOOL

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	14	180.12324	12.86595	143.820	0.0001
Error	15160	1356.19005	0.08946		
C Total	15174	1536.31329			

Root MSE	0.29910	R-square	0.1172
Dep Mean	0.19598	Adj R-sq	0.1164
C.V.	152.61554		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|	Standardized Estimate	Variable Label
INTERCEP	1	0.003170	0.01591565	0.199	0.8421	0.00000000	Intercept
BYP80	1	0.008355	0.00157852	5.293	0.0001	0.05422598	TOTAL FAMILY INCOME FRM ALL SOURCES 1987
BYPARED	1	0.015350	0.00308252	4.980	0.0001	0.04737506	PARENTS' HIGHEST EDUCATION LEVEL
MALE	1	-0.000200	0.00609709	-0.033	0.9738	-0.00025187	
ASIAN	1	-0.071064	0.01678703	-4.233	0.0001	-0.03282313	
HISP	1	-0.007547	0.01061064	-0.711	0.4769	-0.00582560	
BLACK	1	-0.008481	0.00985770	-0.860	0.3896	-0.00725847	
SINGLMOM	1	-0.028185	0.00952362	-2.959	0.0031	-0.02535688	
STEPFAT	1	-0.014724	0.00960378	-1.533	0.1253	-0.01197328	
URBAN	1	-0.031578	0.00878402	-3.595	0.0003	-0.03468617	
SUBURB	1	-0.034356	0.00741124	-4.636	0.0001	-0.04279533	
CATHOLIC	1	0.395944	0.01180613	33.537	0.0001	0.26459179	
CPELIG	1	0.306257	0.01854500	16.514	0.0001	0.12938285	
PRIVATE	1	0.289906	0.02503875	11.578	0.0001	0.09036736	
BYP76	1	0.006524	0.00118837	5.490	0.0001	0.04645139	HOW FAR IN SCHOOL R EXPECT CHILD TO GO

The SAS System

Reg. for Table 4 - public school

SCHOOL CONTROL COMPOSITE=1

Model: MODEL4
Dependent Variable: BYTXMSTD MATHEMATICS STANDARDIZED SCORE

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	26	326653.11525	12563.58136	185.627	0.0001
Error	7337	496580.96603	67.68175		
C Total	7363	823234.08128			

Root MSE	8.22689	R-square	0.3968
Dep Mean	49.65434	Adj R-sq	0.3947
C.V.	16.56832		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|	Standardized Estimate	Variable Label
INTERCEP	1	24.144913	0.78630864	30.707	0.0001	0.00000000	Intercept
BYP80	1	0.341258	0.04726576	7.220	0.0001	0.08835453	TOTAL FAMILY INCOME FRM ALL SOURCES 1987
BYPARED	1	0.925106	0.09989203	9.261	0.0001	0.10953872	PARENTS' HIGHEST EDUCATION LEVEL
MALE	1	1.197749	0.18671571	6.415	0.0001	0.05982418	
SINGLMOM	1	0.811583	0.27389897	2.963	0.0031	0.03042286	
STEPFAT	1	-0.210493	0.28421363	-0.741	0.4590	-0.00690768	
ASIAN	1	-0.104630	0.51962835	-0.201	0.8404	-0.00188684	
HISP	1	-2.578292	0.32650095	-7.897	0.0001	-0.08003637	
BLACK	1	-4.927297	0.30541683	-16.133	0.0001	-0.17160690	
URBAN	1	-0.242908	0.29200181	-0.832	0.4055	-0.01005238	
SUBURB	1	-0.197463	0.23111438	-0.854	0.3929	-0.00978363	
BYS81B	1	2.451703	0.09414376	26.042	0.0001	0.25096126	MATH GRADES FROM GRADE 6 UNTIL NOW
BYP76	1	0.640839	0.03656026	17.528	0.0001	0.18369005	HOW FAR IN SCHOOL R EXPECT CHILD TO GO
GENTALK	1	1.917477	0.18598273	10.310	0.0001	0.10605519	
DIRTALK	1	-0.057205	0.15669952	-0.365	0.7151	-0.00356826	
BYS38A	1	-0.783538	0.09749714	-8.037	0.0001	-0.07750435	HOW OFTEN PARENTS CHECK ON R'S HOMEWORK
BYS38C	1	0.382740	0.09010260	4.248	0.0001	0.04077745	HOW OFTEN PARENTS LIMIT TIME WATCHING TV
BYP60B	1	1.424878	0.23073657	6.175	0.0001	0.06085239	CHILD STUDY MUSIC OUTSIDE REGULAR SCHOOL
BYS41	1	-0.422955	0.08104399	-5.219	0.0001	-0.04799353	TIME SPENT AFTER SCHL WTH NO ADULT PRSNT
PARFRND	1	0.137327	0.06101998	2.251	0.0244	0.02286303	
PCONTCT	1	-0.552918	0.08071551	-6.850	0.0001	-0.06589067	
PTO	1	0.020554	0.10419700	0.197	0.8436	0.00216510	
BYP59D	1	-0.277237	0.27989524	-0.991	0.3220	-0.00984208	ACT AS A VOLUNTEER AT THE SCHOOL
MPARED	1	2.053255	0.20300162	10.114	0.0001	0.11828705	
MPFRND	1	0.307938	0.18258137	1.687	0.0917	0.01968762	
MPTO	1	-0.302160	0.24366588	-1.240	0.2150	-0.01405619	
MVOLUN	1	0.049841	0.91608116	0.054	0.9566	0.00056217	

Reg for Table 4 - Catholic School

SCHOOL CONTROL COMPOSITE=2

Model: MODEL4
Dependent Variable: BYTXMSTD MATHEMATICS STANDARDIZED SCORE

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	26	21711.44715	835.05566	21.108	0.0001
Error	909	35961.09807	39.56116		
C Total	935	57672.54522			

Root MSE	6.28977	R-square	0.3765
Dep Mean	51.91884	Adj R-sq	0.3586
C.V.	12.11461		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|	Standardized Estimate	Variable Label
INTERCEP	1	18.296049	3.00276341	6.093	0.0001	0.00000000	Intercept
BYP80	1	0.207382	0.14373667	1.443	0.1494	0.04866667	TOTAL FAMILY INCOME FRM ALL SOURCES 1987
BYPARED	1	0.698840	0.26673317	2.620	0.0089	0.08728475	PARENTS' HIGHEST EDUCATION LEVEL
MALE	1	1.243273	0.50337656	2.470	0.0137	0.06710660	
SINGLMOM	1	0.808827	0.78658730	1.028	0.3041	0.03014212	
STEPFAT	1	0.798710	1.04383526	0.765	0.4444	0.02072676	
ASIAN	1	0.203304	1.26337504	0.161	0.8722	0.00437312	
HISP	1	-1.995121	0.84500455	-2.361	0.0184	-0.06709440	
BLACK	1	-4.614786	0.90849615	-5.080	0.0001	-0.14916053	
URBAN	1	-0.750532	1.11831041	-0.671	0.5023	-0.04048653	
SUBURB	1	-0.454851	1.10730047	-0.411	0.6813	-0.02449818	
BYS81B	1	3.567708	0.27811821	12.828	0.0001	0.35540664	MATH GRADES FROM GRADE 6 UNTIL NOW
BYP76	1	0.638194	0.11390880	5.603	0.0001	0.16372719	HOW FAR IN SCHOOL R EXPECT CHILD TO GO
GENTALK	1	1.624559	0.51933921	3.128	0.0018	0.09007553	
DIRTALK	1	-0.549984	0.44880233	-1.225	0.2207	-0.03394302	
BYS38A	1	-0.571209	0.26048650	-2.193	0.0286	-0.06182262	HOW OFTEN PARENTS CHECK ON R'S HOMEWORK
BYS38C	1	0.138661	0.25090721	0.553	0.5806	0.01551154	HOW OFTEN PARENTS LIMIT TIME WATCHING TV
BYP60B	1	0.952386	0.54963917	1.733	0.0835	0.04826955	CHILD STUDY MUSIC OUTSIDE REGULAR SCHOOL
BYS41	1	-0.098467	0.22245420	-0.443	0.6581	-0.01187648	TIME SPENT AFTER SCHL WTH NO ADULT PRSNT
PARFRND	1	0.211407	0.16679284	1.267	0.2053	0.03590899	
PCONTCT	1	-0.637493	0.20835312	-3.060	0.0023	-0.08340518	
PTO	1	-0.154180	0.24356682	-0.633	0.5269	-0.02025370	
BYP59D	1	-0.026776	0.53933624	-0.050	0.9604	-0.00149067	ACT AS A VOLUNTEER AT THE SCHOOL
MPARED	1	1.592688	0.49712346	3.204	0.0014	0.10260505	
MPFRND	1	1.207970	0.58937214	2.050	0.0407	0.06503801	
MPTO	1	2.166640	0.61166793	3.542	0.0004	0.11999898	
MVOLUN	1	-1.890618	1.57631362	-1.199	0.2307	-0.04319570	