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A META-ANALYSIS OF THE RELATION OF PARENTAL INVOLVEMENT TO URBAN ELEMENTARY SCHOOL STUDENT ACADEMIC ACHIEVEMENT

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This meta-analysis of 41 studies examines the relationship between parental involvement and the academic achievement of urban elementary school children. Analyses determined the effect sizes for parental involvement overall and subcategories of involvement. Results indicate a significant relationship between parental involvement overall and academic achievement. Parental involvement, as a whole, was associated with all the academic variables by about 0.7 to 0.75 of a standard deviation unit. This relationship held for White and minority children and also for boys and girls. The significance of these results is discussed.

Keywords: *academic achievement; education; urban; meta-analysis; parental involvement*

During the past two decades, researchers have sought to quantify the influence of parental involvement on the academic outcomes of elementary school children (Marcon, 1999b; Peressini, 1998). Moreover, some educators have increasingly identified parental involvement as the primary vehicle by which to elevate academic achievement from current levels (e.g., Hara, 1998). Many social scientists have argued that in urban areas, in particular, parental involvement may be especially important because of high family dissolution rates, numerous two-parent working families, and unique sociological pressures on children (Crane, 1996; L. R.

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Green, Blasik, Hartshorn, & Shatten-Jones, 2000; S. R. Green, 2001; Hampton, Mumford, & Bond, 1998).

The question, therefore, emerges: Can parental involvement really improve the educational outcomes of urban children? More specifically, four research questions are especially pertinent to parents and educators:

Research Question 1: To what degree is parental involvement associated with higher levels of school achievement among urban students?

Research Question 2: Do school programs of parental involvement positively influence urban students?

Research Question 3: What aspects of parental involvement help those students the most?

Research Question 4: Does the relationship between parental involvement and academic achievement hold across race and gender groups?

To answer these four key questions, it is important to know what the overall body of research indicates. A meta-analysis statistically combines all the relevant existing studies on a given subject to determine the aggregated results of said research. The current study utilizes meta-analysis to examine the effects of parental involvement on urban elementary school children, addressing each of the four research questions listed.

THE IMPORTANCE OF PARENTAL INVOLVEMENT AND THESE FOUR RESEARCH QUESTIONS

Studies indicate American teachers and educational psychologists place great importance on parental involvement to improve educational outcomes particularly among students who face other disadvantages (Eccles & Harold, 1993; Jeynes, in press). However, no meta-analysis examining the effects of parental involvement on the educational outcomes of urban student populations has ever been published in an academic journal. This fact largely contributes to a dearth of knowledge about which

aspects of parental involvement help urban student achievement and just what kind of parental involvement is most important (Christian, Morrison, & Bryant, 1998; Epstein, 2001; Henderson & Mapp, 2002). Urban parents and teachers need specific information to maximize the efficacy of parental involvement.

With these facts in mind, the first research question addresses the degree of association between parental involvement and achievement outcomes among urban students. Some researchers have noted little is known about the effects of parental involvement on the educational attainment of urban students specifically (Jeynes, in press; Shaver & Walls, 1998). Instead, most research tends to focus on the influence of involvement on the general population rather than on urban students in particular. Further complicating the matter is the divergent results of two of the most comprehensive studies on the influence of parental involvement.

Mattingly, Prislin, McKenzie, Rodriguez, and Kayzar (2002) published a research overview or synthesis focusing only on parental involvement programs. The Mattingly et al. (2002) study makes no statistical or meta-analytical attempt to combine the results of the individual studies. Nonetheless, Mattingly et al. (2002) concluded parental involvement programs demonstrated virtually no influence on student academic achievement. Conversely, Fan and Chen (2001) performed a meta-analysis examining the influence of parental involvement on the general student population and concluded parental involvement positively influenced educational outcomes. Adding to the debate is the fact that neither study included calculations for urban students or identified and tested components of parental involvement.

The current study's second research question addresses whether programs of parental involvement affect urban student achievement. Parental involvement programs are school-sponsored initiatives that are designed to require or encourage parental participation in their children's education. It is important to determine if these programs have an impact because even though voluntary acts of parental involvement may positively affect educational outcomes the same may or may not be true of programs, in which

schools require or encourage involvement. Fan and Chen (2001) did not distinguish those studies examining parental involvement programs from other studies that examined parental involvement without the use of programs. This proves problematic in that even if parental involvement effectively raises achievement, this does not necessarily mean parental involvement programs work as well. They are, in essence, two different research questions.

For their part, Mattingly et al. (2002) focused only on parental involvement programs. In addition, they did not include a number of prominent studies in the research synthesis (e.g., Koskinen, Blum, Bisson, Phillips, & Creamer, 2000; Miedel & Reynolds, 1999; Shaver & Walls, 1998). Instead, about one half of the studies were unpublished. Given that unpublished research more likely suffers from statistically insignificant results, their omission of published studies could bias the results in favor of the authors' conclusion; namely, parental involvement programs may have no impact. Furthermore, Mattingly et al. (2002) concluded that some of the studies indicating a statistically significant effect for parental involvement programs actually show no impact.

The third research question addresses specific aspects of parental involvement that help urban students the most. Ballantine (1999) identified many components of parental involvement and asserted it would be helpful if researchers identified the aspects most beneficial to children. Grolnick, Benjet, Kurowski, and Apostoleris (1997) further asserted that when the academic community knows the constructs inherent in parental involvement, it can better predict the family and social attributes most advantageous to producing parents who participate in the educational experience of their children. To fulfill this assertion, a meta-analysis needs to specify what aspects help the most (Hoover-Dempsey & Sandler, 1997).

The fourth research question addresses whether the relationship between parental involvement and educational outcomes holds across racial and gender groups. Clearly, if educators are to be able to espouse the practice of parental educational support, it would be crucial for parental involvement to have an influence that holds for virtually all groups (Jeynes, in press; Muller, 1998).

THE NEED FOR A META-ANALYSIS FOR URBAN STUDENTS

The Mattingly et al. (2002) and Fan and Chen (2001) studies contribute to initiating a broader debate about the influence of parental involvement. However, for the aforementioned reasons, a meta-analysis is needed to assess the effects of parental involvement on urban elementary school achievement, specific manifestations of parental involvement, and parental support programs specifically designed to help urban students. In addition to the four goals listed, this meta-analysis examines what are the effects of parental involvement across different kinds of academic measures, especially standardized versus nonstandardized.

METHOD

ANALYTICAL APPROACH

This meta-analysis examined the relationship between parental involvement and urban elementary student achievement. The first analysis included determining effect sizes for the overall parental involvement variable and for parental involvement programs (Research Questions 1 & 2). The second analysis examined the association between specific components of parental involvement (e.g., parental expectations, participation in school events) with student achievement (Research Question 3). The third analysis examined the relationship between parental involvement and student achievement by race and gender (Research Question 4). The procedures employed to conduct the meta-analysis are outlined.

Each study included in this meta-analysis met the following criteria:

1. It needed to examine parental involvement in a way that could be conceptually and statistically distinguished from other primary variables under consideration. For example, if a school implemented a program that involved nine key features, including parental involvement, and the influence of parental involvement could

not be statistically isolated from the other features, the study was not included in the analysis.

2. It needed to include a sufficient amount of statistical information to determine effect sizes; that is, a study needed to contain enough information so that test statistics, such as those resulting from a *t* test, ANOVA, and so on, were either provided in the study or could be determined from the means and measures of variance listed in the study.
3. If the study used a control group, it had to qualify as a true control group and, therefore, be a fair and accurate means of comparison. Moreover, if the research utilized a control group at some times but not others, only the former comparisons were included in the meta-analysis.
4. The study needed to be set in an urban environment and could be a published or unpublished study.

Because of the nature of the criteria listed above, qualitative studies were not included in the analysis. Although qualitative studies are definitely valuable, they are difficult to code for quantitative purposes, and any attempt to do so might bias the results of the meta-analysis.

DATA COLLECTION METHOD (CODING AND RATER RELIABILITY)

To obtain the studies used in the meta-analysis, a search was performed using every major social science research database (e.g., PsychInfo, ERIC, Dissertation Abstracts International, Wilson Periodicals, Sociological Abstracts, etc.) to find studies examining the relationship between parental involvement and the academic achievement of children from Grades K-6. The search terms included *parental involvement, parents, schools, family, education, parental support, partnership, programs, communication, expectations, reading, attendance, homework, household, rules, parental style*, and several other terms. Reference sections from journal articles on parental involvement were also examined to find additional research articles. Although this search yielded more than 5,000 articles and papers on parental involvement, nearly all of these articles were not quantitative in nature. This process yielded a total of 50 studies that quantitatively examined the

relationship between parental involvement and urban elementary school student achievement. Of these, 41 possessed a sufficient degree of quantitative data to include in this meta-analysis.

STUDY QUALITY RATING

Two researchers coded the studies independently for quality, the presence of randomization, and whether the definitional criteria for parental involvement and specific aspects of parental involvement were met. Study quality and the use of random samples were graded on a 0 (*lowest*) to 3 (*highest*) scale. Quality was determined using the following questions: (a) Did it use randomization of assignment? (b) Did it avoid mono-method bias? (c) Did it avoid mono-operation bias? (d) Did it avoid selection bias? and (e) Did it use a specific definition of parental involvement?

We calculated interrater reliability by computing percentage of agreement on the following: the definition of parental involvement, the specific components examined in each study, issues of randomization, and quality of the study. Interrater reliability was 100% on whether a study examined parental involvement, 97% for the specific components of parental involvement examined in a given study, and 94% for the quality of the study. For the specific components of quality, interrater agreement percentages were 98% for randomization, 94% for avoiding mono-method bias, 94% for avoiding mono-operation bias, 90% for avoiding selection bias, and 94% for using a specific definition of parental involvement.

Two supplementary analyses were done to include first, only those studies with quality ratings of 2 and 3 and second, only those studies with quality ratings of 1 to 3.

STATISTICAL METHODS AND THE EFFECT SIZE STATISTIC

Among the 41 studies that possessed a sufficient degree of quantitative data to include in this meta-analysis, the total number of participants exceeded 20,000. To ensure accurate statistical results, a number of steps were taken to make the meta-analysis more sophisticated. First, the Hedges' *g* measure of effect size was

used (Hedges, 1981). Because it employs the pooled standard deviation in the denominator, it customarily provides a more conservative estimate of effect size. Hedges also provided a correction factor that helps to adjust for the impact of small samples. Effect sizes from data in such forms as *t* tests, *F* tests, *p* levels, frequencies, and *r* values were computed via conversion formulas provided by Glass, McGaw, and Smith (1981). When results were not significant, studies sometimes reported only a significance level. In the unusual case that the direction of these nonsignificant results was not available, the effect size was calculated to be zero.

The analysis herein determines the overall relationship between parental involvement and achievement obtained for each study, as well as specific components of parental involvement mentioned earlier in the Method section. Four different measures of academic achievement were used to assess the effects of parental involvement on achievement. First, there was an overall measure of all components of academic achievement combined. The other measures included grades, academic achievement as determined by standardized tests, and other measures that generally consisted of teacher rating scales and indices of academic behaviors and attitudes. The results presented in the current study reflect the association between parental involvement and achievement found for each facet of parental involvement, using each of these academic categories.

Two sets of statistical procedures were also used to distinguish between those analyses that included sophisticated controls (socioeconomic status [SES], race, gender, or previous achievement) and those studies that did not. The effect sizes were determined using weights based on the inverse of the variance, to give greater weight to studies with larger sample sizes. The results of these procedures are listed in different columns in the tables in the Results section, with the degree of statistical significance and 95% confidence intervals listed for each. An overall effect size was then determined, combining the studies that did and did not use sophisticated controls. No analyses of statistical significance were completed on the combined effect sizes given the different structure of the studies involved.

Supplementary analyses also examined what effect sizes emerged when adjusting for the quality of the study. In one set of analyses, only studies with an average quality rating of 2 or 3 (on a 0 to 3 scale) were included. In the second set of analyses only studies with an average quality rating of 1 to 3 (on a 0 to 3 scale) were included. Tests of homogeneity were completed on the specific components of parental involvement to gain a sense of the consistency of specific parental involvement measures across studies.

For all the analyses, when only one study was included using a specific academic outcome for a specific parental involvement variable, the regression coefficient for this study is listed with a notation indicating the table cell only included one study, to serve as a means of comparison with the various other effect sizes.

DEFINING OF VARIABLES

For the purposes of the current study, parental involvement was defined as parental participation in the educational processes and experiences of their children. The specific parental involvement variables, defined below, were those identified by educators as most frequently practiced by parents, examined by researchers (Deslandes, Royer, Turcotte, & Bertrand, 1997; Epstein, 2001), and hypothesized by theorists as the most fundamental aspects of parental involvement. The categorization of these specific parental involvement variables were based on the precise terms used in the original studies included in the meta-analysis. Given that these social scientists used widely accepted and recognized terms, the proper categorization of effect sizes was nearly always self-evident, for example, those studies included in the meta-analysis for parental expectations generally used precisely the same term.

General parental involvement. Includes the overall measure of parental involvement, as defined by the researchers of a particular study. If a study did not have an overall measure of parental involvement, the effect size of this variable was determined by combining all its discrete measures.

Specific parental involvement. Includes a specific measure of parental involvement, as distinguished from other measures of parental involvement used in the current study.

Communication. The extent to which parents and their children communicated about school activities and reported a high level of communication overall.

Homework. The extent to which parents checked their children's homework before the child handed it in to his or her teacher.

Parental expectations. The degree to which a student's parents held high expectations of the student's promise of achieving at high levels.

Reading. The extent to which parents either have in the past or are in the present reading regularly with their children.

Attendance and participation. Whether and how frequently parents attend and participate in school functions.

Parental Style. The extent to which a parent demonstrated a supportive and helpful parenting approach. In the studies included in the meta-analysis, most frequently this referred to a simultaneous ability to be loving and supportive and yet maintain an adequate level of discipline in the household. It also included styles in which the parent demonstrated such qualities as trust and being approachable (e.g., Baumrind, 1971).

RESULTS

Overall, the results of the meta-analysis indicate that the relationship between parental involvement and urban elementary school student achievement holds for overall measures of parental involvement and for most specific components of parental involvement. In addition, parental involvement is also associated with higher achievement for students of racial minority and for

boys and girls. Statistically significant results emerged consistently across the various kinds of academic measures, although there was some degree of variation in the effect sizes.

Results of the current study indicate the general parental involvement variable usually yielded statistically significant outcomes of approximately seven tenths to three fourths of a standard deviation. Table 1 lists the effects sizes of the 41 studies in descending order. All but one of the effect sizes were in the positive direction and ranged from 0.00 to 1.78. The studies with the smallest samples produced the most extreme effect sizes on either end, consistent with the so-called funnel pattern ideal in effect sizes (Greenhouse & Iyengar, 1994).

Table 2 lists the mean values, determined by the raters, for the quality of the studies, the quality of the definition of parental involvement researchers used in their studies, and the extent to which each study used a random sample. Table 2 also lists the study's mean year and the average sample size. The average quality of the study and the average quality of the definition of parental involvement were 2.15 and 2.05, respectively. The average rating for randomization was 1.44, which was slightly less than the median of a 0 to 3 scale. The mean year a study was undertaken was 1992.1, and the average sample size was 558.9. The correlations between these variables are listed in Table 3. Among the most important correlations, there were no statistically significant relationships between effect size and study quality, year of the study, or randomization. Researchers were more likely to use randomization of assignment if the study occurred in a later year rather than an earlier one.

EFFECT SIZES FOR OVERALL PARENTAL INVOLVEMENT

Table 4 lists the effect sizes that emerged for parental involvement as a whole and for parental involvement programs, addressed under Research Question 1. Beginning with parental involvement in general, the effect sizes were quite similar for the studies that used sophisticated controls, such as race, SES, and gender, and those that did not. The regression coefficients for these

TABLE 1
List of Studies Used in the Meta-Analysis for Parental Involvement,
the Year of the Study, and the Effect Sizes for the Various Studies

Study	Year	Student Sample Size	Effect Size ^a		Study Distinctions
			Without Sophisticated Controls	With Sophisticated Controls	
Bal & Goc	1999	34	+1.78	—	Program
Hess, Holloway, Dickson, & Price	1984	47	+1.62	—	All White children
Griffith	1997	98	+1.54	—	Information from parents alone
Griffith	1996	11,317	+1.11	+.88	Very diverse group of students
Mantzicopoulos	1997	93	+1.04	—	Mostly minority children
Fantuzzo, Davis, & Ginsburg	1995	38	+0.97	—	Program
Woods, Barnard, & TeSelle	1974	80	+0.94	—	Program
Miliotis, Sesma, & Masten	1999	59	—	+0.88	Children who are disadvantaged
Gillmore	1985	18	+0.85	—	Program
Villas-Boas	1998	77	+0.84	—	2 experimental groups
Grolnick & Slowiaczeki	1994	301	+0.67	—	Large majority of White children
McKinney	1975	100	+0.60	—	Program
Marcon	1999b	708	+0.59	—	Many measures of parental involvement
Long	1991	77	+0.59	—	Different types of parental attendance
Koskinen, Blum, Bisson, Phillips, & Creamer	2000	162	+0.57	—	Program
Collazo-Levy & Villegas	1984	98	+0.52	—	Program
Shaver & Walls	1998	257	+0.44	—	Program
Zellman & Waterman	1998	111	—	+0.43	Mostly minority children
Miedel & Reynolds	1999	704	+0.42	—	Program

Reynolds	1992	676	—	+39	All minority children
Taylor, Hinton, & Wilson	1995	566	+37	—	Examined time spent with child and activities
Bermudez & Padron	1990	162	+37	—	Program
Uguroglu & Walberg	1986	970	+37	+17	Very diverse group of students
Marcon	1999a	434	—	+32	Program
Clarke	1993	23	+32	—	Program
Offenberg, Rodriguez-Acosta, & Epstein	1979	264	+31	—	Program
Williams	1999	467	+30	—	Mostly minority children
Hampton, Mumford, & Bond	1998	676	+29	—	All African American students
Yap & Enoki	1995	328	+28	—	Many measures of parental involvement
Marcon	1993	168	+26	—	Almost all African American students
Brutsaert	1998	1,795	+25	—	Public and private schools
Georgiou	1999	413	+24	—	All minority students
Luchuck	1998	80	+20	—	Study covered a 2-year period
Fuligni	1995	662	+20	—	One fourth minority students
Allen	1991	701	+19	—	Used California Achievement Test
Schwartz	1996	1,464	+19	—	Program
Revicki	1981	321	—	+13	Program
Austin	1988	77	+06	—	Program
Lipman	1985	156	+01	—	Focused on math
Nesbitt	1993	136	+01	—	Program
Buchanan, Hansen, & Quilling	1969	83	.00	—	Program

a. Effect sizes are in standard deviation units

TABLE 2
Means for Measures Assessing the Quality of Study,
Whether a Random Sample Was Used, Year of Study, and
Sample Size for the 46 Studies Included in the Meta-Analysis

	M	SD or Percentage Distribution	Range
Year of study	1992.1	7.4	1969 to 2000
Sample size	558.9	1,000+ = 3; 500 to 999 = 8; 100 to 499 = 15; 1 to 99 = 15	18 to 11,317
Quality of study	2.15	3 = 18; 2 = 13; 1 = 8; 0 = 3	0 to 3
Quality of study's definition of parental involvement	2.05	3 = 17; 2 = 13; 1 = 7; 0 = 5	0 to 3
Random sample	1.44	3 = 15; 2 = 5; 1 = 4; 0 = 17	0 to 3

studies were .75 ($p < .01$) and .73 ($p < .01$), respectively. For those studies that did not use elaborate controls the effect size for GPA was .85 ($p < .001$), .40 ($p < .01$) for standardized tests, and .34 ($p = ns$) for other measures. For those analyses that did use controls the betas were .86 ($p < .0001$) for GPA and .21 ($p < .05$) for standardized tests. Possible reasons for the larger GPA effect size are included in the Discussion section.

STUDY QUALITY

In the secondary set of analyses that adjusted for the average quality rating of the study, the effect sizes were slightly greater than when no quality adjustments were made. When only those studies rated 2 and 3 (on a 0 to 3 scale) were included, the effect sizes were .72 ($p < .01$) for those studies that did use sophisticated controls and .78 ($p < .01$) for those that did not. When studies rated 1 to 3 were included, the respective effect sizes were nearly the same at .72 ($p < .01$) and .77 ($p < .01$). As noted in Table 3, the correlation between the study's quality and its effect size was .05. As a result, across all the parental variables examined in the current study no statistically significant differences in effect sizes emerged from adjusting for study quality.

TABLE 3
Correlations Between Measures Assessing the Quality of Study, Whether a Random Sample Was Used, Year of Study, and Sample Size for the 46 Studies Included in the Meta-Analysis

	Correlation With Year of the Study	Correlation With Effect Size of the Study	Correlation With Quality of the Study	Correlation With Quality of Study's Parental Involvement	Correlation With Whether a Random Sample Was Used
Year of study	—	—	.19	.19	.24*
Effect size from study	-.05	—	.05	-.12	.16
Quality of study	.19	.05	—	.53***	.51***
Quality of study's definition of parental involvement	.19	-.12	.51***	—	.21
Random sample	.24*	.16	.51***	.21	—

* $p < .05$. ** $p < .01$. *** $p < .001$.

TABLE 4
Effect Sizes for General Parental Involvement
and Programs of Parental Involvement With
95% Confidence Intervals in Parentheses

<i>Type of Parental Involvement and Academic Variables</i>	<i>Effect Size Without Sophisticated Controls</i>	<i>Effect Size With Sophisticated Controls</i>	<i>Overall Effect Size</i>
General parental involvement			
Overall	.75** (.25, 1.25)	.73** (.23, 1.23)	.74 ^a
Grades	.85**** (.44, 1.29)	.86**** (.66, 1.06)	.85 ^a
Standardized tests	.40* (.06, .74)	.21* (.02, .40)	.37 ^a
Other	.34	NA	.34 ^a
Programs of parental involvement			
Overall	.31* (.06, .56)	.19* (.03, .35)	.27 ^a
Grades	NA	.32 {based on 1 study only}	.32 {based on 1 study only}
Standardized tests	.40** (.10, .70)	NA	.40 ^a
Other	.30* (.04, .56)	NA	.30 ^a

NOTE: NA = Not available.

a. Confidence intervals tabulation not undertaken for combined effect size because of difference in sample distributions for the two sets of studies

* $p < .05$. ** $p < .01$. *** $p < .001$. **** $p < .0001$.

EFFECT SIZES FOR PARENTAL INVOLVEMENT PROGRAMS

Table 4 also lists the effect sizes for the impact of parental involvement programs on the academic achievement of elementary school students, that is, Research Question 2; that is, these results do not assess the influence of parental involvement, which already exists, but attempts by schools to improve parental practices along these lines. For all the analyses combined, parental involvement programs yielded an effect size of .27. For those studies in which no sophisticated controls were used, the effect size was .31 ($p < .05$) and for studies with controls the regression coefficient was .19 ($p < .05$). For all the academic measures examined with no controls used, standardized tests yielded the highest effect size at .40 ($p < .01$). In addition, for all the analyses combined standardized tests yielded the largest effect size (.40). Nevertheless, all the academic

measures yielded very similar effect sizes for all the analyses combined. The effect sizes were generally about three tenths of a standard deviation. Tests of homogeneity for parental involvement programs indicated the programs were relatively homogeneous when sophisticated controls were used ($\chi^2 = 2.87, p = ns$) but were heterogeneous when sophisticated controls were not included ($\chi^2 = 80.46, p < .0001$).

EFFECT SIZES FOR SPECIFIC COMPONENTS OF PARENTAL INVOLVEMENT

Parental expectations. Table 5 lists the effect sizes for various components of parental involvement, addressed in Research Question 3. Parental expectations yielded the largest effect sizes of the specific aspects of parental involvement. For all the analyses combined, the regression coefficient for overall achievement was .58 ($p < .05$). The specific aspects of academic achievement yielded similar regression coefficients. Technically, only the results listed for other measures involved a meta-analysis. This academic variable yielded an effect size of .58. However, the one study that examined the influence of parental expectations of standardized test scores yielded a result of .57 standard deviation units. This result is noted for the sake of comparison.

Parental reading. Whether the mother and/or the father read with the child was also an important predictor of academic outcomes. The regression coefficients were not as substantial as for family expectations. Nevertheless, for all studies combined the regression coefficients were .42 ($p < .0001$) of a standard deviation. In fact, for each one of the specific academic measures under consideration the beta was .42 ($p < .0001$).

Communication between the father and/or mother and children also had an effect size of about one fourth of a standard deviation. The effect for other measures was the highest of the achievement variables at .28 ($p < .01$). Standardized test scores yielded the lowest effect size at .21 ($p < .0001$). Overall, the effect size for communication was .24 ($p < .0001$). For the reading and communication variables, as well as in several other sets of results,

TABLE 5
Effect Sizes for Specific Aspects of Parental Involvement
With 95% Confidence Intervals in Parentheses

<i>Type of Parental Involvement and Academic Variables</i>	<i>Effect Size Without Sophisticated Controls</i>	<i>Effect Size With Sophisticated Controls</i>	<i>Overall Effect Size</i>
General parental involvement			
Mostly minority			
Overall	1.06**** (.68, 1.44)	.84**** (.57, 1.11)	1.01 ^a
Expectations			
Overall	.58* (.12, 1.04)	NA	.58 ^a
Standardized tests	.57 {based on 1 study only}	NA	.57 {based on 1 study only}
Other	.58* (.12, 1.04)	NA	.58 ^a
Reading			
Overall	.42**** (30, .54)	NA	.42 ^a
Standardized tests	.42**** (33, .51)	NA	.42 ^a
Other	.42**** (26, .58)	NA	.42 ^a
Communication			
Overall	.24**** (.22, .26)	NA	.24 ^a
Standardized tests	.21**** (.19, .23)	NA	.21 ^a
Other	.28** (.12, .44)	NA	.28 ^a
Homework			
Overall	-.08	NA	-.08
Standardized tests	-.08	NA	-.08
Parental style			
Overall	.35** (10, .60)	.17**** (.14, .20)	.31 ^a
Grades	.33* (.05, .61)	NA	.33 ^a
Standardized tests	.29* (.04, .54)	.17**** (.14, .20)	.28 ^a
Other	.31	NA	.31 ^a
Specific parental involvement			
Overall	.35** (.13, .57)	.14**** (.08, .20)	.29 ^a
Grades	.37** (.10, .64)	NA	.37 ^a
Standardized tests	.34**** (.15, .53)	.12** (.04, .20)	.21 ^a
Other	.27	.15**** (.13, .17)	.23 ^a
Attendance or participation			
Overall	.21* (.01, .41)	NA	.21 ^a
Grades	.39 {based on 1 study only}	NA	.39 {based on 1 study only}
Standardized tests	.22* (.02, .42)	NA	.22 ^a
Other	.08 {based on 1 study only}	NA	.08 {based on 1 study only}

NOTE: NA = Not available.

a. Confidence intervals tabulation not undertaken for combined effect size because of difference in sample distributions for the two sets of studies.

* $p < .05$. ** $p < .01$. *** $p < .001$. **** $p < .0001$.

the other measures variable had the largest standard deviation of the academic variables examined. The possible reasons for this finding are addressed in the Discussion section.

Checking homework. The effect sizes for checking homework manifested an entirely different pattern of results than the other facets of parental involvement. The effect sizes for checking homework were $-.08$ for overall academic outcomes and standardized tests. Neither of these results was statistically significant.

Parental style. The regression coefficients for parental style (see Table 5) were generally around three tenths of a standard deviation, when one considered all the studies together. For all achievement measures combined the effect size was $.31$. The regression coefficients were slightly higher than this for GPA ($.33$) and other measures ($.31$) and slightly lower for standardized tests ($.28$). However, these differences were small, and it should be noted that only the overall achievement measure and the standardized test measure include both studies with sophisticated and unsophisticated controls.

One should also note the betas that emerged for parental style were much higher in cases in which sophisticated controls were not used versus when they were. The effect size was for overall achievement was about one half the size in studies using sophisticated controls ($.17$, $p < .0001$) than in research results in which these controls were not used. Moreover, the standard deviations and confidence intervals were smaller when sophisticated controls were used. This pattern also emerged in a number of other results and is further elaborated on in the Discussion section.

Specific parental involvement. Although all studies included in this meta-analysis examined the influence of parental involvement on a broad general level, a number of studies also included a specific variable they called parental involvement as one of a number of different kinds of parental involvement variables; that is, a specific parental involvement variable was often included with other involvement variables, such as parental participation in school

events, the expectations of the mother and father, family communication about school, and so on.

As expected, these regression coefficients were smaller than those measuring the overall impact of parental involvement. The effect size for specific measures of parental involvement was .29 for overall measures of achievement. When no elaborate controls were in place the effect size was .35 ($p < .01$) for overall achievement. The regression coefficients for specific measures of achievement were .37 ($p < .01$) for GPA, .34 for standardized tests ($p < .001$), and .27 ($p = ns$) for other measures. The regression coefficient for specific parental involvement was lower when sophisticated controls were used. However, as was the case with a number of the other measures, the confidence intervals were tighter when sophisticated controls were used. For overall achievement the regression coefficient was .14 ($p < .001$). The effect sizes for standardized tests and other measures were very similar in size to the overall measure when sophisticated controls were used.

Parental participation or attendance, which is one of the most ostensible measures of parental involvement, had an overall effect size of .21 ($p < .05$) in studies that did not use sophisticated controls. This was also the regression coefficient for all the research examined for this variable because of the lack of a study using sophisticated controls. Standardized test scores produced a regression coefficient of .22 ($p < .05$).

Homogeneity tests. For most of the parental involvement variables herein the homogeneity tests were not statistically significant, indicating the researchers tested about the same aspect of parental involvement. The specific aspects of parental involvement that did indicate homogeneity included reading to children ($\chi^2 = 3.52, ns$), parental style ($\chi^2 = .02, ns$), communication ($\chi^2 = 1.89, ns$), parental attendance and participation ($\chi^2 = 4.68, ns$), and specific parental involvement ($\chi^2 = .16, ns$).

EFFECT SIZES FOR PARENTAL INVOLVEMENT BY CHILD'S RACE AND GENDER

One of the key questions (Research Question 4) on this issue is whether the relationship between parental involvement and

educational outcomes holds by race and by gender. Tables 6 and 7 list the regression coefficients for parental involvement for students of racial minority and for boys and girls of all those participants examined, respectively. Regarding the results by race, the studies are divided into two different types. The first includes only those studies in which 100% of the participants were racial minorities. The second includes those studies in which a majority (on average about 85%) of the students were racial minorities.

For those studies in the latter category, the effect sizes for overall achievement were 1.06 ($p < .0001$) when no controls were used and .84 ($p < .0001$) when sophisticated controls were in place. The 1.06 effect size was larger than the effect size for students primarily from White families ($p < .001$). However, no statistically significant difference emerged when comparing mostly minority and mostly White students when sophisticated controls were used. For those studies in which all students were of minority racial status the regression coefficients were .29 ($p < .05$) with no sophisticated controls in place and .46 ($p < .01$) for those in which such controls were used. All the effect sizes were at least one fourth of a standard deviation. No comparisons were made with studies of all White students because so few filled this description.

If one combines the effect sizes for all studies that either examined mostly minority students or all minority students, the effect sizes were .92 ($p < .01$) when no controls were used and .69 ($p < .01$) when they were. As in the meta-analysis of all the students in all the studies combined, the effect sizes for grades and other measures were larger than for the standardized tests. The effect sizes for grades were .69 ($p < .01$) and 1.03 ($p < .0001$), when sophisticated controls were and were not used, respectively. The regression coefficients for standardized tests were slightly less than three tenths of a standard deviation using each of these models.

The results also indicate the relationship between parental involvement and achievement exists for boys and girls. The overall effect size for parental involvement was somewhat larger for boys (.62, $p < .01$) than for girls (.52, $p < .01$). However, the effect sizes for parental expectations for boys and girls both exceeded three tenths of a standard deviation and were nearly identical.

TABLE 6
Effect Sizes for General Parental Involvement for
Studies with Mostly Minority and All Minority Students,
With 95% Confidence Intervals in Parentheses

<i>Parental Involvement and Academic Variables</i>	<i>Effect Size Without Sophisticated Controls</i>	<i>Effect Size With Sophisticated Controls</i>	<i>Overall Effect Size</i>
General parental involvement			
Mostly minority			
Overall	1.06**** (.68, 1.44)	.84**** (.57, 1.11)	1.01 ^a
Grades	1.11 (based on 1 large study only)	.85**** (.63, 1.07)	.89 ^a
Standardized tests	.48* (.02, .94)	.34**** (.32, .36)	.43 ^a
Other	.52	NA	.52 ^a
All minority			
Overall	.29* (.05, .53)	.46** (.11, .81)	.41 ^a
Grades	.34** (.07, .61)	.26**** (.16, .36)	.32 ^a
Standardized Tests	.27* (.02, .52)	.26**** (.24, .28)	.26 ^a
Other	NA	.40** (.11, .69)	.40 ^a
Overall	.92** (.27, 1.57)	.69** (.18, 1.20)	.78 ^a
Grades	1.03**** (.54, 1.52)	.69** (.20, 1.18)	.86 ^a
Standardized tests	.29* (.01, .57)	.28**** (.21, .35)	.29 ^a
Other	.52	.40** (.11, .69)	.41 ^a

NOTE: NA = Not available.

a. Confidence intervals tabulation not undertaken for combined effect size because of difference in sample distributions for the two sets of studies.

* $p < .05$. ** $p < .01$. *** $p < .001$. **** $p < .0001$.

Overall, meta-analytic results indicate that almost every major facet of parental involvement examined herein yielded statistically significant results.

DISCUSSION

The current study's results indicate a considerable and consistent relationship between parental involvement and academic achievement among urban students. This also holds when disaggregated by gender and racial minority status.

TABLE 7
Effect Sizes for General Parental Involvement
for Studies for Boys and Girls, With 95%
Confidence Intervals in Parentheses

<i>Parental Involvement and Academic Variables</i>	<i>Effect Size Without Sophisticated Controls</i>	<i>Effect Size With Sophisticated Controls</i>	<i>Overall Effect Size</i>
General Parental Involvement			
Girls	.52** (.17, .87)	NA	.52 ^a
Boys	.62** (.27, .97)	NA	.62 ^a
Parental attendance			
Girls	(based on 1 large study only), .94	NA	(based on 1 large study only), .94
Boys	(based on 1 large study only), .94	NA	(based on 1 large study only), .94
Parental expectations			
Girls	.34* (.04, .64)	NA	.34 ^a
Boys	.38**** (.22, .54)	NA	.38 ^a
Parental style			
Girls	(based on 1 study only), .16	NA	(based on 1 study only), .16
Boys	(based on 1 study only), .42	NA	(based on 1 study only), .42

NOTE: NA = Not available.

a. Confidence intervals tabulation not undertaken for combined effect size because of difference in sample distributions for the two sets of studies

* $p < .05$. ** $p < .01$. *** $p < .001$. **** $p < .0001$.

RESEARCH QUESTION 1: OVERALL PARENTAL INVOLVEMENT

Overall, parental involvement's relationship to urban student academic outcomes was about seven tenths to three fourths of a standard deviation. This is close to what Rosnow and Rosenthal (1996) described as a large effect size (about 0.8). The regression coefficients were somewhat larger for those studies that did not use sophisticated controls versus those that did. This may indicate parental involvement enjoys an influence that largely transcends differences in SES, race, and other factors. This is supported in the

parental involvement data for racial minorities and by gender, which is encouraging in that any group can experience the advantages of parental involvement.

These results appear to support the findings of Fan and Chen (2001) that indicate that there is a strong relationship between parental involvement and academic outcomes. Furthermore, it is apparent from the current study that this relationship holds for urban students. The fact that these results are different than those obtained by Mattingly et al. (2002) is less significant, because the Mattingly study focused only on parental involvement programs. These programs are school initiated rather than parent initiated, and their involuntary nature is, therefore, likely to result in smaller effect sizes. Nevertheless, one should know the effects of these programs.

RESEARCH QUESTION 2: THE INFLUENCE OF PARENTAL INVOLVEMENT PROGRAMS

Another important finding of the current study is that programs meant to encourage parental support in their child's schooling appear positively related to achievement for urban children. As expected, the betas that emerge from these analyses are not as large as those that address the impact of parental involvement as a whole. This is because parents already enthusiastic about supporting the educational progress of their children will, on average, tend to help their children more than parents whose participation is fostered by the presence of a particular program. The positive association between parental involvement programs and educational outcomes also suggests a direction of causality; that is, academic achievement would not influence the presence of parental involvement programs; rather, the inverse would be true.

Although fathers and mothers who initiate high levels of support are more likely to have an ameliorative effect than those parents responding to a particular parental support initiative, it is nevertheless important to discover if parental involvement programs work. For years, teachers and others have held that many of the scholastically weakest students suffer from a lack of parental support and engagement. Therefore, inspiring parents to become

involved, through various programmatic means, could spawn a considerable increase in achievement among these students.

The results of Research Question 2 run contrary to claims by Mattingly and her colleagues (2002) that parental involvement programs do not work. The effect sizes that emerge from the parental involvement programs are noteworthy for a number of reasons. First, they indicate that emboldening parental support of student academics appears to produce some positive impact for all students. This finding will indubitably comfort numerous teachers attempting to abet additional parental involvement. Second, they indicate parental involvement may represent an important means of raising the educational outcomes of struggling urban students specifically. The fact that most of the studies that initiated programs of parental support involved struggling school children suggests parental involvement can be a means of reducing the achievement gap between these students and those more advanced scholastically.

Third, it points to the benefits of teachers encouraging a higher level of parental participation in their child's education. Research indicates a myriad of teachers claim reaching out to parents will yield little fruit, as parents either cannot or will not become involved (Jeynes, in press). However, the examination of urban parental involvement programs in this meta-analysis suggests otherwise. Finally, the finding that parental involvement programs were effective for urban students is particularly encouraging because studies have indicated how low SES, urban parents are generally less educationally supportive than most other parents (Hampton et al., 1998).

RESEARCH QUESTION 3: SPECIFIC COMPONENTS OF PARENTAL INVOLVEMENT

In addition, nearly all of the individual components of parental involvement were positively and significantly related to educational outcomes. Naturally, the specific components of parental involvement were not correlated with school results as strongly as parental involvement as a whole. Nevertheless, the fact that the various aspects of parental involvement yielded

statistically significant results highlights the extent to which parental involvement influences urban student achievement.

Much of this meta-analysis examines the specific aspects of parental involvement. These findings are particularly helpful in that they indicate which kinds of parental involvement influence academic success. One definite pattern that emerged is that some of the most potent facets of parental involvement are some of the more subtle aspects of family support. Most notably parental expectations and style each demonstrated a strong relationship with scholastic outcomes. Thus, it was not particular actions such as attending school functions, establishing household rules, and checking student homework that yielded the statistically significant effect sizes. Rather, variables that reflected a general atmosphere of involvement produced the strongest results. Parental expectations and style may create an educationally oriented ambience, which establishes an understanding of a certain level of support and standards in the child's mind.

In two ways this finding is encouraging. First, some parents likely influence their child's educational achievements to a greater degree than they realize. Through their expectations for success and a style of parenting they establish an atmosphere conducive to strong achievement. Second, to those parents who inquire about how to become more involved, the answer may be easier than teachers commonly believe.

In contrast, it should be noted that parents checking on student homework did not yield statistically significant results. This does not necessarily suggest the practice's ineffectiveness. Rather, it may be that the meta-analysis measured an underlying dynamic across the studies. Namely, the students whose homework was most likely checked by their parents were those who most needed it, that is, challenged students. However, this may also suggest that checking on urban children's homework may not be as effective an expression of parental involvement as many educators currently believe.

It should also be noted that parental attendance and participation did not yield large effect sizes as one might expect. Indeed, they were generally slightly greater than two tenths of a standard deviation—substantively smaller than other parental involvement

variables. This meta-analysis, therefore, questions current beliefs about parental support mechanisms considered exemplary (e.g., checking homework, attending school functions). The most important aspects of parental involvement, at least for urban students, appear to be more subtle.

RESEARCH QUESTION 4: PARENTAL INVOLVEMENT BY RACE AND GENDER

One of the most remarkable patterns that emerged from this meta-analysis is the broad association between parental involvement and school achievement. The correlation generally held across race and gender. That the relationship between parental support and educational outcomes held across race is particularly important for educators and parents in an increasingly diverse country. In fact, this meta-analysis included so many different types of samples one can conclude this relationship holds across different cultures, backgrounds, and situations.

The results of the current study are particularly encouraging because these findings suggest that parental involvement may be one means of reducing the achievement gap that exists between White students and some racial minority groups (Bronstein, Stoll, Clauson, Abrams, & Briones, 1994; Hampton et al., 1998). A number of educators and sociologists have advocated this position, and the results of the current study support their theories (Bronstein et al., 1994; Hampton et al., 1998; Offenber, Rodriguez-Acosta, & Epstein, 1979). One should also note that many of the parental involvement programs included in the current study focused on minority students. Therefore, this meta-analysis suggests that parental involvement overall may reduce the achievement gap and that programs of this nature may help as well.

The current study's broad range of statistically significant effect sizes for parental involvement supports prior claims about the relationship between parental support and educational outcomes when applied to race (Mau, 1997; Sanders, 1998; Shaver & Walls, 1998; Villas-Boas, 1998), gender (Muller, 1998), and background (Griffith, 1996; Hampton et al., 1998). Nevertheless, encouraging parental involvement is not easy. Unquestionably, some family

situations more easily lend themselves to greater parental involvement than others. For example, research indicates strong relationships between parental involvement, SES, and whether a child is from an intact family (Jeynes, 2002a, 2002b; McLanahan & Sandefur, 1994). Nevertheless, results of this meta-analysis indicate the success of parental involvement programs and the worth inherent in efforts to increase parental participation in their children's education.

PARENTAL INVOLVEMENT ACROSS DIFFERENT ACHIEVEMENT MEASURES

Statistically significant effects emerged not only for overall academic achievement but also for GPA, standardized tests, and other academic measures. One noticeable trend concerns a greater relationship between parental involvement and grades and other measures, such as teacher ratings, rather than standardized tests. This pattern is not surprising for at least two reasons. First, parental involvement tends to focus on classroom-based assignments rather than preparing for standardized tests.

Second, teachers themselves are influenced by parental involvement. A teacher plays a major role in the grades and ratings a student receives in class, and a high degree of parental involvement likely influences how the teacher perceives and even grades the child. Thus, unlike standardized tests, grades reflect (a) a positive relationship between the parent and the teacher; (b) a sense of teamwork between the parent and the teacher, because of increased communication between the two; and (c) an acknowledgment by the teacher of parental efforts.

Another trend of note is tighter confidence intervals and smaller standard deviations for the standardized test scores. This reflects the high levels of reliability inherent in standardized tests as compared to less objective measures, such as teacher ratings and grades, which can be more easily influenced by the unique perspective and biases of the assessor.

Finally, including only higher quality studies in the meta-analyses also did not markedly influence effect sizes, particularly for those studies with sophisticated controls. It is not surprising to

note, those studies with sophisticated controls were generally among the studies highest in quality. Of course, neither of the findings is surprising given the .02 correlation between study quality and effect size.

LIMITATIONS OF STUDY

The primary limitation of this meta-analysis, or any meta-analysis, is that it is restricted to analyzing the existing body of literature. Therefore, even if the researcher conducting the quantitative integrations sees ways the studies included could have been improved, there is no way to implement those changes. A second limitation of a meta-analysis is that the social scientist is limited to addressing the same research questions addressed in the aggregated studies. For example, it would be advisable to have parental expectations measures from all the studies included; however, one can only aggregate the existing results.

RECOMMENDATIONS FOR FURTHER RESEARCH

The results of the current study are particularly important given the achievement gap between urban students and their counterparts in nonurban areas (Bronstein et al., 1994; Hampton et al., 1998). Indeed, the current study's findings suggest parental involvement may effectively contribute to reducing that gap. Nevertheless, further research is needed to examine why certain aspects of parental involvement, particularly those that involve creating an educationally oriented atmosphere, are more noteworthy than others. Additional research can also help determine why parental involvement strongly influences the achievement of minority children in particular. Future research should also incorporate sophisticated statistical techniques, such as randomization and the use of hierarchical linear modeling.

Two lines of research could especially prove fruitful. Given that this meta-analysis provides evidence that parental involvement programs help struggling urban students, social scientists should

undertake more studies to determine which programs work best and why. Qualitative research can also supplement the findings of the current study by ascertaining the ways that teachers, parents, and students perceive that parental involvement benefits students the most.

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