

*Untying the Knot:
Review of Research on the
Influence of Parental Involvement
on Students' Academic
Achievement at the
Secondary School Level*

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Students' Academic Achievement at the Secondary School Level**

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Abstract

The idea that parental involvement engenders students' academic achievement is so intuitively appealing that society in general, and educators in particular, have considered parental involvement an important ingredient for the remedy of many ills in education today. In the 1980s and early 1990s, a number of studies were published that suggested the importance of parental involvement. In response, in the mid-1990s, the popular press, policy makers, and school administrators promoted parental involvement. Legislation was enacted, such as the Goals 2000: Educate America Act and the reauthorized Elementary and Secondary Education Act (ESEA). However, in the late 1990s, research began appearing that questioned the preeminence of the parental role. A landmark in this debate was Judith Harris's 1998 book, *The Nurture Assumption*, in which Harris argued that parents have little or no influence over the long-term development of their children's personality or academic success. Other studies have followed, suggesting that parental involvement may not matter as much or in the ways that had been believed. This paper reviews the research literature on the influence of parental involvement on academic achievement, with particular attention to the secondary school level.

Key words: Academic achievement, parent involvement, parental influence, peer influence, personality

Introduction

There is a great need to determine how parental involvement affects student achievement. Such knowledge could inform parenting practices as well as school-based practices for working with parents. It might also inform the design and development of interventions—such as educational programs and products—that would leverage parental influences for the benefit of students’ academic achievement. However, the literature on parental involvement is “knotty”—complex and sometimes contradictory. This review examines the current literature on the relationship between parental involvement and academic achievement at the middle and high school levels and suggests implications for further research.

Background

The idea that parental involvement (PI) engenders students’ academic achievement is so intuitively appealing that society in general, and educators in particular, have considered PI an important ingredient for the remedy of many ills in education today. In the 1980s and early 1990s, a number of studies were published that suggested the importance of parental involvement. In response, in the mid-1990s, the popular press, policy makers, and school administrators promoted PI. Legislation was enacted, such as the Goals 2000: Educate America Act and the reauthorized Elementary and Secondary Education Act (ESEA), which has made parents’ involvement in their children’s education a national priority (Baker & Soden, 1998). Schools are being encouraged to reexamine their parent-involvement policies and programs and to demonstrate innovative approaches in order to obtain federal education dollars (e.g., eligibility for Title I funding is now contingent on the development of agreements where families and schools assume mutual responsibility for children’s learning).

In the late 1990s, research began appearing that questioned the preeminence of the parental role. A landmark in this debate was Judith Harris’s 1995 article in *Psychological Review*, which was followed by a 1998 book, *The Nurture Assumption*. In these works Harris asserted that parents have little or no influence over the long-term development of their children’s personality or academic success. This work is a challenge to what Harris termed the *nurture assumption*, the assumption that *nurture*—especially parenting—is the dominant influence on how children turn out. At the heart of Harris’ critique is that correlations between parent-involvement variables and a child’s intelligence or personality as an adult do not demonstrate that differences in parents’ rearing practices are actually causing differences in how

children turn out. The lack of experimental data severely limits causal inference. Others studies have followed, similarly suggesting that parenting may not matter as much as has been believed.

While most practitioners and researchers support the policy direction of increased parental involvement in their children's lives, confusion persists regarding an appropriate definition of parental involvement and the activities, goals, and desired outcomes of various parent-involvement programs and policies. Less is known about parental involvement than is commonly assumed. Unfortunately, early studies suggesting the importance of parental involvement are treated as definitive, regardless of the equivocal nature of the data, and they are used to support the position that all types of parental involvement are important. According to Ho and Willms (1996), PI has been treated too long as a one-dimensional construct.

Thus, it is apparent that identifying the influence of PI on academic achievement is complicated by at least three factors: (a) researchers use different definitions for the PI construct; (b) there is a paucity of experimental studies in the PI research literature, leading to a heavy reliance on correlational data; and (c) mediating factors and interacting variables in the PI-academic achievement story are often ignored. Any effort to "untie the knot" of PI in academic achievement must address these issues.

Purpose

This report reviews the research literature on the relationship between parental involvement and academic achievement, specifically focusing on the secondary school (middle and high school) level. This review will begin by examining how different studies operationalize parental involvement. A variety of parent-involvement variables will be identified, and their diverse relationships to academic achievement will be described. This review will discuss key areas of controversy and areas for further research.

Methodology

We began this literature review process by gathering and reviewing many resources: books, reviews, meta-analyses, and individual articles. Among the sources we employed toward this end were EBSCOhost, PsycInfo, ERIC, Google Scholar, and the Brigham Library at Educational Testing Service. We then identified exemplary studies (i.e., those that were widely cited and those that were large-scale studies), and concurrently sought to identify alternate

perspectives. Finally, we derived implications from these documents for future research and development efforts.

The resources that we reviewed were divided among the following: eight books, three large literature reviews, two meta-analyses, five NELS:88 reports (i.e., the National Education Longitudinal Study of 1988, Institute of Education Sciences, n.d.), six longitudinal studies, and more than 50 individual studies reported in journal articles, book chapters, and research reports.

How Studies Operationalize Parental Involvement

As noted earlier, many studies examine PI, yet few operationalize it the same way (e.g., Baker & Soden, 1998). Such differences in definitions make it very difficult to assess cumulative knowledge across studies. Three of the more prevalent facets of PI include the following:

- *Attitudinal components* of PI, such as aspirations or expectations for the child's educational success.
- *Behavioral aspects* of PI, such as parents' assistance with homework or attendance at parent-teacher meetings.
- *Stylistic components* of PI, such as parenting style or family interaction patterns.

Studies that focus on one aspect of PI often define that aspect differently or focus on different characteristics of it, which makes it very difficult to accumulate knowledge across studies and can lead to contradictory findings. For example, consider just one aspect of PI listed above—parenting style and its relationship to academic achievement. We examined 26 articles that studied parenting style in some form or another. Representative characteristics include authoritative style, joint decision making, personal involvement in children's lives, behavioral supervision, discussion of education with one's children, firm disciplinary practices, permissive (or indifferent) styles, limit setting, strong communication, and maternal and paternal styles. Following are two opposite sets of findings in the literature on the variable of parenting style.

Positive association. Authoritative parenting style—characterized by high levels of warmth and nurturance—was referred to in seven articles. They all reported a positive association with student achievement except for one study that showed no effect for first generation Chinese Americans (Chao, 2001). Five articles indicated a positive association between student achievement and the parental practice of discussing education with their children. Deslandes, Potvin, and Leclerc (1999) found that parenting practices contribute more to

students' academic achievement than other family characteristics. Child perception of parenting style was referred to in one article, which reported that student perceptions of parenting style, involvement, and teacher/school factors strongly predicted school achievement (Marchant, Paulson, & Rothlisberg, 2001).

Negative or no association. One study reported that parental involvement in the form of behavioral supervision has a negative association with academic achievement (Catsambis, 1998). Another study found that firm disciplinary practices were unrelated to a child's academic success (Miliotis, Sesma, & Masten, 1999), based on a sample of 59 6-11 year old African Americans from homeless families. A survey with Korean American adolescents showed that differences in maternal parenting styles did not significantly relate to adolescents' academic achievement (Kim & Rohner, 2002). And finally, McNeal (1999) showed that parental involvement generally explained behavioral but not cognitive outcomes and had greater effects for more affluent and white students.

Figure 1 depicts some of the more prominent types of parental involvement found in the literature.² We have grouped these variables into two main categories—home and school activities.

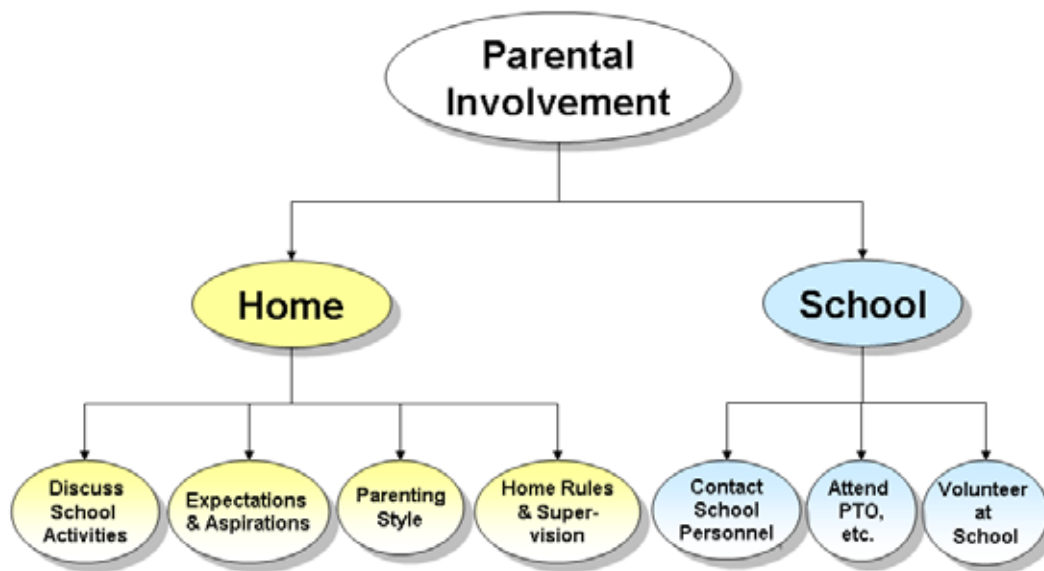


Figure 1. Major variables comprising parental involvement, grouped as home versus school variables.

Results

The results are presented in three sections: (a) general findings, (b) details on selected PI variables, and (c) a review of some widely-cited studies that ground the general findings.

General Findings

Some studies have reported fairly consistent associations between parent involvement variables and academic achievement. Moreover, the cumulative knowledge from existing studies suggests the importance of certain types of parental involvement, including the following:

- *Parent expectations and aspirations.* High yet reasonable parent expectations and aspirations are positively associated with student achievement at the middle school and high school levels (e.g., Fan & Chen, 2001).
- *Parenting style.* Autonomy-promoting parenting practices, which reside midway between authoritarian and permissive parenting styles, are positively associated with academic achievement (e.g., Lamborn, Mounts, Steinberg, & Dornbusch, 1991) compared to other parenting styles.
- *School involvement.* PTA/PTO participation, community involvement, volunteer work, and so on have shown positive association with academic achievement (e.g., Keith et al., 1993).
- *Checking homework.* Parents checking their children's homework has shown a negative association with academic achievement, while participation in joint learning activities at home has shown a positive association with academic achievement (Tizard, Schofield, & Hewison, 1982).
- *Home supervision and rules.* Moderate levels of parental support (Kurdek, Fine, & Sinclair, 1995), combined with appropriate monitoring of home-related behaviors such as television viewing have shown a positive association with student academic achievement (Clark, 1993).
- *Reading at home.* Parent modeling and support of the child's reading and providing a stimulating literacy and material environment (Snow, Barnes, Chandler, Goodwin, & Hemphill, 1991) has shown positive association with subsequent academic pursuits.

While each of these PI variables has shown some relationship to students' academic achievement, it is also clear from recent research that the effects are complex. For instance, studies have found interactions between some of these PI variables and ethnicity, family

structure, maternal employment status, socioeconomic status, and gender (e.g., Desimone, 1999; Keith et al., 1993; Lee & Croninger, 1994; Milne, 1989), to name a few. Consequently, we can view these as potentially moderating or mediating variables in relation to student achievement.

To summarize, the general findings of our literature review are that there is a small to moderate association, overall, between PI and academic achievement. The strongest associations appear to be: (a) discussions about school activities between parent and child (positive), (b) parents' aspirations/expectations for their children (positive), and (c) parental styles, particularly authoritative style (positive) and authoritarian and permissive styles (negative).

Details on PI Variables

The PI variables reviewed in this section show consistently positive associations with academic achievement, generally in the small to moderate range. We found no consistently strong positive correlations of any PI variable with academic achievement. These variables include (a) children's talking with parents about school activities and plans, (b) parents holding high expectations/aspirations for their children's schooling, and (c) parents employing an authoritative parenting style. We conclude this section with some words about student versus parent perspectives. Note, too, that PI relationships may be moderated by ethnicity and income.

Parent-Child Discussions About School

The parent-child discussion variable refers to ongoing conversations between parents and their children concerning school-related activities, programs, near- and long-term school plans, and other academic issues. This variable frequently yields the strongest positive association with academic achievement (e.g., Catsambis, 1998; Desimone, 1999; Ho & Willms, 1996; Keith et al., 1993; McNeal, 1999).

One interesting subtlety involving this variable is that talking with one's mother is positively associated with academic achievement, but the association between talking with one's father and academic achievement may depend on ethnicity and also on whether the student or parent is reporting (e.g., Desimone, 1999). For instance, talking with one's father shows no correlation to academic achievement when data are collapsed across ethnicities, but talking with fathers for Black and Hispanic students is negatively related to achievement, while for Asian students talking with fathers is positively related to achievement.

Parental Aspirations and Expectations

Parental aspirations and expectations are often described collectively or used interchangeably in the literature. Taken together, aspirations and expectations reflect the degree to which parents' presume that their child will perform well in school, now and in the future. This variable (or these variables) appears in many PI research studies and is generally shown to have a positive relationship to academic achievement. For example, parental aspirations/expectations is the strongest dimension in the Fan & Chen (2001) meta-analysis examining effects on academic achievement, as well as the strongest predictor in the Singh et al. (1995) structural equation modeling approach.

To date, of the PI papers we reviewed, the articles and large-scale studies that focus on parental expectations report a positive effect on student achievement. One caveat related to this variable is that having high expectations with moderate levels of parental support and supervision is positively related to academic achievement (Baker & Soden, 1998).

Parenting Style

Another important PI variable in the literature concerns parenting style. Parenting style is defined as a complex set of behaviors and/or attitudes by which parents demonstrate and communicate the values, behaviors, and standards that their children are expected to adopt. According to various researchers (e.g., Baumrind, 1971; Maccoby & Martin, 1983; and Paulson, 1994), parenting style may be viewed along two dimensions: responsive and demanding (see Figure 2).

		Responsive	
		Low	High
Demanding	Low	<i>Indifferent</i>	<i>Permissive</i>
	High	<i>Authoritarian</i>	<i>Authoritative</i>

Figure 2. Two dimensions underlying parenting style: responsive and demanding, yielding four distinct styles.

An *authoritative* parenting style is consistently and positively associated with student academic outcomes. This style is characterized by parents who are both responsive and

demanding (lower right hand corner of Figure 2). On the other hand, *authoritarian* and *permissive* styles (as well as *indifferent* styles) are negatively related to academic achievement (Baumrind, 1978; Demo & Cox, 2000; Dornbusch, Ritter, Leiderman, & Roberts, 1987; Radziszewska, Richardson, Dent, & Flay, 1996).

Children's Versus Parents' Perspectives

We also found that children's perceptions about PI variables appear to be better predictors of student achievement than parents' perceptions (e.g., Desimone, 1999). In addition, PI and its probable influence on achievement declines as children progress through school (Patrikakou, 2004; Zill & Nord, 1994). There are several possible reasons for this decline: (a) middle and high schools become more complex, with more demanding curricula that can intimidate parents; (b) there are fewer school outreach efforts to involve parents in the secondary school years; and (c) parents may exert progressively less influence over their adolescent children as they begin to become more independent (Azmitia & Cooper, 2001; Harris, 1998).

Showcase Studies

This section showcases four major studies that have been conducted in the area of parental involvement and academic achievement: (a) Fan and Chen (2001), (b) Desimone (1999), (c) Keith et al. (1993), and (d) Ho and Willms (1996). These studies ground some of the general results, and go into detail about different findings.

Fan and Chen (2001) Meta-Analysis

The first study is a meta-analysis conducted by Fan and Chen (2001). The sample size was 133,577 students in 25 different studies, yielding 92 correlation coefficients. The method they used was to calculate average correlations between PI (overall construct or specific dimension) and academic achievement. Parental involvement dimensions included educational expectation/aspiration for children, communication with children about school-related matters, parental supervision and home structure related to school matters, parental participation in school activities, and other/general parental involvement activities.

The result from their analysis regarding the relationship of PI (or a dimension of PI) to academic achievement is that the overall correlation equals .25. Based on Cohen's (1988) suggested guidelines about the magnitude of correlation as an effect-size measure, a correlation

of .25 is a “medium” effect size. The largest correlation was between parents’ aspirations and expectations for children’s educational achievement (average r about .40); and the smallest correlation was between parents’ supervision of the child at home (e.g., rules for watching TV and doing school work), with an average r about .09.

Desimone (1999) Regression Analyses

The analysis conducted by Desimone (1999) examined specific PI variables for a large sample ($N = 19,386$) of 8th graders in the NELS:88 data. Table 1 shows the results of regressing 12 individual PI variables on one achievement variable—scores on a standardized test of mathematics. The adjusted R^2 for this regression is .29, which corresponds to an r -value of .54. This falls in Cohen’s range of “large” effect sizes. We conclude that the association between PI variables and academic achievement ranges from negative to large positive, with key aspects of PI often having small to moderate associations.

Similar, but not shown, are results of regressions of the same 12 variables on two other achievement variables—scores on a standardized test of reading, and an average of self-reported grades in English, mathematics, science, and social studies. These regressions had R^2 values of .26 and .22, respectively.

Among the 12 variables predicting mathematics outcome, the strongest predictors of achievement include (a) students reporting they talk with their parents about school (positive variable), (b) parents reporting contact with the school (negative variable), and (c) students reporting that parents check their homework regularly (negative variable).

Consider the first variable in Table 1, a composite score representing the variable *talk with parents about school* (C, S). This composite variable, collected from the student reports, consists of the following four individual variables from NELS:88: (a) talk to mother about planning high school program, (b) discuss programs at school with parents, (c) discuss school activities with parents, and (d) discuss things studied in class with parents. The result suggests that this composite variable may be an important determinant of mathematics achievement.

Another interesting finding in this table is that for whether the student or the parent reports on rules in the home (see Variables 4 and 5 in Table 1). That is, if the child perceives that parents have rules about doing chores, watching television, and going out with friends (Variable 5), there is a positive relationship to achievement. However, if the parent reports having rules in

the home—such as maintaining grade average, doing homework, and being responsible for certain household chores (Variable 4)—we see a negative relationship to math achievement. Similarly, there is an opposite relationship involving talk about school. From the students’ report, this represents a positive relationship to math achievement (Variable 1), but from the parents’ report, this represents a negative relationship (Variable 12).

Table 1

Parental Involvement Variables and Their Relationship to Mathematics Achievement, Arrayed From Most-to-Least Significant

Independent variables	t-value
1. Talk with parents about school (C, S)	25.39
2. Contact school about academics (C, P)	-16.63
3. Parents check homework (S)	-15.24 ³
4. Rules on homework, GPA, chores (C, P)	-12.45
5. Rules on TV, friends, etc. (C, S)	9.99
6. Knowing parents of child’s friends (P)	8.05
7. PTO involvement (C, P)	7.41
9. Volunteering, fundraising, etc. (C, P)	5.36
10. Talk with father about school program (S)	-3.69
11. Talk about post high-school plans (P)	3.10
12. Talk with child about school issues (C, P)	-2.85

Note. C = composite score; P = parent report, and S = student report. All variables are significant at the $p < 0.05$ level or better.. From “Linking Parent Involvement With Student Achievement: Do Race and Income Matter?” by L. Desimone, 1999, *The Journal of Educational Research*, 93(1), p. 15. Copyright 1999 by Heldref Publications. Adapted with permission.

Desimone further examined the data in terms of ethnicity (beyond what is presented in Table 1) and reported some interesting patterns of predictor variables. For example, the variable, *talk with father about school* showed a positive relationship to math achievement for Asian children, a negative relationship for Black and Hispanic students, and no significant relationship

for White students. The variable *rules on homework, chores, TV, etc.* was positively related to math achievement if reported by Asian children and negatively associated with math achievement if reported by White parents. Finally, the variable *parents check homework* has a significant negative association with achievement across all ethnicities. As we will describe in more detail in the discussion section, one reason for this negative association between increased parental supervision and academic achievement may be that parents scrutinize homework more when there are academic problems than when academic issues are not present.

Keith et al. (1993) Structural Analyses

Our third showcase study was conducted by Keith et al. (1993). This widely cited study attempts to establish causal relationships using a sample of about 22,000 8th grade students. This study uses the technique of structural equation modeling (SEM), which entails defining a causal model to which the data are fitted.

Some of the variables that were shown to best fit the causal model relating parental involvement and student achievement included (a) aspirations/expectations, (b) talking about school, (c) structure in the home in the form of rules, and (d) participation in school activities such as PTA/PTO. Figure 3 shows these four variables and example questions from the NELS:88 survey.

Results showed that these four variables are not correlated and thus PI is multidimensional. In fact, when the structure and participation variables were removed, as shown in the model depicted in Figure 4, the model fit better.

The student achievement variable (on the right of Figure 4) was derived from scores from short standardized tests of reading, math, science, and social studies (history, citizenship, and geography), developed for NELS by ETS. The largest predictor of student achievement is, not surprisingly, students' previous achievement. However Keith et al. also found unique variance attributed to the PI variable.

Keith et al. also found unique variance attributable to ethnicity. The authors coded ethnicity as 1 for *White and Asian* and 0 for *Black, Hispanic, and Native American*. While White and Asian students showed generally higher achievement than Black, Hispanic, and Native American students, what is interesting is that parents of ethnicity 0 reported more parental involvement than parents of Ethnicity 1 (shown by the inverse relation between ethnicity and PI).

Finally, the data for family socioeconomic status (SES, reflected by the family background variable) showed that higher SES was associated with higher student achievement.

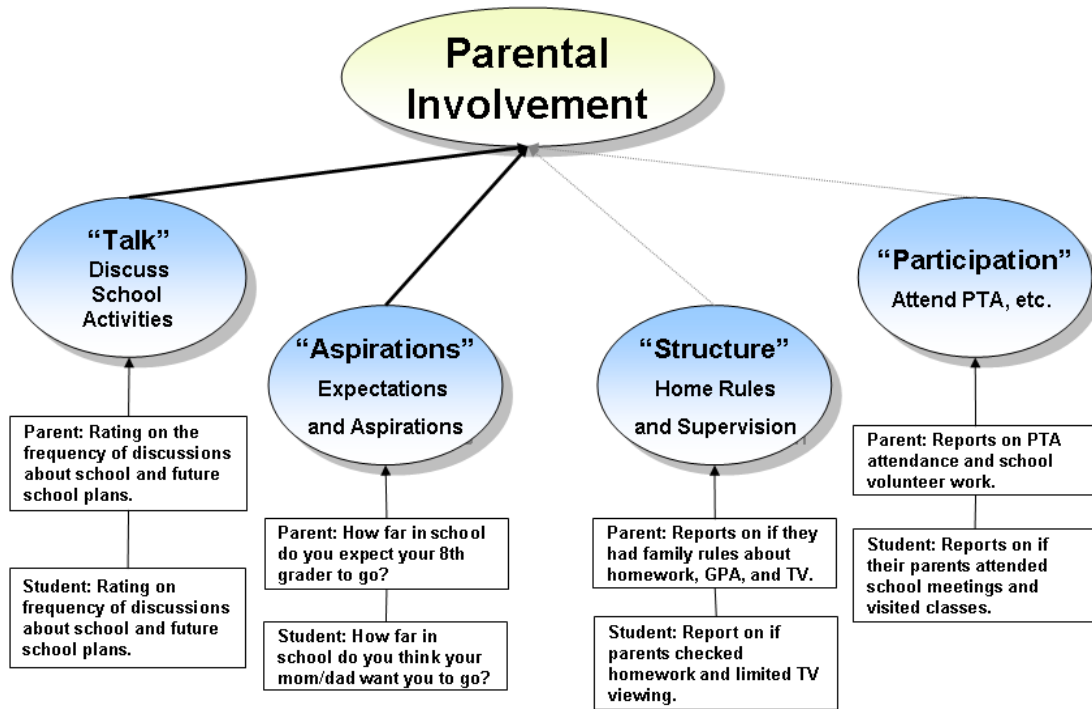


Figure 3. Original four variables underlying the PI construct in the Keith et al. (1993) study.

Note. From “Does Parental Involvement Affect Eighth-Grade Student Achievement? Structural Analysis of National Data,” by T. Z. Keith, P. B. Keith, G. C. Troutman, P. G. Bickley, P. S. Trivette, and K. Singh, 1993, *School Psychology Review*, 22(3), pp. 483, 486. Copyright 1993 by the National Association of School Psychologists, Bethesda, MD. Adapted/reprinted by permission of the publisher. www.nasponline.org

Ho and Willms (1996) Factor Analysis

Our final showcase study is by Ho and Willms (1996). They computed regression and factor analyses using NELS:88 data. Table 2 shows the main findings relating to mathematics achievement. (Note: the same pattern of results in terms of significant variables was reported for reading).

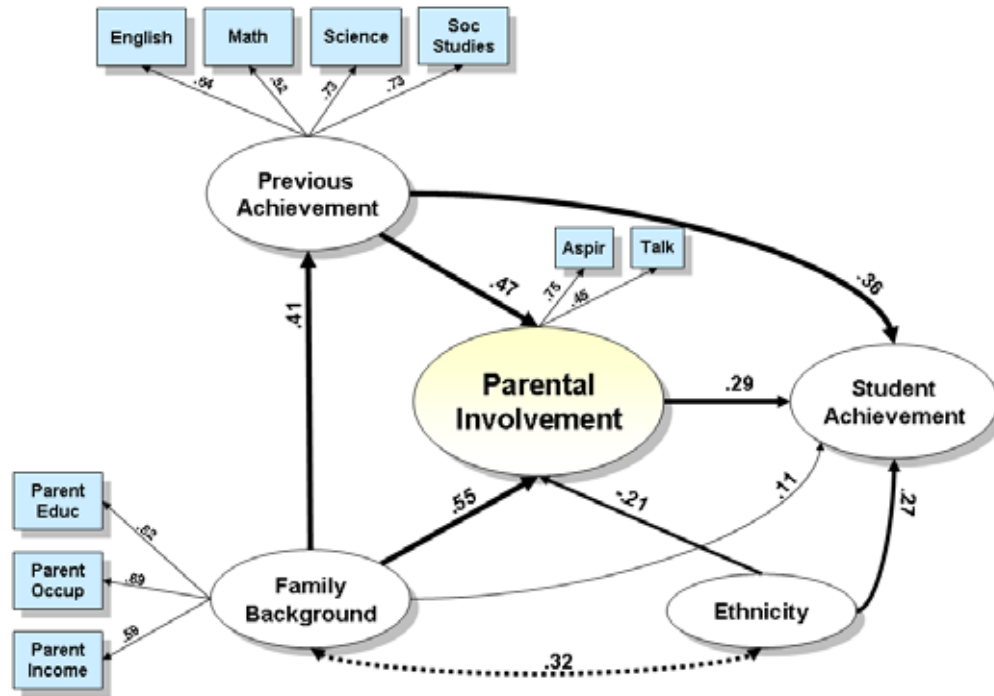


Figure 4. Keith et al.'s (1993) structural equation model of parental involvement variables and student achievement.

Note. From “Does parental involvement affect eighth-grade student achievement? Structural analysis of national data,” by T. Z. Keith, P. B. Keith, G. C. Troutman, P. G. Bickley, P. S. Trivette, and K. Singh, 1993, *School Psychology Review*, 22(3), p. 488. Copyright 1993 by the National Association of School Psychologists, Bethesda, MD. Adapted/reprinted by permission of the publisher. www.nasponline.org .

All of the variables were significant at the $p < .01$ level except for the non-significant effects of (a) number of parents in the home, and (b) home supervision (e.g., rules), both of which may be contrary to conventional wisdom (i.e., the deleterious effects of single-parent homes on achievement, and the importance of rules). Of the PI variables, the largest predictor of mathematics achievement is again the degree to which parents and children talk about school (i.e., home discussion). Finally, Ho and Willms reported that PI made a significant unique contribution to explaining variation in students’ academic achievement, over and above the effects associated with parental background.

Table 2***Relationship Among PI Variables, Family Variables, Ethnicity, and Mathematics Achievement***

Independent variables	Coeff	SE
Parental involvement factors		
Home discussion ⁴	.12**	.006
Home supervision	.01	.005
School communication	-.05**	.006
School participation	.03**	.006
Family and student background		
SES	.26**	.007
Number of siblings	-.02**	.003
Number of parents	-.01	.014
Learning problem	-.65**	.023
Behavioral problem	-.19**	.019
Race/ethnicity		
Asian or Pacific Islander	.21**	.023
Hispanic	-.22**	.019
Black	-.45**	.202
Native American	-.37**	.050

Note. From “The Effects of Parental Involvement on Eighth Grade Achievement” by E. Ho and J. D. Willms, 1996, *Sociology of Education*, 69, p. 136. Copyright 1996 by the American Sociological Association. Adapted with permission.

** Significant at the $p < .01$ level.

Discussion

Some of the main limitations of PI research, in conjunction with possible ramifications, are summarized in Table 3.

The Need for Caution in Interpreting Correlational Data

One observation from reviewing this literature concerns the need to be cautious about interpreting correlational data. For instance, we saw earlier that the variable *parents checking homework* is negatively associated with student academic achievement. This is likely because parents tend to check homework more vigilantly when there are academic problems, making parental involvement in the form of homework checking an effect rather than a cause of academic achievement. Further, actually doing homework (by the child) has been shown to be positively associated with academic achievement (Keith et al., 1993).

Table 3.

Limitations of PI Research and Their Ramifications

Limitation	Ramification
Use of nonexperimental design	Inability to distinguish between correlation and causation.
Inconsistent definitions of parental involvement	Difficulty in comparing/interpreting findings across studies that define this construct differently.
Lack of isolation of parental involvement effects	Inability to distinguish effects due to PI from genetic and other environmental variables.

In addition, there may be other mediating factors relating to PI effects on student achievement that have not yet been unearthed in the literature. For example, as part of their research and analysis using structural modeling, Keith et al. (1993) examined mediating variables involving PI and academic achievement. As shown in Figure 5, PI is characterized as exerting its effect(s) on student achievement via the mediating variable of homework, where more PI is associated with doing more homework, which in turn is associated with higher

achievement. Also, according to this model, doing more homework is associated with less TV viewing.

The literature we reviewed has also paid little attention to possible interactions among classes of important variables. In short, we need to avoid assuming direct effects of parenting, genes, or social/environmental factors because all three may interact with each other in predicting academic achievement.

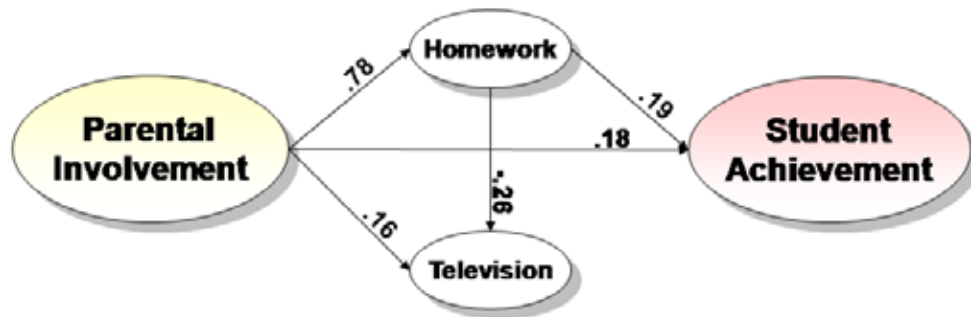


Figure 5. Relationship between PI and achievement with homework and television viewing as mediating variables.

Note. Adapted from “Does Parental Involvement Affect Eighth-Grade Student Achievement? Structural Analysis of National Data,” by T. Z. Keith, P. B. Keith, G. C. Troutman, P. G. Bickley, P. S. Trivette, and K. Singh, 1993, *School Psychology Review*, 22(3), p. 490. Copyright 1993 by the National Association of School Psychologists, Bethesda, MD. Adapted/reprinted by permission of the publisher. www.nasponline.org

Other Reasons for Caution

Clues for how best to interpret the findings discussed above might be gleaned from a brief discussion of changes in views regarding how children turn out—including how they perform academically. Figure 6 provides a schematic depiction of a progression between three different perspectives of what influences the development of personality and related variables, including intelligence and academic achievement.

Three perspectives. The three perspectives are (a) traditional developmental psychology, (b) a challenge to the nurture assumption, and (c) a hypothetical emerging view. Each perspective is characterized by the level of emphasis it places on three major classes of

influence: heredity (or genetics) and prenatal life, child rearing and family life (i.e., traditional PI variables), and peers and other social and cultural factors. The greater the number of check marks, the greater the impact of the class of influences on how children turn out.⁵

On the far left, notice that the three classes of influence are related to the realms of “nature” and “nurture.” Note that the influence of heredity/genetics falls into the realm of nature. Prenatal life is often categorized as part of nature, but also might be considered part of nurture, since, for example, a woman who consumes alcohol during pregnancy may injure a fetus and thereby affect the personality, intelligence, and academic achievement of the grown child. At the heart of nurture is what occurs within the home—i.e., child rearing and family life, including parental involvement. However, other nurture influences would include peers and other social factors.

		Perspective		
		Traditional Developmental Psychology	Challenge to the Nurture Assumption	Emerging View
Nature Nurture	Influence			
	Heredity & Prenatal Life	✓ ✓ ✓	✓ ✓ ✓ ✓	✓ ✓ ✓ ✓
	Child Rearing & Family Life (PI)	✓ ✓ ✓ ✓	{ ✓ }	✓ ✓
Peers & Other Social and Cultural Factors	✓	✓ ✓ ✓	✓ ✓	

Figure 6. Three perspectives, with the emerging view estimating a modest impact of child rearing and family life.

Consider the first of the three perspectives—traditional developmental psychology. While acknowledging a contribution of genetics, traditional developmental psychology has tended to give preeminence to child rearing and family life, particularly the role of the parents. For example, Sigmund Freud viewed all little boys as having to go through the Oedipal crisis and little girls through an analogous crisis. Much of the psychological difficulties of adults could be seen as resulting from the presence of these early childhood processes. Other psychologists,

while not focusing on psycho-sexual development to the same degree as Freud, continued to attribute tremendous influence to the environment, and particularly to the parents. For instance, a conviction of the malleability of children to their environment was expressed by the behaviorist John B. Watson,

Give me a dozen healthy infants, well-formed, and my own specified world to bring them up in and I'll guarantee to take any one at random and train him to become any type of specialist I might select—doctor, lawyer, artist, merchant-chief, and, yes, even beggar-man and thief, regardless of his talents, penchants, tendencies, abilities, vocations, and race of his ancestors. (Watson, 1925, p. 10).

The second perspective, “challenge to the nurture assumption,” takes its title from the work of Judith Harris, who in 1995 published an article in *Psychological Review*, in which she challenged what she termed the *nurture assumption*—what she viewed as developmental psychology’s unquestioning assumption regarding the preeminent influence of parents on children’s development. Harris cited what amounted to early questioning of the nurture assumption by Maccoby and Martin, who in their 1983 review of socialization research questioned the size and robustness of the effects they had just summarized. Specifically, they wondered whether the number of significant correlations was greater than that expected by chance. They cited other research indicating that biological or adoptive siblings do not develop similar personalities as a result of being reared in the same household (Maccoby & Martin, 1983, as cited in Harris, 1995). Harris noted that about half of the variance in personality and intelligence scores among siblings (including twins and adoptive siblings) is accounted for by heredity. The heritability of intelligence is a classic example of the importance of genetics. Harris argued,

The reason why parents who read to their children have smarter children is that these are smarter parents... If there were an environmental reason why parents who read to their children have smarter children, then we wouldn't find a zero correlation in IQ between two adoptive siblings reared by the same parents. (Harris, 1998, p. 344).

So, if genetics accounts for roughly half of the variation in individuals, and if shared home environment counts for little or nothing, then what counts for the other half? As noted earlier, Harris argued that it is not the within-family microenvironment. Rather, much of the

remaining variation (i.e., that not accounted for by genetics) can be explained by the child's peers—their friends and classmates. Harris set forth a theory she terms group socialization theory to explain how children become socialized and develop their personalities based on interaction with peers in the many different groups to which they belong. For example, the language children speak with peers will become their “native language” when they are adults (Bickerton, 1983, as cited in Harris, 1995). In addition, peer group influences determine whether an adolescent will experiment with tobacco, while heredity determines whether he or she will become addicted (Rowe, 1994; Rowe, Chassin, Presson, Edwards, & Sherman, 1992; both as cited in Harris, 1995). Finally, peer group influences have a powerful effect on “children's motivation to do well in school” (Kinderman, 1993, as cited in Harris, 1995, p. 481).

The field of psychology appears to be adjusting to the challenge directed toward the more traditional view that parenting has a very large influence on how children turn out. What the emerging view will be remains to be seen. However, consider a possibility and some elements of the argument that is taking shape. A possible new view might be similar to one expressed by David Cohen (1999), who concurred with Harris's view of the importance of genetic influence, noting, “Children's academic achievement correlates more strongly with their parents' intelligence than with their parents' attitudes and rearing styles” (p. 29). But Cohen argued that while both parent and peer influences are modest, the peer influence is smaller and parent influence is larger than estimated by Harris.

Cohen estimated the proportion of influences on personality as follows: 50% is genetic, 20-25% is “physical” (i.e., prenatal, parinatal [birth complications], and post-natal [injuries]), which leaves about 25 to 30% for parents, siblings, peers, and everything else nonshared,⁶ including teachers, romances, traumas, and so on. Granting, Cohen said,

for argument's sake that the peers are the larger influence (say, 10 to 15 percent of the 25 to 30 percent), parents a lesser influence (say, 5 to 10 percent), and the rest the least influence (say, 5 to 10 percent), not one of these is all that impressive (Cohen, 1999, p. 111).

Despite the relative modesty of the influence of parental involvement in the research cited in this review, there is a need for caution in underemphasizing the importance of parents' efforts on behalf of their children, academically and otherwise. Even Harris, who asserted that

differences in parenting have essentially no lasting influence on how children turn out, warns that her theory is not intended to imply that children can get along without their parents. In fact:

Children are emotionally attached to their parents (and vice versa), are dependent on them for protection and care, and learn skills within the home that may prove useful outside it; these facts are not questioned. What GS [group socialization] theory implies is that children would develop into the same sort of individuals if we left them in their homes, their schools, their neighborhoods, and their cultural or subcultural groups, but switched all the parents around (Harris, 1995, p. 461).

Thus, Harris affirmed the key role of parents in “protection, care, and learn[ing] skill.” Furthermore, given that parents play a key role in selecting or otherwise determining a child’s home, school, neighborhood, and cultural group, we can see that parents have an importance that may not be fully captured in these studies. And, as Levitt and Dubner (2005) have noted, “Clearly, *bad* parenting matters a great deal...[U]nwanted children—who are disproportionately subject to neglect and abuse—have worse outcomes than children who were eagerly welcomed by their parents” (pp. 153-154).

Conclusion

Correlational studies have found small to moderate associations between various parent-involvement variables and student academic achievement, with some of the most consistent relationships being reported for (a) parents talking with the child about school (Desimone, 1999; Henderson & Mapp, 2002; Ho & Willms, 1996; Keith et al., 1993; McNeal, 1999), (b) parents holding high expectations for students’ academic achievement (Baker & Soden, 1998; Fan & Chen, 2001), and (c) parents employing an authoritative (not authoritarian) parenting style (Baumrind, 1971; Maccoby & Martin, 1983; Paulson, 1994). Researchers citing the inability of correlational studies to determine causality, as well as the findings of twin and adoption studies, have estimated the impact of parental involvement variables on academic achievement as quite modest (e.g., Cohen, 1999; Harris, 1995, 1998; Levitt & Dubner, 2005). Judith Harris, in addition to asserting the parental influence as negligible, further argued that it is the child’s peers who exert the main nongenetic (nonhereditary) influence on how the child turns out (Harris, 1995, 1998). Others have agreed that the influence of parents is modest but go on to assert that peer influence is likewise modest (e.g., Cohen, 1999).

Relative to Harris's view, an emerging view might attribute greater parental influence and less peer influence, while continuing to give continuing and strong recognition to the influence of genetics. Notwithstanding the continuing debate regarding the specific nature and magnitude of parental influence on academic achievement, it seems clear that both parents and peers can have an influence on a child's academic achievement. Given that parents have no control over the genetic component, and have limited influence over the child's peer relationships, direct parental influence remains an opportunity to leverage those factors for the benefit of the child, including their academic achievement.

References

- Azmitia, M., & Cooper, C. R. (2001). Good or bad? Peer influences on Latino and European American adolescents' pathways through school. *Journal of Education for Students Placed at Risk*, 6(1 & 2), 45–71.
- Baker, A. J. L., & Soden, L. M. (1998). *The challenges of parent involvement research*. New York: ERIC Clearinghouse on Urban Education. (ERIC Accession No. ED419030).
- Baumrind, D. (1971). Current patterns of parental authority. *Developmental Psychology Monographs*, 4, 1–103.
- Baumrind, D. (1978). Parental disciplinary patterns and social competence in children. *Youth & Society*, 9(3), 239–251.
- Catsambis, S. (1998). *Expanding knowledge of parental involvement in secondary education: Effects on high school academic success* (CRESPAR Technical Rep. No. 27). Baltimore, MD: Johns Hopkins University, Center for Research on the Education of Students Placed at Risk.
- Chao, R. K. (2001). Extending research on the consequences of parenting style for Chinese Americans and European Americans. *Child Development*, 72(6), 1832–1843.
- Clark, R. (1993). Homework-focused parenting practices that positively affect student achievement. In N. F. Chavkin (Ed.), *Families and schools in a pluralistic society* (pp. 85–105). Albany, NY: State University of New York.
- Cohen, D. B. (1999). *Stranger in the nest: Do parents really shape their child's personality, intelligence, or character?* New York: Wiley.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum.
- Demo, D. H., & Cox, M. J. (2000). Families with young children: A review of research in the 1990s. *Journal of Marriage and the Family*, 62, 867-895.
- Deslandes, R., Potvin, P., & Leclerc, D. (1999). Family characteristics predictors of school achievement: Parental involvement as a mediator. *McGill Journal of Education*, 34 (2), 133–151.
- Desimone, L. (1999). Linking parent involvement with student achievement: Do race and income matter? *The Journal of Educational Research*, 93(1), 11–30.

- Dornbusch, S. M., Ritter, P. L., Leiderman, P. H., & Roberts, D. F. (1987). The relation of parenting style to adolescent school performance. *Child Development, 58*, 1244–1257.
- Fan, X., & Chen, M. (2001). Parental involvement and students' academic achievement: A meta-analysis. *Educational Psychology Review, 13*(1), 1–22.
- Harris, J. R. (1995). Where is the child's environment? A group socialization theory of development. *Psychological Review, 102*(3), 458–489.
- Harris, J. R. (1998). *The nurture assumption: Why children turn out the way they do*. New York: Simon & Schuster.
- Henderson, A. T., & Mapp, K. L. (2002). *A new wave of evidence: The impact of school, family, and community connections on student achievement*. Austin, TX: Southwest Educational Development Laboratory.
- Ho, E., & Willms, J. D. (1996). The effects of parental involvement on eighth grade achievement. *Sociology of Education, 69*, 126–141.
- Institute of Education Sciences. (n.d.). *National Longitudinal Study of 1988*. Retrieved June 28, 2007, from the National Center for Educational Statistics Web site: <http://nces.ed.gov/surveys/nels88/>
- Keith, T. Z., Keith, P. B., Troutman, G. C., Bickley, P. G., Trivette, P. S., & Singh, K. (1993). Does parental involvement affect eighth-grade student achievement? Structural analysis of national data. *School Psychology Review, 22*(3), 474–496.
- Kim, K., & Rohner, R. P. (2002). Parental warmth, control, and involvement in schooling: Predicting academic achievement among Korean American adolescents. *Journal of Cross-Cultural Psychology, 33*(2), 127–140.
- Kurdek, L., Fine, M., & Sinclair, R. (1995). School adjustment in sixth graders: Parenting transitions, family climate, and peer norm effects. *Child Development, 66*(2), 430–445.
- Lamborn, S., Mounts, N., Steinberg, L., & Dornbusch, S. (1991). Patterns of competence and adjustment among adolescents from authoritative, authoritarian, indulgent, and neglectful families. *Child Development, 62*(5), 1049–1065.
- Lee, V., & Croninger, R. (1994). The relative importance of home and school in the development of literacy skills for middle-grade students. *American Journal of Education, 102*(3), 286–329.

- Levitt, S. D., & Dubner, S. J. (2005). *Freakonomics: A rogue economist explores the hidden side of everything*. New York: William Morrow.
- Maccoby, E. E., & Martin, J. A. (1983). Socialization in the context of the family: Parent-child interaction. In P. H. Mussen (Series Ed.) & E. M. Hetherington (Vol. Ed.), *Handbook of child psychology: Vol. 4. Socialization, personality, and social development*. (4th ed., pp. 1–101). New York: Wiley.
- Marchant, G. J., Paulson, S. E., & Rothlisberg, B. A. (2001). Relations of middle school students' perceptions of family and school contexts with academic achievement. *Psychology in the Schools, 38*, 505–519.
- McNeal, R. B. Jr. (1999). Parental involvement as social capital: Differential effectiveness on science achievement, truancy, and dropping out. *Social Forces, 78*(1), 117–144.
- Miliotis, D., Sesma, A. Jr., & Masten, A. S. (1999). Parenting as a protective process for school success in children from homeless families. *Early Education & Development 10*(2), 111–133.
- Milne, A. (1989). Family structure and the achievement of children. In W. Wiston (Ed.), *Education and the American family*. Albany, NY: SUNY University Press.
- Patrikakou, E. N. (2004). *Adolescence: Are parents relevant to high school students' achievement*. Retrieved January 5, 2007, from the FINE network at Harvard Family Research Project Web site:
<http://www.gse.harvard.edu/hfrp/projects/fine/resources/digest/adolescence.html>
- Paulson, S. E. (1994). Relations of parenting style and parental involvement with ninth-grade students' achievement. *Journal of Early Adolescence, 14*(2), 250–267.
- Radziszewska, B., Richardson, J. L., Dent, C. W., & Flay, B. R. (1996). Parenting style and adolescent depressive symptoms, smoking, and academic achievement: Ethnic, gender, and SES differences. *Journal of Behavioral Medicine, 19*(3), 289–305.
- Singh, K., Bickley, P. G., Trivette, P. S., Keith, T. Z., Keith, P. B., & Anderson, E. S. (1995). The effects of four components of parental involvement on eighth grade student achievement: Structural analysis of NELS-88 data. *School Psychology Review, 24*, 299–317.
- Snow, C., Barnes, W., Chandler, J., Goodman, I., & Hemphill, L. (1991). *Unfulfilled expectations: Home and school influences on literacy*. Cambridge, MA: Harvard University Press.

- Tizard, J., Schofield, W., & Hewison, J. (1982, February). Collaboration between teachers and parents in assisting children's reading. *British Journal of Educational Psychology*, 52, 1–15.
- Watson, J. B. (1925). What the nursery has to say about instincts. In C. Murchison (Ed.), *Psychologies of 1925*. Worcester, MA: Clark University Press.
- Zill, N., & Nord, C. W. (1994). *Running in place: How American families are faring in a changing economy and an individualistic society*. Washington, DC: Child Trends.

Notes

- ¹ This research was conducted while Dr. Shute and Dr. Underwood were at ETS.
- ² An example of a less prominent component not shown is “facilitate/monitor positive peer associations.”
- ³ The author of the 1999 study confirmed that the value in the original table (-1.524) should be corrected to the value shown in this document (-15.24) (L. Desimone, personal communication, August 31, 2007).
- ⁴ To interpret these findings, for the home discussion variable, a coefficient = .12 means that an increase of 1 SD in home discussion is associated with an increase of 0.12 SD in achievement.
- ⁵ The number of checks is only generally related to magnitude of the influence.
- ⁶ Nonshared, in this context, refers to influences that are not shared by siblings living at the same address.