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Developmental Pathways from Parental Substance Use to Childhood Academic Achievement

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Abstract

This cross-sectional study examined the pathways to childhood academic achievement in 209 African American and Puerto Rican children and their mothers. There were three pathways to childhood academic achievement: (a) the mother-child relationship and the child's personality mediated between parental substance use and childhood academic achievement; (b) the child's personality mediated between parental education and childhood academic achievement; and (c) there was a direct relationship between the child's gender and childhood academic achievement. Policy and clinical implications suggest the importance of increasing educational opportunities for all parents, providing substance use treatment and self-esteem workshops, and altering the school curriculum.

Keywords

academic achievement; parenting; personality; parental substance use

INTRODUCTION

Early academic achievement is important as it reflects how youth will function later in life academically and occupationally.¹ Over the past decade, academic achievement in science, reading, and math has increased in the United States among fourth graders, held constant among eighth graders, and declined among twelfth graders. The gap has narrowed between minority and White students for fourth graders, but widened in higher grades. Rising academic achievement in fourth grade may be attributed in part to a movement for higher standards and accountability that began in most states in the early 1990s and gained national attention in 2002 with the No Child Left Behind (NCLB) law.^{2, 3} The social, political, and technological climate encouraged a transition from a minimum competency, to a beyond-the-minimum competency, and, finally, to high levels of academic achievement.⁴

Our hypotheses are derived from Family Interactional Theory (FIT)⁵ and are consistent with Social Control Theory.⁶ FIT emphasizes the family of origin (e.g., parental substance use), particularly the importance of the early attachment relationship between the parent and child. This strong parent-child relationship is characterized by the child identifying with parental values (e.g., conventional beliefs and values), which in turn predicts adaptive child personality

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attributes (e.g., ego integration and self-esteem). There is widespread acceptance of the psychological importance of self-esteem and ego integration. Self-esteem is the overall affective and cognitive self-appraisal of one's own worth, value, and importance. Self-esteem is related to the personality construct of ego-integration. Ego integration reflects the individual's ability to control his/her emotions and to experience satisfaction with his/her cognitive processes. These measures designed to assess aspects of the child's personality were included because in past research they have been shown to be related to both substance use and academic achievement. According to FIT, both self-esteem and ego integration serve as mediators between parental substance use, the mother-child relationship, and the child's academic achievement.

In recent years, we have applied FIT conceptions to predicting drug use, psychopathology and conventional behaviors.^{5, 7, 8} This is one of the first times that FIT has been applied empirically to positive outcomes (academic achievement).

Social modeling, attachment, and the emulation of and identification with values and behaviors as a result of this attachment are the major mechanisms of FIT. In childhood, attachment to the family of origin and social institutions (i.e., school) is central to the child. FIT and Social Control Theory⁶ both emphasize the individual's bond to society through conventional others (i.e., parents), commitment to conventional goals and activities (i.e., school), involvement in conventional activities, and belief in conventional norms.^{6, 9} This paper examines the interplay of parental substance problems and the mother-child relationship on the child's personality attributes and academic achievement.

Several studies have focused on the effect of parental substance use on offspring personality attributes (i.e., self-esteem and ego integration) and academic achievement.^{10, 11} The present study is unique in that it examines the pathways to childhood academic achievement from parental substance use and parental education, as well as from the child's gender.

According to FIT⁵ and the empirical literature, the following is one pathway to childhood academic achievement: (a) parental substance use (tobacco, marijuana, and other illicit drug problems) is linked with the parent-child relationship,^{12–23} (b) the parent-child relationship is directly related to important aspects of the child's personality (i.e., self-esteem and ego integration),^{24–30} and (c) the child's adaptive personality attributes (i.e., self-esteem and ego integration) are related to childhood academic achievement.^{31–32}

However, studies have only looked at different components of this pathway. Studies found that adaptive parenting is related to the child's self-esteem.^{26, 27, 33} Low levels of parent-child conflict were found to be related to high adolescent self-esteem.²⁹

In addition, studies support the relationship between the child's self-esteem and childhood academic achievement.^{10, 34–39} In our view, academic achievement involves not only the child's self-esteem, but also his/her ability to strive, goal orientation, and emotional control. Therefore, this study fills an important gap in the literature by including a measure of ego-integration in addition to self-esteem.

The literature also supports a relationship between components of the parent-child relationship and childhood academic achievement. Specifically, parental satisfaction and low parent-child conflict were related to offspring academic achievement.^{11, 40–45} Since the mother-child relationship is so intimately bound up with aspects of the child's personality, we extend the literature above by exploring whether the child's personality attributes serve as a mediator between adaptive mother-child relationships and offspring's academic achievement.

Therefore, based on the literature, we postulated that parental substance use is related to childhood academic achievement. We hypothesized that parental substance use, as part of our developmental model of pathways to academic achievement, is related to our measure of the mother-child relationship. In addition, we postulated that the child's personality mediates between the mother-child relationship and childhood academic achievement. We extend the literature by examining the whole sequence of this developmental pathway.

We also examine a second pathway to childhood academic achievement. Since education has been found to be important in terms of the child's personality and childhood academic achievement, we postulate direct and indirect relationships between parental education and childhood academic achievement. The literature supports a direct relationship between parental education and childhood academic achievement.^{28, 40–42, 46–52} Parental education is also related to aspects of a positive parent-child attachment relationship,^{40, 45, 53} as well as to the child's personality.²⁸

The literature also suggests that: (a) parental education is related to the child's personality;²⁸ and (b) the child's adaptive personality attributes are linked with childhood academic achievement.^{31–32} Therefore, we postulate that parental education is related to a child's personality, which in turn is related to childhood academic achievement. In addition, parental education is directly related to childhood academic achievement.

Several investigators have reported gender differences in academic achievement,^{54, 55} therefore, we will examine whether there is a direct relationship between the child's gender and childhood academic achievement.

As noted in Figure 1, we hypothesized three direct pathways to childhood academic achievement, from (a) parental education, (b) the child's personality, and (c) the child's gender. In addition, we hypothesized two mediators (i.e., mother-child relationship and the child's personality) between parental substance use and academic achievement. We also hypothesized these same two mediators between parental education and childhood academic achievement.

METHODS

Sample

This community sample consists of children (N=209) and their mothers (N=209) from urban African American and Puerto Rican families. Their mothers, as adolescents, had attended schools in the East Harlem area of New York City. For this analysis, the current data were collected in 2001–2004 from those longitudinal participants who had biological children between the ages of 7 and 12, their children, and the children's other parent. Some of the mothers had more than one child in this age range. For families with multiple children, only the eldest child was included in this analysis. Please see Table 1 for the characteristics of the mother and child samples.

The Institutional Review Board of the Mount Sinai School of Medicine annually approved the study's procedures for the participation of human subjects, as has New York University School of Medicine's Institutional Board of Research Associates since 2004. A Certificate of Confidentiality was obtained from the National Institute on Drug Abuse of the National Institute of Health.

Procedures

Participants were interviewed in person. The duration of the mother's interview was two hours and the duration of the child's interview was 1.5 hours (with rest periods included for the children). Parents signed their own informed consent, at least one parent signed the informed

consent for his or her child, and the child assented to participate in the study. Interviewers for the most part were matched to the participant's gender and ethnicity based on the participants' self-reports; however, males never interviewed females.

Measures

The scales were grouped into five domains; three domains were from the mothers' data and two domains were from the children's data. All measures are based on item inter-correlations and reliabilities (i.e., based on Cronbach's alpha) and are grouped into five domains.

Parental Substance Use—This latent construct included two scales. Maternal substance use is a three-item scale consisting of whether or not respondents ever had problems due to (1) tobacco, (2) marijuana, and (3) other illicit drug use.⁵⁶ Maternal perception of the substance use of the child's father (or father figure) is another three-item scale consisting of whether or not the father ever had problems due to (1) tobacco, (2) marijuana, and (3) other illicit drug use. The answer options for the items in both scales were "No" (1) or "Yes" (2).⁵⁶

Parental Education—This latent construct included maternal and paternal education.⁵³ The values ranged from "less than high school" (1) to "doctoral degree" (6).

Mother-Child Relationship—This latent construct included two scales (Cronbach's alpha = .85). Non-conflictual relations, a six-item scale, assessed the mother's perception of the extent to which the child complies with her expectations and advice.⁵⁷ Response options ranged from "not at all like the child" (1) to "very much like the child" (5). Satisfaction with the child, a seven-item scale, assessed the frequency of satisfaction with several aspects of the child's behavior, such as achievement and the ability to get along with others.⁵ Response options ranged from "never" (1) to "all the time" (5).

Child's Personality—This latent construct included two scales (Cronbach's alpha = .65). Ego integration, a seven-item scale, assessed self-control, contentment, and organization ("feel like swearing" or "careful in making up your mind" 5). Self-esteem, a four-item measure, assessed how positively the child regards him/herself ("useful to have around;" "have a number of good qualities" 58). Answer options for both variables ranged from "always false" (1) to "always true" (4).

Child's Academic Achievement—This latent construct included two scales (Cronbach's alpha = .72). School achievement, a six-item scale, assessed the child's performance in school courses such as reading and math.⁵ Perception of school achievement, a five-item measure, assessed the child's behaviors and attitudes towards schoolwork ("miss classes when not sick," or "feel interested in schoolwork" 59).

Data Analysis

Structural equation modeling (SEM) was used to examine the hypothesized pathways illustrated in Figure 1. LISREL 8.4 was used to test the proposed latent variable SEM. First, we performed a confirmatory factor analysis to examine the validity of the latent constructs. Then, the obtained structural model was tested to determine whether it was significantly different from the hypothesized model. We obtained the goodness of fit index (GFI) and the comparative fit index (CFI). A total effects analysis was computed to assess the relative potency of each of the latent constructs.

We found that girls had significantly higher school achievement ($t=4.75$; $p < .01$) and scored higher on our measure of perception of the school achievement than boys ($t=3.70$; $p < .01$). Therefore, the effect of the child's gender on the child's academic achievement was

simultaneously examined with the effects of the other latent constructs in the model. Ethnicity was entered as a control variable in the analyses. There was no missing data.

RESULTS

The minimum fit function chi-square of the estimated model shown in Figure 2 was 76.35 with 40 degrees of freedom. The standardized root mean square residual (RMR) was 0.075. The model had a GFI of 0.94 and a CFI of 0.96. The structural part of the model was clear, and the modification indices did not indicate any missing relations. The empirical model had several significant pathways ($p \leq 0.05$; one tail test):

1. Parental substance use had a negative path to adaptive mother-child relationships ($\beta = -0.78$, $t = -3.05$);
2. Adaptive mother-child relationships had a positive path to aspects of the child's personality (i.e., emotional control and self-esteem) ($\beta = 1.25$, $t = 5.20$);
3. Parental education (high) had a positive path to the child's personality ($\beta = 0.95$, $t = 5.10$);
4. Aspects of the child's personality had a positive path to the child's academic achievement ($\beta = 0.76$, $t = 4.90$);
5. Boys scored lower than girls on academic achievement ($\beta = -0.26$, $t = -3.09$). There were no ethnic differences.

The standardized total effect of each of the latent constructs on the child's academic achievement appears in Table 2. The total effect analysis indicates that the adaptive mother-child relationship had the largest standardized influence on the child's academic achievement ($\beta = 0.94$, $t = 4.55$; $p < .01$). The standardized total effects of the other three latent constructs (parental substance use, parental education, and child's personality) on the child's academic achievement were each about 20% less than the magnitude of the effect of the adaptive mother-child relationship.

COMMENTS

This study is unique as it is the first research study to examine the pathways from parental substance use, parental education, and the child's gender to childhood academic achievement in a causal framework using SEM. The research also makes an innovative contribution insofar as it examines these pathways to academic achievement in an understudied population of urban African American and Puerto Rican youth.

First, we examined how the mother-child relationship and the child's personality serve as mediators between adverse effects of parental substance use and childhood academic achievement. Second, we focused on the extent to which the child's personality (i.e., emotional control and self-esteem) serves as a mediator between parental education and childhood academic achievement. Third, we examined the direct pathway from parental education to childhood academic achievement. Fourth, we examined gender differences in childhood academic achievement.

With two exceptions, the findings support the hypothesized model. Contrary to our hypothesis, there was no association between parental education and the mother-child relationship. In addition, there was no direct association between parental education and childhood academic achievement. Instead, the child's personality attributes mediate between parental education and childhood academic achievement. A parent's level of education is important only insofar as it impacts the child's personality attributes (i.e., self-esteem and ego-integration), thereby

impacting the child's academic achievement. What emerges is that parental education has a direct effect on the child (his/her personality and academic achievement) rather than on the mother (mother-child relationship).

Our developmental model emphasizes the importance of the personality attributes of self-esteem and ego-integration, which have direct links with the child's academic achievement.^{34, 35} Children with higher self-esteem may have higher educational expectations and be less vulnerable to potential and actual failure, as well as to the strains of the learning process. Our measure of ego-integration suggests that self-control, task perseverance, and less cognitive interference by emotional factors is related to academic achievement. This measure also includes a more thoughtful approach to learning tasks, with reduced vulnerability to distractions from emotional problems.

In addition to their direct effect on childhood academic achievement, childhood personality attributes are key mediating mechanisms between parental attributes (i.e., parental substance use, mother-child relationship, and parental education) and childhood academic achievement. These results add to the literature by pointing to two mediating mechanisms (i.e., mother-child relationship and aspects of the child's personality) underlying the development of achievement.

Our results showed an indirect relationship between the adverse effects of parental substance use and certain attributes of the child's personality and academic achievement. The mother-child relationship is an important mediator between parental substance use and child personality and academic achievement. The associations between parental substance use and the mother-child relationship,^{17, 21} the mother-child relationship and the child's personality,^{26, 28} and the child's adaptive personality and childhood academic achievement^{31, 39} are documented in the literature. These associations have been studied separately, whereas in the present study these relationships have been integrated in a causal model. The present study extends the literature by examining these relationships in childhood. Previous literature examined the relationship between the mother-child relationship and child psychopathology and psychosocial adjustment. The present study adds to the literature by highlighting two critical constructs of the child's personality, mainly self-esteem and ego-integration. To our knowledge, this is the first study to document that salient aspects of the child's personality (i.e., self-esteem and ego-integration) mediate between parental substance use, the mother-child relationship, and childhood academic achievement.

Parental education indirectly impacted childhood academic achievement through its effect on the child's personality attributes. The relationships between parental education and the child's personality²⁸ and academic achievement^{28, 48} are documented in the literature. The impact of parental education on childhood academic achievement may be attributed to parental modeling, teaching, and the learned behavior of higher expectations and aspirations. Parents with higher levels of education may have the resources to identify and enhance talents and address problems. Children with adaptive personalities (self-esteem and ego-integration) may have more control, which contributes to their ability to delay gratification, possibly resulting in greater academic achievement.

Females scored higher than males on academic achievement. This relationship is supported by the literature.^{54, 55, 60}

These results provide support for FIT⁵ and point to the child's personality as the key mechanism that operates between parental attributes (i.e., parental substance use, the mother-child relationship, and parental education) and childhood academic achievement. Of interest, FIT has relevance for adolescents as well as younger children. This is one of the first times that FIT has been applied empirically to positive outcomes (academic achievement).

The present study has several limitations. Because the study was conducted with an African American and Puerto Rican cohort, the findings need to be replicated with diverse ethnic populations to establish the generality of the causal model. Another limitation is that it is a cross-sectional study. A longitudinal design would more clearly establish the temporal order from parent to child. The study is based on self-reports from both the mother and the child. Objective measurements would allow for more precise and reliable assessments. Related to this, the study does not include data on paternal personality and the father-child relationship. Future research should include data on these aspects of the father-child relationship as they have an important impact on academic achievement in the child. Another limitation is that genetic factors may affect parental education. Despite these limitations, the results of this investigation provide important new evidence regarding pathways from parental substance use, parental education, and the child's gender to childhood academic achievement.

Policy and Clinical Implications

This research has policy and clinical implications. The results of this study illuminate certain mediators, which are protective or risk factors, which mediate between parental substance use and academic achievement in their children. These mediators include the mother-child relationship and the child's personality. A reduction in parental substance use may result in a closer parent-child attachment, ultimately leading to greater self-esteem and achievement in the offspring. Future research may provide evidence for the causal efficacy of parental substance use on the child's academic achievement.

From a policy perspective, increasing educational opportunities for parents can indirectly, through the child's personality, impact on childhood academic achievement. In order to accomplish the goal of the NCLB act of ensuring that every child in the nation reach grade level by 2014, policy makers may want to consider the impact of parental substance use, parental education, the mother-child relationship, and the child's personality on childhood academic achievement. In addition, since we have found gender differences in academic achievement, altering the school curriculum to address boys' needs may impact on academic achievement.

Recent emphasis on emotional and social interrelatedness are in accord with our findings regarding the significance of certain personality attributes on academic achievement. In line with this observation is the importance of the personality: (a) as a direct effect on academic achievement; (b) a significant mediator; and (c) having the greatest total effect as compared with the other variables studied. As the child's personality has a direct effect, as well as serving as a mechanism to childhood academic achievement, it may be beneficial to provide all children, and especially children from families with low parental education and/or parental substance use with preventive workshops to help them develop and improve self-esteem and ego-integration, thereby improving academic achievement.

References

1. Samson GE, Graue ME, Weinstein T, Walberg HJ. Academic and occupational performance: a quantitative synthesis. *American Educational Research Journal* 1984;21(2):311–321.
2. Dillion, S. Test shows drop in science achievement for 12th graders. [Retrieved on May 11, 2009]. from www.nytimes.com/2006/05/25/education/25exam.html.
3. United States Department of Education. No Child Left Behind. Nation's Report Card Shows Progress: Achievement Gap Continues to Narrow as Student Population Becomes More Diverse. [Retrieved on May 11, 2009]. from <http://www.ed.gov/nclb/accountability/achieve/report-card-hisp2007.pdf>.
4. Campbell, JR.; Hombo, CM.; Mazzeo, J. NAEP 1999 trends in academic progress: three decades of student performance. [Retrieved on May 11, 2009]. from <http://nces.ed.gov/nationsreportcard/pubs/main1999/2000469.asp>.

5. Brook JS, Brook DW, Gordon AS, Whiteman M, Cohen P. The psychological etiology of adolescent drug use: a family interactional approach. *Genet Soc Gen Psychol Monogr* 1990;116(2):111–267. (entire monograph). [PubMed: 2376323]
6. Hirschi, T. *Causes of Delinquency*. Berkeley, CA: University of California Press; 1969.
7. Brook JS, Kessler RC, Cohen P. The onset of marijuana use from preadolescence and early adolescence to young adulthood. *Development and Psychopathology* 1999;11:901–1214. [PubMed: 10624731]
8. Brook JS, Brook DW, De La Rosa M, et al. Adolescent drug use: The impact of personality, family, and environmental factors. *Journal of behavioral medicine* 2001;24:183–203. [PubMed: 11392919]
9. Agnew R. A longitudinal test of social control theory and delinquency. *Journal of Crime and Delinquency* 1991;28(2):126–156.
10. Battle J. Enhancing self-esteem: a new challenge to teachers. *Academic Therapy* 1981;1:541–550.
11. Pelegrina S, Garcia-Linares MC, Casanova PF. Who can better predict the adolescent's competence? *J Adolesc* 2003;26:651–665. [PubMed: 14643738]
12. Baker PL, Carson A. "I take care of my kids" Mothering practices of substance-abusing women. *Gender & Society* 1999;3(3):347–363.
13. Barnard M. Forbidden questions: drug-dependent parents and the welfare of their children. *Addiction* 1999;94(8):1109–1111. [PubMed: 10615726]
14. Davis SK. Chemical dependency in women: a description of its effects and outcome on adequate parenting. *J Subst Abuse Treat* 1990;7:225–232. [PubMed: 2290185]
15. Deren S. Children of substance abusers: a review of the literature. *J Subst Abuse Treat* 1986;3:77–94. [PubMed: 3531538]
16. Hardesty M, Black T. Mothering through addiction: a survival strategy among Puerto Rican addicts. *Qual Health Res* 1999;9(5):602–619. [PubMed: 10558370]
17. Hogan DM. Annotation: the psychological development and welfare of children of opiate and cocaine users: review and research needs. *J Child Psychol Psychiatry* 1998;39(5):609–620. [PubMed: 9690925]
18. Kandel DB. Parenting styles, drug use, and children's adjustment in families of young adults. *Journal of Marriage and the Family* 1990;52(1):183–196.
19. Kearney MH, Murphy S, Rosenbaum M. Mothering on crack cocaine: a grounded theory analysis. *Soc Sci Med* 1994;38(2):351–361. [PubMed: 8140462]
20. McMahon TJ, Rounsaville BJ. Substance abuse and fathering: adding poppa to the research agenda. *Addiction* 2002;97:1109–1115. [PubMed: 12199823]
21. Schuler ME, Nair P, Black MM. Ongoing maternal drug use, parenting attitudes, and a home intervention; effects on mother-child interaction at 18 months. *J Dev Behav Pediatr* 2002;23(2):7–94.
22. Suchman NE, Luthar SS. Maternal addiction, child maladjustment and socio-demographic risks: implications for parenting behaviors. *Addiction* 2000;95(9):1417–1428. [PubMed: 11048359]
23. Woodhouse LD. Women with jagged edges: voices from a culture of substance abuse. *Qual Health Res* 1992;2(3):262–281.
24. Baumrind D. Child care practices anteceding three patterns of preschool behavior. *Genetic Psychology Monographs* 1968;75:43–88. [PubMed: 6032134]
25. Baumrind D. Parental disciplinary patterns and social competence in children. *Youth & Society* 1978;9(3):239–276.
26. Heinonen K, Raikkonen K, Keltikangas-Jarvinen L. Maternal perceptions and adolescent self-esteem—a six-year longitudinal study. *Adolescence* 2003;38(152):669–687. [PubMed: 15053494]
27. Nielsen DM, Metha A. Parental behavior and adolescent self-esteem in clinical and nonclinical samples. *Adolescence* 1994;29(115):525–542. [PubMed: 7832019]
28. Ross CE, Broh BA. The roles of self-esteem and the sense of personal control in the academic achievement process. *Sociology of Education* 2000;73(4):270–284.
29. Shek DTL. A longitudinal study of the relations between parent-adolescent conflict and adolescent psychological well-being. *J Genet Psychol* 1998;159(1):53–67. [PubMed: 9491574]

30. Weiss LH, Schwartz JC. The relationship between parenting types and older adolescents' personality, academic achievement, adjustment, and substance abuse. *Child Dev* 1996;67:2101–2114. [PubMed: 9022232]
31. Flouri E. Psychological outcomes in mid adulthood associated with mother's child-rearing attitudes in early childhood-Evidence from the 1970 British birth cohort. *Eur Child Adolesc Psychiatry* 2004;13(1):35–41. [PubMed: 14991430]
32. Hart D, Atkins R, Fegley S. Personality and development in childhood: A person-centered approach. *Monogr Soc Res Child Dev* 2003;68(1):110–122. [PubMed: 12875201]
33. Parker JS, Benson MJ. Parent-adolescent relations and adolescent functioning: self-esteem, substance abuse, and delinquency. *Adolescence* 2004;39(155):519–530. [PubMed: 15673227]
34. Baumeister RF, Campbell JD, Krueger JI, Vohs KD. Does high self-esteem cause better performance, interpersonal success, happiness, or healthier lifestyles? *Psychological Science in the Public Interest* 2003;4(1):1–44.
35. Davies J, Brember I. Reading and mathematics attainment and self-esteem in years 2 and 6: an eight-year cross-sectional study. *Educational Studies* 1999;25(2):145–157.
36. Hansford BC, Hattie JA. The relationship between self and achievement/performance measures. *Review of Educational Research* 1982;52(1):123–142.
37. Howerton DL, Enger JM, Cobbs CR. Self-esteem and achievement of at-risk adolescent Black males. *Research in Schools* 1994;1:23–27.
38. Liu X, Kaplan HB, Risser W. Decomposing the reciprocal relationships between academic achievement and general self-esteem. *Youth and Society* 1992;24(1):23–48.
39. Zimmerman MA, Copeland LA, Shope JT, Dielman TE. A longitudinal study of self-esteem: implications for adolescent development. *Journal of Youth and Adolescence* 1997;26(2):117–141.
40. Dornbusch SM, Ritter PL, Leiderman PH, Roberts DF, Fraleigh MJ. The relation of parenting style to adolescent school performance. *Child Dev* 1987;58(5):1244–1257. [PubMed: 3665643]
41. Fejgin N. Factors contributing to the academic excellence of American Jewish and Asian students. *Sociology of Education* 1995;68(1):18–30.
42. Okagaki L, Frensch PA. Parenting and children's school achievement: a multiethnic perspective. *American Educational Research Journal* 1998;35(1):123–144.
43. Steinberg L, Elmen JD, Mounts NS. Authoritative parenting, psychosocial maturity, and academic success among adolescents. *Child Dev* 1989;60:1424–1436. [PubMed: 2612251]
44. Steinberg L, Lamborn SD, Dornbusch SM, Darling N. Impact of parenting practices on adolescent achievement: authoritative parenting, school involvement, and encouraging to succeed. *Child Dev* 1992;63:266–281.
45. Wills TA, McNamara G, Vaccaro D. Parental education related to adolescent stress-coping and substance use development of a mediational model. *Health Psychol* 1995;14(5):464–478. [PubMed: 7498118]
46. Fan, X.; Chen, M. On the Threshold of the 21st Century: Challenges & Opportunities. Montréal, Quebec: Fan X, Chen M; 1999. Parental involvement and students' academic achievement: a meta-analysis.
47. Fuligni AJ. The academic achievement of adolescents from immigrant families: the roles of family background, attitudes, and behavior. *Child Dev* 1997;68(2):351–363. [PubMed: 9180006]
48. Garg R, Kauppi C, Lewko J, Urajnik D. A structural model of educational aspirations. *Journal of Career Development* 2002;29(2):87–108.
49. Gonzalez RM, Blanco NC. Parents and children: Academic values and school achievement. *International Journal of Educational Research* 1991;15:163–169.
50. Hao L, Bonstead-Bruns M. Parent-child differences in educational expectations and the academic achievement of immigrant and native students. *Sociology of Education* 1998;71:175–198.
51. Parsons JE, Adler TF, Kaczala CM. Socialization of achievement attitudes and beliefs: parental influences. *Child Dev* 1982;53:310–321.
52. Stevenson DL, Baker DP. The family-school relation and the child's school performance. *Child Dev* 1987;58(5):1348–1357. [PubMed: 3665650]

53. Fagan P, Brook JS, Rubenstone E, Zhang C. Parental occupation, education, and smoking as predictors of offspring tobacco use in adulthood: a longitudinal study. *Addict Behav* 2005;30:517–529. [PubMed: 15718068]
54. Fergusson DM, Horwood LJ. Gender differences in educational achievement in a New Zealand birth cohort. *New Zealand Journal of Educational Studies* 1997;32(1):83–96.
55. Patterson CJ, Kupersmidt JB, Vaden NA. Income level, gender, ethnicity, and household composition as predictors of children's school based competence. *Child Dev* 1990;61(2):485–494. [PubMed: 2344784]
56. Endicott, J. Personal Communication. 1993 Nov.
57. Schaefer, ES.; Finkelstein, NW. The annual meeting of American Psychological Association. Chicago, IL: Schaefer ES, Finkelstein NW; 1975. Child behavior toward parents: an inventory and factor analysis.
58. Rosenberg, M. Society and the Adolescent Self-Image. Princeton, NJ: Princeton University Press; 1965.
59. Kaplan, HB. Personal Communication. 1993 Oct.
60. Enslinger ME, Slusarcick AL. Paths to high school graduation or dropout: a longitudinal study of a first-grade cohort. *Sociology of Education* 1992;65(2):95–113.

Figure 1.
The Hypothesized Pathways of the Model

Figure 2.
The Empirical Pathways of the Model (**GFI** = 0.94; **CFI** = 0.96)

Table 1

Descriptive Statistics on the Sample

	Mother (N=209)	Child (N=209)
Gender		
Male		112
Female	209	97
Ethnicity		
African American	92	90
Puerto Rican	105	108
Other Latino	11	2
Non-Hispanic White	1	1
Other		8
Age Range		6.4–12.9 years Mean = 8.8 SD= 1.1
20–24	21	
25–29	151	
30–34	30	
31–50	2	
>50	5	
Education		
<High School Graduate	63	
High School Graduate	103	
>High School Education	43	
Family Median Income	\$13,500	

Note 1: Personality attributes refers to self-esteem and ego integration;

Table 2

Standardized Total Effects and t-Test Statistics

	Child Academic Achievement (High)
Parental Substance Use	-0.74 (t=-2.61)
Parental Education (High)	0.72 (t=4.48)
Adaptive Mother-Child Relationship	0.94 (t=4.55)
Child's Personality Attributes ¹	0.76 (t=4.90)

Note 1: Personality attributes refers to self-esteem and ego integration.