DOCUMENT RESUME

ED 424 011 PS 026 980

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TITLE Maternal Factors Affecting the Academic Achievement of Latino Adolescents.
PUB DATE 1997-11-00
NOTE 31p.; Paper presented at the Annual Conference of the NCFR Fatherhood and Motherhood in a Diverse and Changing World (59th, Arlington, VA, November 7-10, 1997).
PUB TYPE Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Academic Achievement; *Adolescents; Family Environment; *Hispanic Americans; Latin Americans; *Mothers; *Parent Background; *Predictor Variables
IDENTIFIERS *Latinos; Mediating Factors

ABSTRACT

Although much research has been done to determine how familial processes affect academic achievement, few researchers have directly studied culturally or linguistically diverse populations, in particular Latinos. The primary purpose of this study was to investigate the effects of distal variables (maternal intelligence, maternal education, maternal employment and poverty) and of the proximal variables (home environment and parent child interaction) on the academic achievement of Latino adolescents. The study utilized the National Longitudinal Survey of Youth (NLSY) for its sample. The study hypothesized that the effects on Latino adolescents' academic achievement of maternal intelligence, maternal education, hourly rate of pay, hours worked weekly by mother, and family poverty status would be mediated through the home environment and the parent-child interactions. The observed linear relationships between the predictor variables, the mediating variables, and the outcome variables were not as hypothesized. In almost every instance and for each group under study, maternal intelligence was a significant predictor of the academic achievement measures. Finally, the findings indicated that home environment was a significant predictor of academic achievement but not a significant mediator. (Contains 73 references.) (EV)

Maternal factors affecting the academic achievement of Latino adolescents

Marisa Rivera, Ph.D.

As the ethnic complexion of the United States continues to rapidly change, it is imperative to expand our understanding and knowledge of the increasingly diverse nature of this country. The need for scholarship on the Latino experience in the United States has become crucial based on the phenomenal growth of the Latino population (Chapa & Valencia, 1993; Rivera-Batiz & Santiago, 1994; Sanchez-Korrol, 1994). Latinos are the fastest growing population of this nation's large ethnic minority groups (Chapa & Valencia, 1993). The term Latinos is an aggregation of several distinct national origin subgroups: Mexican, Puerto Rican, Cuban, Central and South American, and other Latinos. The Mexican origin population is by far the largest, constituting 60.4% of the total Latino population; Puerto Ricans are 12.2% of the population in the 50 states, and other Latinos are 22.8%. Cuban-origin people comprise the smallest proportion, less than 4.7% of the total Latino population.

The increase and youthfulness of this particular ethnic minority group will have a dramatic effect on the configuration of education in the decades ahead. Based on U.S. Census Data, the Latino population will reach 30.8 million by 2010 (Chapa & Valencia, 1993). In 1990, the Census counted 22.3 million Latinos, or 9% of the total U.S. population. The Latino population increased by 53% between 1980 and 1990 (U.S. Department of Commerce, Bureau of the Census, 1991a). Coupled with this growth are concerns raised by sociologists, educators and policy-makers alike that the school retention rate, hence, academic achievement of Latinos needs serious attention. The high number of Latinos dropping out of school becomes exceedingly critical in light of the fact that by the turn of the century, fewer than 14 percent of jobs will require less than a high school diploma (Corbett et al., 1989). The insidious effect of an uneducated, unskilled and under-employed segment of the population impedes the prosperity of a nation (Chapa & Valencia, 1993; William T. Grant Foundation, 1988).

Education has always been seen as one means of upward mobility, especially for those who are socially and economically disadvantaged (Smith, 1995). Hispanic children are likely to be at an educational disadvantage relative to whites for several reasons, including a greater probability of poverty and lower average levels of parental education. The studies on the possible determinants of the drop-out rate represents divergent views. Heading this list is the catch-all category of socioeconomic characteristics. Some researchers argue that low socioeconomic status of families is the primary cause of low academic achievement in children (Hetherington, Camara, & Featherman, 1983; Shinn, 1978; White, 1982). In addition, it is assumed that children from middle socioeconomic families are active participants in the learning process as opposed to being passive recipients of direct instruction (Harwood et al., 1996; Menaghan & Parcel, 1991). These differences are generally cited as leading to greater social competence among the middle class compared to lower class children (Harwood et al, 1996).

Others state that SES should be viewed as a distal influence on academic outcomes (Bronfenbrenner, 1986; Felner & Felner, 1989; McLoyd, 1990). Distal variables are those variables that do not directly describe the life circumstances and demands that result from them, nor the processes they require (DuBois, Eitel, & Felner, 1994). Following this line of thought, several investigations have found that aspects of proximal variables of the family process were correlated with school adjustment, even after controlling for overlap between family type variables and socioeconomic status or family structure (Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987; Hetherington & Clingempeel, 1992; Kurdek & Sinclair, 1988; Stevenson & Baker, 1987).

According to Bronfenbrenner (1979) it is important to consider the contribution of the family environment to success among children given that the home is the major ecological setting. Studies by Laosa (1977, 1980, 1982) exemplify Bronfenbrenner's emphasis on ecology and environment. In a study done on maternal teaching strategies comparing Chicanos and Anglo-American families and cultural influences, Laosa (1980) states that cultural variations in human behavior are probably adaptive for coping with environmental demands in the population's ecological niche. Some families consider successful integration of children into mainstream culture as their measure of success as parents (Garcia Coll et al., 1996; Zayas & Palleja, 1988). This integration may be represented in various ways (i.e., higher social status through employment and or education). In other words, changes in environmental pressures (i.e., education) are likely to produce new forms of behavior, hence, bringing about cultural variations in the patterns of parent-child interactions. In other studies, such as those done by Prewitt-Diaz (1985), non-adaptive behavior by parents with regard to the U.S. educational school system led to the absence of Puerto Rican children from school. The absence may be the result of a parent needing the child's assistance for medical reasons or for a visit to a social service agency. In these cases, children are the major source of communication between parents and society at large.

The impetus for this study is a result of: (1) the paucity of current literature addressing factors identifying the Latino familial processes and their effect on adolescence and educational outcomes; (2) an outgrowth of a study done by Luster and McAdoo (1994) in which they identify and focus on factors related to the "success" of young African American children; (3) finally, studies done by Laosa (1977, 1978, 1984) emphasize the importance of utilizing socioeconomic status variables not as a conglomerate but rather as individual variables so that the effect of each one can be determined.

Luster and McAdoo's (1994) study found that the family characteristics and processes of high-achieving African American children, on average, appeared to be different from those of their low-achieving peers. In light of the findings indicating the negative effects of poverty, and maternal education on children's outcomes, their findings

are particularly interesting. Luster and McAdoo (1994) found that poverty and maternal education were not significant to a child's cognitive outcomes and that perhaps the quality of the home environment served to mediate their effect.

According to Laosa (1984), knowledge of individual effects of the variables is important given the evidence that the socioeconomic status variables that are generally used in studies (i.e., occupation) do not have the same meaning across cultural and sub cultural groups. Furthermore, studies done by Gandara (1996) and Volk (1994) found that although some parents were poor, they were able to offer their children ample support and encouragement.

The primary purpose of this study will be to investigate the effects of distal variables (maternal intelligence, maternal education, maternal employment and poverty) and of the proximal variables (home environment and parent-child interaction) on the academic achievement of Latino adolescents. It is important to recognize the rationale for the age group and reiterate the expected growth of the Latino population as we enter the twenty-first century (Hine, 1992). Generally, the tendency of policy makers is to view this age group as being beyond help, already on the margins, or outside of mainstream institutions; however, this age range presents a final opportunity by schools to redirect their development and provide them with meaningful school, work, and life alternatives (National Council of La Raza, 1993).

Although much research has been done to determine how familial processes affect academic achievement, few researchers have directly studied minority populations, in particular Latinos (Hine, 1992; Laosa, 1980). While many ethnic groups before them have come to the U.S. and thrived in spite of difficulties, Latinos have faced historical, social and discriminatory issues which are considered crucial to the formation of ethnic identity and positive self-worth (Phinney & Rosenthal, 1992). It is important to recognize the differences among the various Latino subgroups. Latinos are not a homogenous group and variations exist within cultural subgroups. One significant difference is the number of Latino families from the various subgroups who live in poverty. For example, 17 percent of Cuban families live in poverty, compared to 41 percent for Puerto Rican families (Garcia Coll et al., 1996).

While it is important to stress the heterogeneity of Latinos and recognize that generalizations should not be made based on an ethnic label, there are fundamental ideals that allow for some generalizations to be made. According to Marin and VanOss Marin (1991) it is cultural values, not necessarily demographic characteristics that are shared among the subgroups (i.e., Puerto Rican, Mexican, or Cuban), which make it possible to generalize certain concepts. Special attention will be given to the socialization processes

of Latino children. It is important to note the paucity of literature addressing the home environment of Latino families in general; the focus tends to be almost exclusively on Mexican-American children (Alvarez, 1986; Delgado-Gaitain, 1983; Gallimore & Goldenberg, 1993; Goldenberg, 1987; Vasquez, 1990). Research shows that the family ecologies of ethnic minority families is quite different from those of the majority families (Harrison, Wilson, Pine, Chan & Buriel, 1990; Slaughter-DaFoe, Makagawa, Takanishi & Johnson, 1990). For example, the modes or rules for interacting with adults which a young child has learned in the home will determine the child's expectations and behaviors toward adults in general. A case in point would be how the child responds to an examiner or a teacher during a typical testing situation in school Unfortunately, how the child performs on a test is taken as a measure of competence. According to Getzels (1974), performance and competence are not synonymous since performance in any given situation is determined by a number of factors, including those rules of interaction which the child has learned in the context of his/her home.

In studies conducted by Laosa (1977,1982, 1984), it was found that a mother's choice of teaching strategies has an effect on the child's development of characteristic learning strategies. Furthermore, the higher the mother's levels of education the more the home instruction strategies resembled those found in the school setting and the easier the child's adaptation in that environment. For example, among Chicano mothers the use of modeling, visual cue, directive, and negative physical control were more frequently utilized. On the other hand, Anglo-American mothers used inquiry and praise as teaching strategies more frequently. It could be argued that the greater the match between the teaching strategies of the home and those of the school, the more likely the child is to make a smooth and successful transition between home and school (Laosa, 1977).

A common notion is that successful academic achievement depends on an intact family and on economic security (Astone & McLanahan, 1991). In their study, Astone and McLanahan (1991) looked at family structure and high school completion and found that the educational expectations of children from non-intact families were lower, that they received less monitoring of their school work and overall less supervision than did children from intact families. However, it is important to point out that there may be other reasons besides economic security or family structure which may be responsible for their findings. Hine (1992) found that being poor was not an indicator of low academic achievement. Hine's study of gifted Puerto Rican children clearly illustrates that although the families were uneducated, they were able to provide support and encouragement, and their children were excelling in school. Others, such as McLoyd (1990), strongly believe that family structure and poverty should be viewed as distal influences and not primary causes of low academic achievement. Along this line of thought, McLoyd (1990) found that the negative effects of economic hardship are tempered by the support and assistance received by parents. This support tends to foster parental nurturance and consistency, which then helps children function well socio-emotionally and academically.

Bronfenbrenner's conceptual framework is particularly useful in light of the objectives of this study (to compare the relative contribution of proximal and distal variables to the academic achievement of Latino children). In addition, Bronfenbrenner's ecological framework allows for a close examination and discussion of the processes that occur within the most basic unit of analysis (i.e., the Latino home environment). According the Bronfenbrenner (1979), it is important to understand the child's behavior by learning how the child perceives the activities, roles, and interpersonal relations displayed in that setting. In this study the child's perceptions related to both school and their interpersonal relations at home will be discussed.

Following this reasoning, it is hypothesized that the effects of the distal variables (maternal intelligence, maternal education, maternal employment, and poverty) on children's academic achievement will be mediated by the proximal variables (home environment and parent-child interaction) (see Figure 1). Studies have shown that infants' mental test scores are more strongly related to measures of specific environmental processes than to gross indices of socioeconomic status (Bradley & Caldwell, 1980).

INSERT FIGURE 1

The ecology of the Latino family

Any study about Latinos would be incomplete without discussion on the influence of the socialization processes within the Latino family. According to Fitzpatrick (1987, 1971), "the heart of every culture is the family" (p. 68). The family is the institution that gives an individual his/her basic sense of identity. In order to better understand the academic outcomes of Latinos, knowledge of the processes that take place within the Latino family environment is important.

The ecology of human development is really the study of how a whole society functions to raise the children who will eventually take their place within that society. Garbarino (1982) goes on to say that "the ecological perspective of human development offers a kind of map for steering a course of study and intervention" (p. 25). The ecology of the Latino family is based on a collectivistic approach. From early childhood on, the socialization processes of Latino children focus on their being taught to think, feel, and act in ways that involve the development of a cooperative view of life, rather than one of a singularly competitive nature. The traditional values typically include a deep sense of familism, personalism and family loyalty; extended family and compadre (godfather) social support networks; and an emphasis on interpersonal relatedness, relationships, and mutual respect (Fitzpatrick & Travieso, 1980; Vega, Hough, & Romero, 1983).

According to Canino, Earley and Rogler (1988) Puerto Rican families, enmesh its members from early childhood in a system of help-giving exchanges. The system incorporates the nuclear family into the extended family, because mutual help criss-crosses blood and affinal relationship. Mutual help and cooperation is seen as sacred and an obligatory norm. This socialization conflicts with the individualistic philosophy of U.S. schools and results in children often not being able to function adequately in the school setting. In the school environment, children's development of interpersonal skills - the ability to become a participant, to gain leadership, and to cooperate and collaborate - as well as attainment of academic excellence are emphasized (Delgado-Gaitan, 1987; Laosa & Sigel, 1982; Marcias, 1987; Prewitt-Diaz, 1983). Finally, an important factor that is often neglected is that Latino adolescents are caught in multiple worlds. Zavala Martinez (1994) coined the term "entremundos" as the experience of being caught between two worlds, being forced to "forge multiple identities within these contexts, while simultaneously adapting to the taxing demands of a constantly changing, highly urbanized technological society" (p. 30).

Latino Educational Attainment

While Latino educational attainment levels are increasing, they continue to be lower compared to non-Latinos. The 1990 Census data show that only 1 in 2 Latinos completed high school. This percentage compares quite unfavorably with the 80% high school completion rate of non-Latinos. For college completion (adult, age 25 plus), only 9% of Hispanics had attained 4 years of college compared to 22% of non-Hispanics. Mexican-origin people had the lowest college completion rate (5%), and Cubans had the highest (20%).

Historically, Latinos have been the most undereducated major population group in the U.S.. According to the U.S. Bureau of the Census (1991), the data show that, compared to Blacks and Whites, Hispanics have the lowest levels of educational attainment, highest dropout rates, and highest illiteracy rates. These racial/ethnic differences have been highly persistent over time. For example, over a half century ago, in 1940, the median number of years of schooling completed by Chicanos -- the majority of U.S. Latinos -- ages 25-64 in California was 7.5 years, compared to 10.5 years completed by Whites (Chapa, 1988). Hispanic educational attainment levels (as indicated by high school and college completion rates) have increased in absolute terms since the 1970s; however, the gap between Latinos and non-Latinos remains wide.

Finally, Latinos also continue to lag behind their non-Latino counterparts in college enrollment and college completion rates. The percentage of Hispanic high school graduates entering college hit a peak in 1976; however, Hispanic enrollment rates have not equaled the 1976 high (over 36%) in any subsequent year (American Council on Education, 1989, 1990). According to Nieves-Squire (1991) many students who do go on to college experience a tremendous amount of stress due to cultural conflict and cultural expectations. Melendez and Petrovich (1989) found that "many attitudes and values of

the university culture are at odds with the character of Hispanic interpersonal relationships, forms of communication, and sex-role expectations" (p. 52). Melendez and Petrovich (1989) specifically discuss several of the cultural attributes which may affect the academic performance of Hispanic students most. For example, tolerance of differing opinions and ideas is encouraged and accepted by Hispanic students (and Hispanics in general) such that challenging another point of view may be seen as disrespectful. However, the silence or the reluctance of Hispanics to engage in such exchanges is often perceived by faculty as lack of interest or ability or lack of independent thinking. Following that line of thought, the competitive and individualistic environment which are promoted and encouraged in academe often conflicts with the values of cooperation and group cohesiveness that are nurtured in Hispanic culture. While it is true that Hispanics must learn to adapt to the academic environment, they often need a period of transition in order to become accustomed to the academic culture (Melendez & Petrovich, 1989; Prewitt-Diaz, 1983, 1985).

Method

Sample

This study utilized the National Longitudinal Survey of Youth (NLSY), which evolved from a larger research project which was instituted by the U.S. Department of Labor in the mid-1960s. The original study, the National Longitudinal Survey of Labor Market Experience (NLS) was comprised of four cohorts: men 45 to 59 years of age, women 30 to 44 years of age, and young men and women 14 to 24 years of age. The NLSY was begun in 1979 with more than 12,600 individuals in the United States between the ages of 14 to 22 years of age. The fifth cohort group was added with the purpose of evaluating employment and training programs for young people in the late 1970s. The NLSY is a multi-stage stratified area probability sample of dwelling units and group quarters.

Data were collected on the 5,000 children who had been born to over 3,000 of the female respondents who were between 21 and 29 years of age at the 1986 assessment. The children were given a variety of age-appropriate measures that assessed their cognitive competence and self-perception. Data were also collected on aspects of the children's environments. Over 90% of the mothers who participated in the first round of the study in 1979 were re-interviewed in 1986, and information was collected on over 90% of the children known to the survey (Baker & Mott, 1993). In 1988, the NLSY began to include with its regular child data collection a special self-administered supplement to be completed by all children at least 10 years of age who had been born to female participants in the 1979 sample. These individuals have been interviewed annually since 1979 when they were 14 to 21 years of age. The 1992 sample, when weighted, represents a cross-section of children born to a nationally representative sample of women who were between the ages of 27 and 34 on January 1, 1992. In addition, this sample

includes a sufficient number of children in early adolescent ages. For analysis purposes, it is important to note that the large majority of children age thirteen and over were born to teenage mothers. With this said, caution must be used in analyses generalizing to a broader cross-section of mothers and children. More detailed information on the NLSY can be found in the NLSY Child Handbook (Baker, Keck, Mott & Quinlan, 1993). For the purposes of this study, Latino adolescents in the NLSY who were between the ages of 12 and 19 in 1992 (N=323) and their mothers.

Measures

The predictor variables used in this study were maternal intelligence, maternal education, maternal employment and poverty. Maternal intellectual ability was measured by the Armed Forced Qualification Test-Revised (AFQT), which was administered to mothers during the 1980 phase of the study. The AFQT is the sum of four Armed Services Vocational Aptitude Battery (ASVAB) sub-tests. Those sub-tests are comprised of a word knowledge sub-test, an arithmetic reasoning sub-test, paragraph comprehension sub-test, and a numeric operations sub-test. The reliability coefficients (alternate form and internal consistency) for the AFQT sub-tests range from .70 to .90. Maternal education was measured through the use of a variable called highest grade completed by mother. Maternal employment was measured by mother's hourly rate of pay and the hours worked by mother. The poverty variable was measured by the poverty status of the family in 1992. Federal income guides that take into consideration total family income and family size were used by the NLSY staff to code poverty status (NLSY Child Handbook, 1993).

Mediating Variables

According to Babbie (1992), a mediating variable is one which is affected by the independent variable and which in turn affects the dependent variable. The mediating variables in this study will be home environment and parent-child interaction. The home environment was measured for the NLSY through the use of the Home Observation Measurement of the Environment (HOME-SF, Caldwell & Bradley, 1984), and parent-child interaction was assessed through the use of questions answered by both the mother (Mother Supplement) and the child (Child Self-Administered Supplement) separately and is administered to children 10 years of age and older.

The parent-child interaction variables utilized are the summation of separate variables that indicate three levels of interactions done regularly between the adolescent and at least one parent. For example, the 5 items on the parent-child joint interactions (outings) are related to those interactions that involve the adolescent and at least one parent within the past month. These items include outings such as going to the movies together, going out to dinner, or going shopping together. The parent-child joint interactions (home) are 3 items which are related to interactions that take place within the home and address such issues as cooking, sewing, playing a sport or doing schoolwork

together. Finally, the 4 items on the parental expectations asks whether the adolescent is regularly expected to help out with cooking, doing dishes, keeping the house clean or straightening their room.

The HOME-SF is a modified version of the HOME Inventory developed by Betty Caldwell and Robert Bradley, which measures the quality of the cognitive stimulation and emotional support a child receives by his/her family. In 1988 and in 1990, the HOME-SF items were expanded for children ten and over through the use of a self-administered survey. The HOME-SF has a high overall completion rate score obtained for well over 90% of the eligible children. The Home instrument is administered to both the children and the mother, separately.

The items completed by children are dependent on their age and follow different question sequences. All children living with their mothers in a given survey year were eligible to complete the HOME assessment. The section to be completed in a given year was determined by the age of the child at the date the mother supplement was administered. For example, children born by the 1986 survey date may have three HOME scores available (1986, 1988, and 1990) and children born between 1986 and 1988 may have two HOME scores (1988 and 1990).

The HOME-SF has had high completion rates over the years with high reliability and high face validity. For example, Bradley, Caldwell, and Elardo (1979) found that six month test-retest sub-scale correlations ranged from .45 and .87. In children from six to forty-two months of age, Yeates et al. (1983) found twelve-month test-retest reliability of .38 to .56. A study done by Yeates et al. (1983) with the NLSY data found that maternal intelligence was more predictive of a child's intellectual development during the ages of two through four. However, by the age of four, the quality of the home environment was more predictive of cognitive development. Furthermore, when administered at two months of age, the HOME has been shown to be correlated .34 to .72 with intelligence tests that are administered as late as four-and-a-half years of age, and the HOME at one and two years correlated between .33 and .65 with academic achievement in the first through fourth grades of school (Bee et al., 1982; Bradley & Caldwell, 1976, 1980, 1984; Elardo, Bradley & Caldwell, 1985; Van Doorninck et al., 1981). The HOME-SF for children 10 years and older consists of a wide range of inputs which purport to measure dimensions of the quality of the home environment - family interaction patterns, physical attributes to the home, intellectual attributes, and so on.

Measures for academic achievement of Latino adolescents

Academic achievement of Latino adolescents were measured by the following: (a) the Peabody Picture Vocabulary Test-Revised (PPVT-R); (b) Peabody Individual Achievement Test Mathematics Assessment (PIAT Math); (c) Peabody Individual Achievement Test Reading Recognition Assessment PIAT RR); (d) Peabody Individual

Achievement Reading Comprehension Assessment (PIAT RC); and (e) Harter's (1982) Self-Perception Profile for Children (SPPC) "What I am like. The 1982 version of the Susan Harter scale is utilized in this NLSY sample. The Peabody assessments were normed over twenty years ago which means that their mean and dispersion may have been altered due to period effects (i.e., Sesame Street and Barney). The revised 1989 version of the PIAT is utilized with this NLSY sample.

The PPVT-R (Dunn & Dunn, 1981) was used to assess an individual's receptive vocabulary and provides a quick estimate of verbal ability or scholastic aptitude. In this test, the child selects one of four pictures which best describes a particular word's meaning. In 1986, this assessment was only given in English. However, beginning in 1988, a small number of children who preferred to do so were given the Spanish version of this assessment, The "Test de Vocabulario en Imagenes Peabody." For this reason, post-1986 results may be less culturally biased than the 1986 version. Reliability on the PPVT-R as reported by Dunn and Dunn (1981) is a median split-half reliability of .80, a median parallel form reliability of .70 and a median nine to thirty-one day test-retest reliability of .78 (.52 to .90). The PIAT Math measures a child's attainment of mathematics taught in mainstream education. It consists of eighty-four multiple choice items of increasing difficulty. It begins with such early skills as recognizing numerals and progresses to measuring advanced concepts in geometry and trigonometry. The PIAT Math is considered reliable and valid with a completion rate of about 91 percent with little variation by race or ethnicity. However, completion rates are slightly less satisfactory, about 88 percent, for children over 11 years of age (Baker & Mott, 1989). The PIAT-RR measures word recognition and pronunciation ability, essential components of reading achievement. Children read a word silently, then say it aloud. This measure contain eighty-four items, each with four response alternatives, which increase in difficulty from preschool to high school levels. The PIAT-RR has a high test-retest reliability ranging between .81 for kindergarten level children to .94 for third graders with an overall median of .89 for all grades through twelve. The PIAT-RC measures a child's ability to derive meaning from sentences that are read silently. For each of the 66 items of increasing difficulty, the child silently reads a sentence once and then selects one of four pictures which best portrays the meaning of the sentence. Like the other PIAT assessments, the Reading Comprehension is considered highly reliable and valid. Important to note, is that the overall sample of children scored much higher on the PIAT Math and the PIAT RR than what was expected. This is significant based on the disproportionate number of children in the sample born to poor and minority mothers. The overall sample has a mean score of 103 -- ranging from 99 to 105.

The Self-Perception Profile for Children (SPPC) "What I am Like" (Harter, 1982) was used to measure the child's perceived competence in the area of academic skills and the child's sense of general self-worth. The SPPC is administered to children eight and over by an interviewer. The twelve items in the assessment translate into two sub scores,

a global self-worth and a scholastic competence score. Each of the two sub scales include six items which are scored between one and four, with higher scores representing greater scholastic competence or greater global self-worth. This instrument is administered by the interviewer to the children. The interviewer reads each statement to the child, then asks "which kind of kid" they were more like, then follows up by asking whether or not the particular response was "really true for you" or "only sort of true for you."

Studies that have used the SPPC scale have indicated that performance on this instrument is an important predictor of various child outcomes and behaviors. The SPPC has internal reliability (R = .73 to R = .83) and high (nine month) test-retest reliability (R = .80). Translation into Spanish suggests no apparent cultural bias.

There are racial/ethnic as well as socioeconomic differences in evidence for both SPPC sub scores. With regard to the scholastic competence sub scale, Hispanic children score lower than do Black or White children. However, the variability by maternal education is very pronounced, suggesting that a child's self-perception regarding his scholastic competence is closely associated with his or her family's socioeconomic attainment. Racial/ethnic and maternal education differences in global self-worth are also apparent; White children and children born to mothers who have attended college score higher on this sub scale which, as has been shown, appears to have been correlated in a systematic way with long term cognitive outcomes. In a study utilizing the NLSY data, Dubow and Luster (1990) report that children with higher global self-esteem were significantly less likely to have academic problems even in the presence of risk factors such as poverty, crowding and father absence.

Results

The correlation coefficients among the predictor variables were assessed and the results are shown in Table (1). The correlations for maternal intelligence and maternal education are weak to modest. However, these two variables are significantly and positively correlated with the PPVT, the various PIAT measures, and the SPPC scholastic achievement subscale with one exception: the relationship between the latter variable and maternal intelligence is not significant for Latinos. The HOME cognitive stimulation was significantly and positively correlated with HOME emotional support but the correlation coefficients are weak to modest. These two HOME variables are significantly and positively correlated with the PPVT, the various PIAT measures, and the perceived academic competence subscale of the SPPC with several exceptions: in the Latino group there was no significant relationship found between the HOME cognitive stimulation variable and the PIAT math subtest, and between the HOME emotional support variable and the PPVT. The two parent-child joint activities (at home and outings) are significantly and positively correlated with each other, as are the at home joint activities variables and the parental expectations variables; in the latter case, the relationships are weak. These

parent-child variables show very few significant correlations with maternal intelligence, maternal education, maternal employment or financial status; the few correlations that are found, are weak. Also, the parent-child variables show some but inconsistent relationships with the various academic performance variables, for the Latino adolescents the joint activities at home variable correlated significantly and negatively but weakly with the PIAT reading comprehension and recognition subtests but not with the PIAT math subtest or the PPVT. The correlations between the various academic measures, PPVT, PIATs and SPCC perceived academic competence, are all significantly and positively correlated. Most of these correlations are in the modest (.30 to .60) to strong (.60 to 1.00) range. With respect to the strong correlations, it is important to keep in mind that variables correlating at .65 share 42.25% of their respective variances, but that 58% of the variance of each variable is unique. The correlations for SPPC scholastic competence and self-worth were significantly correlated to achievement on the PPVT and the PIAT measures.

INSERT TABLE 1

Regression of the mediating variables on the distal variables.

Regression analyses were done following the procedure suggested by Baron and Kenny (1986) that states that to test for mediation one should: regress the mediator on the independent variable; regress the dependent variable on the independent variable, and regress the dependent variable on both the independent variable and on the mediator. In addition, they further state that to establish mediation the independent variable must affect the mediator in the first equation, the independent variable must be shown to affect the dependent variable in the second equation and the mediator must affect the dependent variable in the third equation (p. 1177). Following this line of thought, in a first set of multiple regression analyses the mediating variables (home environment, parent-child activities at home, parent-child outings, and maternal expectations) were regressed on the predictor variables of maternal intelligence, maternal education, maternal employment and family poverty status. Although the correlation between the two HOME scales was not in the strong range, the two subscale scores were combined into an overall HOME score for these analyses. The correlations between parent-child activities at home, parent-child outings, and maternal expectations were simply too low and varied to be combined into an overall score.

The regression of the mediating variables indicated that the variables in the model significantly predicted the home environment ($F(4,145) = 9.03$, $p < .001$). The beta coefficients for maternal education and poverty were significant with 22% of the variance in the home environment accounted for. The predictor variables on the other hand, were not significant predictors of parent-child outings for the Latino adolescents ($F(4,124) = .45$, $p > .77$) with no significant beta coefficients in this equation. Finally, the variables in

the model were significant in predicting parent-child joint interactions within the home (F 4, 126) = 5.07, with significant beta coefficients highest grade completed by mother and maternal intelligence.

INSERT TABLE 2 AND 3

Regressions of the outcome variables on both the mediating and distal variables

The next set of multiple regression analyses were run in two steps. In the first step the PPVT, PIAT RR, PIAT RC, PIAT Math, SPPC Scholastic Competence, SPPC Self-Worth scores, were regressed on maternal intelligence highest grade completed by mother, hourly rate of pay, hours worked per week and family poverty status. The second step added HOME and the parent-child interaction variables to determine which of the predictor variables of the first would still be significantly related to the academic achievement outcomes after the addition of the predictors in the second step for each of the three subsamples in the study.

The first step in the regression indicated that the predictor variables were significantly related to achievement on the PPVT ($F(5, 13) = 4.14$, $p < .01$. The only significant beta coefficient was for maternal intelligence. The variables in the first step accounted for 16% of the variance in the PPVT. Including the HOME and the parent-child interaction variables to the regression in the second step resulted in a non-significant F-change of 0.80, $p < .53$, and a change in R square of 2.4% of additional variance accounted for. In addition, the beta coefficient for maternal intelligence increased from .41 in the first step to .51 in the second step.

INSERT TABLE 4

The predictor variables in the first step were not significantly related to achievement on the PIAT Reading Recognition ($F(5. 112) = 2.10$, $p > .07$. The only significant beta-coefficient was for maternal intelligence. The variables in the first step accounted for 9% of the variance in the PIAT Reading Recognition. Including the HOME and the parent-child interaction variables to the regression in the second step resulted in a non-significant F-change of 1.19, $p = .32$, and a change in R square of 3.9% of additional variance accounted for. In the second step of the regression, maternal intelligence was no longer significant.

INSERT TABLE 5

The PIAT Reading Comprehension was significantly related to achievement in the first step (F (5,109) = 3.22, p .01). The only significant beta coefficient was for maternal intelligence. The variables in the first step accounted for 13% of the variance in the PIAT Reading Comprehension. Including the HOME and the parent-child interaction variables to the regression in the second step resulted in a non-significant F-change of 1.80, p <.13, and a change in R square of 5.6% of additional variance accounted for and the beta coefficient for the HOME variable was significant.

INSERT TABLE 6

The predictor variables in the first step were significantly related to achievement in the PIAT Math (F (5, 111) = 3.25, p < .01). The beta coefficient for maternal intelligence was significant. The five predictors together accounted for 13% of the variance. The second step in the regression showed a non-significant F-change of 1.90, p < .12, with a change in R-square of 5.8%. The beta coefficient for the HOME environment variable was not significant. Latino adolescent scholastic competence was significantly related to the predictor variables (F (5, 116) = 2.26, p < .05). The only significant beta coefficient was for hours currently worked by the mother. The variables in the first step accounted for 9% of the variance in adolescent scholastic competence. Including the HOME and the parent-child interaction variables to the regression in the second step resulted in a non-significant F-change of 1.58, p <. 18, and a change in R square of 4.9% of additional variance accounted for. In the second step, the beta coefficient for hours currently worked by the mother decreased slightly. Finally, the predictor variables in the first step were significantly related to Latino adolescent perception of self-worth (F (5, 116) = 3.26, p < .01). Hours worked by the mother and hourly rate of pay had significant beta coefficients. The variables in the first step accounted for 12% of the variance in adolescent perception of self-worth. Including HOME and the parent-child interaction variables resulted in eliminating mother's hourly rate of pay from the equation and replacing it with a significant beta coefficient for the HOME variable. The regression in the second step resulted in a significant F-change of 2.49, p < .05, and a change in R square of 7.2% of additional variance accounted for.

INSERT TABLES 7, 8 AND 9

The main findings of the hierarchical multiple regression analyses indicated that home environment nor parent-child interactions were significant mediators of academic achievement. Upon entering the home environment and parent-child interaction variables to the second step, the results indicated that maternal intelligence and the home environment significantly predicted academic achievement. Home environment was not a significant predictor of the PIAT RR for Latino adolescents nor was home environment a

significant predictor of achievement on the PPVT. However, the home environment did significantly predict the self-worth of Latino adolescents but was not significant in scholastic competence. The analyses resulted in home environment as a significant predictor of academic achievement rather than as a mediator as originally hypothesized. The parent-child interaction variables did not mediate or predict Latino adolescent academic achievement; it can only be speculated that parent-child interaction variables were not significant mediators (or predictors) as a result of cultural bias.

Discussion

The purpose of this research project was to examine the effects of maternal intelligence, maternal education, hourly rate of pay, hours worked per week by mother and family poverty on Latino adolescent academic achievement as mediated by the home environment and parent-child interactions. Additionally, it was hoped that this research would set the framework for future projects that would utilize multi-method approaches to examining family processes of the Latino subgroup that cannot be accurately quantified.

Past research has shown that Latino children are less likely than children from other ethnic groups to experience success in school and, as Slaughter-DeFoe et al. (1990) have pointed out, a considerable amount of research has been devoted to explaining these differences (McAdoo & Luster, 1994). Although the research has contributed useful information, it is imperative that we do not continue to stereotype Latino children by focusing only on low-achieving children in research projects. There is great diversity among Latino children and therefore, it is important to shift the focus to why some are successful and doing well in cognitive domains, while others are not.

It was hypothesized that the effects on academic achievement of Latino adolescents of maternal intelligence, maternal education, hourly rate of pay, hours worked weekly by mother, and family poverty status would be mediated through the home environment and the parent-child interactions. The observed linear relationships between the predictor variables, the mediating variables, and the outcome variables were not as was hypothesized. In almost every instance and for each group under study, maternal intelligence was a significant predictor of the academic achievement measures. Finally, and most importantly, the findings indicated that home environment was a significant predictor of academic achievement but not a significant mediator.

There are several issues in this research that remain to be addressed and place several limitations on the present study. First, due to the cross-sectional nature of this study, there are questions that cannot be answered. For instance, was the home environment of the children in this study significant when they were younger? If so, when did the home environment become less significant and what other influences took its

place? For example, prior research has attributed outside influences with the decrease in the effect of the home environment in children beginning with age 12 (i.e., peers, neighborhoods) (Luster & Dubow, 1992; Scarr, 1985; NLSY Child Handbook, 1993). Second, only maternal influences were reported in this investigation. The contributions of other household members, school, peers, extended family, church and community were not analyzed in order to determine their effect, and can only be speculated. Third, the complexity of mothers' occupation cannot be gleaned from this project. Menaghan and Parcel (1991) have found that parents with more complex jobs tend to provide more opportunities for autonomy and self-direction to their children which leads to enhancing intellectual flexibility. Fourth, there was no within-group comparison for the individual Latino groups (i.e., Mexican-American, Cuban and Puerto Rican). A within-group comparison would have been beneficial in order to document where the Latino groups differ. Finally, the use of only quantitative methods may have underestimated or eliminated the strength of some effects (i.e., home environment).

Theoretical implications of this study

The results of this study have served to strengthen the argument that in order to acquire more reliable and valid results regarding the situation of Latino adolescents in this country, investigators must be intimately acquainted with certain nuances related to their culture (Sternberg, 1988; Thomas, 1992). For example, a study by Soto (1986) yielded results related to college enrollment of Latino students. The results showed that while the adolescent was expected to attend college, she was also expected to be loyal to the family by remaining close to home. Consequently, she enrolled in classes at the local community college. This behavior has been misunderstood by educators and researchers as a result of not understanding the nurturing environment Latino families have established for their families. According to Bronfenbrenner's ecological theory the analysis should focus on the phenomenological perceptions of the environment of the adolescent rather than the "objective" characteristics. Without this perspective, certain issues related to the culture, the language and the belief systems of Latinos may go undetected and specific meanings lost. Additionally, skewed results can lead to incorrect assumptions as well as to the dissemination of inaccurate information.

This study has presented an extensive literature review integrating both demographic factors contributing to the plight of Latinos in the United States as well as literature discussing the socialization processes of Latino families. While the structural (objective) factors affecting Latinos are easily ascertained, it was the microsystem of the home and its influence on academic achievement of adolescents that were of greatest interest to this researcher. Scarr (1995) and others argue that it is the distal variables (i.e., socioeconomic status) that negatively influence academic outcomes. However, in her book, Over the ivy walls: The educational mobility of low-income Chicanos, Patricia Gandara (1996) presents a strong case for examining the forces that promote the high achievement of individuals who by society's definitions should not have made it.

While the findings in this study were not as hypothesized, the results of the multiple regression analyses serve to promote the notion of focusing more on the home environment of Latinos as a predictor variable rather than as a mediator variable. It also encouraged the idea that certain constructs, such as Latino parent-child interactions should be supported by the additional use of qualitative methodology. The results of this study support Thomas' (1992) statement regarding the analysis of information gathered from the microsystem. He states that because the components of a system tend to be in flux, it is difficult to determine the shift from one system to another and the role of the participant. Consequently, future research will need to include other systems that influence the individuals under study. Bronfenbrenner's framework will be useful in examining other Latino family systems (not addressed in this study) as perceived by the adolescents. For example, how do Latino parents model a hard work ethic? How in spite of low levels of education are parents able to provide their children with the encouragement and support needed to succeed in school? Finally, there needs to be an examination o the transmission of influences in the educational goals and hard work ethic that according to Gandara (1996) attributes to her sample. In essence, breaking away from research focusing on the negative aspects of Latino educational outcomes will help to create and promote a culture of possibility (Gandara, 1996) rather than continue to promote an attitude of helplessness and despair. Finally, the utilization of method that go beyond objective measures and place a greater emphasis on the adolescents' perceptions of their environment will play a critical role in how we as educators, parents and society are able to assist the fastest growing age group in the United States.

Practical implications of the study

The results of this and other studies related to outcomes for Hispanic/Latino populations will become crucial as we quickly approach the turn of the century. It has been reported that the demographic changes occurring in this country will make Hispanic/Latinos the largest minority group in this country of which adolescents will comprise the largest number. Consequently, gaining a better understanding of the culture and the processes within the Hispanic/Latino group can make a difference in the educational outcomes of adolescents. Furthermore, much of the research reviewed for this study has implications for educational reform; however, most of the conclusions drawn from this research rarely ever consider the implications to Hispanic/Latino children. While more and more mention is made of the influence of cultural meaning and beliefs, more integration of these constructs need to be made into social science research. In addition, multi-method approaches to the study of other ethnic groups should be utilized more often in order that researchers may capture the essence of difficulties encountered and the successes achieved by adolescents and their parents.

Bronfenbrenner (1979) states that more focus should be given the "real life" rather than objective nature of the activities of children. Following this line of thought, research on Latino adolescents focusing on the meanings and perceptions they have of everyday interactions with family, and the influence relationships outside the family system have on their academic goals and achievements should be addressed. Finally, a greater focus needs to be placed on those Hispanic/Latino adolescents who are able to succeed in spite of their disadvantaged backgrounds. For example, Patricia Gandara (1996) conducted an ethnographic study of fifty Mexican American from low-income families who had attained high academic achievement (i.e., lawyers, doctors and Ph.d.. degrees). Changing the emphasis from failures to successes and building them into policy intervention programs may help to eliminate negative stereotypes and perhaps change societal attitudes.

Conclusion

I have argued that the home environment and parent-child interactions of Latino adolescents would mediate the effects of the distal variables of maternal intelligence, maternal education, hourly rate of pay, hours worked per week by mother and poverty, this did not occur. However, what the regressions indicated was that home environment was a significant predictor of achievement rather than a mediator. More attention should be given to this variable as it relates to Latino adolescents and their achievements. The implications of this study support the notion of examining the microsystem of the Latino family longitudinally with other methods in order to gain a greater understanding of the familial processes. Adolescence is a time of great change and conflict. For Latinos this issue is exacerbated by the addition of cultural conflict, not only with outside forces but more importantly, with the forces within their homes and with their immediate family members. As social policies continue to scrutinize the role of the family in the development of children, it is imperative to utilize social science research as a means to develop programming that is culturally sensitive to the needs of Latinos and their children.

Alvarez, L. P. (1986). Home and school contexts for language learning: A case study of two Mexican-American preschoolers. Unpublished doctoral dissertation, Stanford University.

American Council on Education. (1990). Minorities in higher education: Ninth annual report 1990. Washington, D.C.: American Council on Education, Office of Minorities in Higher Education (formerly Office of Minority Concerns).

Astone, N. M. & McLanahan, S. S. (1991). Family structure, parental practices and high school completion. American Sociological Review, 56, 309-320.

Babbie, E. (1992). The practice of social research (Sixth Edition). California: Wadsworth Publishing.

Baker, P. C., Keck, C. K., Mott, F. L., & Quinlan, S. V. (1993). NLSY Child Handbook. Revised edition: A guide to the 1986-1990 National Longitudinal Survey of Youth child data. Columbus, OH: Center for Human Resources Research, The Ohio State University.

Baron, R. M., & Kenny, D.A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. Journal of Personality and Social Psychology, 51(6), 1173-1182.

Bee, H. K. Bernard, S. Eyres, C. Gray, M. Hammond, A. Spietz, C. Snyder, and B. Clark. (1982). Prediction of IQ and language skill from perinatal status, child performance, family characteristics, and mother-infant interaction. Child Development, 53, 1134-1156.

Bradley, R. H. & Caldwell, B. M. (1976). The relation of infants' home environments to mental test performance at fifty-two months: A follow-up study. Child Development, 47, 1172-1174.

Bradley, R. H. & Caldwell, B. M. & Elardo, R. (1977). Home environment, social status, and mental test performance. Journal of Educational Psychology, 69, 697-701.

Bradley, R. H. & Caldwell, B. M. (1980). The relation of home environment, cognitive competence, and IQ among males and females. Child Development, 51, 1140-1148.

Bradley, R. H. & Caldwell, B. M. (1984). The HOME inventory and family demographics. Developmental Psychology, 20, 315-320.

Bronfenbrenner, U. (1979). The ecology of human behavior. Cambridge: Harvard University Press.

Bronfenbrenner, U. (1986). Ecology of the family as a context for human development: Research perspectives. Developmental Psychology, 22, 723-742.

Caldwell, B. M. & Bradley, R. H. (1984). Home observation for measurement of the environment. Little Rock, Arkansas.

Canino, I. A., Earley, B. F., & Rogler, L. H. (1988). The Puerto Rican child in New York City: Stress and mental health. Hispanic Research Center, Fordham University Monograph, No. 4.

Chapa, J. & Valencia, R. R. (1993). Latino population growth, demographic characteristics, and education stagnation: An examination of recent trends. Hispanic Journal of Behavioral Sciences, 15, 165-187.

Corbett, T., Deloya, J., Manning, W., & Uhr, L. (1989). Learnfare: The Wisconsin experience. In Focus, University of Wisconsin-Madison Institute for Research on Poverty. Fall and Winter 1989, Vol. 12, No. 2 (pgs. 1-10).

Delgado-Gaitan, C. (1983). Learning how: Rules for knowing and doing for Mexican children at home, play and school. Doctoral dissertation, Stanford University, CA.

Delgado-Gaitan, C. (1987). Tradition and transitions in the learning process of Mexican children: An ethnographic view. In G. Spindler, & L. Spindler (Eds.), Interpretive ethnography of education: At home and abroad (pp. 333-359). Philadelphia: Falmer Press.

Dornbusch, S. M., Ritter, P. L., Leiderman, P. H., Roberts, D. F., & Fraleigh, M. J. (1987). The relation of parenting style to adolescent school performance. Child Development, 58, 1244-1257.

DuBois, D. L., Eitel, S. K., Felner, R. D. (1994). Effects of family environment and parent-child relationsips on school adjustment during the transition to early adolescence. Journal of Marriage and the Family, 56, 405-414.

Dubow, E. & Luster, T. (1990). Adjustment of children born to teenage mothers: the contribution of risk and protective factors. Journal of Marriage and the Family, 52, 393-404.

Dunn, L. M. & Dunn, L. M. (1981). PPVT - Revise manual. Circle Pines, MN: American Guidance Service, Inc.

Elardo, R. D. & Bradley, R. H. (1981). The home observation for measurement of the environment (HOME) Scale: A review of research. Developmental Review, 1, 113-145.

Felner, R. D. & Felner, T. Y. (1989). Primary prevention programs in the educational context: A transactional-ecological framework and analysis. In L. A. Bond & B. E. Compas (Eds.), Primary prevention in the schools (pp. 13-49). Newbury Park, CA: Sage.

Fitzpatrick, J. P. & Travieso, L. (1980). The Puerto Rican family: Its role in cultural transition. In M.D. Fantini & R. Cardenas (Eds.), Parenting in a multicultural society (pp. 103-119). New York: Longman.

Fitzpatrick. J. P. (1987). Puerto Rican Americans: The meaning of migration to the Mainland. New Jersey: Prentice Hall.

Fitzpatrick, J. P. (1971). Puerto Rican Americans: The meaning of migration to the Mainland. New Jersey: Prentice Hall.

Gallimore R. & Goldenberg, C. (1993) Activity settings of early literacy: Home and school factors in children's word recognition skills. Anthropology an Education quarterly, 18, 149-179.

Gandara, P. (1995). Over the ivy walls: The educational mobility of low-income Chicanos. State University of New York Press.

Garbarino, J. (1982). Sociocultural risk: Dangers to competence. In C. B. Kopp & J. B. Krakow (Eds.), The child: Development in a social context. Reading: Addison-Wesley.

Garcia Coll, C. T., Lamberty, G., Jenkins, R., Pipes McAdoo, Crinic, K., Hanna Wasik, B., & Vazquez Garcia, H. (1996). An integrative model for the study of developmental competencies in minority children. Child Development, 67, 1891-1914.

Getzels, F. W. (1974). Socialization and education: A note on discontinuities. Teachers College Record, 76, 218-225.

Goldenberg, C. N. (1987). Low income Hispanic parents contributions to their first-grade children's word recognition skills. Anthropology and Education Quarterly, 18, 149-179.

Harrison, A. O., Wilson, M. N., Pine, C. J., Chan, S. Q., & Buriel, R. (1990). Family ecologies of ethnic minority children. Child Development, 61, 347-362.

Harter, S. (1982). The perceived competence scale for children. Child Development, 53, 87-97.

Harwood, R., Schoelmerich, A., Ventura-Cook, E., Schulze, P.A., & Wilson, S. P. (1996). Culture and class influences on Anglos and Puerto Rican mothers' beliefs regarding long-term socialization goals and child behavior. Child Development, 67, 2246-2461.

Hetherington, E. M., Camara, K. A., & Featherman, D. L. (1983). Achievement and intellectual functioning of children in one-parent households. In J. T. Spence (Ed.), Achievement and achievement motives (205-284). San Francisco: W. H. Freeman.

Hetherington, E. M., & Clingempeel, W. G. (1992). Coping with marital transition. Monographs of the Society for Research in Child Development, 57 (2-3 Serial No. 227).

Hine, C. Y. (1992). The home environment of gifted Puerto Rican children: Family factors which support high achievement. Proceedings of the Third National Research Symposium on Limited English Proficient Student Issues: Focus on Middle and High School Issues.

Kurdeck, L. A. & Sinclair, R. J. (1988). Relation of eighth graders' family structure, gender, and family environment with academic performance and school behavior. Jurnal of Educational Psychology, 80, 90-94.

Laosa, L. M. (1977). Socialization, education, and continuity: The importance of the sociocultural context. Young Children, 21-27.

Laosa, L. M. (1978). Maternal teaching strategies in Chicano families of varied educational and socioeconomic levels. Child Development, 49, 1129-1135.

Laosa, L. M. (1980). Maternal teaching strategies in Chicano and Anglo-American families: The influence of culture and education on maternal behavior. Child Development, 51, 759-765.

Laosa, L. M. (1980). Maternal teaching strategies and cognitive styles in Chicano families. Journal of Educational Psychology, 72, 1, 45-54.

Laosa, L. M. (1982). School, occupation, culture, and family: The impact of parental schooling on the parent-child relationship. Journal of Educational Psychology, 74, 791-827.

Laosa, L. M. (1984). Ethnic, socioceconomic, and home language influences upon early performance on measures of abilities. Journal of Educational Psychology, 76, 6, 1178-1198.

Luster, T., & Dubow, E. (1992). Home environment and maternal intelligence as predictors of verbal intelligence: A comparison of preschool and school-age children. Merrill-Palmer Quarterly, 38, 151-175.

Luster, T., & McAdoo, H. (1994). Factors related to the achievement and adjustment of young African American children. Child Development, 65, 1080-1094.

Marin, G. & VanOss Marin, B. (1991). Research with Hispanic populations. Sage Publications.

Melendez, S. E. & Petrovich, J. (1989). Hispanic women students in higher education: Meeting the challenge of diversity. In C. S. Pearson, D. Shavlik, & J. Touchton (Eds.), Educating the majority: Women challenge tradition in higher education. Washington DC: American Council of Education/Macmillan Series on Higher Education.

McLoyd, V. C. (1990). The impact of economic hardship on black families and children: Psychological distress, parenting and socioemotional development. Child Development, 61, 311-346.

National Council of La Raza (1993). Moving from the margins: Puerto Rican young men and family poverty. Policy Analysis Center Office of Research, Advocacy, and Legislation.

Nieves-Squires, S. (1991). Hispanic Women: Making their presence on campus less tenuous. Project on the Status and Education of Women. Association of American Colleges. Washington D.C.: Author.

Phinney, J. S. & Rosenthal, D. A. (1992). Ethnic identity in adolescence: Process, Context, and outcome. In G. R. Adams, T. P. Gullotta, R. Montemayor (Eds.), Adolescent identity formation (pp. 145-172). Newbury Park, CA: Sage.

Prewitt Diaz, J. O. & Draguns, J. G. (1985). Mental Health of two-way migrants: From Puerto Rico to the United States and return. Paper presented at the Circum-Mediteranean Regional IACCP Conference: "Ethnic Minority and Immigrant Research.

Rivera-Batiz, F. L. & Santiago, C. (1994). Puerto Ricans in the United States: A changing reality. Washington, D.C.: National Puerto Rican Coalition.

Sanchez-Korrol, V. E. (1994). From colonia to community: The history of Puerto Ricans in New York City. (2nd edition). Berkeley: University of California Press.

Scarr, S., & Thompson, W. W. (1995). The effects of maternal employment and non-maternal infant care on development at two and four years. Early Development and Parenting, 3, 113-123.

Shinn, M. (1978). Father absence and children's cognitive development. Psychological Bulletin, 85, 295-324.

Smith, T. M. (1995). Findings from the condition of education 1995. No. 4 The educational progress of Hispanic students. U. S. Department of Education. Office of Educational Research and improvement.

Sternberg, R. J. (1988). The triarchic view of intelligence in cross-cultural perspective. In S. H. Irvine & J.W. Berry (Eds.) Human abilities in cultural context. New York: Cambridge University Press.

Thomas, R. M. (1992). Comparing theories in child development. California: Wadsworth Publishing Company.

U. S. Bureau of the Census (1991). Census Bureau releases refined estimates from post-enumeneration survey of 1990 Census coverage. U.S. Department of Commerce News (Press Release CB91-221). Washington, DC: Author.

Van Doorninck, W., Caldwell, B. M., Wright, C., Frankenburg, W. (1981). The relationship between twelve-month home stimulation and school achievment. Child Development, 52, 1080-1083.

Vasquez, O. A. (1990). Connecting oral language strategies to literacy: An ethnographic study among four Mexican immigrant families. Unpublished doctoral dissertation, Stanford University.

Vega, W. A., Hough, R., & Romero, A. (1983). Family life patterns of Mexican American. In G. Powell, J. Yamamoto, A. Romero, & A. Morales (Eds.), The psychosocial development of minority group children (pp. 194-215). New York: Brunner/Mazel.

Volk, D. (1994). A case study of parent involvement in the homes of three Puerto Rican kindergartners. Journal of Educational Issues of Language Minority Students, 14, 89-114.

White, K. R. (1982). The relation between socioeconomic status and academic achievement. Psychological Bulletin, 91, 461-481.

William T. Grant Foundation (1988). The forgotten half: Pathways to success for America's youth and young families. Washington D.C.: Author.

Yates, J.R. & Ortiz, A. A.(1991). Professional development needs of teachers who serve exceptional language minorities in today's schools. Teacher Education and Special Education, 4, pgs. 11-18.

Zavala Martinez, I. (1994). Entremundos: The psychological dialectics of Puerto Rican migration and its implications for health. In G. Lamberty & C. T. Garcia Coll (Eds)., Puerto Rican women and children: Issues in health, growth and development (pp. 29-38). New York: Plenum Press.

Zayas, L. H. & Palleja, J. (1988). Puerto Rican Familism: Considerations for Family Therapy. Family Relations, 37, pgs. 260-264.

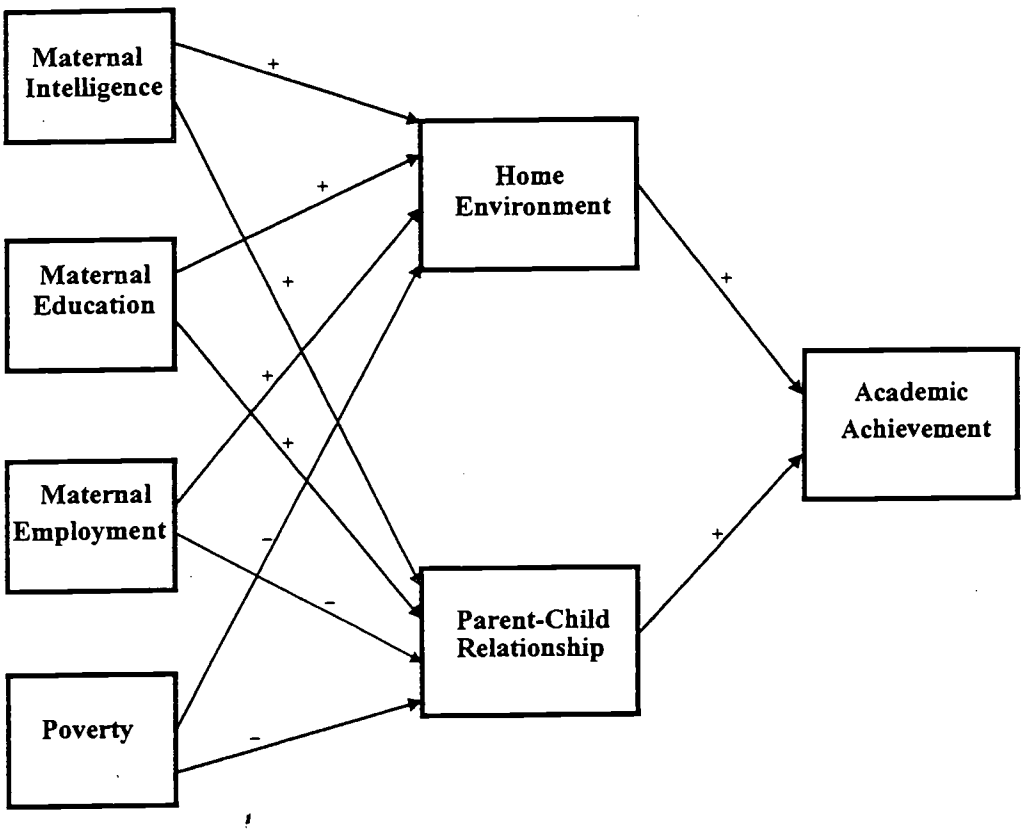

Figure 1. Maternal factors affecting academic achievement of Latino adolescents

Table 1 Correlation coefficients among the predictor variables for Hispanics/Latinos[a]

	Int	MEd	HRP	HCW	FPS	CogS	EmS	HInt	Out	PEx	PPVT	PTMa	PTRC	PTRR	SCSW	SCSA
Int	–															
MEd	.67***	–														
HRP	.51***	.48***	–													
HCW	.14*	-.06	.01	–												
FPS	-.44***	-.30***	-.43***	-.16*	–											
CogS	.37***	.51***	.44***	.01	-.33***	–										
EmS	.09	.07	.18*	-.01	-.20**	.26***	–									
HInt	-.15*	.09	.01	.00	.16*	.17**	-.10	–								
Out	.17*	.20**	.06	-.08	-.14	.29***	.05	.32***	–							
PEx	.03	.07	-.06	.02	.05	.14*	.00	.28***	.18**	–						
PPVT	.35***	.23***	.15	.08	-.16*	.23***	-.03	-.10	.04	.01	–					
PRMa	.30***	.22***	.26***	.01	-.06	.08	.15*	-.06	.04	-.07	.53***	–				
PTRC	.35***	.26***	.20*	.00	-.25***	.31***	.26***	-.15*	.09	-.02	.59***	.59***	–			
PTRR	.25***	.16*	.17*	.14*	-.17*	.16*	.14	-.18**	.03	-.06	.57***	.54***	.71***	–		
SCSW	-.03	.04	.19*	-.18*	.08	.13	.18*	.07	-.03	-.07	.02	.05	.08	.05	–	
SCSA	.10	.17**	.13	-.14	-.02	.17*	.15*	.05	.17*	.12	.23***	.37***	.32***	.32***	.25***	–

[a]n = 499 *p < .05; **p < .01; ***p < .001

Key: INT = Intelligence; MEd = Maternal Education; HRP = Hourly Rate of Pay; HCW = Hours Currently Working; FPS = Family Poverty Status; CogS = Cognitive Stimulation; EmS = Emotional Support; HInt = Home Interaction; Out = Outings; Pex = Parental Expectations; PPVT = PPVT; PTMa = PIAT Math; PTRC = PIAT Reading Comprehension; PTRR = PIAT Reading Recognition; SCSW = SPPC Self-Worth; SCSA = SPPC School Achievement

Table 2 Regression analysis for Latino Adolescents' HOME scale

Variables	B	SE B	ß	T
AFQT	.02	.07	.03	.26
Highest grade completed by mother	11.80	5.19	.22	2.27*
Hours employed per week by mother	-1.18	1.19	-.08	-.99
Family Poverty status	-104.34	27.36	-.31	-3.81***

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

Table 3 Regression analysis for Latino Parent-Child Interactions within the Home

Variables	B	SE B	ß	T
AFQT	.00	.00	-.53	-4.40***
Highest grade completed by mother	.01	.04	.28	2.37**
Hours employed per week by mother	.00	.01	.03	-.41
Family Poverty status	-.17	.22	-.07	-.80

* p< .05 p < .0001

Table 4. Regression analysis for Latino Adolescents' PPVT scores

Variables	B	SE B	ß	T
Step 1				
AFQT	.04	.01	.41	3.22**
Highest grade completed by mother	.37	.87	.05	.43
Hourly rate of pay	-.01	.01	-.13	-1.24
Hours employed per week by mother	.03	.20	.01	.15
Family Poverty status	.37	4.64	.01	.08
Step 2				
AFQT	.05	.01	.51	3.64***
Highest grade completed by mother	.09	.89	.01	.10
Hourly rate of pay	-.01	.01	-.16	-1.46
Hours employed per week by mother	.00	.20	.00	.02
Family Poverty status	.24	4.83	.00	.05
HOME: Total Standard Score	.00	.01	-.01	-.05
Parent-Child Interaction (home)	3.75	2.10	.19	1.78
Parent-Child Interaction (outing)	-1.27	1.55	.08	-.82
Parent-Child Interaction (responsibility)	-.44	1.94	-.02	-.22

** p < .01 ***p < . 001

Table 5 Regression analysis for Latino Adolescents' PIAT Reading Recognition scores

Variables	B	SE B	ß	T
Step 1				
AFQT	.02	.01	.26	1.99*
Highest grade completed by mother	.23	.67	.04	.34
Hourly Rate of Pay	.00	.00	-.05	-.49
Hours employed per week by mother	.09	.16	.05	.56
Family Poverty Status	-1.48	3.59	-.04	-.41
Step 2				
AFQT	.01	.01	.19	1.32
Highest grade completed by mother	.30	.69	.06	.43
Hourly rate of pay	.00	.00	-.05	-.47
Hours employed per week by mother	.13	.16	.08	.80
Family Poverty Status	-.17	3.74	.00	-.05
HOME: Total Standard Score	.01	.01	.11	1.07
Parent-Child Interaction (home)	-2.14	1.63	-.14	-1.32
Parent-Child Interaction (outing)	1.68	1.22	.14	1.37
Parent-Child Interaction (responsibility)	-1.51	1.54	-.09	-.98

* $p < .05$

Table 6 Regression analysis of Latino Adolescents' PIAT Reading Comprehension scores

Variables	B	SE B	ß	T
Step 1				
AFQT	.02	.01	.30	2.32*
Highest grade completed by mother	.35	.56	.08	.62
Hourly Rate of Pay	.00	.00	-.10	-.89
Hours employed per week by mother	-.11	.13	-.08	-.82
Family Poverty Status	-3.16	3.00	-.10	-1.05
Step 2				
AFQT	.02	.01	.34	2.40*
Highest grade completed by mother	.15	.57	.03	.27
Hourly rate of pay	-.01	.00	-.16	-1.45
Hours employed per week by mother	-.08	.13	-.05	-.59
Family Poverty Status	-.89	3.08	-.03	-.29
HOME: Total Standard Score	.02	.01	.26	2.60**
Parent-Child Interaction (home)	.45	1.34	.04	.34
Parent-Child Interaction (outing)	-.18	1.0	-.02	-.18
Parent-Child Interaction (responsibility)	-.42	1.32	-.03	-.32

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

Table 7 Regression analysis for Latino Adolescents' PIAT Math scores

Variables	B	SE B	ß	T
Step 1				
AFQT	.02	.01	.35	2.76**
Highest grade completed by mother	-.08	.49	-.02	-.17
Hourly Rate of Pay	.00	.00	.07	.60
Hours employed per week by mother	.00	.12	.00	.01
Family Poverty Status	2.47	2.63	.09	.94
Step 2				
AFQT	.03	.01	.48	3.46***
Highest grade completed by mother	-.34	.50	-.09	-.69
Hourly rate of pay	.00	.00	.01	.05
Hours employed by mother per week	-.01	.12	-.01	-.06
Family Poverty Status	3.56	2.71	.13	1.32
HOME: Total Standard Score	.01	.01	.12	1.21
Parent-Child Interaction (home)	2.29	1.17	.21	1.95
Parent-Child Interaction (outing)	-.86	.88	-.10	-.98
Parent-Child Interaction (responsibility)	-2.01	1.10	-.17	-1.82

**p < .01 ***p < .001

Table 8 Regression analysis for Latino Adolescents' Perceived Scholastic Competence

Variables	B	SE B	ß	T
Step 1				
AFQT	-.01	.03	-.03	-.21
Highest grade completed by mother	1.77	2.02	.11	.88
Hourly rate of pay	.01	.01	.10	.97
Hours employed per week by mother	-1.19	.47	-.23	-2.53*
Family Poverty status	6.76	10.76	.06	.63
Step 2				
AFQT	.00	.03	.01	.05
Highest grade completed by mother	1.38	2.04	.09	.68
Hourly rate of pay	.01	.01	.08	.75
Hours employed per week by mother	-1.08	.47	-.21	-2.29*
Family Poverty status	9.11	11.12	.08	.82
HOME: Total Standard Score	.03	.03	.08	.78
Parent-Child Interaction (home)	3.11	4.86	.07	.64
Parent-Child Interaction (outing)	5.15	3.54	.14	1.46
Parent-Child Interaction (responsibility)	2.02	4.50	.04	.45

* p < .05

Table 9 Regression analysis for Latino Adolescents' Perceived Self-Worth

Variables	B	SE B	ß	T
Step 1				
AFQT .00	.02	.03	.20	
Highest grade completed by mother	-1.06	1.65	-.08	-.65
Hourly rate of pay	.02	.01	.26	2.41*
Hours employed per week by mother	-1.18	.38	-.28	-3.08**
Family Poverty status	.81	8.78	.01	.09
Step 2				
AFQT .02	.03	.12	.85	
Highest grade completed by mother	-1.90	1.64	-.14	-1.16
Hourly rate of pay	.02	.01	.18	1.63
Hours employed per week by mother	-1.08	.38	-.25	-2.84**
Family Poverty status	7.38	8.93	.08	.83
HOME: Total Standard Score	.07	.03	.26	2.60*
Parent-Child Interaction (home)	5.16	3.90	.14	1.32
Parent-Child Interaction (outing)	-.18	2.85	-.01	-.06
Parent-Child Interaction (responsibility)	-2.10	3.61	-.05	-.58

*p < .05 ** p < .01

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