A study of the relationship between student achievement and home socialization

Janet Carter Crawley

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A STUDY OF THE RELATIONSHIP
BETWEEN STUDENT ACHIEVEMENT
AND HOME SOCIALIZATION

A Dissertation
Presented to
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In Partial Fulfillment
Of the Requirements for the Degree
Doctor of Education

By
Janet Carter Crawley

December 2002
A STUDY OF THE RELATIONSHIP
BETWEEN STUDENT ACHIEVEMENT
AND HOME SOCIALIZATION

by

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Approved December 2002

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BETWEEN STUDENT ACHIEVEMENT
AND HOME SOCIALIZATION

ABSTRACT

The purpose of this study was to examine the relationship between student achievement and home socialization. Specifically, it explored the influence of cognitive and academic home socialization variables on the achievement of seventh- and twelfth-grade students. It further explored the influence of cognitive and academic subvariables on student achievement. The cognitive home socialization subvariables were stimulating literacy environment and joint learning activities. The academic home socialization subvariables were expectations and attitudes and values and behaviors.

The population consisted of parents of seventh- and twelfth-grade students from a small, rural, predominantly African-American school division in Central Virginia. One hundred twenty-five parents were surveyed using a modified version of the Henderson Environmental Learning Process Scale (HELPs) developed by Ronald Henderson in 1972. The data were correlated with the Virginia SOL English: Reading/Literature-Research (RLR) test data and the Stanford Achievement Tests, Ninth Edition (SAT 9) Partial/Basic Battery tests data.

The study addressed the following research questions:

1. Does the cognitive home socialization of children relate to student achievement?
2. Does the academic home socialization of children relate to student achievement?
3. To what degree do cognitive home socialization and academic home socialization combine to predict student achievement?

No clear and unequivocal relationship was found between home socialization and student achievement. Twelfth-grade students' home socialization showed a significant level of influence with the SAT 9 achievement measure. Significant relationships were demonstrated between SAT 9 achievement and the subvariables of stimulating literacy environment and values and behaviors.

Implications for practice would be to ensure that teachers tailor instruction to meet students' needs, especially, as it relates to the teaching of Virginia Standards of Learning objectives. Additionally, the schools should develop a parent-school connection that provides parents with strategies that enable them to assist their children at home with schoolwork, especially schoolwork centered around standards incorporated into the curriculum. This parent-school connection should also emphasize to parents the importance of their involvement in the education process in determining the future academic and career success of their children.

JANET CARTER CRAWLEY
SCHOOL OF EDUCATION
THE COLLEGE OF WILLIAM AND MARY
IN VIRGINIA

-x-
A STUDY OF THE RELATIONSHIP
BETWEEN STUDENT ACHIEVEMENT
AND HOME SOCIALIZATION
CHAPTER 1

INTRODUCTION

In an age of escalating concern about the quality of education in the United States, raising the level of student achievement in public education remains a pressing issue. There has been no lack of advice and information (Bracey, 1996, 2000; Brookover, 1981; Brookover & Lezotte, 1977; Lee, 2002) on the topic. Studies have been commissioned, education summits have been held, and reform efforts have been developed and implemented (Clark, 1983; Coleman, Campbell, Mood, Weinfeld, Hobson, York et al., 1966; Comer, 1984, 1988, 1991; Edmonds, 1979; Lezotte, 1984; Sims, 1989). Yet, the battle to improve student achievement rages on. States across the nation have taken on a greater role in monitoring and maintaining academic standards (Cotton & Wikelund, 1989; Darling-Hammond, 2000) and have begun to mandate, implement, and assess higher educational standards in K-12 public education.

As local schools scramble to meet accountability criteria, they are faced with the dilemma of finding that best solution for improving student achievement. Educators, legislators, and the general public have tended to focus primarily on school-level influences. Similarly, much of the reform research has examined the influence of school variables on student achievement. However, with the greater focus being placed on the teaching and assessing of higher standards, consideration of other factors that influence student achievement outside of the school environment is warranted. It is appropriate, therefore, that in their quest to improve achievement for all students, educators improve their understanding of the function of the home on academic achievement. This is especially important as the
social context of education has changed over time as “children in the United States come from a variety of family situations, income strata, and cultural backgrounds” (Young & Smith, 1997, p. 1).

A considerable number of reports highly critical of public education have been released as a result of poor student achievement. “A Nation at Risk: The Implication to Education Reform” (National Commission on Excellence, 1983) was one of the first such reports. Then as now, legislators responded, by mandating increased academic requirements and more accountability at the local level. Teachers responded, through the survey conducted by Louis Harris and Associates in 1993, by identifying strengthening of parents’ roles in the education of their children as an issue that should receive the highest public policy priority (Jesse, 1996). At the federal level, recent major legislation, such as Goals 2000: Educate America Act of 1994 and Title I of the Improving America’s School Act of 1994, has made parental involvement in the education of their children a national priority (Baker & Soden, 1998). Both acts call for schools to support family and community “partnerships that will increase parental involvement and participation in promoting social, emotional, and academic growth of children” (U.S. Department of Education, 1997, p. 2). Most recently, on January 8, 2002, President George W. Bush signed into law the No Child Left Behind Act of 2001. This landmark legislation promoting educational excellence for America’s schools ushered in the most sweeping reform to the Elementary and Secondary Education Act (ESEA) since its enactment in 1965, expanding options and choice for parents in the education of their children. At the state level in Virginia, legislation has been mandated to ensure the involvement of both parents in the education of their children; however, the legislation
primarily addresses access to student information and parent participation in school-related activities.

Both researchers and educators agree that when parents get involved in education, children put forth greater effort and achieve more at school (Epstein, 1995; Maynard & Howley, 1997). For educators, this involvement has been defined in terms of teachers bringing parents into the classroom or school processes or the inclusion of parents only when there is a need for it (Coulombe, 1995). For parents, increased involvement has been represented in terms of parents who desire to run the school, instructionally or operationally (Jesse, 1996). However, parent involvement also refers to roles parents play in the learning process at home. Consequently, some researchers investigated home variables thought to contribute to student achievement such as cognitive and academic variables (Bempechat, 1997; Peterson, 1989; Wahlberg, 1984), cultural style (Clark, 1983), socioeconomic status and family structure (Eagle, 1989), and parent attitudes (Sattes, 1985).

Two major bodies of thought have contributed to research on variables that influence student achievement: The Coleman Report (1966) and effective schools research begun by Ron Edmonds. The former contends that “schools bring to bear little influence” (p. 325) on academic achievement for children from low socioeconomic backgrounds, whereas the latter contends that schools are capable of successfully influencing the academic achievement of children from low socioeconomic backgrounds; indeed, all backgrounds (Lezotte, 1984).

The Coleman Report was commissioned by the U.S. Office of Education as a provision of the Civil Rights Act of 1964 to determine the lack of availability of equal educational opportunities for individuals in public education. As Coleman and his associates...
began searching for variables that may influence student achievement, they found to their
amazement that no specific school characteristic had a measurable positive effect on student
achievement (Towers, 1992). Instead, a consistent relationship was found between the
academic achievement of a child and the social class of the student body. In other words,
children from "a given family background will achieve at different levels when in schools of
different levels" (Coleman et al., 1966, p. 22). In other words, the achievement of the child is
influenced "by his background and general social context" (p. 325). Thus, the
socioeconomic status (SES) of the school body, according to Coleman, is the single most
important factor influencing the academic achievement of a child.

In response to the findings of the Coleman Report, a number of researchers examined
the effects of schools on student achievement. Ron Edmonds was one such researcher. He
and his associates refused to accept the Coleman Report as conclusive, believing that schools
did exist that effectively educated poor students and all students regardless of their
educational backgrounds. Summarizing the effective schools research in 1979, Edmonds
extrapolated five factors that consistently reappeared and could be validly associated with
effective schools: strong administrative leadership; a safe, orderly environment conducive to
learning; measurement of student basic academic skills; a climate of high expectations; and
frequent monitoring of pupil progress (cited in Lezotte, 1984). Parent involvement was
identified as important, but schools had the greatest influence on student achievement,
according to Edmonds. He affirmed that "we can, whenever we choose, successfully teach
all children whose schooling is of interest to us" (Lezotte, p. 47).

Other more recent studies have examined the influence of the home environment on
In brief, educators and researchers support the policy direction of increased parent involvement, but disagree, overall, about what constitutes effective involvement (Baker & Soden, 1998). For example, Clark (1983) contended that the main contribution of the family to the success of a child in school is made through interpersonal relationships in the home and through parental disposition. That is, according to Clark (1983), families' beliefs, activities, and overall cultural styles produce the mental structures needed for effective school behavior and learning outcomes of children.

Baker and Soden (1998) emphasized that factors such as the home literacy environment, parent participation in preschool and kindergarten programs, the parent-child attachment relationship, and parental stimulation of language development suggest that the involvement of parents in the formal schooling of their children is crucial for their academic success. Wahlberg (1984) concluded similarly. Summarizing findings from over 2,575 studies on academic learning, he found an academically stimulating home environment to be one of the eight main determinants of academic learning. Because children spend so much time at home or under the control of their parents, Wahlberg concluded that changing conditions of the home and the relations between home and the school should result in large effects on learning.

Other researchers have focused on the attitudinal components of parent involvement defined as parents' expectations of the educational process in which they place their children (Reynolds, Mavrogenes, Hagemann, & Bezruczko, 1993; Seginer, 1983). According to Seginer parental expectations are one of four family characteristics that affect the academic
achievement of the child. Not surprisingly, high achieving students tend to come from families who have high expectations for them. Therefore, parent expectations appear to be both a cause and an effect of academic achievement (Seginer). Similarly, Reynolds et al. (1993) found that the achievement and adjustment of children to school is due to the expectations and attitudes of parents, not just to differences in family backgrounds. That is, parents who had positive attitudes toward their children's school and who stressed the importance of education had children with positive attitudes about themselves and school.

While mentioned in several other studies, family socioeconomic status has also been studied directly in relation to student achievement (Coleman, 1987; Desimone, 1999; Lee, 2002; Young & Smith, 1997. Coleman et al. (1966), according to Caldas and Bankston (1997), in studying influences on the academic achievement of African-American and White students in the United States, found that the backgrounds of fellow students ranked as most important in the order of factors affecting student achievement. Thus, he tended to treat inequalities in outcome as a result of family resources that individual students bring to school. However, other researchers (Baker & Stevenson, 1986; Benson, Buckley, & Medrich, 1980; Eagle, 1989; Lareau, 1987; Sattes, 1985), upon examining the relationship between socioeconomic status and student achievement, concluded that socioeconomic background need not determine how well a child achieves in school. Family socialization practices, according to them, could have an independent effect on student achievement. Epstein (1984, 1987, 1995) concluded similarly. She studied parent involvement in an effort to assist schools in formulating programs and policy decisions. According to her (1987), parental activities, encouragement, interests at home, and participation in schools and
classrooms affect children's attitudes, achievements, and aspirations, even after taking into account family socioeconomic status and student ability. She postulated "that school and families will be more effective organizations if they work together to identify and achieve common goals" (p. 134).

As briefly illustrated, existing studies have examined a range of home achievement factors assumed to contribute to student achievement. Traditionally, these studies have focused on the family's socioeconomic status, parental expectations, beliefs, and attitudes, parental values and behaviors, and parenting styles. Given the importance of the role of education in today's society and the emphasis placed on improving academics, a study is warranted with specific examination of the relationship between home socialization and student achievement. The home socialization variables examined in the current investigation are defined as cognitive home socialization variables--access and exposure to stimulating learning materials and learning experiences and participation in joint learning activities--and academic home socialization variables--parent educational values and behaviors and parent educational attitudes and expectations.

Purpose of the Study

This study examined the relationship between student achievement and home socialization, with an emphasis on the role of the home environment as a determinant of how "children are best socialized to achieve" (Bempechat, 1997, p. 1). Home is the first learning environment. If some students come prepared to learn while others do not, home socialization variables may make the difference for success in school and beyond.
Statement of the Problem

The significance of this study lay in its potential to benefit the quality of education as it relates to raising the level of student achievement in public education. It examined the relationship between home socialization variables and student achievement as one possible avenue for improving the educational performance of students. From a broader perspective, the goal was to add to research on parent involvement and its educational benefits to student success. Therefore, a parent survey was administered to parents or primary caregivers of seventh- and twelfth-graders to gather home socialization data, which were subsequently correlated with two measures of achievement test data for the students: Virginia Standards of Learning (SOL) English Reading/Literature-Research (RLR) and Stanford Achievement Tests, Ninth Edition, (SAT 9). Specifically, the survey data from the parents of seventh-grade students was correlated with the seventh-grade students’ grade 6, spring 2000 SAT 9, partial battery test data and with their grade 5 SOL English RLR test data. Twelfth-grade students parents’ survey data were correlated with the twelfth-students’ grade 11, spring 2001 SOL English RLR test data and their grade 10, fall 1999 SAT 9 partial battery test data.

Research Questions

Specifically, the study was designed to address the following research questions:

1. Does the cognitive home socialization of children relate to student achievement?
2. Does the academic home socialization of children relate to student achievement?
3. To what degree do cognitive home socialization and academic home socialization combine to predict student achievement?
Operational Definitions

To better understand the statement of the problem and the research questions, the following terms relevant to this research were defined:

**Academic Home Socialization** - Academic home socialization is defined as “how parents influence the development of attitudes and motives that are essential for school learning” (Bempechat, 1997, p. 1). For the purpose of this study, this is a combination of the following variables that foster high academic achievement: parental attitudes and expectations and parental values and behaviors. These variables were measured by the administration of a parent survey.

**Cognitive Home Socialization** - Cognitive home socialization is defined as “how parents influence the basic intellectual development of their children” (Bempechat, 1997, p. 1). For the purpose of this study, cognitive home socialization is defined as a combination of the following variables that foster high academic achievement: stimulating literacy and materials environment and participation in joint home learning activities. These variables were measured by the administration of a parent survey.

**Home Socialization Variables** - This refers to the cognitive and academic home socialization factors that are used by parents to guide their children in the development of attitudes, expectancies, values, and behaviors toward academic achievement. It also addresses parents’ attitudes, expectancies, behaviors, and values about education and schooling that direct their interactions with their children and their provision of stimulating educative environments. For the purpose of this study, home socialization variables were measured by the administration of a parent survey.
Parent Involvement - For the purpose of this study, parent involvement is defined as the role that parents or primary caregivers play in the home with respect to the development of children's intelligence, competence, and self-confidence in their children in order that their children achieve in the school learning environment. That is, it refers to the way in which parents facilitate and increase the cognitive and academic development of their children by creating home environments that positively influence their children's school achievement.

Student Achievement - For the purpose of this study, student achievement is defined as the performance of seventh- and twelfth-grade students on the English SOL Reading/Language-Research test and the SAT 9 partial battery and SAT 9 basic battery tests, respectively. The fifth-grade, spring 2000 English SOL Reading/Language-Research test data and the sixth grade, fall 2000 SAT 9 partial battery test data for the current seventh-grade students was used as the measure of achievement correlated with seventh-grade parent survey results. The tenth-grade, fall 1999 SAT 9 basic battery test scores and the spring 2001 SOL English Reading/Language-Research test data for the current twelfth-grade students was used as the measure of achievement correlated with twelfth-grade parent survey results.

Limitations of the Study

The limitations of this study were as follows:

1. The sample was limited to a single, small, rural school division in Virginia with a predominant African-American population.
2. The information used to measure the independent variables was limited to the data gathered from the survey instrument.
3. Confidentiality issues resulting from the small size of the school division may have
substantially affected parents’ response to survey items.

4. The promise of incentives for students may have resulted in parents providing less serious responses to survey items as a result of student pressure upon parents to complete the instrument.

5. The survey used was developed in 1972 and may therefore be limited due to its age and changes in child-rearing educational tools during the intervening years.

Assumptions

1. It was assumed that parents would respond accurately and truthfully to the parent survey.

2. It was assumed that there would be a continuing or carryover relationship from grade to grade between home socialization and student achievement.

3. It was assumed that parents would remember what home socialization practices they used when their children were younger.
CHAPTER II

REVIEW OF THE LITERATURE

This review of the literature examined selected factors of home socialization that may influence student achievement. Studies related to the following five research areas were reviewed: the social context of American education, the Coleman research and effective schools research, family background factors, family influences on student achievement, and home socialization factors.

The Social Context of American Education

Inherent in the debate over increasing student achievement is the social context of American education. Throughout history, the family has been the primary foundation for learning (Brown, 1998). Before the founding of formal schools, children grew up in the context of the household and the neighborhood or extended family and were taught by their parents and/or other family members with the exception of those taught in the elite boarding schools of the 14th century (Coleman, 1987). All of the activities and facilities for training that would prepare the children for adulthood occurred in the home (Coleman, 1987), closely linked to household activities. For most, formal education did not exist until the 20th century. Even then, the teaching of values, cultural practices, and skills such as sewing, cooking, and farming continued to originate in the home (Brown, 1998).

Prior to the 20th century, the principal economic activities were within the home and the surrounding community (Coleman, 1987). According to Coleman (1987) the entire structure of social and economic organization had the family as its basic building block. The United States was a nation of small towns, rural areas, and cities that were a collection of
small towns (Comer, 1984). Mobility was extremely limited, as was communication. Further, the personal interaction of authority—parents, teachers, administrators, ministers, and the like—was great. Authority figures were "the holders of all truth" (p. 329) within the community, which contributed to a sense of belonging and a sense of community. The school was a natural part of this community, and parents were more accepting of its influence as it was seen an institution of the larger society. That changed with the rise of the Industrial Revolution in the latter half of the 19th century as the economically productive activities outside of the home (Coleman, 1987), and men left the farm or shop at home to work in the factory or office.

Extensive changes occurred following the era in which work outside the home lured the father away from his daytime life with the family. The United States moved from the "horse and buggy level of technology" (Comer, 1994, p.330) to the engine-driven, energy-powered level of technology. The mother became a major entity in the labor force, and the extended family, which had constituted the backup dependency system, diminished drastically as families became more mobile, allowing people to work and play among strangers (Comer, 1984). Authority figures were no longer the source of all truth and knowledge and no longer spoke a generic language. Consequently, parents relegated an increasingly wide range of socialization activities to the school (Coleman, 1987). The effect was that the family, which had been the central entity for providing social and economic activities, relinquished its place as the primary source for learning. As a result, schools in the United States "are faced with unique challenges, as they strive to provide equal educational opportunities to all students" (Young & Smith, 1997, p. 4). Additionally, the social context
of education has changed over the past few decades. For example, family structure has shifted away from the traditional two-parent family, and the percentages of non-English speaking children and the percentages of students from minority backgrounds are increasing. Over one-third of these children are in this nation's public schools (Ascher, 1991). However, the median family income and the poverty rate have changed very little over the past 25 years (Young & Smith, 1997).

Grissmer, Kirby, Berends, and Williamson (1994) painted a more positive picture in their analysis of the student and the family than is usually found, emphasizing the capacity of the American family to support student achievement. Similarly, a recent Rand study ("The Family and Student Achievement," 1997) indicated that student test scores are improving, especially for minorities. The gap in standardized test scores between White and minority students narrowed between the mid-1970s and 1990 as the average reading and mathematics scores of students 13 to 17 years of age increased the equivalent of 11 percentage points for Hispanic students, 19 percentage points for African-American students, and 3 percentage points for White students. Changes in family characteristics, especially in family income, family structure, and parent education level were strongly associated with these improvements. For example, the Rand study found that a sharp increase in the education level of African-American mothers and smaller family size accounted for approximately one third of the gains made in achievement by African-American students. The Rand researchers' conclusions about student achievement were based on the National Assessment of Educational Progress (NAEP). To better understand how changes in family characteristics affect student achievement, they also "developed a quantitative model that
allowed them to predict the effects on test scores (p. 2) caused by changing family demographics. While the effects of family characteristics accounted for all of the test score gains for White students, the effects only accounted for approximately one third of the gains made by minority students. Additional analysis suggested that the remaining gains may be related to programs and policies targeted at helping low-income and minority students and families.

Young and Smith (1997) concluded that the social context in which schools operate can influence their effectiveness. Consequently, changes in social context present challenges that schools must address if they are to enhance their effectiveness and ensure that educational progress can occur.

Coleman Research and Effective Schools Research

Researchers have embraced two major theories in their quest to identify the factors that influence student achievement—the influence of home environment (social capital) and the influence of school (effective schools). Sociologist James S. Coleman is most prominently associated with the former school of thought, whereas education researchers Ron Edmonds, Wilbur Brookover, and Lawrence Lezotte are adherents of the latter. Both groups will be discussed below.

The Coleman Research

By the early 1960s, a major national topic of debate was equal educational opportunity and its relationship to academic achievement. A provision of the Civil Rights Act of 1964 mandated the U.S. Office of Education to conduct a survey to determine the lack of equal educational opportunities for individuals by reason of race, color, religion, and
Coleman was chosen to lead a team of researchers over a two-year period to collect data from over 60,000 teachers, 570,000 students, and 4,000 schools (Coleman et al., 1966; Towers, 1992). The result was a report published in 1966 titled “Equality in Educational Opportunity,” more commonly known as The Coleman Report.

Coleman and his team of researchers began examining a number of school environment criteria (i.e., facilities, programs, teacher characteristics, and school characteristics) to discern the relationship to achievement. "Of the many implications of the study of school effects on achievement" (p. 325), the study found one that appeared to stand out above all others:

That schools bring little influence to bear on a child's achievement that is independent of his background and general social context; and that this very lack of independent effect means that the inequalities imposed on children by the home, neighborhood, and peer environment are carried along to become the inequalities with which they confront adult life at the end of school. (Coleman, 1966, p. 325)

The study concluded that "no school factors account for much variation in achievement" (p. 325). Thus, the social class of the school student body was the sole characteristics showing a consistent relationship to academic achievement (Towers, 1992). Coleman's conclusion, according to Towers, was that "individual academic achievement was dependent on a school's social composition; a student is influenced most by his or her
classmates' social class, status, background, and aspirations” (p. 138).

Given these findings, Coleman et al. (1966) found it necessary to examine the influence of student’s family background factors on achievement, since these differences shape the child before he reaches school. Family background differences were clustered into eight variables, ranging from factors in parents’ background such as socioeconomic status to factors that described the parents’ interest in the child’s school work. “Of all variables measured in the survey, including all measures of family background and all school variables, student attitudes showed the strongest relation to achievement” (Coleman et al., p. 319). Three attitudinal areas were examined: students’ interest in school and pursuit of reading outside school; students’ self-concept with regard to learning and success in school; and students’ sense of control of the environment and self-concept. Of these three, students’ interest in school was the weakest attitudinal variable in relation to achievement. Coleman went on to survey the relation of the following family background factors to the other two attitudes: “structural integrity of the home, number of siblings, length of residence in an urban area, parents’ education, economic level of home environment, reading material in the home, parents’ interest in child’s schooling, and parents’ desires for child’s further education” (p. 324).

The parents’ desires for the child’s further education made the largest unique contribution to a sense of control of environment and positive self-concept. For self-concept, parents’ education and the amount of reading material in the home showed a consistent (positive) relation. For the child’s sense of control of the environment, the economic level of the home and the structural integrity of the home showed a consistent relationship. In other
words, "children from a home with a higher economic level and children from homes where
the father is present show a higher sense of control of the environment than do children from
lower economic level homes or children from homes where the father is absent" (pp. 324-
325).

Much controversy arose with the publication of Coleman's study. The report seemed
to argue that a student's academic achievement was influenced most by his or her family
background, socioeconomic status, attitude, and classmate's social class (Edmonds, 1979;
Towers, 1992). Therefore, further analyses of the report were undertaken by researchers,
such as Daniel P. Moynihan, Christopher Jencks, and J. M. Stephens, who all reached the
same conclusion as Coleman (Towers, 1992). Jencks (1972), along with eight colleagues,
researched inequality between individuals with a special emphasis on inequality in
schooling. They found that "family background had much more influence than IQ geno-type
on an individual's educational attainment" (p. 254). Specifically, the influence of the family
depended in part on socioeconomic status and in part on psychological and cultural
characteristics that were independent of socioeconomic status. No evidence was found to
suggest that differences between schools contributed significantly to cognitive inequality, that
is, "the ability to manipulate words and numbers, assimilate information, make logical
inferences and so forth" (p. 53). Instead, they found that the characteristics of a school's
output depended largely on a single input, namely, the characteristics of the entering child.
All factors considered—school budget, teachers, policies—were either irrelevant or secondary.
Children seemed to be more influenced by what happened at home, by what happened on the
street, and/or by what they viewed on television. In brief, little evidence was uncovered to

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suggest that significant social changes could be brought about by school reform. Reformers, according to Jencks, had very little control over those aspects of school life that affect children.

Reexamining the Coleman Report and its findings in relationship to public education, Towers (1992) stated that “educators should be, to a degree, held accountable for student achievement. However, he affirmed that “schools can only be as effective as the homes, communities, and environments in which students live” (p. 140). The dominant influence, according to Towers, is outside the domain of the school. It rests in the home and surrounding environment of the children.

According to the Coleman Report, academic achievement is primarily determined by factors outside of the school’s control (Towers, 1992). Indeed, the report emphatically stated that the values and attitudes students learn from their peers, home, and the environment were more dominant in their lives than those learned in school.

**Effective Schools Research**

Although the research of the 1960s and the 1970s focused on equitable educational opportunities, concerned educators became increasingly disillusioned and pessimistic about the progress being made in successfully educating poor children (Lezotte, 1984). The Coleman Report seemed to send a message to educators that said they were “powerless in altering the conditions of schooling” (p. 46) to improve academic achievement. In response to findings by Coleman et al. (1966) and Jencks et al. (1972) that schools make little difference in student achievement, the effective schools research emerged (Raham, 2001; Stedman, 1985). Specifically, educators such as Ron Edmonds, Wilbur Brookover, and
Lawrence Lezotte adopted a plan that over time would demonstrate that schools and teachers can make a positive difference in educational outcomes (Darling-Hammond, 2000; Lezotte, 1984). This plan started what later came to be called the effective schools movement in the mid-1970s by examining why some schools were effective and others were not.

Edmonds believed that some schools successfully educated all children, particularly children of the poor (Lezotte, 1984). Using the 1966 Coleman Report data on between-school variance, Edmonds and Frederiksen (1978, as cited in Stedman, 1985) compared the performance of different racial and socioeconomic groups in the best and worst fourth of the schools. Results showed that the performance of poor Black students in effective schools was 1-3/4 standard deviations higher than for those in ineffective schools (Stedman, 1985). The performance for poor White students in effective schools was even greater—over 2 standard deviations. These results, according to Stedman, were equivalent to bringing students’ performance from the 50th percentile to the 80th or 85th percentile. The reanalysis of the 1966 Coleman data by Edmonds and Fredriksen demonstrated that some schools were able to teach poor Black students at better averages than found for White middle-class students (Stedman). Stedman reasoned, if all schools were equalized, only a small percent of the students would perform below the 25th percentile.

In 1979 Edmonds began summarizing the effective schools research studies available at that time. He closely scrutinized the 1971 study by George Weber, the 1974 study conducted by the State of New York’s Office of Education Performance Review, the 1976 Madden, Lawson, and Sweet study of school effectiveness in California, the 1977 Brookover and Lezotte study, and two of his own studies, the 1974 Lezotte, Edmonds, and Ratner study.
and the 1978 Edmonds and Fredriksen study. The Weber study focused on four inner-city, instructionally effective schools in which reading achievement was clearly successful for poor children on the basis of national norms. According to Edmonds (1979), this study provided the initial alternative response to the Coleman Report. The New York study, according to Edmonds (1979), identified two inner-city New York public schools, one high-achieving and the other low-achieving, which were serving predominantly poor student populations. The purpose of the study was to determine differences within the schools that accounted for the variation in student achievement. The Madden, Lawson, and Sweet study focused on 21 high-achieving schools and 21 low-achieving schools whose characteristics differed only on the basis of student performance on standardized achievement measures (Edmonds, 1979). These schools were studied in an effort to determine the characteristics that were responsible for the differences in achievement. The 1977 Lezotte and Brookover study was conducted in response to a request by the Michigan Department of Education to study a set of Michigan schools that demonstrated consistent academic improvement or decline (Edmonds, 1979). The 1974 Lezotte, Edmonds, and Ratner study analyzed student performance of poor elementary schools in Detroit's Model Cities neighborhood, and the 1978 Edmonds and Fredriksen Study analyzed city schools that were instructionally effective for poor children (Edmonds, 1979).

From these studies, Edmonds extrapolated five factors that consistently recurred in effective schools and could be reliably associated with effective schools: strong administrative leadership, high teacher expectations, an orderly and safe climate, an emphasis on pupil acquisition of basic academic skills, and frequent monitoring of pupil progress.
(Edmonds, 1982; Lezotte, 1984). Additionally, one of the central characteristics of effective schools was that they were committed to implementing things that do work and avoiding things that do not.

Edmonds (1982) stated that "to be effective a school need not bring all students to identical levels of mastery, but it must bring an equal percentage of its highest and lowest social classes to minimum mastery" (p. 4). It was Edmond's belief that equitable public schooling began by teaching poor children at least as well as middle-class children. Contending that inequity in education came first and foremost from American society's failure to educate the children of the poor, Edmonds defined an effective school as one that brought "the children of the poor to those minimal masteries of basic school skills that describe minimally successful student performance for the children of the middle class" (p. 15). He (as cited in Stedman, 1985) stated:

If the research has taught us anything so far, it has taught us that while Coleman, etc., are correct in the assertion that pupil performance is highly correlated with family background, they are profoundly incorrect in their conclusion that family background is the cause of pupil performance. (p. 299)

Edmonds (1979) believed that basic pupil performance derives from school response to family background rather than from family background. Thus, he recommended that parents' attention be directed to politics to achieve the greatest educational equity for the poor. Additionally, renunciation of the idea that family background was the cause of student attainment of basic school skills was a prerequisite to successful reform of public schooling for the children of the poor.
Proponents of the effective schools research agreed with the findings that low-income schools could make a difference and that academic success was not precluded by standardized tests (Stedman, 1985). Examples of these low-income schools included schools in some of the poorest communities in the United State: Harlem, the South Bronx, Baltimore, East St. Louis, and Chicago. Lezotte (1989) claimed that Edmond's summary school effectiveness statements were validated by Lezotte's own research efforts, noting that many schools and school systems implement successfully reform efforts using effective-schools research. In his estimation, the movement's basic principles of quality and equity in education remain constant.

Critics of the effective schools research have argued that the impact of effective schools on achievement is limited and that this finding is consistent with prior school effects studies (Rowan, Bossert, & Dwyer, 1983). Some researchers, Rowan et al. (1983), criticized the research for being narrowly focused and failing "to obtain accurate estimates of the effects of school organization and climate on achievement" (p. 28). D'Amica (1982) agreed with Edmonds that effective schools existed. However, because effective schools researchers had found similar and dissimilar traits among schools studied, D'Amica stated that no clear formula existed for creating effective schools.

Stedman (1985) maintained, in his analysis of effective school research, that the evidence suggested that schools can and do have a substantial impact on reducing test score inequality. Similarly, a review of the 1990s by Raham (2001) found a body of case studies identified as the 90/90 schools. These case studies, now part of the effective school literature, reviewed hundreds of schools with 90% poor and minority students and found that
90% or more of the schools met and exceeded high academic standards. These schools were found effective across grade and across discipline and even in high mobility sites.

Summary

Effective schools researchers were concerned with social class equality, while their critics were concerned with overall inequality. The effective schools research, according to Lezotte (1989), has shown that schools can make a difference, especially, in terms of social class equity. However, no research has shown effective schools research is all right or all wrong in its premise. Also no research supports conclusively Coleman’s findings in his 1966 report. It seems, however, that schools can and do make a difference in the achievement of children in concert with home influences. According to Young and Smith (1997), parents and school personnel can jointly establish a stronger learning environment for the students both at home and at school when they communicate.

Family Background Factors

Research has demonstrated that family background is critical to the patterning of students’ achievement (Coleman, 1966; Lareau, 1989; Roscigno & Ainsworth-Darnell, 1999). An important aspect of family background, as detailed in theses studies, is family socioeconomic status. Thus, there is a strong correlation between socioeconomic status and student achievement (Caldas & Bankston, 1997; Coleman, 1966; Henderson & Berla, 1994). Studies show that it is closely associated with the educational attainment of students and that it consists of a cluster of variables: parent education, income, and structure (Coleman et al., 1966; Eagle, 1989; Henderson & Berla, 1994). Consequently, family SES has implications for the type and quality of school a student attends, for the academic track a student follows.
and for the amount of attention and expectation level a teacher places on a student (Coleman et al., 1966; Roscigno & Ainsworth-Darnell, 1999). Equally important are the family background resources that parents can provide such as newspapers, books, computers, televisions, and educational experiences. For the purposes of this study, the following factors were addressed: socioeconomic status, educational level, and family structure and income.

**Socioeconomic Status**

Coleman et al. (1966) found that “socioeconomic factors bear a strong relation to academic achievement. When socioeconomic status is controlled, it appears that differences between schools account for only a small fraction of differences in pupil achievement” (p. 21). Coleman (1987) emphasized that “schools of whatever quality are more effective for children from strong family backgrounds than for children from weak ones” (p. 35). He found that resources contributed by the family to the education of the child interact with the resources provided by the school, with the variation in resources provided by the family being greater than those provided by the school. Roscigno and Ainsworth-Darnell (1999), like Coleman (1966, 1987), proposed that the affluence of the family is equally important to the resources that parents can provide their children. According to them, household educational resources such as books, computers, and newspapers are particularly important for shaping the orientation of children to school and the level of achievement and entertainment. High socioeconomic status families can give their children human and material resources that enhance academic skills and orientation (Roscigno & Ainsworth-Darnell). However, Sattes (1985) emphasized that “The fact that family SES is related to school achievement does not mean that rich kids are born smarter. It means that, in more affluent families, children are
more likely to be exposed to experiences that stimulate intellectual development” (p. 2).

Using the database from a large national study of high school students, Eagle (1989) found that students’ educational attainment was strongly associated with five socioeconomic indicators: mother’s education, father’s education, family income, father’s occupational status, and number of major possessions. Parents of successful students provided a quiet place to study, emphasized reading, and stayed involved in their children’s education. Further, the parents most highly involved in the education of their children were also most likely to have children enroll in and complete postsecondary education, regardless of socioeconomic status.

Kellaghan, Sloane, Alvarez, and Bloom (1993) suggested that “The socioeconomic level or cultural background of a home need not determine how well a child does at school...It is what parents do in the home rather than their status that is important” (p. 145). After reviewing over 100 studies covering socioeconomic status, family structure, and mother’s employment outside the home, Milne (1989) concluded similarly. Specifically, she found that “the ability of the parent(s) to provide proeducational resources for their children—be they financial, material, or experiential—is what is important” (p. 58).

Educational Level

Grissmer et al., in a 1994 Rand study, found that parents’ education level was the factor mostly impacting student achievement: “students with one or two college-educated parents performed significantly better than students whose parents were not high school graduates” (p. 2). Thus, the grades, test scores, grades, graduation rates, and enrollment in postsecondary education of students tend to increase with each level of education their
mothers have completed (Henderson & Berla, 1994). Similarly, Young and Smith (1997) found that the children of parents who possess higher levels of education perform better on student achievement assessments. The children whose parents have some college education tend to score higher in science and mathematics, and their educational attainment was positively related to reading and writing scores (Young & Smith, 1997).

Eagle (1989) found that by itself the education level of the mother has little effect on the success of her children. If mothers become more involved in school activities, those mothers with less formal education can have as much impact as highly educated mothers. Stevenson and Baker (1987) reported similar findings, concluding that parents, regardless of their own educational background, have children who perform better in school if the parents are more involved in the schools attended by their children. Comer and Haynes (1991) found the only difference between middle-income and low-income children to be that the former developed skills needed to succeed in school simply by being reared by their better educated parents.

Parents, especially mothers, are recognized as the most important teachers of the child (Brown, 1998). For example, studies on the teaching styles of mothers of high- and low-achieving children reared in poverty found that high-achieving children have mothers who are more effective tutors and are more skilled in helping their children with schoolwork (Rogoff & Gardner, as cited in Bempechat, 1997; Scott-Jones, 1987). This was substantiated by Becher (1984), who found that parents of low-achieving children who receive training in how to work with their children are more effective in improving their children's language skills, performance on tests, and behavior in school. Specifically, parent training produces
positive effects on parents' teaching styles, the way they interact with their children, and the home learning environment (Becher). In a survey of inner-city elementary and middle school parents, Dauber and Epstein (1993) found that parents with more education are more involved both at home and school. They suggested that parents whose children are doing well or are improving in school are more likely to do more to orchestrate the success of their children and that they can have as much positive impact as do highly educated mothers. While parent affluence and educational level are consistently related to higher educational achievement, "parents of any social class can contribute to their children's post-secondary educational attainment by monitoring educational progress during high school" (p. 12).

Family Structure and Income

The monograph "The Family and Student Achievement" (Grissmer et al., 2000) documented that family size and income also show a significant correlation to student achievement. Grissmer et al. found that children with low SES are more likely to experience school failure than those from higher SES families. According to Young and Smith (1997), family structure, which is associated with educational outcomes, has changed dramatically since 1970. Thus, for example, the number of children living in single parent homes has more than doubled. Whereas, the simple fact of living in a single-parent household may not hurt student achievement, the typical drop in income associated with the creation of a single-parent family probably has a negative effect on achievement, given that a child from a family that earns $40,000.00 is expected to outperform a child whose family earns $15,000 (Grissmer, 2000). While Young and Smith (1997) found that children in single-parent families are more apt to experience school problems early, they also reported that they are
less likely to participate in early literacy activities than children in two-parent family. Low-income parents can and do desire to help with the schooling of their children at school and at home (Ascher, 1988). They need teachers and other staff to reach out to them in ways that “help them help their children” (p. 1).

Lareau (1987) as well as Henderson and Berla (1994) pointed out that social class is a primary predictor of occupational and educational achievement for most children, although not for all. Schools play a critical role in this process of social reproduction, as they sort students into social categories that often award credentials and opportunities to those who come from families who have more resources and are able to build positive connections between home and school (Lareau, 1987). Children from higher social status families enter school familiar with the language, authority, structure, and curriculum, an advantage that pays off in academic achievement. The educationally disadvantaged student, Clark (1990) pointed out, may well be defined by the lack of necessary conditions for educational and career success. However, he found that many of these students find success in school and later in life when their social circumstances have been mediated by behaviors and attitudes that have allowed them to perform well.

Family Influences on Student Achievement

The research literature has examined various family influences on student achievement (Baker & Soden, 1998; Bempechat, 1997; Comer, 1984, 1988; Darling, 2000; Epstein, 1984, 1987, 1995; Henderson & Berla, 1994; Peterson, 1989; Rich, 1985; Villas-Boas, 1998). In this section, the literature reviewed home socialization factors that have shown positive relationships between family variables and student achievement. with
emphasis being placed on cognitive and academic variables and subvariables.

According to Ngeow (1999), “studies on parent involvement ... indicate that the most accurate predictor of a child’s achievement in school is the extent to which the child’s family is able to (i) create an environment that encourages learning; (ii) communicate high, yet reasonable, expectation for their children’s achievement and future careers; and (iii) become involved in their children’s education at school and within the community” (p. 1). Various studies underscore the point that parent participation in education is closely tied to student achievement. For example, a Stanford study found that using parents as tutors brought significant and immediate change in children’s IQ scores (Peterson, 1989). Similarly, Rich (1985), founder of The Home and School Institute in Washington, D.C., found that parent tutoring brings substantial improvement to a variety of students. Tutoring, in her estimation, is probably the best way for parents to participate in public education. Various National Assessment of Educational Progress (NAEP) surveys of achievement in the 1980s linked student performance to factors that are associated with higher levels of student achievement: higher educational attainment of parents, a home environment values reading and discussion, limited television viewing, substantial amounts of time spent on homework assignments, and a stable family structure (Ballen & Moles, 1994; Patrick, 1991).

Other studies (Epstein, 1984; Henderson, 1998; Peterson, 1989) have found that all forms of parent involvement helped student achievement. For Example, Epstein (1984), in a study of teachers, principals, parents, and students conducted by the Center for Social Organization of Schools at Johns Hopkins University, found that the more teachers involve parents in their teaching practice, the more parents feel involved in the education of their
children. She identified six major types of involvement between schools, families, and community organizations: parenting, school-to-home communicating, volunteering at school, learning at home, school governance and decision-making process, and collaboration with the community. Henderson (1981) and Peterson (1989) found that children whose parents are involved in their formal education have many advantages, including better grades and test scores, better attitudes and behavior, and more prolonged academic achievement than those children with uninvolved parents. These improvements, according to Peterson, occurred regardless of cultural, racial, or economic background of the family.

Numerous studies have provided clear evidence that parent involvement improves student achievement (Ascher, 1988; Baker & Soden, 1998; Epstein, 1987; Flood, 1993; Henderson, 1988; Peterson, 1989). Specifically, they found that home literacy environment, parental encouragement and parental stimulation of children’s language development, security of the parent-child attachment relationship, expression of confidence in their children’s success, parent involvement in preschool and early intervention programs, and participation in school and classroom affect the achievement, attitudes, and aspirations of children, even after student ability and SES are taken into account. Briefly, students gain in academic and personal development if their families emphasize education, let the children know they do, and do so constantly over the school year (Epstein, 1987).

Home Socialization Factors

This section discusses two major home socialization variables: cognitive home socialization and academic home socialization. The cognitive home socialization section reviews research on stimulating literacy and materials environment, parenting style, and
participation in joint learning activities. The academic home socialization section reviews research on parental attitudes, beliefs and expectations, parental values and behaviors, and cultural differences on schooling and research.

Cumulative knowledge from existing studies suggests the importance of home environment variables on student achievement (Baker & Soden, 1998; Clark, 1983, 1990; Coleman et al, 1966; Henderson & Berla, 1994; Kellaghan et al., 1993; Snow, Barnes, Chandler, Goodman, & Hemphill, 1991; Watkins, 1997). Significant evidence has demonstrated that parents who are involved in their children's schooling greatly facilitate and increase their academic and cognitive development (Becher, 1986; Bempechat, 1997; Henderson, 1981; Verna & Campbell, 2000).

Studies have examined the relationship between home socialization variables and student achievement and the relationship between home background variables and student achievement (Baker & Soden, 1998; Coleman et al., 1966). Baker and Soden cited evidence that family socialization variables "influence in relatively complex ways that interact with family background and social context variables, such as ethnicity, family structure and size, socioeconomic status, gender, and maternal employment status" (p. 2). They contended that evidence is mounting in support of the fact that these variables influence children's school achievement. Clark (1993) also found that "home process variables, parental personality variables, and family background circumstances worked together to shape student achievement patterns" (p. 103). Further, Mitsomwang and Hawley (1993) discovered that in homes where parents were strongly committed to education, willing to help their children, and able to intervene and become involved in the schools had students who were performing
well above average in school. Homes where one or more of these factors were weak had students who performed less well.

Verna and Campbell (2000) found that the sociopsychological environment and intellectual stimulation in the home are prominent in influencing academic ability and achievement, theorizing that the home environment and family processes provide a network of social, physical, and intellectual forces and factors that affect the students' learning. Comer (1984) concluded similarly. According to his research, psychosocial and interpersonal system factors greatly enhance or impede teaching and learning. The task of the home, social network, and school is to prepare children to function most desirably as adults. The primary caregivers in the home provide the first learning environment for the child who is born dependent and undeveloped in every way. A child begins to internalize the experiences of the household from the outset—good planning, communication, and order versus poor planning, communication, disorganization, and disorder (Comer, 1984). Therefore, the primary caregivers must help their child undergo significant developmental experiences.

Comer (1984) suggested that the content of the information which a child is taught, exposed to, and influenced to value differentially prepares him or her for the major learning environment—the school. It is those children from homes and primary social networks most consistent with the expectations and style of the school who have a distinct advantage in school. Therefore, Comer concluded that a child has the best opportunity to learn and achieve optimally when he or she experiences adequate child-rearing and is enmeshed in a supportive home social network that facilitates development, when school enhances such development, and when the societal message is one of belonging, worth, and value. Parents
lay the groundwork for their children’s success in school by encouraging their self-confidence, self-concept, and self-reliance (Comer, 1984; Epstein, 1987). Epstein (1987) emphasized that if the home training elements are not completed by the time the child begins school, they become the mutual concern and shared responsibility of the family and the school. Therefore, “the overall quality of the family’s life style, ... determines whether children are prepared for academically competent performance in the classroom” (Clark, 1993, p. 1).

Most children who are reared in more favorable home environments display benefits both socially and academically (Bempechat, 1997). According to Bempechat, these children may be from home environments where they “are best socialized to achieve” (p.1). Current research suggests that the socialization of achievement operates in ways that either help children realize their full potential or make it difficult for them to reach their full potential (Bempechat, 1997). Studies that examine home socialization variables, posited Bempechat, can be classified as either cognitive or academic.

Cognitive Home Socialization

Cognitive home socialization centers around the role parents play in their children’s basic intellectual development (Becher, 1984; Bempechat, 1997; Kellaghan et al., 1993) and how they encourage and support home learning activities and interactions. According to Becher (1984), “Parents play a crucial role in both the home and school environments with respect to facilitating the development of intelligence, achievement, and competence in their children” (p. 39). Advances in brain research now demonstrate that the first years of children’s lives is crucial to determining their learning abilities (Sylwester, 1997, as cited in
Jesse, 1996). Former U.S. Secretary of Education Richard S. Riley in his annual back to school address, “Times in Transition” on September 7, 2000, stated that “new brain research tells us the amazing impact parents can have in helping children’s brains develop” (p. 1). He urged parents to spend more time with their children and to take advantage of every available opportunity to engage them in reading activities.

Studies have examined home socialization variables that determine how well children succeed in school: the ways families interact and behave with children (Henderson & Berla, 1994) and the manner in which space and time are organized and used (Kellaghan et al., 1993). Current research identifies parenting style, stimulating literacy and materials environment, and participating in joint home learning activities as key cognitive home socialization variables that foster high achievement socialization (Becher, 1984; Bempechat, 1997; Bronfenbrenner, 1974; Clark, 1983, 1990; Henderson & Berla, 1994; Kellaghan et al., 1993; Sattes, 1984; Wahlberg, 1984). Each of these areas will be briefly discussed below.

Parenting style. The construct of parenting style is defined as “a robust indicator of parenting functioning that predicts child well-being across a wide spectrum of environments and across diverse communities” (Darling, 1999, p. 3). It is used to capture common variations in effort by parents to control and socialize their children.

Kozik and Million (1997) proposed that parenting style is one significant aspect of parent involvement. Parenting behaviors can influence a child’s academic achievement (Dornbusch, Ritter, Leiderman, Roberts, and Fraleigh, 1987). Dornbusch et al. compared three parenting styles: permissive, authoritative, and authoritarian. Permissive parents tend not to be involved in their children’s education, and they rarely allow their children to be
involved in give-and-take conversations with them. Authoritative parents encourage give-and-take conversation between their children and themselves. They also encourage individuality and independence of their children. Finally, the authoritarian parents discourage give-and-take communication. They inform their children that they as parents are not to be questioned or challenged, as they are correct in their actions. Dornbusch et al. demonstrated that authoritative parenting was positively correlated with good grades, whereas permissive and authoritarian parenting styles demonstrated a strong negative correlation.

According to Maccoby and Martin (1993, as cited in Darling), parenting style captures two important elements of parenting: parental demandingness and parental responsiveness. Authoritative parenting, which balances parental demandingness and parental responsiveness, is one of the most consistent predictors of family competence from birth through adolescence (Darling, 1999). Clark (1983) termed parental authoritativeness "sponsored independence." In the home of high achievers, regardless of background variables, he found that the families were characterized by strong parent encouragement of academic pursuits, frequent dialogue between parents and children, warm and nurturing interactions, and clear and consistent monitoring of how time is used. Steinberg, Mounts, Lamborn, and Dombush (1989) concluded similarly, supporting the finding of a positive correlation between parental authoritativeness and adolescent adjustment "that appears to transcend ethnicity, socioeconomic status, and family structure" (p. 15). Regardless of family background, children whose parents are authoritative—high in demandingness and high in responsiveness—earn higher grades in schools, report less stress and depression, are more self-reliant, and are less likely to engage in delinquent behavior (Steinberg et al., 1989).
Stimulating literacy and materials environment. The home is the preferred setting for literacy development (Brown, 1998). It is a powerful factor in determining students' interest in school learning, their level of achievement, and the length of the schooling they will receive (Kellaghan et al., 1993). According to Kellaghan et al., it is what families do that is a crucial ingredient of the home socialization process. Parental provision of educational experiences through the use of the public library, purchasing books, and enrolling their child in extracurricular lessons and in preschool are correlated with higher intelligence test scores and teacher ratings of child intelligence, creativity, and curiosity during kindergarten (Schaefer & Edgerton, 1985).

Wahlberg (1984) found evidence that “stimulating educative experiences in families” (p. 398) translate into how well students achieve in school. It is the family’s capacity to provide proeducational resources for their children: financial, experiential, or material (Milne, 1989; Henderson & Berla, 1984) that is important. The activities that fill the time spent with children is more important than just spending time with them. Parents can facilitate their children’s literacy development by allotting a time and space for their children to do homework, observing homework activities, reading to and or listening to their children read, involving children (Brown, 1998), monitoring their television viewing (U.S. Department of Education, 2000), taking children to the library (Sattes, 1985), and providing stimulating experiences. They can provide learning experiences that correlate with school experiences through talking with their children, sharing experiences, teaching, and organizing their children’s learning experiences (Schaefer, 1991). They can provide household educational materials and resources, such as books, newspapers, and computers, which are
essential for shaping children’s orientation to schools and levels of achievement and entertainment (Lareau, 1989; Roscigno & Ainsworth-Darnell, 1999).

Sattes found that “in more affluent homes, children are more likely to be exposed to experiences that stimulate intellectual development” (p. 2). However, Comer (1984), Milne (1985), and Wahlberg (1984) concluded that what families do to help their children learn is more important to their success than family affluence.

**Participation in joint learning activities.** While all forms of parent involvement are desirable, home-based parent involvement—doing home-learning activities coordinated with children’s class work and providing enriched activities—seems to be the most valuable to student achievement (The Link, 1999). Besides, it is one of the most efficient ways for parents to spend their time for school involvement when their time is limited (Ascher, 1988; Wahlberg, 1984). Peterson (1989) noted that there are many advantages for children when parents play an active role in the educational process. Parents get to know their children intimately, interact with them one-to-one, and do not expect to be paid to help them succeed.

Several parent-child interactions are included in the concept of home-learning activities (Moles, 1987), including close parental and child interactions such as reading, listening to children read, talking about what children read, discussing the day over dinner, telling stories, sharing problems, and writing letters, lists, and messages (Becher, 1984, 1986; Epstein, 1987; Kellaghan et al., 1993; Moles, 1987; Scott-Jones, 1987; Snow et al., 1991; Ziegler, 1987). Other more intermittent interactions include checking homework and providing awards for good school performance (Clark, 1993; Moles, 1987). Research shows that homework combined with parental involvement positively affects student achievement.
(Norman-Jackson, 1982; Villas-Boas, 1998), and some homework can improve the education of parents (Villas-Boas, 1998).

**Academic Home Socialization**

Academic home socialization looks at how parents influence the development of attitudes and motives that are critical for school learning (Baker & Soden, 1998; Bempechat, 1997; Comer, 1984, 1991; Epstein, 1987; Stevenson & Baker, 1987). According to Bempechat (1997), "high achievement is fostered by optimal ... academic socialization" (p. 1). The Coleman Report (1966) suggested that the attitudes and values students learn from home, their peers, and the environment are more dominant in their lives than the values and attitudes learned in school. More recent research has indicated that parental encouragement of positive attitudes towards education and high expectations for student success have a profoundly positive effect on student achievement (Bloom, 1986; Clark, 1983; Flood, 1993). "The attitudes and relationships between youngsters and their parents, relatives, teachers, ministers, coaches, instructors, and tutors can be among the most important factors in creating an environment that will maximize their chances for success during their school years and throughout their lives" (Clark, 1990, p. 23).

Other studies have highlighted the significance of academic socialization practices, such as a belief in the education ethic, parental and/or significant other support for education, and future time orientation (Edwards, 1976; Prom Jackson, Johnson, & Wallace, 1987, as cited in Bempechat, 1997). According to Bempechat (1997), evidence suggests that parents' attitudes, beliefs and expectancies, and values about learning and schooling guide their behavior with their children (Bloom, 1981, 1986; Clark, 1983; Seginer, 1983) and have a
causal influence on the development of achievement behaviors and attitudes of their children (Bempechat, 1997).

**Parental attitudes, beliefs, and expectations.** Parental attitudes and expectations toward education tend to be as important as explicit teaching attitudes (Peterson, 1989). Indeed, parents’ expectations, according to Seginer (1983), appear to be “a cause and an effect of academic achievement” (p. 1). Studies have demonstrated that student achievement improves when parents express high expectations for their children’s achievement and future orientation (Clark, 1983; 1993; Reynolds et al., 1993). “High-achieving children tend to come from families who have high expectations for them, and who consequently are likely ‘to set standards’ and to make demands at an earlier age” (Boocock, p. 60, as cited in Seginer). They have parents with high expectations for them, who see themselves as teachers of their children, and who respond and interact with them regularly (Becher, 1984). These parents, posited Becher, tend to use more complex language, provide problem-solving strategies, act as models of learning and achievement, and reinforce what their children are learning in school. Their actions in the home and the psychological process of creating positive expectations are also likely to matter in school performance in addition to the amount of time parents spend interacting in schools (Phillips, Smith, & Witted, 1985). Phillips et al. stated that those “schools that do well are likely to have active, highly involved parents whose actions will be backed by and begin with early educational nurturing and positive educational expectations for the child” (p. 31). By contrast, children from households in which the parents do not interact often with their children, in which the family composition changes frequently, where non-English speaking occurs, and where cultural
traditions vary sharply from those of the schools tend to be inhibited in their academic achievement (Clark, 1983, 1990). Also, poor, uneducated single parents are less likely to be able to afford or even understand the importance of either school or home involvement (Phillips et al.).

The most consistent predictors of children’s academic achievement and social adjustment are parent expectations of the educational attainment of their children and satisfaction with the schooling of their children (Reynold et al., 1993). Reynolds et al. concluded that the adjustment and achievement of children “is due not just to differences in family background ... but to the expectations and attitudes of parents ...” (p. 71). Interviewing 21 high-achieving students, Edwards (1976) found that students credited their parents with strongly encouraging them to do well in school even when their parents could not provide them much assistance with homework. Ziegler (1987) concluded that parent encouragement at home and participation in school activities are key factors related to children’s achievement, more significant than either student ability or socioeconomic status. Schiamberg and Chun (1986) uncovered similar findings—that the “expectations of parents and their own attainment has a primary influence on their children’s goals and whether they are able to attain them” (p. 114). According to Scott-Jones (1984), there is “a strong positive relationship between the accuracy of parents’ achievement expectations and children’s performance” (p. 292). She found that mothers in high-achieving families expressed clear academic goals for their children and strongly communicated the value of education. Mothers of low-achieving children, on the other hand, expressed high future-oriented aspirations for their children but had lower expectations for day-to-day success.
Parent’s attitudes, according to Villas-Boas (1998), help to promote a positive attitude in their children as well as to help develop their self-concept. Bempechat (1997) and Villas-Boas found that students who reported more support for educational endeavors from parents, extended family, and others were more likely to have a higher self-perception of their ability than unsuccessful students. Becher (1984) found “that extensive, substantial, and convincing evidence suggests that parents play a crucial role in both the home and the school environments with respect to facilitating the development of intelligence, achievement, and competence in their children” (p. 69).

*Parental values and behaviors.* Parental values and beliefs are clearly related to the behavior and competence of adults, including their competence as educators of their children (Schaefer, 1991). Schaefer indicates that both beliefs and values of the parents are significantly correlated with parent education and with child intelligence test scores and teacher ratings of child competence.

Mitromwang and Hawley (1993) found that “the stronger the values related to education that the parents held, the more developmental and intervention behaviors the parents performed, and the higher was the children’s academic performance” (p. 46). They stated that families with strong values about education but who demonstrated no follow-through on educational involvement had students who were average in school. By comparison, parents who possessed a strong, consistent commitment to education and who demonstrated a willingness to learn about and to become involved in the schools had children whose academic achievement was well above average. Finally, children from families displaying both weak values and behaviors had the lowest educational performance.
Cultural differences on schooling and research. Changing cultural demographics in the United States give rise to a need to examine the role that cultural differences play in relationship to student achievement and home socialization. Caplan, Choy, and Whitmore (1992) found that “children often acquire a sense of their heritage as a result of deliberate and concentrated parental effort in the context of family life ... and the inculcation of values from one generation to another” (p. 39) as a feature of the cultural conversation. These authors noted that Asian families contribute to their children’s achievement by encouraging a love of learning, emphasizing home learning activities, and stressing the importance of education. Similarly, Mitrsomwang and Hawley (1993), in studying the experiences and attitudes of Indochinese families, found that strong family values and behaviors related to education and had a positive influence on student achievement at school.

A number of studies have compared Asian and American home learning environments. In Asian homes, education takes top priority (Caplan et al., 1992; Henderson & Berla, 1994; Mitrsomwang & Hawley, 1993; Verna & Campbell, 2000) and it is viewed as a once-in-a-lifetime opportunity (Stevenson, 1983). Not surprisingly, Campbell and Connolly (1987) found that Asian-American parents take a proactive role in the education of their children by creating a supportive atmosphere, providing tutoring, and supervising homework. In contrast, Verna and Campbell (2000) observed that other American children receive much less help from their parents and spend much less time on homework and home learning (Verna & Campbell, 2000). Parent involvement in non-White American homes appears to be greater than in White American homes (Stevenson, Chen, & Uttal, 1990, as cited in Watkins, 1997; Verna & Campbell, 2000). The difference appeared to result from

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the fact that White American parents consider innate ability more important than effort (Stevenson et al. 1990). Stevenson et al. found that some minority parents perceive that assisting with homework is one way to improve their children's education. Studies of ethnic groups, including African American, Jews, and Japanese, showed that encouragement of academic rigor and excellence leads to high achievement (Caplan et al., 1992).

Summary

This literature review examined studies that demonstrated evidence of a link between parent involvement and student achievement. Researchers have consistently found several home socialization variables that encourage children to strive for excellence. These variables fall into two categories: cognitive home socialization and academic home socialization (Bempechat, 1997). Cognitive home socialization includes variables such as parent ability to (a) integrate daily learning into home activities, (b) interact with their children, and (c) provide access to materials and learning experiences, and focus on how parents develop the intellectual abilities of their children. Academic home socialization, on the other hand, includes variables such as parenting style, parent educational expectations for their children, parent support of education, and focus on how parents influence the development of attitudes and motives of their children that are essential for learning. The literature review suggested that noted improvements in student test scores are in part resulting from stimulating home learning materials and experiences and better home environments.
CHAPTER III
METHODOLOGY

The major purpose of this study was to examine the relationship between student achievement and home achievement socialization variables. Specifically, the study was designed to: assess (a) the influence of cognitive home socialization variables on student achievement, (b) the influence of academic home socialization variables on student achievement, and (c) the degree to which cognitive home socialization and academic home socialization combine to predict student achievement. The cognitive home socialization variables identified for investigation included stimulating literacy and materials environment and participating in joint home learning activities. The academic home socialization variables identified for investigation consisted of parent attitudes, beliefs, and expectations and parent values and behaviors. Measures of student achievement consisted of Virginia Standards of Learning (SOL) English: Reading/Literature-Research (RLR) test data and Stanford Achievement Tests, Ninth Edition (SAT 9) partial battery data for seventh graders and basic battery for twelfth graders.

The home socialization data were collected by surveying parents. This chapter includes the following sections: Research Questions, Population, Generalizability, Procedures, Independent Variables, Dependent Variables, Instrumentation, and Ethical Safeguards.

Research Questions

1. Does the cognitive home socialization of children relate to student achievement?

2. Does the academic home socialization of children relate to student achievement?
3. To what degree do cognitive home socialization and academic home socialization combine to predict student achievement?

Population

The population for the study consisted of parents of seventh and twelfth graders from a small, rural, predominantly African American school division in Central Virginia. The school division where the study was conducted enrolled approximately 920 students in grades kindergarten through 12. A total of 125 parents were surveyed. Seventy-six percent were African-American, 17 percent were White, and 7 percent were Native American.

Generalizability

The results of this study may be generalizable to sixth- through twelfth-grade African-American, White, and Native American students in small, rural, and public school divisions of similar demographic make-up to the study school division. It is limited in generalizability to students in suburban and urban public school divisions.

Procedures

To initiate the study, a conference outlining the proposed research was held with the chairman of the school board with assurances of confidentiality and a willingness to share the study results. Verbal permission was given to the author of this study, as she occupied the position of division superintendent. In mid-April, the middle school and high school principals were informed of the study and parent survey process. History/social sciences teachers of seventh and twelfth graders were identified by the author of this study to assist with the distribution and collection of the survey instruments. They were informed of the study in mid-April and agreed to assist with the project. In addition, they were asked to
determine what type of incentive would inspire students to encourage their parents to return the survey. The incentive for seventh graders was a class picnic. The incentive for twelfth graders was an extra 10 points added to their final history grade point average for the school year.

In mid-May, a parent survey instrument was sent to parents, accompanied by a cover letter detailing the purpose of the survey, the significance of the study, the survey instrument, and the criteria for participation in the study. All participants were assured anonymity through the coding of each instrument.

The initial method for distribution of parent surveys was different for the two grade levels. The seventh-grade parent surveys were distributed to each student by their history/social sciences teacher, who instructed students to take the instrument home and ask their parents to complete it and sign the signature page of the cover letter. She also asked them to bring the survey and signature page back to her by the return date indicated. The cover letter explained this same procedure to parents. A second distribution of the instrument, using the same procedure, was conducted by the seventh grade history/social science teacher for students whose parents had not returned the instrument.

The initial twelfth-grade parent survey instruments were sent through postal service mailing, with stamped, self-addressed envelopes included in the mailing to encourage a faster rate of return. A second distribution of the instrument was handled by the twelfth grade history/social science teacher, who encouraged the students to return the survey so they could receive 10 points toward their final history grade point average for the school year. This distribution was made only to students for whom parent surveys had not been received.
All twelfth-grade students who returned surveys received the extra 10 points toward their final history/social science course grade.

**Independent Variables.** The independent variable were home socialization variables that had been linked with student achievement. These home socialization variables studied were classified as cognitive and academic. Cognitive home socialization variables were: (a) stimulating literacy and materials environment and (b) joint home learning activities. Academic home variables were: (a) parental attitudes, beliefs, and expectations and (b) parental values and behaviors. The strength of each variable was assessed by a series of questions on the parent survey.

**Dependent Variables.** The dependent variable to be measured was student achievement. Student achievement measures included the Virginia Standards of Learning (SOL) English: Reading/Literature-Research (RLR) test data and Stanford Achievement Tests, Ninth Edition (SAT 9) test data, two measures mandated by the Virginia Department of Education for assessing student achievement. The data for current seventh-and twelfth-grade students were used. The spring 2000, fifth-grade SOL English: RLR test data and the fall 2000, sixth-grade SAT 9 partial battery test data for seventh-grade students was correlated with seventh-grade students' parent survey data. Fall 1999, tenth-grade SAT 9 partial battery test data and the spring 2001 eleventh-grade SOL English RLR data were correlated with twelfth-grade students' parent survey data.

**Instrumentation**

The study used a quantitative design to analyze data. A correlational research survey was selected for data collection because this methodology has been determined to be valuable
in collecting systematic information for the purpose of exploration of relationships Gall, Borg, and Gall (1996). The survey was chosen due to its advantage of providing standardized information from a representative sample of parents and students on the issue of parent involvement and student achievement.

The parent survey used to collect parent data information included primarily closed-form questions, making quantification and analysis of results easier (Gall et al., 1996). The results of the responses to the questionnaire were used to answer Research Questions 1, 2, and 3.

The parent survey instrument used was the Henderson Environmental Learning Process Scale (HELPS) developed in 1972 by Ronald W. Henderson, Professor Emeritus of San Jose State University, now deceased. Permission to use and modify the scale to suit the purpose of this study was secured from librarians of the Educational Testing Service Test Collection department. Modifications addressed language clarity as it related to updated terminology, age-appropriateness, and standard usage, inclusion of rating statements for all items, and elimination of items not appropriate to the study.

A review of various parent survey instruments yielded surveys designed to address a variety of home socialization variables, including parents' attitudes toward school effectiveness (Melnick & Feine, 1990), home literacy (Kubis, 1994), home index (Gough, 1982), and the effects of home environment on children's achievement (Bloom, 1986). The HELPS survey was selected because it was designed to measure environmental stimulation, aspiration, parental guidance, and parental reinforcement (Henderson, Bergan, & Hurt, 1972). Since it was designed to be administered to parents of students in early childhood education
(preschool and elementary school), modifications were made to accommodate the use of the survey with parents of older students.

The most significant modification of the HELPS survey was changing the format from an interview schedule to one for independent completion by the participant. According to the HELPS administration directions, the instrument was designed to be administered by interviewers with little training (Henderson et al., 1972) to Mexican-American parents of low SES and Anglo-American parents of medium SES. The interviewer read the items while parents checked the correct response space on the answer sheet. The survey, while designed with a five-point Likert-like scale, only had worded responses for the beginning and end response blanks. Blanks 2, 3, and 4 were wordless, requiring direction from the interviewer if the interviewee did not understand how to respond.

The following is an example of an item and its rating scale: “How often do you watch the news on television? Daily __: ___: ___: ___: Never.” The modification made for this scale was to allow parents to complete the survey independently by providing five specific rating responses; for example, “How often do you watch the news on television? __ Daily __ Almost Daily __ Sometimes __ Almost Never __ Never.” The scoring of the instrument was not affected by the changes.

Specific, modifications included: (a) clarity of language to reflect present-day relevance and age-appropriateness and (b) provision of Likert-like rating statements for each item. Language clarity was needed for items 9, 18, 19, 21, 22, 25, 29, 30, 34, and 38. For example, item 9 asked, “How do you suggest that (child) watch some educational TV program such as Sesame Street, Captain Kangaroo, or Mr. Rogers?” The lists of programs
was changed to Discovery Channel, C-Span, History Channel, and documentaries. Item 18 was modified to eliminate the term “practical” in reference to job training, using only the statement “vocational job training,” since the term practical training is rarely used today in light of technical and service-related terminology and job training emphasis. Items 19 and 21 reflect the usage of the term “college” in parentheses to define “formal education.” In item 22, the term “age-appropriate books” was used instead of “children’s books” to reflect a response appropriate for preteens and teens. In item 25 the phrase “give examples” was eliminated since the instrument was not intended to collect comments. Past tense verb usage was required for items 29 and 30. That is, the verb “did” was needed rather than the verb tense “do,” inasmuch as the children being referred to were preteens and teens who usually would not be read to or taught word recognition and counting at their ages. Item 34 reflects usage of the phrase “some type of recognition” instead of the phrase “something like that” to ensure that it shows age-appropriateness. Finally, item 38 reflects the change of the wording “help his /her father when he is working on some project” to “help you or other adult family member who is working on projects.” This modification was made to reflect the change in family structure since the traditional two-parent family has shifted. Table 1 below shows the changed items in their original form and their modified form.
<table>
<thead>
<tr>
<th>Item</th>
<th>Original Text</th>
<th>Modified Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item 9</td>
<td>How often do you suggest that your (child) watch some educational TV program such as Sesame Street, Captain Kangaroo, or Mr. Rogers?</td>
<td>How often do you suggest that your child watch some educational program, i.e., Discovery Channel, History Channel, C-Span, documentaries?</td>
</tr>
<tr>
<td>Item 18</td>
<td>How important will practical or Vocational job training be for (child’s) future?</td>
<td>How important will vocational job training be for your child’s future?</td>
</tr>
<tr>
<td>Item 19</td>
<td>How important will formal schooling be for (child’s) future?</td>
<td>How important will formal education (college) be for your child’s future?</td>
</tr>
<tr>
<td>Item 21</td>
<td>Does formal education really help people to get a better life?</td>
<td>Does formal education (college) really help people to have a better life?</td>
</tr>
<tr>
<td>Item 22</td>
<td>How many children’s books do you have in your home?</td>
<td>How many age-appropriate books do you have in your home?</td>
</tr>
<tr>
<td>Item 25</td>
<td>How many magazines (give examples) do you subscribe to?</td>
<td>How many magazines do you subscribe to?</td>
</tr>
<tr>
<td>Item 29</td>
<td>How often do your children (your child) come to you with homework problems?</td>
<td>How often do your children come to you with homework problems?</td>
</tr>
<tr>
<td>Item 30</td>
<td>How often did you try to help (child) count or learn numbers before he started school?</td>
<td>How often did you help your child count or learn numbers before he/she entered school?</td>
</tr>
<tr>
<td>Item 34</td>
<td>How often do you give (child) a pat or hug or something like that when you are pleased with the way he is learning?</td>
<td>How often do you give your child a pat, a hug, or some type of recognition when you are pleased with the way he is learning?</td>
</tr>
<tr>
<td>Item 38</td>
<td>How often does your child help his/her father when he is working on some project? (Building something, fixing something, working around the home).</td>
<td>How often does your child help you or other adult family member who is working on projects (building things, fixing things, working around the house)?</td>
</tr>
</tbody>
</table>

The HELPS survey, unmodified, contained 55 items. The modified version used for
this study contained 40 of the 55 items. Twenty-one items addressed cognitive variables and 19 items addressed academic variables. Table 2 shows the items by variables and numbers.

Table 2

*Item Specification Table*

<table>
<thead>
<tr>
<th>Home Socialization Variables</th>
<th>Survey Items</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cognitive Variables</strong></td>
<td></td>
</tr>
<tr>
<td>1. Stimulating Literacy Environment</td>
<td>1, 2, 5-7, 12-14, 22, 25, 28, 30, 31, 36, 37</td>
</tr>
<tr>
<td>2. Joint Learning Environment</td>
<td>8, 10, 15, 23, 27, 29, 38, 39</td>
</tr>
<tr>
<td><strong>Academic Variables</strong></td>
<td></td>
</tr>
<tr>
<td>1. Expectations and Attitudes</td>
<td>3, 4, 9, 18, 20, 33</td>
</tr>
<tr>
<td>2. Values and Behaviors</td>
<td>11, 16, 17, 19, 21, 24, 26, 32, 34, 35, 40</td>
</tr>
</tbody>
</table>

Each item was scored on a five-point scale as specified in the original version. The high point value of 5 was assigned to the first rating response except for items 22, 24, and 25. Following the original scoring procedures, these items were reversed with a value of 1 assigned to the first rating response on the five-point scale and the values of 2, 3, 4, and 5, respectively, being assigned to the other response blanks on the scale.

*Stanford Achievement Test Series, Ninth Edition (SAT 9)*

The Stanford Achievement Test Series measure students' school achievement in language arts, reading, mathematics, science, and social studies. The tests first appeared in 1923 with revisions published in 1929, 1940, 1953, 1964, 1973, and 1989. The series is composed of 13 battery levels, with two forms at each level, assessing students in grades kindergarten through 12 and entering college freshmen.

The ninth edition of the Stanford battery (SAT 9) "provides updated content that
reflects the current national "consensus" curriculum and modern educational trends" (Stanford Achievement Test Series, 1997, p. 8). To provide the most comprehensive coverage possible, Stanford 9 was designed to include both multiple-choice and open-ended assessments in reading, language arts, mathematics, science, and social studies. The state of Virginia uses the multiple-choice assessment. Additionally, for this study, the partial battery score was used for grade 7 students and the basic battery for grade 12 students. While labeled differently, both battery scores include the total sum of reading, language arts, and mathematics scores.

The research design for the Stanford called for traditional methods of data analysis and application of Rasch model techniques. Test items were analyzed according to the Mantel-Haenszel procedures, and a modified Angoff procedure was used for standard setting.

Standardization for the ninth edition of the Stanford Achievement Test Series took place during the spring and fall of 1995. Forty-nine states and the District of Columbia were represented in the standardization process. The standardization sampling methodology involved statistical weighting of test scores after testing was completed, but before norms were derived, to effect final sample improvements.

Different types of scores were developed: Scaled Scores, Individual Percentile Ranks and Stanines, Grade Equivalents, Normal Curve Equivalents, Achievement/Ability Comparisons, Group Percentile Ranks and Stanines, p-Values, Performance Standards, Performance Indicators, and Achievement/Ability Comparisons. For this study, Individual Percentile Ranks were examined. Percentile Ranks ranged from 1 to 99, with 50 denoting national average performance.
The Kuder-Richardson (KR-20) procedure was used to provide an estimate of reliability for the multiple-choice full-length and abbreviated batteries for the Stanford 9. The majority of the KR-20 coefficients for the SAT 9, Intermediate 2, Full-Length Battery, Form S, Fall Standardization Sample for grade 6 ranged from .78 to .97. For the grade 6, Intermediate Battery, Abbreviated Battery, Form S, the KR-20 reliability coefficients ranged from .77 to .96. The majority of the KR-20 coefficients for the SAT 9, Task 2, Full-Length Battery, Form S, Fall Standardization Sample for grade 10 ranged from .79 to .96. and the coefficients for the grade 9, Task 2, Abbreviated Battery, Form S, for grade 10 ranged from .73 to .93.

The Kuder-Richardson Formula #21 reliability coefficients were used to provide a measure of the lower bounds of the tests internal consistency for all clusters in the SAT 9 multiple-choice, as well as for all subtests and totals. The majority of the KR-21 reliability coefficients for the SAT 9, Intermediate 2, Fall Standardization Sample for grade 6 ranged from .81 to .90 for total subtests. For grade 10, the KR-21 reliability coefficients for SAT 9, Task 2, Fall Standardization Sample ranged from .77 to .95 for total subtests coefficients. These are solid reliability coefficients for assessments of this type (Stanford Achievement Series, 1997).

*Virginia Standards of Learning Assessment.* The Virginia Standards of Learning are the result of an important step taken in 1995 by the Virginia Board of Education (VBOE) of the Commonwealth of Virginia to raise the expectations for all students in Virginia public schools (Virginia Standards of Learning Assessments, 2001). New academic standards were developed by the Virginia Department of Education (VDOE) in the four core subject areas of
English, mathematics, history/social science, and science for grades kindergarten through 12. These standards were used to inform parents and teachers of what students were learning and to make schools accountable for teaching the content found in the Standards of Learning (SOL).

The VDOE was also charged with the development and implementation of a testing program to determine students' mastery of the standards. This resulted in the creation of the 27 SOL assessments, an undertaking performed by the VDOE, Harcourt Brace Educational Measurement, and Content Review Committees consisting of teachers, administrators, and content specialists from all over Virginia. Criterion-referenced SOL assessments were developed for grades 3, 5, 8, and high school in the four core subjects (English, mathematics, history/social science, and science). “The assessments were composed of multiple-choice items and writing prompts designed to test all the content of all the SOLs except where noted on the assessment blueprint (p. 1).” This study used the English multiple-choice assessment only.

In the spring of 1997, all students in grades 3, 5, 8, and 11 participated in field testing the SOL assessments in specified contents areas. Results from the field test administration included item statistics for multiple-choice items and forms, item statistics for the writing prompt domain scores, RASCH item statistics, and Differentiated Item Functioning (DIF) statistics. Additionally, two standards-setting methods were used to set the cut scores: the “modified Angoff procedure for multiple-choice and the Bookmark method for the writing. To evaluate for test reliability and validity, KR-20 was used as a statistical measure of test internal consistency reliability estimate for the multiple-choice items.
A review of the validity and reliability for the 1998, 1999, and 2000 administrations of the SOL assessments by the VBOE appointed Technical Advisory Committee (TAC) revealed that most of the KR-20 coefficients for the SOL forms ranged from .85 to .92. The highest reliability coefficient, .92, was in mathematics at grade 8; the lowest was .81 for one of the two forms in science at grade five. KR-20 coefficients for the high school end-of-course assessments were slightly higher, ranging from .87 to .91 for spring 2000, than the SOL forms for earlier grades. The KR-20 coefficients, overall, revealed reasonably high reliability of the SOL multiple-choice forms.

Correlations of SOL assessment scores with Stanford Achievement Test Series, Ninth Edition (SAT 9) assessment scores for grades 4, 6, and 8 was used to substantiate the validity of the assessments. Correlations between the SOL assessments and the SAT 9 achievement tests fall in the range of .50 to .80. The correlations, being neither too high nor too low, lent support to the validity of the SOL assessment scores. If the scores were too low, it might indicate that Virginia was much out of sync with its curriculum frameworks with other states. If it were too high, it could be said that Virginia SOL assessments were measuring almost the same knowledge domains and skills as the SAT 9 and vice versa.

A review of decision accuracy and indices for the 1998, 1999, and 2000 assessments was also conducted by the TAC. The decision accuracy made between Passing and Not Passing for all grades across the three years of administration ranged from .87 to .93. These coefficients were high enough “to justify the use of the assessment scores in performance category classifications” (Hambleton, Crocker, Cruse, Dodd, Plake, & Poggio, 2001. p. 7). The consistency indices made between Passing and Not Passing at each form and grade were
also found to be acceptable (.80 to .89 in 1998, .82 to .91 in 1999, and .82 to .90 in 2000).
Collectively, the TAC found the reliability evidence for the SOL assessments to be solid and
typical of high-quality assessments. These assessments meet or exceed the reliability
standards for such assessments.

The minimum pass score was set at 400 with an expectation that 70 percent would
meet it in all core areas except for science and history/social science at grade 3 where it was
set at 50 percent. Student scores are reported as one of three achievement levels established
for the SOL tests: Advanced Attainment, Proficient, and Does Not Meet. Does Not Meet is
any score below 400. Proficient is any score between 400 and 500, and Advance Proficient is
any score between 501 and 600.

Data Analysis

Analyses of the parent survey questions and achievement data were conducted using
correlational analyses. Pearson r correlational coefficients were used to calculate
relationships between independent variables and dependent variables to yield answers to
Research Questions 1 and 2. Cognitive home socialization variables and academic home
socialization variables (independent variables) were correlated to Standards of Learning
(SOL) English: Reading/Literature-Research test scores for both seventh- and twelfth-grade
students and to Stanford Achievement Tests, Ninth Edition (SAT 9) partial battery scores for
current seventh grade students and basic battery scores for twelfth-grade students. A
multiple regression calculation was used to answer Question 3 to determine the combined
impact of cognitive home socialization variables and academic socialization variables on
student achievement. The multiple regression yielded information about the relationships
among variables and provided estimates of both magnitude and statistical significance of relationships between variables (Gall, et al., 1996). The correlational matrix of the data analysis appears in Table 3.

Table 3

Data Analysis Correlational Matrix

<table>
<thead>
<tr>
<th>Question</th>
<th>Independent Variable</th>
<th>Dependent Variable</th>
<th>Data Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>HELPS Subtests</td>
<td>SOL English Test Data/SAT 9 Test Data</td>
<td>Pearson r</td>
</tr>
<tr>
<td>2</td>
<td>HELPS Subtests</td>
<td>SOL English Test Data/SAT 9 Test Data</td>
<td>Pearson r</td>
</tr>
<tr>
<td>3</td>
<td>HELPS Total</td>
<td>SOL English Test Data/SAT 9 Test Data</td>
<td>Multiple Regression</td>
</tr>
</tbody>
</table>

Note. HELPS=Henderson Environmental Learning Process Scale.

Ethical Safeguards

This study was conducted in a manner that protects the anonymity of the school division, the students, and the parents who participated. To protect the anonymity of the participants, the names of the parents and students, as well as the school division name, did not appear on the surveys. Further, student and parent surveys were coded in a manner that made it possible to match parent survey data with student achievement data. Coding of parent surveys also made it possible to document for purposes of determining the need for follow-up with parents who had not responded to initial distribution.
CHAPTER IV
ANALYSIS OF RESULTS

The current study investigated the relationship between student achievement and home socialization. This chapter presents the survey return rate, the parent survey data, and the results of the investigation arranged in sections that correspond to the three research questions presented in Chapter III. For Research Questions 1 and 2, Pearson $r$ correlation techniques were used to predict the relationship between student achievement and each home socialization variable. For Research Question 3, multiple regression procedures were run to compute the combined relationship of the home socialization variables and student achievement. A probability level of .05 or less was considered significant on all measures.

Parent Survey Data

A total of 125 surveys were distributed to parents of seventh and twelfth graders served by a small, rural school division in central Virginia. The parent survey data were collected during the period of mid-May 2002 through June 2002, using a modified version of the Henderson Environmental Learning Process Scale (HELPS) (Henderson et al., 1972). The parent survey contained 40 items designed to gather information on the home socialization variables that influence student achievement. Twenty-three of the items were designed to collect cognitive home socialization data and 17 were designed to collect academic home socialization data. The cognitive home socialization variable included two subvariables: stimulating literacy environment and joint learning activities. The academic home socialization variable also included two subvariables: parental expectations and attitudes and values and behaviors. Each survey item had five possible responses with a
value point range of 1 to 5. Once collected, the survey data were disaggregated by grade, variable and subvariable, and high and low item score, mean, and standard deviation for each variable and subvariable.

Grade 7. Grade 7 survey data analyses showed a high score of 4.6 for the cognitive variable and a low score of 2.3, with a mean score of 3.7 ($SD=0.50$). Of the two subvariables, joint learning activities yielded the highest point value scores, with a high score of 5.0 and a low score of 2.7, with a mean score of 3.6 ($SD=.56$). Responses to the stimulating literacy subvariable survey items yielded a high score of 4.6 and a low score of 2.1, with a mean score of 3.6 ($SD=0.56$). Parent responses to the academic variable items yielded a high score of 4.6 and a low score of 2.5, with a mean score 3.9 ($SD=.040$). Of the two academic subvariables, expectations and attitudes achieved the highest point value score of 5.0 and the low score of 2.5, with a mean score of 3.9 ($SD=0.52$). The values and behaviors subvariable had a high point value score of 4.6 and a low score of 2.6, with a mean score of 4.0 ($SD=0.42$).

Grade 12. The parent survey data item analyses for grade 12 students yielded a higher point value range for academic home socialization variable items than for cognitive home socialization variable items. The academic variable had a high score of 4.8 and a low score of 3.0, with a mean score of 4.0 ($SD=0.43$). The values and behaviors subvariable achieved slightly higher response scores than the expectations and attitudes subvariable. Value and behaviors achieved a high point value score of 4.8 and low point value score of 3.1, with a mean score of 4.2 ($SD=0.44$). Expectations and attitudes achieved a high point value score of 4.8 and low score of 2.4, with a mean score of 3.8 ($SD=0.56$). The cognitive
home socialization variable analyses yielded a high score of 4.4 and a low score of 2.5, with a mean score of 3.4 ($SD=0.57$). The subvariable stimulating literacy environment yielded slightly higher scores than the subvariable joint learning activities. Stimulating literacy environment reflected a high point value score of 4.6 and a low score of 2.5, with a mean score of 3.5 ($SD=0.58$). Joint learning activities reflected a high point value score of 4.3 and a low score of 1.7, with a mean score of 3.3 ($SD=0.73$). Parent survey data is presented in Table 4.

Table 4

*Parent Survey Data by Whole and Subtests Cognitive and Academic Variables*

<table>
<thead>
<tr>
<th>Grade</th>
<th>Variable</th>
<th>High</th>
<th>Low</th>
<th>$M$</th>
<th>$SD$</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Cognitive</td>
<td>4.6</td>
<td>2.5</td>
<td>3.7</td>
<td>0.50</td>
</tr>
<tr>
<td></td>
<td>-Stimulating Lit.</td>
<td>4.6</td>
<td>2.1</td>
<td>3.6</td>
<td>0.56</td>
</tr>
<tr>
<td></td>
<td>-Joint Learning</td>
<td>5.0</td>
<td>2.7</td>
<td>3.8</td>
<td>0.50</td>
</tr>
<tr>
<td></td>
<td>Academic</td>
<td>4.6</td>
<td>2.5</td>
<td>3.9</td>
<td>0.40</td>
</tr>
<tr>
<td></td>
<td>-Expectations</td>
<td>5.0</td>
<td>2.5</td>
<td>3.9</td>
<td>0.52</td>
</tr>
<tr>
<td></td>
<td>-Values</td>
<td>4.6</td>
<td>2.6</td>
<td>4.0</td>
<td>0.42</td>
</tr>
<tr>
<td>12</td>
<td>Cognitive</td>
<td>4.4</td>
<td>2.5</td>
<td>3.4</td>
<td>0.57</td>
</tr>
<tr>
<td></td>
<td>-Stimulating Lit.</td>
<td>4.6</td>
<td>2.5</td>
<td>3.5</td>
<td>0.58</td>
</tr>
<tr>
<td></td>
<td>-Joint Learning</td>
<td>4.3</td>
<td>1.7</td>
<td>3.3</td>
<td>0.73</td>
</tr>
<tr>
<td></td>
<td>Academic</td>
<td>4.8</td>
<td>3.0</td>
<td>4.0</td>
<td>0.43</td>
</tr>
<tr>
<td></td>
<td>-Expectations</td>
<td>4.8</td>
<td>2.4</td>
<td>3.8</td>
<td>0.56</td>
</tr>
<tr>
<td></td>
<td>-Values</td>
<td>4.8</td>
<td>3.1</td>
<td>4.1</td>
<td>0.44</td>
</tr>
</tbody>
</table>

*Note.* The value of each variable survey item ranges from 1-5. ($n=40$ for grade 7; $n=28$ for grade 12).
Student Achievement Data

Student achievement data were collected from the Scholastic Achievement Tests, Ninth Edition (SAT 9), and the Standards of Learning (SOL) Tests achievement measures for students whose parents responded to the survey. The national percentile score was used as the measurement criteria for the SAT 9 data with the national average achievement level set at the 50th percentile. The state of Virginia pass score of 400 was used to establish achievement criteria for the SOL English: Reading/Language-Research (RLR) measure.

The SOL achievement data for participating seventh-grade students showed a high score of 566 and a low score of 326, with a mean score of 399.3 (SD=50.3). The SAT 9 achievement data for participating seventh-grade students yielded a high score of 82.7 and a low score of 4.1, with an achieved mean score of 37.9 (SD=19.2). The SOL student achievement data for participating grade 12 students showed a high score of 569 and the low score to be 301, with a mean score of 404 (SD=49.7). The SAT 9 achievement data for participating twelfth-grade students showed a high score of 79.7 and a low score of 10.2, with a mean score of 31.4 (SD=18.4). Student achievement data is presented in Table 5.
Table 5

**Student Achievement Data for SOL and SAT 9 Achievement Measures**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Measure</th>
<th>High</th>
<th>Low</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>SOL</td>
<td>566</td>
<td>326</td>
<td>399.3</td>
<td>50.3</td>
</tr>
<tr>
<td></td>
<td>SAT 9</td>
<td>82.7</td>
<td>4.2</td>
<td>37.9</td>
<td>19.2</td>
</tr>
<tr>
<td>12</td>
<td>SOL</td>
<td>568</td>
<td>301</td>
<td>404</td>
<td>49.7</td>
</tr>
<tr>
<td></td>
<td>SAT 9</td>
<td>79.7</td>
<td>10.2</td>
<td>31.4</td>
<td>18.4</td>
</tr>
</tbody>
</table>

*Note.* SOL pass score range is 400-600. SAT 9 national average percentile is the 50th percentile. (n=40 for grade 7; n=28 for grade 12).

**Survey Return Rate**

Surveys were distributed to parents of seventh-grade and twelfth-grade students in mid-May 2002. A total of 65 surveys were distributed by way of seventh-grade students to their parents. Further, 60 surveys were mailed to parents of twelfth-grade students through the United States Postal Service. Within two weeks, 34 (52%) of the surveys distributed to parents of seventh-grade students and 18 (30%) of surveys mailed to parents of twelfth-grade students had been returned. A second cover letter and survey were distributed to parents who had not returned surveys during the first week of June 2002. For both grades, this distribution was conducted through student delivery. This resulted in the receipt of 15 additional surveys (23%) from parents of seventh-grade students and 17 additional surveys (28.3%) were from parents of twelfth-grade students. Overall, the response rate was 58.3% (n=35) for parents of twelfth-grade students and 75.3% (n=49) for parents of seventh-grade students.

Of the 49 responses received from parents of seventh-grade students, eight were
eliminated. Five were eliminated as a result of missing corresponding student achievement data, and an additional three were eliminated as a result of missing signature pages. This resulted in a usable sample of 41 (63.0%). Of the responses received from parents of twelfth-grade students, four were eliminated due to missing student achievement data, and an additional two were eliminated due to receipt after data analyses were begun. This resulted in a usable sample of 29 (48.3%). Basic descriptive data on the sample response rates are presented in Table 6.

Table 6

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>Original Sample</th>
<th>Responding Sample</th>
<th>Usable Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>65 (100%)</td>
<td>49 (75.3%)</td>
<td>41 (63.0%)</td>
</tr>
<tr>
<td>12</td>
<td>60 (100%)</td>
<td>35 (58.3%)</td>
<td>29 (48.3%)</td>
</tr>
<tr>
<td>Total</td>
<td>125 (100%)</td>
<td>84 (67.2%)</td>
<td>70 (56.0%)</td>
</tr>
</tbody>
</table>

Research Questions

Parent survey responses and data from 1999 and 2000 Scholastic Achievement Tests, Ninth Edition (SAT 9) partial battery for grade 7 and basic battery for grade 12, and from 2000 and 2001 Standards of Learning (SOL) English: Reading/Language-Research (RLR) assessments conducted in the selected district were used to answer the three research questions. *(Fall 2000 SAT 9 partial battery and spring 2000 SOL English: RLR were the assessments used to measure achievement for seventh-grade students. Fall 1999 SAT 9 basic battery and spring 2001 SOL English: Reading/Literature-Research data were the assessments used to measure the achievement of twelfth-grade students.)*
correlation techniques were used to answer Research Questions 1 and 2. Multiple regression techniques were used to answer Research Question 3.

**Question 1:** Does the cognitive home socialization of children relate to student achievement? To determine the relationship between the cognitive home socialization variable and student achievement measures, the Pearson $r$ correlation statistical technique was used. The cognitive home socialization variable was composed of two subcategory variables: stimulating literacy and materials environment and joint learning activities. Student achievement was measured by the SAT 9 partial battery for grade 7 and SAT 9 basic battery achievement data for grade 12, and SOL English: RLR achievement data for both grade 7 and grade 12.

Table 7 presents the results of the Pearson $r$ correlations between seventh-grade student achievement measures and cognitive home socialization variable. The correlations in Table 7 are nonsignificant, indicating that there is no relationship between cognitive home socialization and the achievement measures for seventh-grade students.

Table 7

<table>
<thead>
<tr>
<th>Achievement Measure</th>
<th>Variable</th>
<th>$n$</th>
<th>$r$</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOL English: RLR</td>
<td>Cognitive</td>
<td>40</td>
<td>0.05</td>
</tr>
<tr>
<td>SAT 9 Partial Battery</td>
<td>Cognitive</td>
<td>40</td>
<td>-0.05</td>
</tr>
</tbody>
</table>

*p<.05.

Table 8 presents the results of Pearson $r$ correlations between twelfth-grade students' achievement measures and the cognitive home socialization variable. The results for
Pearson $r$ correlations between cognitive home socialization and the SOL: RLR achievement measure are nonsignificant, indicating that there is no relationship between SOL achievement and cognitive home socialization. However, the Pearson $r$ correlations in are statistically significant for cognitive home socialization and SAT 9 basic battery achievement, indicating that there is a relationship between the two variables. The magnitude of the relationship between the SAT 9 basic battery achievement measure and cognitive home socialization variable for twelfth-grade student achievement was significant with a coefficient value of $r=.58$. Of the variance, 34% ($0.58^2$) is shared between SAT 9 achievement and cognitive home socialization.

Table 8

*Pearson $r$ Results for Grade 12 - Cognitive Variable*

<table>
<thead>
<tr>
<th>Achievement Measure</th>
<th>Variable</th>
<th>$n$</th>
<th>$r$</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOL English: RLR</td>
<td>Cognitive</td>
<td>28</td>
<td>0.02</td>
</tr>
<tr>
<td>SAT 9 Basic Battery</td>
<td>Cognitive</td>
<td>28</td>
<td>0.58*</td>
</tr>
</tbody>
</table>

*$p<.05$.

Pearson $r$ correlations between the cognitive subvariables and achievement showed a nonsignificant relationship between joint learning activities and achievement for twelfth grade students. However, a significant relationship was found between stimulating literacy environment and SAT 9 achievement ($0.61^2=0.38$). Of the variance, 38% of the stimulating literacy environment as measured by SAT 9 data is related to achievement. See Appendix C, Table 39.
Question 2: Does the academic home socialization of children relate to student achievement? To determine the relationship between academic home socialization and student achievement, the Pearson r correlation technique was used. The academic home socialization variable was composed of two subvariables: expectations and attitudes and values and behaviors. Student achievement was measured by the SAT 9 partial battery for seventh graders and the SAT 9 basic battery achievement data for twelfth graders and the SOL English: RLR achievement data for both seventh- and twelfth-graders.

In Table 9, results of Pearson r correlations are presented between seventh-grade students' achievement measures and the academic home socialization variable. As shown, the Pearson r correlations for both achievement measures are nonsignificant, indicating that no relationship exists between SAT 9 student achievement and academic home socialization or between SOL English: RLR student achievement and academic home socialization for seventh-grade students.

Table 9

<table>
<thead>
<tr>
<th>Achievement Measure</th>
<th>Variable</th>
<th>n</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOL English: RLR</td>
<td>Academic</td>
<td>40</td>
<td>.20</td>
</tr>
<tr>
<td>SAT 9 Partial Battery</td>
<td>Academic</td>
<td>40</td>
<td>.05</td>
</tr>
</tbody>
</table>

*p<.05.

Table 10 presents an index of the relationship between the twelfth-grade students' achievement measures and academic home socialization variables. The correlation between the SOL English: RLR measure and the academic home socialization variable was statistically
nonsignificant. However, the Pearson $r$ correlation between twelfth-grade students' SAT 9 basic battery achievement measure and the academic home socialization variable was statistically significant at ($.55$ squared $= .30$). This indicated that 30% of the variance in achievement for twelfth-grade students is related to academic home socialization.

Table 10

*Pearson r Results for Grade 12 - Academic Variables*

<table>
<thead>
<tr>
<th>Achievement Measure</th>
<th>Variable</th>
<th>$n$</th>
<th>$r$</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOL English: RLR</td>
<td>Academic</td>
<td>28</td>
<td>.13</td>
</tr>
<tr>
<td>SAT 9 Basic Battery</td>
<td>Academic</td>
<td>28</td>
<td>.55*</td>
</tr>
</tbody>
</table>

*p<.05.

**Question 3:** To what degree do cognitive home socialization and academic home socialization combine to predict student achievement? To determine the degree to which cognitive home socialization and academic home socialization variables combine to predict student achievement at grade 7 and grade 12, multiple regression techniques were run with home socialization variables as predictors. Calculations were computed between each of the two main variables—cognitive home socialization and academic home socialization. Additional calculations were run between achievement measures and each of the subvariables that make up the main variables (i.e., for cognitive home socialization, stimulating literacy environment and joint learning, and for academic home socialization, expectations and attitudes and values and behaviors). An analysis of variance (ANOVA) table and parameter estimates were generated for each multiple regression run between achievement and main variables and subvariables.

The data in Table 11 and Table 12 present the results of the multiple regression for the
seventh-grade students' SAT 9 partial battery achievement measure, using cognitive home socialization and academic home socialization variables as the regressors. In Table 11, an analysis of variance for the multiple regression model was used to examine the relationship between grade 7 combined home socialization variables and SAT 9 partial battery student achievement. With \( p < .05 \), the analysis of variance indicated a nonsignificant relationship between combined home socialization variables and SAT 9 student achievement for seventh-grade students.

Table 11

*Analysis of Variance for Combined Cognitive and Academic Home Socialization for Grade 7 SAT 9 Partial Battery*

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>( F )</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>2</td>
<td>204.442</td>
<td>102.2210</td>
<td>0.26</td>
<td>.76</td>
</tr>
<tr>
<td>Error</td>
<td>38</td>
<td>14603.337</td>
<td>384.2883</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>14807.779</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*R-squared: 0.0138.*

\* \( p < .05 \).

The multiple regression parameter estimates in Table 12 examined the two independent variables: cognitive home socialization and academic home socialization. Estimates showed the two independent variables to be nonsignificant at \( p < .05 \), indicating no relationship between seventh graders' SAT 9 achievement and either of the independent variables.
Table 12

*Multiple Regression Parameter Estimates for Cognitive and Academic Home Socialization Variables for Grade 7 SAT 9 Partial Battery*

<table>
<thead>
<tr>
<th>Variable</th>
<th>df</th>
<th>Estimate</th>
<th>SE</th>
<th>T</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive</td>
<td>1</td>
<td>-6.6784</td>
<td>9.4508</td>
<td>-0.70</td>
<td>.48</td>
</tr>
<tr>
<td>Academic</td>
<td>1</td>
<td>8.6337</td>
<td>13.2177</td>
<td>0.65</td>
<td>.51</td>
</tr>
</tbody>
</table>

*p<.05.

The data in Tables 13 and 14 present the results of the multiple regression for grade 7 SAT 9 partial battery, using the cognitive home socialization variables, stimulating literacy environment and joint learning activities, as regressors. In Table 13, an analysis of variance for the multiple regression model was used to examine the relationship between the grade 7 SAT 9 achievement measure and the cognitive home socialization variable. With *p*.05, the analysis of variance indicated a nonsignificant relationship between combined cognitive home socialization and SAT 9 student achievement.

Table 13

*Analysis of Variance for Cognitive Home Socialization for Grade 7 SAT 9 Partial Battery*

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>2</td>
<td>1024.7349</td>
<td>512.3674</td>
<td>1.41</td>
<td>0.25</td>
</tr>
<tr>
<td>Error</td>
<td>38</td>
<td>13783.044</td>
<td>362.7117</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>14807.779</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*R*-squared: 0.0692.

*p<.05.

Multiple regression parameter estimates examined the two independent subvariables: stimulating literacy environment and joint learning activities. The *p* values indicated that
the cognitive subvariables had a nonsignificant relationship with SAT 9 student achievement for seventh graders. Table 14 shows these data.

Table 14

Multiple Regression Parameter Estimates for Cognitive Home Socialization Variables for Grade 7 SAT 9 Partial Battery

<table>
<thead>
<tr>
<th>Variable</th>
<th>df</th>
<th>Estimate</th>
<th>SE</th>
<th>T</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stimulating Lit.</td>
<td>1</td>
<td>9.3284</td>
<td>7.55</td>
<td>1.23</td>
<td>.22</td>
</tr>
<tr>
<td>Joint Learning</td>
<td>1</td>
<td>-14.3687</td>
<td>8.55</td>
<td>-1.67</td>
<td>.10</td>
</tr>
</tbody>
</table>

*p<.05.

Table 15 and Table 16 show the results of the multiple regression for the seventh-grade students’ SAT 9 partial battery achievement measure, using the academic home socialization variables, expectations and attitudes and values and behaviors, as regressors. Table 15 presents the results of an analysis of variance for the multiple regression model for the grade 7 SAT 9 achievement measure. The analysis of variance examined the relationship between the grade 7 academic home socialization variable and the SAT 9 achievement measure. With p<.05, the analysis of variance for the regression indicated a nonsignificant relationship between academic home socialization and the SAT 9 achievement measure for seventh graders.
Table 15

Analysis of Variance for Academic Home Socialization for Grade 7 SAT 9 Partial Battery

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>2</td>
<td>12.543</td>
<td>6.2719</td>
<td>0.01</td>
<td>.98</td>
</tr>
<tr>
<td>Error</td>
<td>38</td>
<td>14795.235</td>
<td>389.3483</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>14807.779</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

R-squared: 0.0008.

*p<.05.

Multiple regression parameter estimates examined the two independent academic subvariables: expectations and attitudes and values and behaviors. With \( p<.05 \), the subvariables had a nonsignificant relationship with SAT 9 student achievement for seventh graders. Table 16 shows these data.

Table 16

Multiple Regression Parameter Estimates for Academic Home Socialization Variables for Grade 7 SAT 9 Partial Battery

<table>
<thead>
<tr>
<th>Variable</th>
<th>df</th>
<th>Estimates</th>
<th>SE</th>
<th>T</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expectations</td>
<td>1</td>
<td>0.9405154</td>
<td>7.4988</td>
<td>.12</td>
<td>.90</td>
</tr>
<tr>
<td>Values</td>
<td>1</td>
<td>0.4447559</td>
<td>9.8591</td>
<td>.03</td>
<td>.96</td>
</tr>
</tbody>
</table>

*p<.05.

The data in Table 17 and Table 18 show the results of the multiple regression for the grade 7 SOL English: RLR and achievement measure, using cognitive home socialization and academic home socialization variables as regressors. In Table 17, an analysis of variance for the multiple regression model was used to examine the relationship between
these combined home socialization variables and the SOL English: RLR achievement measure. With \( p < 0.05 \), the analysis of variance for the regression indicated a nonsignificant relationship between combined home socialization variables and the SOL English: RLR achievement measure.

Table 17

*Analysis of Variance for Multiple Regression Combined Cognitive and Academic Model for Grade 7 SOL English: RLR*

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>2</td>
<td>6052.959</td>
<td>3028.4795</td>
<td>1.20</td>
<td>0.31</td>
</tr>
<tr>
<td>Error</td>
<td>38</td>
<td>95226.555</td>
<td>2505.962</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>101279.516</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

R-squared: 0.0598.

\*p < 0.05.

The multiple regression parameter estimates in Table 18 present the relationship between the two independent cognitive and academic variables on the grade 7 SOL English: RLR achievement measure. Estimates showed the two variables to be nonsignificant at the \( p < 0.05 \) value, indicating no relationship between the grade 7 SOL English: RLR achievement measure and cognitive home socialization or academic home socialization.

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Table 18

Multiple Regression Parameter Estimates for Cognitive and Academic Home Socialization Variables for Grade 7 SOL English: RLR

<table>
<thead>
<tr>
<th>Variable</th>
<th>df</th>
<th>Estimate</th>
<th>SE</th>
<th>T</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive</td>
<td>1</td>
<td>-22.4640</td>
<td>24.1337</td>
<td>-0.93</td>
<td>.35</td>
</tr>
<tr>
<td>Academic</td>
<td>1</td>
<td>51.2243</td>
<td>33.7528</td>
<td>1.51</td>
<td>.13</td>
</tr>
</tbody>
</table>

*p<.05.

The multiple regression technique was run to compute data for Tables 19 and 20, using the cognitive variables of stimulating literacy environment and joint learning as regressors. In Table 19, an analysis of variance for the multiple regression model was used to examine the relationship between the grade 7 cognitive home socialization variables and the SOL English: RLR achievement measure as indicated. The regression was a very poor fit (R-squared = 14%), but the overall relationship was significant $F(2,38) = 3.30, p<.05$. The $p$ value for the model effect is $p=.04$, indicating a relationship between seventh-grade students' SOL achievement measure and cognitive home socialization.

Table 19

Analysis of Variance for Cognitive Home Socialization Variables for Grade 7 SOL English: RLR

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>2</td>
<td>14863.847</td>
<td>7481.9233</td>
<td>3.29</td>
<td>.04*</td>
</tr>
<tr>
<td>Error</td>
<td>38</td>
<td>86315.664</td>
<td>2271.4648</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>101279.516</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

R-squared: 0.1491.

*p<.05.

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The multiple regression parameter estimates in Table 20 demonstrate the relationship between the two independent cognitive home socialization sub-variables on the grade 7 SOL English: RLR achievement measure. Estimates show that both cognitive sub-variables were significant at the \( p < .05 \) level. Specifically, stimulating literacy environment was significant at the \( p = .022 \) level, and joint learning activities was significant at the \( p = .020 \) level. Both sub-variables demonstrated a significant relationship with SOL achievement.

Table 20

*Multiple Regression Parameter Estimates for Cognitive Home Socialization Variables for Grade 7 SOL English: RLR*

<table>
<thead>
<tr>
<th>Variable</th>
<th>df</th>
<th>Estimate</th>
<th>SE</th>
<th>( T )</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stimulating Lit.</td>
<td>1</td>
<td>44.7821</td>
<td>18.8851</td>
<td>2.37</td>
<td>.022*</td>
</tr>
<tr>
<td>Joint Learning</td>
<td>1</td>
<td>-51.1662</td>
<td>21.3979</td>
<td>-2.39</td>
<td>.020*</td>
</tr>
</tbody>
</table>

\*\( p < .05 \).

The data in Tables 21 and 22 present the results of the multiple regression, using the academic sub-variables of parental expectations and attitudes and values and behaviors as the regressors. In Table 21, an analysis of variance for the multiple regression model was used to examine the relationship between the grade 7 SOL English: RLR achievement measure and the academic sub-variables. With \( p < .05 \), the analysis of variance for the regression indicated a nonsignificant relationship for the SOL English: RLR achievement measure and the combined academic variables.
Parameter estimates examined the two independent academic subvariables, expectations and attitudes and values and behaviors. With \( p < 0.05 \), the academic subvariables had a nonsignificant relationship with SOL English: RLR student achievement for seventh graders. Table 22 shows these data.

Tables 23 and 24 present the results of the multiple regression for the grade 12 SAT 9 basic battery achievement measure, using cognitive home socialization and academic home socialization variables as the regressors. In Table 23, an analysis of variance for the multiple regression model was used to examine the relationship of grade 12 students' SAT 9
basic battery achievement and combined academic home socialization and cognitive home socialization variables. The regression was moderately acceptable ($R^2 = 37\%$), indicating that of the variance in the achievement measure, 37% is related to the combined home socialization variables. With $p>.05$, the relationship between the home socialization variable and SAT 9 achievement was significant, $F(2, 26) = 7.60, p<.05$.

Table 23

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>2</td>
<td>3523.596</td>
<td>1761.798</td>
<td>7.60</td>
<td>.002*</td>
</tr>
<tr>
<td>Error</td>
<td>26</td>
<td>6022.390</td>
<td>231.6304</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>9545.987</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$R^2$: 0.3691.

*p<.05.

The multiple regression parameter estimates in Table 24 examined the two independent variables from the study: cognitive home socialization and academic home socialization. Estimates showed the two independent variables to be nonsignificant at the $p<.05$, indicating no relationship between grade 12 students' SAT 9 achievement and the cognitive and academic variables.
Table 24

*Multiple Regression Parameter Estimates for Cognitive and Academic Home Socialization Variables for Grade 12 SAT 9 Basic Battery*

<table>
<thead>
<tr>
<th>Variable</th>
<th>df</th>
<th>Estimate</th>
<th>SE</th>
<th>T</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive</td>
<td>1</td>
<td>12.9544</td>
<td>7.9849</td>
<td>1.62</td>
<td>.11</td>
</tr>
<tr>
<td>Academic</td>
<td>1</td>
<td>9.9371</td>
<td>10.4874</td>
<td>0.94</td>
<td>.35</td>
</tr>
</tbody>
</table>

*p<.05.

Tables 25 and 26 show the results of the multiple regression model for the grade 12 SAT 9 basic battery achievement measure, using the cognitive home socialization subvariables, stimulating literacy environment and joint learning activities, as regressors. Table 25 indexes the results of the analysis of variance for the multiple regression model for the grade 12 SAT 9 achievement measure. The analysis of variance for the multiple regression examined the relationship between grade 12 SAT 9 achievement and the combined cognitive home socialization variables. The regression was a moderate, acceptable fit ($R^2 = 38\%$). Of the variance in achievement, 38% was related to cognitive home socialization variables, indicating that the relationship was significant. $F(2, 26) = 7.90, p<.05$. The overall relationship ($p = .002$) was significant at the $p<.05$ level.
Table 25

Analysis of Variance for Cognitive Home Socialization for Grade 12 SAT 9, Basic Battery

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>2</td>
<td>3610.584</td>
<td>1805.2924</td>
<td>7.90</td>
<td>.002*</td>
</tr>
<tr>
<td>Error</td>
<td>26</td>
<td>5935.403</td>
<td>228.2847</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>9545.987</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

R-squared: 0.3782.

*p<.05.

In Table 26, parameter estimates show the interaction of the two independent cognitive subvariables, stimulating literacy environment and joint learning activities, on the grade 12 SAT 9 basic battery achievement measure. The p value for the stimulating literacy environment is .008, indicating a significant relationship between the achievement measure and this cognitive subvariable. With p<.05, the joint learning activities variable had a nonsignificant relationship with the SAT 9 student achievement for twelfth-grade students.

Table 26

Multiple Regression Parameter Estimates for Cognitive Home Socialization Variables for Grade 12 SAT 9 Basic Battery

<table>
<thead>
<tr>
<th>Variable</th>
<th>df</th>
<th>Estimate</th>
<th>SE</th>
<th>T</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stimulating Lit.</td>
<td>1</td>
<td>18.6485</td>
<td>6.5566</td>
<td>2.84</td>
<td>.008*</td>
</tr>
<tr>
<td>Joint Learning</td>
<td>1</td>
<td>0.8515</td>
<td>5.2290</td>
<td>0.16</td>
<td>.871</td>
</tr>
</tbody>
</table>

*p<.05.

Tables 27 and 28 present the results of the multiple regression for the grade 12 SAT 9 basic battery achievement measure, using the academic home socialization variables,
expectations and attitudes and values and behaviors, as regressors. Table 27 presents the results of an analysis of variance for the multiple regression model for the grade 12 SAT 9 achievement measure. The analysis of variance examined the relationship between the grade 12 achievement measure and the combined academic home socialization variables. The regression yielded a moderate, acceptable fit ($R$-squared = 29%). Of the variance in achievement, 29% was accounted for by the academic home socialization variable. The overall relationship, $F(2,26)=5.31, p<.05$, was significant, indicating a strong relationship ($p=.01$) between the SAT 9 achievement measure and the academic variables.

Table 27

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>2</td>
<td>2271.142</td>
<td>1385.571</td>
<td>5.13</td>
<td>.01*</td>
</tr>
<tr>
<td>Error</td>
<td>26</td>
<td>6774.845</td>
<td>260.570</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>9545.987</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*R*-squared: 0.2903.

*$p<.05$.

Multiple regression parameter estimates examined the two independent academic subvariables: expectations and attitudes and values and behaviors. With $p<.05$, the subvariables showed a nonsignificant relationship with SAT 9 student achievement for the grade 12 students. Table 28 shows this data.
Table 28

*Multiple Regression Parameter Estimates for Academic Home Socialization Variables for Grade 12 SAT 9 Basic Battery*

<table>
<thead>
<tr>
<th>Variable</th>
<th>df</th>
<th>Estimate</th>
<th>SE</th>
<th>T</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expectations</td>
<td>1</td>
<td>4.8123</td>
<td>7.1930</td>
<td>0.66</td>
<td>.50</td>
</tr>
<tr>
<td>Values</td>
<td>1</td>
<td>17.9347</td>
<td>9.1720</td>
<td>9.17</td>
<td>.06</td>
</tr>
</tbody>
</table>

*p<.05.

Tables 29 and 30 show the results of the multiple regression for the grade 12 SOL English: RLR, using the academic and cognitive home socialization as regressors. Table 29 presents the results of an analysis of variance for the multiple regression model for the grade 12 SOL English: RLR achievement measure. The analysis of variance examined the relationship between the SOL achievement measure and the academic home variables. The combined relationship was nonsignificant at *p.<.05*. This indicates no significant relationship between the academic variables and the achievement measure for twelfth-grade students.

Table 29

*Analysis of Variance for Multiple Regression Cognitive and Academic Model for Grade 12 SOL English*

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>2</td>
<td>2204.33</td>
<td>1102.1653</td>
<td>.42</td>
<td>.65</td>
</tr>
<tr>
<td>Error</td>
<td>26</td>
<td>67195.67</td>
<td>2584.4487</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>69400</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*R-squared: 0.0318.*

*p<.05.*

83
The multiple regression parameter estimates in Table 30 examined the two independent variables from the study: cognitive home socialization and academic home socialization. Estimates show the two independent variables to be nonsignificant at the \( p < .05 \), indicating no relationship between twelfth-grade students' SOL English: RLR achievement and the cognitive and academic variables.

Table 30

<table>
<thead>
<tr>
<th>Variable</th>
<th>df</th>
<th>Estimate</th>
<th>SE</th>
<th>T</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive</td>
<td>1</td>
<td>16.7777</td>
<td>26.6722</td>
<td>0.62</td>
<td>.53</td>
</tr>
<tr>
<td>Academic</td>
<td>1</td>
<td>32.0031</td>
<td>35.0311</td>
<td>0.91</td>
<td>.36</td>
</tr>
</tbody>
</table>

\*\( p < .05 \).

Tables 31 and 32 present the results of the multiple regression correlations for the grade 12 SOL English: RLR achievement measure, using the cognitive home socialization subvariables, stimulating literacy environment and joint learning activities, as regressors. Table 31 shows the results of the analysis of variance for the multiple regression model for grade 12 SOL English: RLR. The analysis of variance for the model examined the relationship between the achievement measure and the cognitive sub-variables. The overall relationship is nonsignificant at the \( p < .05 \) level, indicating a nonsignificant influence of cognitive home socialization variables on the achievement measure.
Table 31

Analysis of Variance for Cognitive Home Socialization Variables for Grade 12 SOL English: RLR

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>2</td>
<td>9746.352</td>
<td>4873.176</td>
<td>22.123</td>
<td>.13</td>
</tr>
<tr>
<td>Error</td>
<td>26</td>
<td>59653.65</td>
<td>2294.371</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>69400</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*R-squared: 0.1404.*

*p<.05.

In Table 32, parameter estimates show the relationship between the two independent cognitive subvariables, stimulating literacy environment and joint learning activities, on the grade 12 SOL English: RLR achievement measure. With *p<.05*, both cognitive subvariables had a nonsignificant relationship with the grade 12 SOL English: RLR achievement measure.

Table 32

Multiple Regression Parameter Estimates for Cognitive Home Socialization Variables for Grade 12 SOL English: RLR

<table>
<thead>
<tr>
<th>Variable</th>
<th>df</th>
<th>Estimate</th>
<th>SE</th>
<th>T</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stimulating Lit.</td>
<td>1</td>
<td>37.8777</td>
<td>20.7863</td>
<td>1.82</td>
<td>.07</td>
</tr>
<tr>
<td>Joint Learning</td>
<td>1</td>
<td>32.0758</td>
<td>16.5773</td>
<td>-1.93</td>
<td>.06</td>
</tr>
</tbody>
</table>

* *p<.05.*

Tables 33 and 34 present the results of the multiple regression for grade 12 SOL English: RLR achievement measure, using the academic subvariables, expectations and attitudes and values and behaviors, as regressors. Table 33 presents the results of the
analysis of variance for the multiple regression model for the academic home socialization and the grade 12 SOL English: RLR achievement measure. As illustrated, the academic home socialization variable relationship with SOL achievement was nonsignificant.

Table 33

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>2</td>
<td>2339.43</td>
<td>1169.7167</td>
<td>.45</td>
<td>.64</td>
</tr>
<tr>
<td>Error</td>
<td>26</td>
<td>67060.57</td>
<td>2579.2527</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>38</td>
<td>69400</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

R-squared: 0.0337.

*p<.05.

In Table 34, parameter estimates show the relationship between of the two independent academic subvariables, expectations and attitudes and values and behaviors, on the grade 12 SOL English: RLR achievement measure. With p<.05, both subvariables had a nonsignificant relationship with the SOL student achievement measure for twelfth graders.

Table 34

<table>
<thead>
<tr>
<th>Variable</th>
<th>df</th>
<th>Estimate</th>
<th>SE</th>
<th>T</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expectations</td>
<td>1</td>
<td>-9.1807</td>
<td>22.6306</td>
<td>-0.40</td>
<td>.68</td>
</tr>
<tr>
<td>Values</td>
<td>1</td>
<td>26.4637</td>
<td>28.8570</td>
<td>-0.91</td>
<td>.36</td>
</tr>
</tbody>
</table>

*p<.05.
Summary

This chapter presented the parent survey data, the student achievement data, the survey return rate data, and the results of the investigation of the relationship between student achievement and home socialization variables. The results were discussed in relationship to each research question.

Despite similarity in group sizes for both seventh-grade and twelfth-grade populations, return rates differed. Specifically, three-fourths (75.3%) of the seventh-grade parents returned their surveys, whereas slightly more than half (58.3%) of the twelfth-grade students’ returned their surveys. Further, grade 7 had a usable parent survey sample of 42 whereas grade 12 had a usable sample of 29. The result was 14.7% more usable surveys for grade 7 than for grade 12.

Student achievement data were collected along with the descriptive parent survey data. For the seventh-grade students, the group’s mean SOL English: RLR score of 399.3 was .7 below the state established cut-off score of 400. Their mean score on the SAT 9 partial battery tests was 37.9, which was 12.1 percentage point below the 50th percentile. Thus, the mean scores for both achievement measures were below acceptable achievement levels. For the twelfth-grade students, the mean SOL English: RLR was 404 and their SAT 9 basic battery mean score was 31.4. Thus, the group’s mean SOL score was only 4 points above the minimally established pass score of 400, and the SAT 9 score for was 18.6 percentile points below the 50th percentile, the national average achievement level.

Parent survey data for the seventh-grade students showed that parents placed slightly more emphasis on academic home socialization than on cognitive home socialization. The
mean cognitive point value score was 3.7 and the mean academic point value score was 3.9, a difference of only two-tenths point. The cognitive subvariables had equivalent mean point value scores of 3.6. The academic subvariables demonstrated a one-tenth point differential in mean point value scores: values and behaviors (4.0) and expectations and attitudes (M=3.9). By comparison, the twelfth grade parent survey data demonstrated a slightly higher parent emphasis on academic home socialization (M=4.0) than on cognitive home socialization (M=3.4) with a six-tenth point differential. The academic subvariable values and behaviors was slightly more significant (M=4.1), four-tenth point, than the academic subvariable expectations and attitudes (3.8). Both grade levels were similar in mean achievement score attainment and in emphasis on home socialization.

A basic assumption of this study was that home socialization practices and activities would be positively and significantly reflected in students' SAT 9 and SOL achievement measures. However, the data did not substantiate this assumption. Findings of significance at the p<.5 level were found in one SOL statistical analysis for grade 7 students and in six statistical analyses for grade 12 students. The significant seventh-grade analysis was the result of a multiple regression technique. Of the significant twelfth-grade analyses, three were the result of Pearson r techniques and four were the result of multiple regression techniques. See Table 35 for summary of significance levels between student achievement and independent variables.
### Table 35

**Summary of Significant Effects on Student Achievement by Variable and Subvariable**

<table>
<thead>
<tr>
<th>Variable</th>
<th>SAT 9 Grade 7</th>
<th>SAT 9 Grade 12</th>
<th>SOL Grade 7</th>
<th>SOL Grade 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combined HS</td>
<td>NS</td>
<td>S</td>
<td>NS</td>
<td>NS</td>
</tr>
<tr>
<td>-Cognitive</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
</tr>
<tr>
<td>-Academic</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
</tr>
<tr>
<td>Cognitive</td>
<td>NS</td>
<td>NS</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>-Stimulating</td>
<td>NS</td>
<td>NS</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>-Joint</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
</tr>
<tr>
<td>Academic</td>
<td>NS</td>
<td>NS</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>-Expectations</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
</tr>
<tr>
<td>-Values</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
</tr>
<tr>
<td>Combined S/V</td>
<td></td>
<td></td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>-Stimulating</td>
<td></td>
<td></td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>-Values</td>
<td></td>
<td></td>
<td>NS</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* MR = multiple regression; S = significant (p<.05); NS = nonsignificant; HS = home socialization; S/V = stimulating literacy environment and values correlations in Appendix C, Table 36 and Table 37. Pearson r subvariable correlations in Appendix C, Tables 38-41.
CHAPTER V

DISCUSSION

This chapter will review the findings of the study presented in the previous chapter. The findings and their implications for practice will also be discussed. Finally, in an attempt to build upon the findings of the study, recommendations for future research will be made.

Findings of the Study

The study was conducted mid-May through June 2002. Parents of seventh-grade and twelfth-grade students in a small, rural school district in central Virginia were surveyed using a modified version of an instrument developed by Ronald Henderson in 1972. The survey collected data on the home socialization variables used for the study. Pearson $r$ and multiple regression statistical techniques were used to calculate relationships between the independent variables and student achievement. Results were used to answer the three research questions that formed the basis for the investigation follows:

**Question 1:** *Does the cognitive home socialization of children relate to student achievement?* The results of the Pearson $r$ correlations showed a significant relationship between twelfth-grade students’ SAT 9 achievement data and their cognitive home socialization ($r=.58$). A significant relationship was also found between the stimulating literacy environment cognitive subvariable and student achievement ($r=.61$) for this group. A moderate significance was found between the joint learning activities academic subvariable and the SAT 9 achievement measure ($r=.42$) (see Appendix C, Table 40). No significant relationship was reflected between cognitive home socialization and the achievement of seventh-grade students as measured by either of the achievement measures.
The correlations demonstrated that cognitive home socialization had no significant influence on the achievement of twelfth-grade students as measured by the SOL English: RLR achievement data.

**Question 2:** Does the academic home socialization of children relate to student achievement? The results of the Pearson $r$ showed a significant relationship between the twelfth grade SAT 9 basic battery achievement measure and academic home socialization ($r=.55$). Additionally, a significant relationship was found between the values and behaviors subvariable and the SAT 9 achievement measure ($r=.55$), and a moderate relationship was found between expectations and attitudes and the SAT 9 achievement measure ($r=.43$) (see Appendix C, Table 41). No significant relationship was demonstrated between academic home socialization and the seventh-grade achievement measures. There also was a no relationship between twelfth-grade students’ academic home socialization and the SOL English: RLR achievement measure.

**Question 3:** To what degree do cognitive home socialization and academic home socialization combine to predict student achievement? Multiple regression correlations demonstrated no significant relationship between combined home socialization variables and either of the achievement measures for seventh-grade students. However, a significant relationship was found between the seventh-grade students’ SOL English achievement measure and the cognitive home socialization variable at the $p=.04$ level. A significant relationship was also noted between the subvariables for seventh-grade students at the $p=.022$ level for stimulating literacy environment and at the $p=.020$ level for joint learning activities. However, of the variance, only 14% was attributable to cognitive home
socialization, and, therefore, is not an acceptable fit. No significant relationship was found between the seventh-grade students' SOL English achievement measure and the academic home socialization variable.

For grade 12 students, a nonsignificant relationship was found between SOL English achievement and combined home socialization variables. A significant relationship ($p = .002$) was found between the SAT 9 achievement measure and the combined home socialization variables. Parameter estimates for each independent variable did not show a significant relationship with the SAT 9 achievement measure. However, additional multiple regression techniques run between cognitive and academic subvariables yielded a significant combined relationship ($p = .001$) between achievement and the stimulating literacy environment and values and behaviors subvariables (see Appendix C, Table 36). Parameter estimates yielded a significant relationship ($p = .04$) between stimulating literacy environment and SAT 9 achievement measure (see Appendix C, Table 37). This appears to explain the significance level found between combined home socialization variables and the SAT 9 achievement but not found in the cognitive and academic parameter estimates for the combined analysis of variance. No significant relationship was found between values and behaviors and SAT 9 achievement as a result of this multiple regression correlation.

Discussion of the Findings

This quantitative study attempted to increase and validate research on home socialization variables and student achievement by examining home socialization practices and activities believed to make a difference in children's academic achievement (Bempechat, 1997). The specific information collected here explored the correlation

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between cognitive home socialization and academic home socialization variables and subvariables on student achievement for future improvement of student performance.

Previous research on student achievement has focused on both home influences (Berla & Henderson, 1994; Clark, 1983, 1990, 1993; Coleman et al., 1966, 1987; Comer, 1984, 1988, 1991) and school influences (Edmonds, 1979, 1982; Epstein, 1984, 1987, 1995; Lezotte, 1984, 1989). This study focused solely on home influences defined as home socialization variables.

Several bodies of research on parent involvement and achievement were reviewed to investigate the importance of the home as a primary influence on student achievement. Coleman et al. (1966) conducted the first major home influence study. They found that students' achievement was determined by factors outside school. Specifically, the study stated that strong family backgrounds contributed more to a child's school achievement than weak family backgrounds. Henderson and Berla (1994) reviewed 125 studies examining the relationship between parent involvement and student achievement. Their review found that students benefit from parental involvement by getting higher grades and test scores and having more positive attitudes.

The overall findings of the present study do not substantiate a clear and unequivocal correlation between student achievement and home socialization. Out of 21 statistical calculations run between home socialization variables and student achievement relationship, only seven demonstrated significance. The most significant correlations were found among twelfth-grade SAT 9 data correlations, the least significant were found among seventh-grade data correlations, which demonstrated one correlation of significance—between SOL English
and achievement and cognitive home socialization. The variance ($R^2 = .14$) yielded the relationship nonsignificant. No significant correlations were found between seventh-grade students' home socialization variables and the SAT 9 achievement measure. Additionally, no significant correlations were found between twelfth-grade students' home socialization and the SOL English achievement measure.

**Cognitive Home Socialization Findings.** The strongest independent variable in relationship to student achievement was cognitive home socialization. The two cognitive subvariables, stimulating literacy environment and joint learning activities, yielded different significance levels for each grade. Becher (1984) and Bempechat (2000) found that stimulating literacy and joint learning activities were key cognitive home socialization variables fostering high student achievement. Joint learning for this study was more significant in its relationship with SOL achievement for grade 7, whereas stimulating literacy environment was more significant in its relationship to SAT 9 achievement for grade 12 students.

Pearson $r$ correlational data for twelfth-grade students revealed a significant relationship ($r = .58$) between cognitive home socialization and the SAT 9 basic battery achievement measure. The strongest cognitive subvariable was stimulating literacy environment, with a significance level of $r = .61$. Joint learning demonstrated a moderate significance level ($r = .42$). Parent survey data demonstrated similar findings, reflecting two-tenths higher point value scores for stimulating literacy environment (3.5) than for joint learning activities (3.3). Multiple regression correlations for grade 12 combined cognitive home socialization variables yielded a significant relationship between SAT 9 achievement
and cognitive home socialization \((p=.002)\) and between the stimulating literacy environment subvariable and SAT 9 achievement \((p=.008)\)

Pearson \(r\) correlations for seventh-grade students demonstrated no significance between student achievement and either of the achievement measures. Seventh-grade multiple regression correlations showed a significance level between cognitive home socialization and SOL English: RLR at the \(p=.04\) level. Strong significance levels were also demonstrated between parameter estimates for the SOL English achievement measure and the subvariables stimulating literacy environment \((p=.022)\) and joint learning \((p=.020)\). However, of the variance in the achievement measure, only 14% was related to cognitive home socialization. This was not significant and lent support to the nonsignificance found by the Pearson \(r\) correlation. Parent survey data correlated with the strength of the subvariables: joint learning activities reflected a mean point value score of 3.8 and stimulating literacy a mean point value score of 3.6.

**Academic Home Socialization Findings.** The academic home socialization variable showed a significant relationship only with twelfth-grade students SAT 9 basic battery achievement, at the \(r=.58\) level. The strongest academic subvariable correlation with SAT 9 achievement for twelfth graders was values and behaviors at the \(r=.52\) level. Expectations and attitudes was moderately significant at \(r=.43\). These correlations were further supported by results from the multiple regression techniques calculated between academic home socialization and SAT 9 achievement. The multiple regression correlation between combined academic home socialization variables and student achievement was significant at the \(p=.01\) level. For the academic subvariables, the multiple regression correlations were
nonsignificant. This may have been a result of the subvariables interacting jointly to produce a significant relationship with SAT 9 achievement but yielding no significant relationship between SAT 9 achievement and each subvariable. Bloom (1986), Clark (1983), Coleman et al. (1966), and Flood (1993) found that the positive values and behaviors exhibited at home fostered higher achievement for children. Reynolds et al. (1993) found that emphasis on educational attainment (i.e., values and behaviors) was a consistent predictor of a child's academic achievement. This was supported by the current analyses. Grade 12 parent survey data for the academic variable showed a mean point value score of 4.0 (SD=.40). A mean point value score of 4.1 was reflected for the values and behaviors academic subvariable. A mean point value score of 3.8 was reflected for expectations and attitudes. This supports the Pearson r correlational findings.

No significant relationship was found between the seventh-grade students' SOL English: RLR achievement measure and academic home socialization or between the seventh-grade SAT 9 achievement measure and academic home socialization. There was also no significant relationship between the twelfth-grade students' SOL achievement measure and academic home socialization.

Combined Home Socialization Findings. The most significant relationships between combined home socialization variables and student achievement were found among grade 12 correlations. Thus, the multiple regression calculation showed a significant relationship between twelfth grade SAT 9 basic battery achievement scores and combined home socialization at the $p=.002$ level. Of interest was the nonsignificant relationship shown by the parameter estimates for each variable as illustrated in Table 25. Calculations
were run to determine whether interactions were taking place between cognitive and academic subvariables that yielded the significance found in the combined home socialization variable correlation but not found in the cognitive or academic variable parameter estimates (see Appendix C, Tables 36 and 37). A strong relationship was found between achievement and the combined cognitive subvariable stimulating literacy environment and the academic subvariable values and behaviors \((p=.001)\). Parameter estimates, again, showed a strong significance between stimulating literacy environment and the SAT 9 student achievement measure \((p=.04)\). No significant relationship was shown between the values subvariable and SAT 9 student achievement as a result of the subvariable calculation. Bempechat (1997) found that both cognitive and academic variables foster the most optimal effects on student achievement. The findings for twelfth grade students' SAT 9 achievement supported this findings, but not unequivocally. That is, Bempechat's finding was not supported by SOL English achievement for seventh or twelfth graders. It also was not supported by the SAT 9 achievement measure for seventh graders.

**Conclusions**

The purpose of this study was to determine whether there was a relationship between student achievement and home socialization. No such relationship was confirmed. However, significant relationships were found between the twelfth-grade students' SAT 9 achievement measure and home socialization variables but not between their SOL English achievement measure and home socialization. Overall, no significance was found between seventh-grade student achievement measures and home socialization. While there was a significance found between the SOL English measure and cognitive home socialization for
this population, only 14% of the variance was attributable to seventh-grade students' achievement.

Among the possible reasons why the study failed to show significant, positive relationships between student achievement and home socialization variables is that the survey instrument may have had shortcomings resulting from its age and modification. Interactions between and among items may have caused nonsignificant findings since some items may have been similar within variables and subvariables. Also, the fact that there were not an equal number of items for each variable and subvariable may have caused a skewing of the correlations.

Results for seventh-grade students revealed no significant relationship between student achievement and home socialization variables. This was surprising as students at the middle school grade level are still followed more closely by their parents than those at the high school level. Of the small significance found between the seventh grade achievement and home socialization, the correlation was between cognitive home socialization and the SOL English: RLR measure using the multiple regression techniques. Pearson \( r \) correlations did not support the multiple regression correlations. This may have been because multiple regression techniques calculated combined variable correlations whereas Pearson \( r \) calculated individual variable calculations. It also may have resulted from the seventh-grade students having received instruction tailored to SOL objectives and their parents working more closely with them on the criterion-referenced SOL objectives. These students will be required to pass SOL tests to meet graduation requirements. Results for twelfth-grade students yielded mixed results as home socialization variables were significant
with the SAT 9 achievement measure but not with the SOL English achievement measure. The twelfth graders would have had less direct instruction, based on the SOLs, and they would not have had the stress of needing to pass the SOL tests for graduation purposes. Parents would not have needed to work with their children on passing their SOL English: RLR tests. They could concentrate on providing assistance with general knowledge instruction which could account for levels of significance between their SAT 9 achievement and home socialization.

Of the twelfth-grade correlations, cognitive home socialization was slightly more significant with the SAT 9 achievement measure than with academic home socialization. This was contrary to the descriptive parent survey data, which showed more parent emphasis being place on academic home socialization, although the difference was not significant. Coleman et al. (1966) found that student attitudes and values demonstrated strong relationships to student achievement. These attitudes and values, according to Coleman et al., come from home and other influences outside of school. Henderson (1981) found that when parents demonstrate a strong interest in the educating of their children, they promote the development of positive attitudes and values within their children that are essential to their achievement. The results of this study suggests that parents may emphasize the value of education. If this is the case, it may be the values of peers and other outside influences that are counteracting parent influences, thereby causing cognitive home socialization variables to demonstrate a greater influence on twelfth-grade SAT 9 achievement.

Stimulating literacy environment, a cognitive subvariable, showed a slightly stronger correlation with student achievement than did joint learning. This may indicate that parents
are providing proeducational materials and resources for their children. Joint learning was not as significant, but there seems to be a suggestion of parents having direct involvement in providing learning activities.

Further review of the data indicated an interesting trend. The presence of home socialization practices for grade 12 students was greater than that demonstrated by parents of grade 7 students. This may be due to an increase in younger working parents for grade 7 students who are unable to spend as much quality time with their children. It also may be a result of parents of grade 12 students having placed greater emphasis and pressure on their students to ensure their graduation from high school.

The seventh-grade students in this study took the SOL tests at the fifth-grade level in the spring of 2000, two years after the first administration of the SOL tests. As with twelfth-grade students, the results suggested lack of exposure to and emphasis on the content- and skills-based SOL objectives and testing may have been a factor in the low and/or insignificant performance of seventh- and twelfth-grade students, respectively. Parent exposure to the SOLs would probably be limited, whereas exposing their children to general knowledge and experiences supported by SAT 9 would not be as limited.

Results of Pearson r data analyses showed that grade 12 students’ achievement on the SAT 9 was significantly influenced by cognitive home socialization. This may suggest that home stimulating literacy environment, as well as joint learning activities, were influencing students’ school achievement based upon this measure.

Implications for Practice

Findings of this study did not strongly support a significant relationship between
student achievement and home socialization practices. That is, grade 7 correlational analyses only reflected a small significance between SOL English: RLR student achievement and cognitive home socialization, and grade 12 correlations reflected significant correlations between SAT 9 achievement and home socialization for both cognitive and academic variables. Based on these results, the implications for practice are as follows:

1. Henderson and Berla (1994) found that parents become more confident about helping their children at home when the schools promote their involvement in the education of their children. The schools, therefore, may be better served if they would provide training for parents that will help them become more proeducational in their home socialization practices. Specifically, parents should be provided with strategies that enable them to assist their children at home with academics, to provide their children with proeducational materials and resources, and to plan family activities around learning experiences and exposures.

2. The schools need to develop strong parent-school connections that bring parents into the schools as volunteers and participants in the educational process. This should help to enhance parent and student attitudes about education in a positive way.

3. The student data showed that student achievement for both seventh- and twelfth-grade students was at or below determined achievement levels for both SAT 9 and SOL English achievement measures. Therefore, the school- and division-level administrations need to ensure that teachers are tailoring instruction to meet the needs of the students and that parents are familiar with instructional objectives to be mastered by their children.
Recommendations

1. Data for twelfth-grade students suggest that parents' home socialization practices may be highly centered around general experiences and exposures. This is more relevant to achievement centered around norm-referenced assessments than for achievement centered around criterion-referenced measures. With the high emphasis on high-stakes testing of mandated state-standards to determine student achievement, future research should investigate whether home socialization practices are more appropriate for improving norm-referenced student achievement or criterion-referenced achievement. This would assist schools in determining the type of training parents need to address more effectively the educational needs of their children along with the schools.

2. Data analyses of grade 12 and grade 7 students may suggest that there are generational changes in home socialization practices. Seventh-grade data suggested that home socialization was not impacting achievement significantly, whereas it was more significant for twelfth-grade students. Further study would be beneficial to educators to investigate whether or not such trend exists in order that different parent training/parent involvement approaches might be developed.

3. Research has shown that parent involvement within the home environment positively influences student achievement (Henderson & Berla, 1994). Therefore, it is recommended that future research include a larger rural population with similar demographics to substantiate the relationship between student achievement and home socialization. The small size of this study's response population may not have yielded an accurate picture of the influence of home socialization on student achievement.
References

References marked with an asterisk indicate studies included in the meta-analysis.


changes in student achievement (Executive Summary). East Lansing: Michigan State University, College of Urban Development.


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*Schools, families, and children: Sixth year results from the longitudinal study of children at risk.* Chicago: Chicago Public Schools, Department of Research, Evaluation and Planning.


parenting and adolescent adjustments across varied ecological niches. Based on a paper presented at the biennial meeting of the Society for Research in Child Development, Kansas City, MO.


Appendix A

Correspondence to Parents in the Sample
May 13, 2002

(Transmittal Letter)

Dear Parent(s):

I am soliciting your assistance in my doctoral dissertation study, *A Study of the Relationship Between Student Academic Achievement and Home Achievement Socialization*. The results of the survey will be used not only for my study but also to assist the school division in improving its parent involvement initiatives.

Your assistance is needed as follows: to complete a parent survey which should take no more than 15 minutes. The survey is designed to collect data about what educational practices, activities, and/or aspirations parents or guardians demonstrate at home. The purpose is to see if there is a relationship between home educational practices and influences and student academic achievement.

If you decide to participate in the study, you will be asked to be involved in the following phase of data collection:

1. You will respond to the survey instrument: *Home Environmental Learning Process Scale*. This instrument contains 40 items, and it is designed to solicit your viewpoint on the level of home involvement in the education of the child, for example, range of home stimulation available to the child, parental educational guidance or direct teaching and parental desires for the child’s educational future.

2. After collecting the data for the study, I shall analyze the results. If you desire a copy of the results, you may request it.

You may decide not to answer any question on the instrument that makes you feel uncomfortable or embarrassed. There is no foreseen risk for participation. Your name nor the name of the school will be used with reports, papers, or publications. Number codes will be used on your survey instruments to protect your identity from outsiders. Any information that is obtained with this study that can be identified with you will remain confidential and will be disclosed only with your permission. Completed surveys will remain under lock and key.

This study is voluntary. Your decision whether to participate or not will not affect your involvement in the Charles City County School System. It will, however, contribute to primary research on how home factors contribute to student academic achievement.

Your signature is needed below to indicate that you have decided to participate. It indicates that you have read the information provided above, that you have decided to participate, and that you may withdraw your consent at any time after signing this form, should you decide to do so. If you have any questions, please feel free to call me at (804) 829-9219.
Please return this form and the parent survey by _Wednesday, May 22, 2002_, in the enclosed envelope.

Thank you.

Janet C. Crawley  
Superintendent of Schools

_________________________________  Signature of Parent Participant  Date

_Home Environmental Learning Process Scale_

You may make a copy or request a copy of this form.
June 3, 2002

(Follow-up Letter)

Dear

I recently sent you a survey entitled *Home Environmental Learning Process Scale*. While completing the survey is voluntary, your willingness to complete it will provide the school division and me with valuable information on how home factors contribute to student academic achievement. Again, the results of the survey will be used for my doctoral study and to assist the school division in improving its parent involvement initiatives.

The survey contains 40 items and should take **no more than 15 minutes to complete.** Each item has five possible responses. Just choose the response to each item that applies most to you and your son or daughter. If you are unsure of a response, simply skip that item.

Your name nor the name of the school will be used with reports, papers, or publications. Number codes are used on your survey instruments to protect your identity from outsiders. Any information that is obtained with this study that can be identified with you will remain confidential and will be disclosed only with your permission. Completed surveys will remain under lock and key. Again, there is no penalty for not completing the survey, but it would be beneficial to the school system and me if you would.

Your signature is needed on the attached form to indicate that you have decided to participate. It indicates that you have read the information provided above, that you have decided to participate, and that you may withdraw your consent at any time after signing this form, should you decide to do so. If you have any questions, please feel free to call me at (804) 829-9219.

Please return this form and the parent survey by **Monday, June 5, 2002**, in the enclosed envelope.

Thank you.

Janet C. Crawley
Superintendent of Schools
Henderson Environmental Learning Process Scale

Code Number _____________________________ Date ___________________ Grade _______

Gender of Parent/Guardian Completing Questionnaire _________________________________

This questionnaire is designed to measure characteristics of the home environment related to the academic achievement of school-aged children. It is designed to gather information on the home-level of parent/guardian involvement in his or her child’s education, i.e., aspiration level of the home, the range of environmental stimulation available to the child, the parental guidance or direct teaching provided by the home, and the nature of reinforcement practices used to influence the child’s behavior.

The questionnaire has a total of 40 items, and it is designed so as to enable you to complete it in a period of time not to exceed 15 minutes. You may skip any item which you do not understand or which makes you uncomfortable. You, also, may stop at any point, if you do not wish to complete the survey. However, please make every effort to return the survey whether or not you complete it.

*The questionnaire is based on the *Henderson Environmental Learning Process Scale* developed by Dr. Ronald W. Henderson, formerly of Arizona Center for Early Childhood Education, University of Arizona.
DIRECTIONS: There are no right or wrong answers to this questionnaire. However, your answers will help to determine the importance of parental involvement in the education of their children. Please answer each question by choosing one of the five possible response options. If you are not sure how to answer a question, give the best answer that you can.

1. Not counting what happens at school, how often does your child go to the library, or museum, or someplace like that?
   ___ Once a week
   ___ Monthly
   ___ Several times a year
   ___ Once a year
   ___ Less than once a year

2. Not counting things like school field trips, how often does your child go to a zoo, an aquarium, or someplace like that?
   ___ Once a week
   ___ Monthly
   ___ Several times a year
   ___ Once a year
   ___ Less than once a year

3. If and when your child graduates from high school, what are his/her chances of getting a good job?
   ___ Excellent
   ___ Very Good
   ___ Good
   ___ Fair
   ___ Poor

4. What kind of grades do you expect your child to get in school?
   ___ Excellent
   ___ Very Good
   ___ Average
   ___ Below Average
   ___ Failing

5. When your child has a chance to choose what to do around the house, how often does he/she choose to look at a book or magazine?
   ___ Almost every day
   ___ Once a week
   ___ Once a month
   ___ Seldom
   ___ Never

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6. How often do you take your child on a trip out of town?
   ___ Once a week
   ___ Once a month
   ___ Once a year
   ___ Less than once a year
   ___ Never

7. How often do you take your child along when you go shopping?
   ___ Weekly
   ___ Almost weekly
   ___ Sometimes
   ___ Seldom
   ___ Never

8. How often do you talk to your child about things he/she has seen on television?
   ___ Daily
   ___ Almost daily
   ___ Weekly
   ___ Seldom
   ___ Never

9. How often do you suggest that your child watch some type of educational television program, i.e. Discovery Channel, History Channel, C-Span, documentaries?
   ___ Weekly
   ___ Almost Weekly
   ___ Sometimes
   ___ Seldom
   ___ Never

10. If your child asks you a question that you can’t answer, how often do you try to find the answer by looking in a book?
    ___ Always
    ___ Almost always
    ___ Sometimes
    ___ Almost Never
    ___ Never

11. How often does your child see you reading something?
    ___ Daily
    ___ Almost daily
    ___ Sometimes
    ___ Almost Never
    ___ Never
12. How often does your child see you reading a novel or some other book?
   ___ Almost every day
   ___ At least once a week
   ___ Monthly
   ___ Seldom
   ___ Never

13. How much do you talk to your child at mealtime?
   ___ Most of the time*
   ___ Fairly often
   ___ Sometimes
   ___ Not much*
   ___ Never

14. How often did you read to your child before he/she could read for himself/herself?
   ___ Every day
   ___ Once a week
   ___ Once a month
   ___ Almost never
   ___ Never

15. How often does your child come to you for help on homework?
   ___ Very Often
   ___ Often
   ___ Sometimes
   ___ Almost Never
   ___ Never

16. How often do you tell your child that he/she has done good work at school?
   ___ Very Often
   ___ Often
   ___ Sometimes
   ___ Almost never
   ___ Never

17. How often do you watch the news on television?
   ___ Daily
   ___ Almost daily
   ___ Sometimes
   ___ Almost never
   ___ Never
18. How important will vocational job training be for your child's future?
   ___ Very important
   ___ Important
   ___ Somewhat important
   ___ Slightly important
   ___ Unimportant

19. How important will formal education (college) be for your child's future?
   ___ Very important
   ___ Important
   ___ Somewhat important
   ___ Slightly important
   ___ Unimportant

20. What kind of grades does your child have to get in school in order to satisfy you?
    ___ Excellent
    ___ Very Good
    ___ Average
    ___ Below average
    ___ Just passing

21. Does formal education (college) really help people to have a better life?
    ___ Very helpful
    ___ Helpful
    ___ Somewhat helpful
    ___ Not very helpful
    ___ Not helpful

22. How many age-appropriate books do you have in your home?
    ___ None
    ___ One or two
    ___ More than five
    ___ More than ten
    ___ Many

23. How often do members of your family (including your child/children) get together on weekends to do something to enjoy themselves?
    ___ Weekly
    ___ Monthly
    ___ Less than once a year
    ___ Seldom
    ___ Never
24. How much schooling have you had?
   ___ Some high school
   ___ High school graduation
   ___ Vocational training (technical center, apprenticeship, etc.)
   ___ Community college graduation
   ___ College graduation

25. How many magazines do you subscribe to?
   ___ None
   ___ One
   ___ Two
   ___ Three
   ___ Four or more

26. How often do you read the newspaper?
   ___ Daily
   ___ Weekly
   ___ Sometime
   ___ Almost never
   ___ Never

27. When you are planning some activity for the family (for example, taking a trip), how often does your child participate?
   ___ Each time
   ___ Often
   ___ Sometime
   ___ Rarely
   ___ Very rarely

28. How often does your child talk to adults about things that interest him/her?
   ___ Several times a day
   ___ Several times a week
   ___ Often
   ___ Rarely
   ___ Very rarely

29. How often do your children come to you with homework problems?
   ___ Very often
   ___ Often
   ___ Sometime
   ___ Almost never
   ___ Never
30. How often did you help your child count or learn numbers before he/she entered school?
   ___ Very often
   ___ Often
   ___ Sometime
   ___ Almost never
   ___ Never

31. How much did you help your child to recognize words or letters before he/she entered school?
   ___ A great deal
   ___ Very much
   ___ Somewhat
   ___ Very little
   ___ None

32. If your child brings something home that he/she has done, how likely are you to comment on it or talk with him/her about it?
   ___ Very likely
   ___ Likely
   ___ Somewhat likely
   ___ Unlikely
   ___ Very unlikely

33. How often do you ask your child about what he/she has done in school?
   ___ Every day
   ___ Almost every day
   ___ Sometime
   ___ Almost never
   ___ Never

34. How often do you give your child a pat, a hug, or some type of recognition when you are pleased with the way he is learning?
   ___ Very often
   ___ Often
   ___ Sometime
   ___ Almost never
   ___ Never

35. How often do you tell friends or family members about some clever thing your child has said or done?
   ___ Very often
   ___ Often
   ___ Sometime
   ___ Almost never
   ___ Never

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36. When your child goes someplace with you, how likely are you to try to point out things which he/she may not have noticed before?
   ____ Very likely
   ____ Likely
   ____ Somewhat likely
   ____ Unlikely
   ____ Very unlikely

37. How often do you explain to your child what steps must come first, second, and so on, in doing some tasks?
   ____ Frequently
   ____ Somewhat frequently
   ____ Sometimes
   ____ Seldom
   ____ Very seldom

38. How often does your child help you or other adult family member who is working on projects (building things, fixing things, working around the house)?
   ____ Very often
   ____ Often
   ____ Sometimes
   ____ Almost never
   ____ Never

39. When you are working around your home, how often does your child help (for example, cooking, sweeping, picking up)?
   ____ Very often
   ____ Often
   ____ Sometimes
   ____ Almost never
   ____ Never

40. How often do you have guests in your home or visit in the homes of friends who have more education or better jobs than yourself?
   ____ Once a week
   ____ Once a month
   ____ Sometimes
   ____ Almost never
   ____ Never

Thank you for taking time to complete this survey.

Janet C. Crawley

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Appendix C

Data Analyses
Table 36

Analysis of Variance for Combined Subvariables Stimulating Literacy Environment and Values and Behaviors for Grade 12 SAT 9 Basic Battery

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
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</thead>
<tbody>
<tr>
<td>Model</td>
<td>2</td>
<td>3693.348</td>
<td>1846.674</td>
<td>8.20</td>
<td>.001*</td>
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<tr>
<td>Error</td>
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<td>5852.639</td>
<td>225.1015</td>
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<td>Total</td>
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<td>9545.987</td>
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R-squared: 0.3869.

*p<.05.

Table 37

Multiple Regression Parameter Estimates for Subvariables Stimulating Literacy Environment and Values and Behaviors for Grade 12 SAT 9 Basic Battery

<table>
<thead>
<tr>
<th>Variables</th>
<th>df</th>
<th>Estimate</th>
<th>SE</th>
<th>T</th>
<th>p</th>
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</thead>
<tbody>
<tr>
<td>Stimulating Lit.</td>
<td>1</td>
<td>15.8603</td>
<td>7.3829</td>
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<td>6.1362</td>
<td>9.7688</td>
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</table>

*p<.05.

Table 38

Pearson r Results for Grade 7 - Cognitive Subvariables

<table>
<thead>
<tr>
<th>Achievement Measure</th>
<th>Subvariable</th>
<th>n</th>
<th>r</th>
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</thead>
<tbody>
<tr>
<td>SAT 9, Partial Battery</td>
<td>Stimulating Lit.</td>
<td>40</td>
<td>.02</td>
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<tr>
<td>SAT 9, Partial Battery</td>
<td>Joint Learning</td>
<td>40</td>
<td>-.17</td>
</tr>
<tr>
<td>SOL English: RLR</td>
<td>Stimulating Lit.</td>
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<tr>
<td>SOL English: RLR</td>
<td>Joint Learning</td>
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<td>-.15</td>
</tr>
</tbody>
</table>

*p<.05.
Table 39

Pearson r Results for Grade 7 - Academic Subvariables

<table>
<thead>
<tr>
<th>Achievement Measure</th>
<th>Subvariable</th>
<th>n</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAT 9, Partial Battery</td>
<td>Expectations</td>
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<td>.028</td>
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<tr>
<td>SAT 9, Partial Battery</td>
<td>Values</td>
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<td>Expectations</td>
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*p<.05.

Table 40

Pearson r Results for Grade 12 - Cognitive Subvariables

<table>
<thead>
<tr>
<th>Achievement Measure</th>
<th>Subvariable</th>
<th>n</th>
<th>r</th>
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</thead>
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<td>.42</td>
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<td>Joint Learning</td>
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</tbody>
</table>

*p<.05.

Table 41

Pearson r Results for Grade 12 - Academic Subvariables

<table>
<thead>
<tr>
<th>Achievement Measure</th>
<th>Subvariable</th>
<th>n</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAT 9, Partial Battery</td>
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<td>.43</td>
</tr>
<tr>
<td>SAT 9, Partial Battery</td>
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<td>.52</td>
</tr>
<tr>
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<td>Expectations</td>
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<tr>
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<td>.16</td>
</tr>
</tbody>
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*p<.05.
Vita

Janet Carter Crawley

Birthday: July 11, 1949
Birthplace: Charles City, Virginia

Education:
1996-2002 The College of William and Mary
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   Doctor of Education

1986-1992 The College of William and Mary
   Williamsburg, Virginia
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   Master of Arts

1967-1971 Hampton Institute
   Hampton, Virginia
   Bachelor of Science