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The Relationship of Home Environment and Kindergarten Readiness

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A dissertation

presented to

the faculty of the Department of Educational Administration and Policy Analysis

East Tennessee State University

In partial fulfillment

of the requirements for the degree

Doctor in Education

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by

Nancye C. Williams

December 2002

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Keywords: Brigance Screen, Income, Environment, Kindergarten,  
Literacy, Education Level, School Readiness, Television

## ABSTRACT

### The Relationship of Home Environment and Kindergarten Readiness

by

Nancye C. Williams

The purpose of this study was to investigate the relationship between home environment and school readiness of children entering kindergarten in a rural East Tennessee county. Variables included family income and structure, parents' education, participation in literacy activities, availability of home learning tools, and amount of children's television viewing. A self-reported parent survey was used to gather information; the *Brigance K Screen* was used to determine entering kindergarten's readiness for school. Three hundred thirty-eight children and parents participated.

An initial analysis of data incorporated simple descriptive statistics in the form of frequency tables. To examine the relationships between the dependent variable (*Brigance* scores) and independent variables (family characteristics/environment), Kendall's tau-b and Cramer's V were used. Independent sample t-tests and analyses of variance (ANOVAs) analyzed differences in *Brigance* scores between groups. A hierarchical multiple regression analysis determined if kindergarten readiness could be predicted by specific variables: socioeconomic status, literary resources, and literacy activities.

The analysis of relationships study indicated that family income was more closely related to success on the *Brigance K Screen* than any other variable; next in importance were the levels of parents' education. Significant positive correlations indicated the value of parents reading to their children, educational outings, availability of educational tools--specifically, a home computer, family structure, mealtime conversation, and the number of children's books in the home. A significant negative correlation was found between the duration of television viewing and *Brigance* scores; increased television viewing time was significantly related to lower test scores. ANOVAs and t-tests indicated significant differences in *Brigance* scores of prekindergarten students from different socioeconomic status groups based on family structure, family income, and parents' education levels. Children from two-parent homes scored significantly higher than those from other family situations as did children from higher income homes. Parents' education level was also reflected in the *Brigance* scores; more educated parents had children who scored higher than children with less educated parents. The multiple regression analysis reinforced the statistical significance and magnitude of the relationship between socioeconomic factors and school readiness. Literacy resources and literacy activities also accounted for variance in the scores.

## DEDICATION

This work is dedicated to my husband

Jon

and our three sons

Matt, Dan, and Bart.

I deeply appreciate their love and encouragement.

It is a privilege to be the "mom" in such a wonderful family.

This work is also dedicated to the memory of my father

Armond L. Chandler

and in honor of my mother

Pauline Chandler.

## ACKNOWLEDGMENTS

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I am especially appreciative of the many parents who agreed to participate in my study and their children who are eagerly anticipating the new experience of kindergarten.

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## CHAPTER 1

### INTRODUCTION

“If you can read this, thank a teacher.” The general public is familiar with this slogan made popular by a teachers' union. A literal interpretation of this simple statement would suggest that most public discussion about improving education should revolve around greater support for teachers and school-based reform, with the school assuming the basic responsibility of influencing and developing a child's academic potential. But is this line of reasoning necessarily in the best interest of today's children?

Perhaps the educational debate should shift to, or at least include another more basic and fundamental focus--family environment. Rearing a child is one of the most difficult and important jobs that a large number of people undertake. Family environment has a pervasive and life-long impact on children, yet most people enter into parenthood without significant preparation or training. What influence does a child's family life have on school achievement? What effect does a stimulating home environment have on school readiness? Does family structure impact student learning? How important are early literacy activities in the home?

#### *Statement of the Problem*

Over the last two decades, considerable debate has occurred in society and in the research community about changes in and the direction of student achievement. A large cross-national study of Chinese, Japanese, and American school children determined that there were significant achievement differences as early as kindergarten, with American children lagging behind others in mathematics and reading (Stevenson, Lee, & Stigler, 1986; Walberg, 1984a). Continuing dialogue has centered on whether student performance is improving or declining, whether changes in family characteristics have affected student achievement, and whether social and

educational programs and policy changes aimed toward equal educational opportunities have been effective. When studying the American family, Grissmer, Kirby, Berends, and Williamson (1994) used test scores to determine that there was no evidence of a deteriorating family environment for students ages 14 to 18 in 1990 when compared to similar students in 1970 and 1975. However, there are many who imply that the family has deteriorated to the extent that it is losing the capacity to positively support the development of children (Walberg, 1984a).

Whether questioning or accepting the deterioration of the family unit, one should recognize that more than 30 years of research indicate that families have more influence over a child's academic performance than any other factor--including schools (Laosa, 1982; Mattox, 1995). University of Chicago sociologist Coleman (1990) conducted a major research study in the mid-1960s designed to explain differences in student performance between certain schools and certain classes. While weighing the relative influence on student achievement of different school factors and teacher variables, Coleman reached an interesting conclusion. Although some specific school factors had a modest effect on school performance, the influence of family background was considerable. Based on his studies conducted in the mid 60s, Coleman determined that resources under control of the school were considerably less important than those that were intrinsic to the child's family background. That is, the resources brought to education from the home were considerably more important for achievement than those provided by the schools.

Likewise, 20 years later, Bevevino (1988) established that from birth to age 18, the average child spends 87% of his or her waking time under the influence of home environment, whereas only 13% of that time is under school supervision. It is no surprise, then, that Bevevino concluded a child's academic success is largely determined by parents and the environment they provide during the child's life. Especially crucial are the first six years, a period of rapid physical, emotional, and intellectual development. Gottfried (1984) discovered that the highest correlation between cognitive development and environment tends to be found during the

preschool years. In brain research, Bruer (1997) emphasized the rapid increase of synapses that connect neurons in the brain, starting in infancy and continuing into later childhood. Until age 10, a child's brain contains more synapses than at any other time in life. Early childhood experiences fine-tune these connections by reinforcing and maintaining synapses that are repeatedly used and snipping away unused synapses. According to Bruer,

This time of high synaptic density and experiential fine-tuning is a critical period in a child's cognitive development. It is the time when the brain is particularly efficient in acquiring and learning a range of skills. During this critical period, children can benefit most from rich, stimulating learning environments. If, during this critical period, we deprive children of such environments, significant learning opportunities are lost forever. (p. 4)

In light of the family's extraordinary influence and the changing home environment in today's society, a study of school readiness and its relationship to specific family environment factors is relevant. The importance of environment cannot be overlooked or underestimated. As Teale and Sulzby (1986) acknowledged, "Growth in writing and reading comes from within the child and as a result of environmental stimulation" (p. xx). Previous research has shown that the presence of specific family and home environment characteristics may contribute to school readiness and later academic achievement; conversely, the absence of certain identifiable factors may contribute to significant delays in readiness (Clark, 1983; Milne, 1989; Teale, 1986). Therefore, increased knowledge of identified positive factors will be beneficial in developing appropriate remediation strategies. In addition, public policy and funding agencies must consider such findings to determine the most effective allocation of public resource money for both education and social programs. If family environment is truly a key factor in student achievement, it should be taken into account when attempting to evaluate the effectiveness of both public policy and public investments.

The purpose of this study was to investigate the relationship between family environment and school readiness of children entering kindergarten in a rural East Tennessee county. For the purpose of this study, three nonprocess and three process family factors were broadly identified. Nonprocess or status factors are those defined as relatively static family characteristics, including family income, family structure (two-parent home vs. other situations), and parents' education level. Process variables are defined as opportunities provided by parents for parent-child interactions in different situations or the actual family investment in children's development through time and resources. These include literacy activities (oral reading by parent or story telling by child, educational teaching/learning activities, educational outings, frequency of family meal times, and meal conversation); television viewing (frequency and duration); and availability of learning tools (educational toys and hobbies, home educational tools, computers, number of children's books, frequency of new book acquisition, and library loans). The *Brigance K Screen*, a test that assesses the basic skills necessary for success in kindergarten, was used to measure school readiness of the participants. Data collection related to the identified variables was gathered through self-reported parent surveys distributed to parents of incoming kindergarten students at the four selected school sites.

### *Significance of the Study*

With the acknowledgment that family background is an important contributor to achievement outcomes, it becomes imperative that educators continue to acquire knowledge in this area. This study contributes to current research by focusing on family characteristics and the home environment of the kindergarten child while attempting to determine factors that strongly correlate with school readiness. The study has practical significance in updating previous research that in turn may have implications for both parents' and teachers' education. The study also provides information about which characteristics of the home environment are most

conducive to promoting school readiness, so that schools and other community agencies can guide and assist parents in providing optimal educational environments for their preschoolers.

### *Limitations*

Limitations of the study included the population used, the objectivity of both researcher and participants, and the instruments used. Generalizations with regard to the results must be limited to kindergarten children within this county. The self-reported parent survey presented several inherent limitations. Parents' accuracy may have been limited by lack of reading ability, lack of understanding of survey items, poor memory relating to past events, and their perceptions of the social acceptability of certain responses. Therefore, the reliability of some responses may have been affected. The interrater reliability of the *Brigance K Screen* was also considered a limiting factor, as the instrument was administered by a number of kindergarten teachers from various schools throughout the selected county. There was no opportunity to observe the home environment of the students and no proximal (face-to-face) interviews were conducted.

### *Research Questions*

Several avenues of inquiry could be developed in regard to kindergarten readiness. For the purpose of this study, however, four basic research questions were selected as the focal point of the investigation:

1. What are the characteristics of the study's participants and their home environments?
2. What is the relationship between specific home/family characteristics and kindergarten readiness?
3. Are there differences in the total *Brigance* scores of prekindergarten students from different socioeconomic status groups?
4. To what extent can socioeconomic status, literacy activities, and learning resources be used to predict kindergarten readiness?

### *Overview of the Study*

This study was organized as follows: Chapter 1 consists of an introduction, statement of the problem, purpose of the study, significance of the study, limitations, research question, and overview of the study. Chapter 2 contains a review of the related literature and research. It broadly examines the identified process and nonprocess variables in relation to readiness and school achievement. Chapter 3 describes the research design and methodology employed in this study. It includes a description of subjects, procedures, and instruments, in addition to the statistical models and analyses used. Chapter 4 presents the statistical analysis of the data and the findings of the study. The data from this study was presented, analyzed, and discussed. Chapter 5 contains a summary of the findings of the study and general conclusions and provides recommendations for future consideration.

## CHAPTER 2

### REVIEW OF LITERATURE

The review of literature broadly addresses literature and research related to the identified process and nonprocess variables and their relationships to both school readiness and school achievement. Because of the broad scope of the study, the literature review is not intended to be an exhaustive one. However, it is an attempt to highlight what the researcher considered most relevant and pertinent to this endeavor.

It is generally accepted that the structure of the American family has changed and will continue to change. Such phenomena as the increased divorce rate, two-employed-parent families, a growing number of teenage pregnancies, and the decreasing influence of extended families have substantially changed the kind of preschool experiences that children have (Gullo, 1990). Meanwhile, research has indicated that variables including family income, family structure, parents' educational level, amount of children's television viewing, availability of learning tools, and home literacy activities may be related to school readiness and academic success (Baker et al., 1996; Burns, Griffin, & Snow, 1999; Snow, Burns, & Griffin, 1998; Weinberger, 1996). A comprehensive literature review in this area is difficult, not only because of the number and variety of studies but also because of the intricate relationships that have been hypothesized or found to exist among the variables used in these studies.

Although research specifically aimed at the relationship of environment and school readiness is somewhat limited, numerous studies and contributions to the general study of environment, literacy issues, and academic achievement across various grade levels are available. Growing evidence indicates that many factors in the family environment interact in complex ways to either facilitate or hinder children's academic success (Chall & Snow, 1982; Milne, 1989; Tocci & Englehard, 1991; Weinberger, 1996; Zimilies & Lee, 1991). In studying

elementary school children, Clark (1993) learned that “Home process variables, parental responsibility variables, and family background circumstances *worked together* to shape student achievement patterns” (p. 20).

*Nonprocess Variables: Family Income, Family Structure, and Parents’ Educational Levels*

Beginning with Coleman’s seminal study in the middle 1960s, research has indicated that children’s academic achievement and school performance are strongly influenced by home background (Coleman et al., 1966). During this early research, home background was typically defined in terms of global social status variables including parental income, education, and occupation in addition to family structural characteristics such as family size and birth order (Christenson, 1990). A sizable amount of older literature exists that examines the relationship of environment and academic achievement across grade levels.

Early landmark studies by Bloom (1964) longitudinally investigated stability, change, and the effect of environment on school students. In addition to examining the effects of environment on physical characteristics, he also studied intelligence, attitudes, personality, and achievement. In arguing that the nature of home environment can modify the measured intelligence of children, he boldly added his beliefs:

In contrast with height, which is in large part determined by heredity, is school achievement, which is more clearly determined by environment. Although there must be some genetic potential for learning, the direction the learning takes is most powerfully determined by the environment. . . . General school achievement . . . is likely to be greatly affected by the home, peer group, and school environments in which the children live, play, and learn. . . . There are clearly some environments, which discourage school learning, while there are other environments, which encourage and reinforce school learning. (pp. 209-210)

Static factors such as socioeconomic status, family structure, and parents' education level have been studied to determine their effects on academic achievement. According to Coleman (1990), one of the focuses of the 1966 congressionally mandated Equality of Educational Opportunities report was how schools overcame the inequalities that children came to school with. In this impressive study, researchers initially examined the differences in family backgrounds of individual students as a possible source of school-to-school and within-school variations in achievement. Based on a survey of thousands of children throughout the United States, the researchers determined not only that children from poor families performed significantly lower than those children from middle and upper-class families but also that these differences became greater as the children progressed through school (Coleman et al., 1966). They further investigated the relationship of student attitudes and achievement and the differential dynamics of attitudes among children from advantaged and disadvantaged groups. Recognizing the special importance of a sense of control of the environment for achievement, assumptions were made about the different background experiences children might have had. Children from an advantaged family background most likely had all of their needs satisfied and lived in a responsive environment, one that would continue to respond if they acted appropriately; these children assumed they could affect their environment through their actions. Conversely, children from disadvantaged family backgrounds lacked a sense of environmental control. They had fewer needs satisfied and lived in an unresponsive often-unfriendly environment, one that rarely responded to their actions. Therefore, hard work and diligent efforts toward achievement were unlikely to be rewarding, and disadvantaged children assumed there was nothing they could do to change things for the better (Coleman).

Early research by Coleman et al. (1966) spawned numerous studies during the last three decades that supported the importance of home and family environment in shaping the enhancement and subsequent outcome of children's academic development. More recently, Cox (1987) longitudinally studied environment and the stability of that environment as it affects

academic attainment and progress. Comparing a control group with a culturally and economically disadvantaged group, he established that an advantaged early home background had an immediate impact on early school performance and that the early level of attainment was positively related to later achievement levels, particularly in reading. However, Cox questioned if later academic difficulties of the disadvantaged group were actually a result of lack of early attainment or a lack of upward socioeconomic change. Gottfried (1984) summarized a group of longitudinal studies examining the relationship between home environment and early cognitive development of young children. He concluded that the majority of the studies reviewed supported the premise that early home environment related to later intellectual development because of the environment's stability. When the home environment was unstable and continued to lack sufficient intellectual stimulus and guidance over time, a cumulative learning deficit occurred. This echoes the issues of constancy and consistency cited in the earlier work of Bloom (1964). Other early research showed a correlation between family socioeconomic status and children's performance on mental tests (Deutsch, 1973; Hess, 1970).

In looking at low income families, Snow, Barnes, Chandler, Goodman, and Hemphill (1991) noted that psychological stress, financial stress, and disorganization in the family system varied inversely to children's literacy performance. They cited additional studies that noted although low-income mothers often had high goals for their children, "The most highly stressed low-income women simply did not have the resources of time, money, contacts, or knowledge to provide their children with the time and attention they recognized as necessary" (p. 88). In contrast, Snow et al. pointed out that while it is generally assumed that family stress produces negative consequences for children's academic and social functioning, the actual nature and severity may vary with the attributes of both the child and the family. In studying the effects of process variables and socioeconomic status, a University of California study concluded that parental input may reduce the proportion of low achievers, but it cannot completely overcome the disadvantages of low income (Benson, Buckley, & Medrich, 1980).

Current research suggested that economic levels alone do not determine school failure or success. Actually, a wide range in the nature and quantity of literacy practices across socioeconomic groups has been documented (Baker, Scher, & Mackler, 1997; Beals & DeTemple, 1993; Purcell-Gates, 1996; Shapiro, 1995). Hart and Risley (1995) determined that although poor uneducated families provided much the same array of language experiences as middle-class educated families, the quantity of verbal interaction was much less. They concluded that minimal quantity of verbal interaction constituted a risk factor to children in relation to lower vocabulary scores with associated lower reading outcomes.

Baker, Serpell, and Sonnenschein (1995) noted income-related differences when investigating joint storybook reading. In their study, 90% of preschool children from middle-income families reported daily book reading activity, whereas 52% of low-income families did so. Auerbach (1995) refuted the assumption that all homes of low-income children are literacy impoverished, that they contain few reading materials, and that parents neither read to themselves nor to their children. Reviewing earlier studies, she concluded that even when daily survival was a struggle, literacy was an integral part of daily life. Children of low-income families are often exposed to elaborate narratives during the course of their everyday lives that in turn provide experiences that nurture a high level of familiarity with the structural organization of stories (Snow et al., 1998). Psychologists, anthropologists, and linguists have noted that children of society's poorest families participate fully in the language of their culture, although they may use written language differently (McGill-Franzen & Arrington, 1991).

Using a large national sample of preschoolers, Zill, Collins, West, and Hausken (1995) surveyed parents to determine specific accomplishments and difficulties of their children and to investigate five family risk factors similar to those previously named in the present study. These included (a) mother having less than a high school education, (b) low economic status, (c) mother not speaking English as a primary language, (d) mother being unmarried at the time of the child's birth, and (e) single-parent households. The researchers established that over half of

the preschoolers were affected by at least one risk factor with 15% affected by three or more. All five factors were determined to have some relationship with both the preschooler's accomplishments and difficulties, although relationship patterns varied across developmental domains. The research did not support the view that low family income was the primary factor contributing to lack of educational success. Instead, the risk factors of poor maternal educational background, minority language status, and single-parent family structure were often as good and sometimes better predictors of the preschoolers' accomplishments and difficulties.

Research findings regarding the influence of family structure on academic performance have been mixed. Data reveal that one in five children lives in a single-parent family (*America's Smallest School*, 1999). Recognizing from the outset that the majority of reviewed research on single-parent families related to female-headed single-parent families, early reviews of single-parent research by Herzog and Sudia (1973) suggested that a father's absence was a contributory but not a primary factor in lowering school achievement. Shinn (1978) refuted these contentions citing outmoded research and stating that more recent investigations showed significant detrimental effects of a father's absence on children's intellectual performances. Data analyzed from the 1986 National Assessment of Educational Progress showed that third graders living with only one parent scored considerably lower than third graders living with both parents (Natriello, McDill, & Pallas, 1990). In contrast, Larson (1989) compared characteristics of children who were teacher-rated as "low risk" and "high risk" and determined no significant relationship between family intactness and degree of risk for academic failure. When examining the effect of family structure on children's academic performance, care must be taken about making generalizations; parental education, age, and socioeconomic status may have significant influence. In addition, stereotypes about two-parent and one-parent homes may actually interfere with the academic expectations of the teacher. Other studies iterate the strong connection between single-parent (often mother-only) families and low socioeconomic status and the apparent link to lower school performance (Lee, 1993).

Milne (1989) stressed the importance of process variables. “Family structures are not inherently good or evil per se; what is important is the ability of the parent(s) to provide proeducational resources for their children--be they financial, material, or experiential” (p. 58). She concluded it was evident that living in a two-parent household was a benefit. Although no differences between the two-parent and one-parent households reached significance, virtually no evidence suggested that living in a one-parent household was beneficial. According to Milne, meta analyses conducted by several researchers in 1981 and 1987 concluded that children in two-parent families obtained higher achievement test results than children of one-parent families, although overall differences were small. The 1981 study indicated differences generally less than a year; the conclusion was similar in the 1987 study with the average difference for the two groups being from three to seven months. Research by Dornbusch, Ritter, Leiderman, Roberts, and Fraleigh (1987) indicated that children from single-parent families are more likely to be given early autonomy, and early autonomy was associated with behavior problems and poor school performance.

Longitudinal studies have shown that parents’ educational levels have an important impact on children’s achievement (Davie, Butler, & Goldstein, 1972), and higher levels of adult education have a positive bearing on both the educational future and the income level of the children in a family (DeBruin-Parecki, Paris, & Siedenbug, 1997). Traditional research has shown that the children of mothers with higher levels of education have greater early success and generally stay in school longer (Sticht, 1988; Sticht & McDonald, 1990). In a limited study of 49 predominately middle-class preschoolers, Mills (1983) concluded that in investigating fathers' education, mothers' education, and family income, the only factor significantly related to school academics was the father’s educational level. Results further indicated that the father’s higher educational level promoted a richer quality of parent and child verbal interaction and a greater variety of stimulatory activities. In contrast, Snow et al. (1991) noted that the mother’s educational level and her aspirations for her offspring had more influence on children’s

achievement than did the educational level and aspirations of the father. In the Snow et al. study, the mothers were the ones who helped with homework, selected reading materials, read bedtime stories, and enforced television viewing rules. Similarly, Leibowitz (1977) verified that the mother's educational level was a better predictor of a child's achievement in school than was the father's educational level.

Educational attainment of the parents also appears to affect parental beliefs about the behaviors and attributes their children may need to succeed in kindergarten. West, Hausken, and Collins (1995) concluded that parents with higher educational levels were generally more informed about age-appropriate expectations and the accommodations of individual differences. Harris and Knudsen-Lindauer (1988) reported similar findings in that parents in lower socioeconomic groups generally placed greater emphasis on observable and concrete skills of independence and self-sufficiency rather than the abstract development of emotional and receptive language domains. The researchers concluded that this could be attributed to less formal education and limited access to educational materials.

Statistics cited by Wright, Hauskin, and West (1994) from the National Center for Education Statistics in 1993 confirmed the impact of the three identified nonprocess variables in this study: (a) family income, (b) family structure, and (c) parents' educational level. The percentage of preschool children living in poverty that was regularly read to by a family member was lower (68%) than for children not living in poverty (81%). The children living in poverty were less likely to have visited a library (29% vs. 43%) and to have been told a story (37% vs. 42%). Consequently, children from lower economic backgrounds were more likely to have been taught songs or music than their more affluent counterparts (41% vs. 35%). A relationship also existed between the mother's level of education and whether children were read to or told a story on a regular basis. Mothers with at least a high school education or General Educational Development diploma (GED) were more likely to read to their children than those mothers who were less educated (81% vs. 59%); the same held true for storytelling (42% vs. 35%) and visits

to the library (43% vs. 24%). Additional statistics indicated that having two parents was linked to more frequent family-child interactions. Children from two-parent households were more likely to have been read to (81% vs. 70%) and to have visited a library (43% vs. 32%) than their counterparts from single-parent families (Wright et al.).

*Process Variables: Literacy Activities, Learning Tools, and Television Viewing*

Research has shown that differences in student learning cannot be evaluated solely in terms of static factors. Studies from previous decades suggested that how parents rear their children might be more important than the parents' occupations, income, or educational levels (Marjoribanks, 1979; Snow et al., 1991; Teale, 1986). Some suggested that home learning environment had at least twice as great an effect on achievement as family socioeconomic status (Walberg, 1984a). Mavrogenes (1990) stated that although middle-income parents more successfully tend to encourage literacy than do low-income parents, parents' income is not the sole determinant in early literacy. He further added, "Most things that parents can do to encourage reading and writing involve time, attention, and sensitivity rather than money. All parents can learn to foster children's literacy" (p. 4).

Bus and van Ijzendoorn (1995) studied the attachment relationship between parents and children of both high and low socioeconomic statuses as a useful concept to explain differences in the frequency of parent-preschooler interactive reading. They concluded, "Literacy is not the outcome of an environment enriched with written material but that it strongly depends on parental ability to involve young children in literacy experiences" (p. 1009). In interviewing and observing three families with parents who were unemployed high school dropouts, Genisio (1999) concurred by emphasizing the link between love and literacy as important in promoting academic readiness and an early interest in reading. Additional studies have indicated that children have more positive school experiences and academic success when parents are actively

involved in their children's learning and demonstrate continued interest in their progress (Entwisle, 1979; McLoyd, 1990; Snow, 1983).

As stated in Mattox (1995), Henderson and Burla reviewed research literature and determined the following characteristics of a stimulating home environment: (a) establishment of a daily family routine that includes regular bedtimes and regular study times; (b) monitored nonschool activities including television viewing; (c) modeled values of learning, self-discipline, and work ethics, particularly through the use of home learning tools; (d) expression of high but realistic achievement expectations; (e) encouragement of children's development and progress in school; (f) stimulation of reading and writing, including family discussion times; and (g) facilitation of the use of community resources, including such things as trips to the library, cultural events, and music lessons. What families do together actually matters. Values, habits, and relational dynamics are all at work within the family environment.

Economists who study the development of human resources have determined that there are surprisingly large differences in the amount of time that parents invest in their children. Studies with preschool children showed the reported value of parental care and time invested in children differed as much as five times from family to family (Hill & Stafford, 1974). These vast differences contribute to the understanding of children's varying capacities to profit from school and other educational experiences. Through research on samples of adults, Walberg and Tsai (1983) discovered strong cumulative advantages of stimulating educational experiences in families and schools. Their experiences predicted adult knowledge much more decisively than either adult effort or motivation; the research further showed that those adults who had early educational experiences at home gained knowledge at faster rates throughout their adult lives.

Through a synthesis of research findings, Iverson and Walberg (1982) suggested that process characteristics are more closely linked to student achievement than parental social status; specifically, they concluded that ability and achievement are more closely linked to the sociopsychological environment and intellectual stimulation within the home than to parents'

occupation or educational level. Using a “process view” describes educationally relevant factors in the home better than any other method. Based on meta-analysis of 200 studies, White (1982) concluded that socioeconomic status might be an indirect measure of home atmosphere and correlated weakly ( $r = .22$ ) with academic achievement whereas childrearing practices (reading to children, taking children to the library, etc.) more directly influence student achievement ( $r = .55$ ). White commented, “It may be *how* parents rear their children . . . and not the parents’ occupation, income, or education that really makes the difference” (p. 471). Teale (1986) used a naturalistic inquiry of home background and literacy development that corroborated this position; he contended that literacy must be considered a social process as well as a cultural practice. Similarly, Bevevino (1988) concluded that what a parent actually does with children is a much more important factor than is socioeconomic status, level of education, or occupation.

Several specific characteristics have been linked with early literacy development. These include: (a) a rich literacy environment where parents purchase books for their children, take them to the library, and subscribe to a variety of magazines and newspapers; (b) an environment conducive to early writing, where paper, pencils, and crayons are available, children’s early attempts at writing and drawing are supported, and where children see parents writing for functional purposes; (c) well organized and scheduled daily activities and responsibilities with predictable eating and sleeping times; and (d) a warm accepting atmosphere with shared reading and open conversation (Barclay, Benilli, & Curtis, 1995).

Comer (1984) stated, “The child is, in large part, a product of the teaching, modeling, and moderating (interpreting and utilizing the environmental stimuli) skills of the household” (pp. 324-325). A child’s identification with parents and other family members provides an avenue for intellectual, speech and language, moral, social, psychological, emotional, and academic development. Cox (1987) determined that a child’s receptive oral vocabulary is impacted by the quality of home experiences and verbal interactions between parent and child. Likewise, a

child's motivation to learn and ability to concentrate is influenced by the degree of parental encouragement and extent of his experiences of similar learning tasks at home.

Several studies have suggested that family atmosphere rather than family structure is most predictive of academic failure or drop out (Snow et al., 1991; Stroup & Robins, 1972). In studying two-parent and single-parent families, Clark (1983) noted that firm rules, parental interest in a child's academic program, parent-child interaction through activities such as reading and word games, and a parent's optimistic assertive approach to life were key ingredients of academic achievement. Two-parent and single-parent families with these attributes produced higher academic achieving children than did two-parent and single-parent families that lacked these characteristics. Through a synthesis of empirical studies of academic learning, Walberg (1984a) concluded that parents directly or indirectly influence the eight chief determinants of cognitive, affective, and behavioral learning. Of particular interest to this study is the importance of an academically stimulating home environment and a minimum exposure to low-grade television programming. Walberg further concluded that the curriculum of the home predicted academic achievement twice as well as the family's socioeconomic status. This "curriculum" was defined as including (a) informed parent and child conversations about everyday events, (b) encouragement and discussion of leisure reading, (c) television monitoring, (d) establishment of long-term goals, and (e) expression of affection and concern for the child's personal and academic growth. Goldenberg (1989) used case studies to determine that assertive parental involvement and parental encouragement significantly influenced student achievement. His observations and interviews suggested that parents could positively influence children's motivation and reading skills acquisition that in turn resulted in higher reading group placement for the children.

Parent-child communication has often been recognized as a positive component of the home environment (Dornbusch & Wood, 1989; Epstein, 1991; Goldenberg, 1989; Hess & Holloway, 1984; Snow et al., 1998). In studies of younger children, Hess and Holloway noted a

significant association between verbal communication in the home and school achievement. Better school performance was found among those students who participated in mealtime conversations and who were more often asked informative questions by their parents.

Observations in an early study by Jensen (1967) yielded similar conclusions. He noted that:

Crude socioeconomic variables, such as income, occupation, and neighborhood, do not correlate as highly with intelligence and educability as do ratings of more psychological variables, such as whether the parents read to the children during the preschool years, whether the family eats together, whether children are brought into the conversation at the dinner table, and other features of parent-child interaction, especially involving verbal behavior. (p. 11)

In reviewing Snow and Dickinson's *Home-School Study of Language and Literacy Development*, Lynn (1997) confirmed that children who are exposed to more words and more unusual words during their conversations with adults generally tend to develop larger vocabularies. The study noted that for many children the richest opportunities for exposure to new and different words came during mealtimes.

Home observations and interviews by Snow et al. (1991) indicated that children who spent time interacting with adults had an advantage over those who spent the majority of their time with siblings, peers, or both. Also important is the use of conversation to build "shared histories" between parent and child (Snow, 1983). This "literate" approach to information involves asking the child questions about past-shared events in establishing shared permanent histories.

Mills (1984) linked a child's academic success with a positive self-concept. He theorized that self-concept is learned through interactions with parents and family members and developed as children continually interacted with their environment; feelings and perceptions of self are thus formed. The greater amount of success that is experienced by children, the better their self-

concepts, which in turn results in increased academic readiness. Likewise, Coleman (1990) noted the strong relationship between attitudes, self-concept, and achievement.

Studies across ethnic groups have revealed similar findings. In examining the relationship of home environment and motivational orientation of higher and lower achieving Puerto Rican children, analyses revealed statistically significant differences in both environment and motivation between the high and low achievers. Post-hoc analysis revealed that family involvement accounted for a significant amount of variance in achievement. Mothers of high achieving students also had higher expectations for both their children and themselves; they had higher parental reinforcement of aspirations and had knowledge of their child's educational progress (Soto, 1989). A study of Korean adolescents determined that self-concept was a mediating variable between home environment and academic achievement. Results did not support the commonly held view that home environment directly affects academics. Instead, Song and Hattie (1984) suggested that social status factors have indirect effect on self-concept through family psychological characteristics; in turn, academic self-concept strongly affected academic achievement.

The relationship of home environment and reading has often been of interest to researchers. According to Anderson, Scott, and Wilkerson (1985), reading aloud to children was discovered to be the single most important activity for building a knowledge base for future success in reading. Reading to children has been shown to contribute directly to early literacy development (Brock & Dodd, 1994; Teale, 1984, 1986; Weinberger, 1996; Wells, 1982). Using longitudinal data, Durkin (1966) and Clark (1976) independently reached similar conclusions. They reported a positive relationship between the onset and reading skill level of children with the availability of reading materials, the child's observation of an adult reading, and parent and child reading together. Clark observed as a feature in most homes "an interest in their children's progress coupled with encouragement of independence of choice" (p. 102). In particular, Durkin iterated the importance of "the presence of parents who spend time with their children; who read

to them; who answer their questions and their requests for help; and who demonstrate in their own lives that reading is a rich source of relaxation, information, and contentment” (p. 136). In a longitudinal study, Epstein (1991) indicated that parental involvement such as listening to children read and jointly participating in learning activities at home had a significant positive effect on elementary students’ achievement. He discovered significant increases over time specifically in reading skills. Whitehurst, Arnold, Epstein, and Angell (1994) also noted significant gains in children’s reading skills when parents were more responsive and “dialogic” during shared reading times.

Similarly, studies by Tizard, Schofield, and Hewison (1982) iterated the importance of joint learning activities in the home environment. In their two-year study to assess the effects of parental involvement in the teaching of reading, the natural settings experiment provided evidence for a causal relationship between parents listening to their children read and actual reading attainment. Children who read to their parents on a regular basis made more significant reading gains than did children who received an equivalent amount of extra reading instruction from school specialists. Particularly interesting were their findings that low parental literacy skills did not detract from the results, suggesting that the supportive atmosphere provided by the parents may be more important than any transfer of skills. Christenson (1990) concluded that parental support was positively associated with children’s academic achievement. She subsequently characterized support as “encouraging school work, listening to children read, participating in learning activities at home, providing rewards for improvement on daily in-class assignments, and providing opportunities and supplies for learning at home” (p. 506). Additional studies indicated that children learn about both reading and writing through direct experiences and also from observing others who read and write (Smith, 1981a; Smith 1981b; Teale, 1982; Weinberger, 1996). Auerbach (1989) concluded that:

Indirect factors including frequency of children’s outings with adults, number of maternal outings, emotional climate of the home, amount of time spent interacting with adults,

level of financial stress, enrichment activities, and parental involvement with the schools had a stronger effect on many aspects of reading and writing than did direct literacy activities, such as help with homework. (p. 172)

Wolfgang and Stakenas (1985) investigated toy contents of preschoolers' home environments as a predictor of cognitive development. Results demonstrated a strong positive relationship and further suggested that different toys and play forms were related to different kinds of cognitive development. Importantly, the researcher acknowledged that measures could not be based solely on the number of toys in the home, but that the parent-child relationship must also be considered. In-home observations revealed how toys were really used during play and what parents actually did to facilitate or impede cognitive development as they interacted with their children. Maternal involvement, appropriate play items, and opportunities for a variety of stimulation in academic behaviors were determined by Gottfried (1984) to have the highest correlation with children's cognitive performance in middle-income families. A strong correlation between a stimulating literacy and material environment and academic success was also confirmed by Snow et al. (1991) and Walberg (1984b, 1984c). Zeavin (1997) noted the importance of physical environment with space for large motor learning and stressed that "Children's movement is not only a manifestation of physical well-being, but along with sensory experience is the foundation of intellectual functions" (p. 76). According to Snow et al. (1991), "provisions of literacy" are vital to children's acquisition of reading. In the early years, these provisions include reading to children, encouraging children to read aloud, and providing library experiences. They also established that the provision of literacy experiences was a powerful predictor variable in their original study and subsequently was related at significant levels to student achievement four years later in the areas of word recognition, vocabulary, and reading comprehension.

Clark (1976) and Bradley and Caldwell (1978) reported a significant relationship between the availability of learning tools and resources in the home and the child's academic success in

school. In writing about a “hyperlearning revolution,” Perelman (1992) strongly advocated the importance of home learning tools. In his book, *School’s Out*, Perelman used survey data to determine that the number of learning tools (e.g. typewriter, calculator, encyclopedias, more than 50 books, etc.) in the home environment was a much stronger predictor of student academic achievement than parental expectations. He boldly added “Learning tools are not just a coincidence of family status--they are tools that help produce more learning . . . that the kids of well-off families have more access to effective learning tools . . . is at least as notable as the issue of access to supposedly ‘effective’ schools” (pp. 190-191). He further added, “Actually the point of this whole book is that tools are far more important than school” (p. 191). In the assessments of the National Assessment of Educational Progress (NAEP), school achievement was consistently related to the number of reading materials in the home. Unfortunately, the number and availability of reading materials found in the home environment has declined during the last twenty years (*America’s Smallest School*, 1999).

With the introduction and ongoing popularity of television, its influence and the importance of parental monitoring of content and viewing times have become issues. Televisions are commonplace in homes across America. In 1998, Nielsen Media Research (Landon, 1999) indicated that 98% of United States households owned at least one television, and each day in each household, the television was turned on an average of 7 hours and 12 minutes. Nielsen also discovered that in 1998, 74% of American homes had more than one television and 74% had cable TV service.

Statistics on television viewing are overwhelming. Babies as young as nine months watch television approximately 90 minutes per day (Wilson & Christopher, 1992). The average American child watches three to five hours of television each day. The typical child entering kindergarten and first grade watches television approximately 16 hours per week. By fourth grade, television-viewing increases, reaching a peak of 28 hours per week for middle school students (Gunter & McAleer, 1990). Most researchers agree that three or more hours of

television viewing per day are excessive (Prawd, 1995). By high school graduation, the majority of American school children have spent more time in front of the television than in the school classroom. According to a 1999 report by the Canadian Paediatric Society, the average child spends more time watching television than participating in any other activity with the exception of sleeping (*Children and the Media*, 1999). The 1992 NAEP Trends in Academic Progress report showed that at age 9, 13, and 17, students reported an overall increase in their daily amount of television viewing over the past decade with no changes in family rules about watching television since 1986 ("Achievement Stalls," 1994).

Television represents a powerful social and educational influence on today's children; whether this influence is positive or negative continues to be a topic of debate. It is often conceded that although television has the capability to be a powerful educational force, it has been used primarily as an entertainment tool. Most preschool children enjoy programming designed especially for them including cartoons and educational shows such as *Sesame Street* and *Mr. Rogers' Neighborhood* (Demers, 1989). However, by first grade, viewing interests change, with 45% of first graders preferring comedies considered adult programming (Rosengren & Windahl, 1989). America's children watch programs designed for adult viewing audiences about 80% of the time (Charren & Sandler, 1983).

Neuman (1991) conducted extensive research in the area of television and its effects. She analyzed the role of television based on three premises. The first focuses on the issue of displacement and the assumption that television viewing takes time away from other activities; in the case of children, these include such activities as free play and reading. The second premise suggests that television has changed the way that people learn--from active two-way communication to more passive engagement. The third premise reflects concern for television's effect on behavior, particularly addressing occurrences of violence and aggression.

Research results on the effects of television viewing on achievement and readiness are mixed. Early studies investigating the relationship between television and academic

performance typically noted little or no evidence supporting detrimental effects of television viewing. A meta-analysis conducted by Williams, Haertel, Haertel, and Walberg (1982) on the impact of leisure television watching on school achievement indicated no significant relationship. These results were substantiated by Neuman (1988). Other research has been more contradictory (Clarke & Kurtz-Costes, 1997). Some researchers agree that extensive television viewing can slow the acquisition of reading skills, impair social development, and lower overall school performance (Gunter & McAleer, 1990). A two-year Canadian study showed a strong decrease in all areas of reading ability, social interaction, and creativity. The study also noted that children who watched more television were less obedient (Gunter & McAleer). Looking at 10 to 12 year olds, American researchers determined that children who read more and watched television less had higher IQ's and were more imaginative (Charren & Sandler, 1983). Writing ability has correlated both significantly and negatively with television viewing hours (Gunter & McAleer). By studying 70 preschoolers, Haines (1984) determined significant correlations between hours of television viewing and eye-hand coordination. As television viewing time increased, eye-hand coordination decreased. Her small study could have serious implications for successful primary school performances for incoming kindergarten students. Using data from a statewide reading assessment in Connecticut, Neuman and Powda (1982) analyzed patterns of reading and television viewing behavior of over 7,500 students in grades 4, 8, and 11. They discovered negative relationships between reading achievement and viewing at all grade levels, with low test scores at all grade levels associated with students' viewing more than four hours daily. The NAEP consistently finds that students who watch long hours of television have lower school proficiencies, although these assessments do not establish a significant causal relationship (*America's Smallest School*, 1999). Specifically, preschoolers' television watching has been studied; the amount of preschool television viewing was inversely related to both academic achievement and sociability in the first grade (Burton, Calonico, & McSeveney, 1979). Other

studies have not shown a significant relationship between grades and television viewing (Childers & Ross, 1973; Hagborg, 1995; Wiggins, 1987).

Slavenas (1984) cited both positive and negative effects of television viewing. A primary concern related to the displacement theory is the question--specifically, what is a child not doing during the hours spent watching television? Obviously, children are not playing, talking, running, exploring, and questioning. This directly conflicts with Piaget's well-known findings that small children need to be active and learn best by doing, not just watching or listening. Van Evra (1990) echoed a similar concern.

Closely tied to television viewing are the aforementioned nonprocess factors: the education level of the parents, socioeconomic status, and family structure. Home environment characteristics can be closely linked to television viewing in that environments rich in learning opportunities, parental encouragement, and family interaction may indirectly discourage children from becoming heavy television viewers. Designing their research around this premise, Clarke and Kurtz-Costes (1997) studied 30 African-American preschoolers and their parents, who were determined to be low-income parents. They discovered that children who watched more television had poorer academic skills than their peers who watched less television. Interestingly, further analyses confirmed that for this small sample of Black children, literacy activities in the home were unrelated to reading scores obtained on the Metropolitan Readiness Test. Theoretically, a negative relationship between education-related home characteristics and television viewing substantiated previous research findings that supported the displacement theory. Several studies noted a statistically significant negative relationship between television viewing time and socioeconomic status (Hagborg, 1995; Morgan & Gross, 1980; Potter, 1987; Zuckerman, Singer, & Singer, 1980).

Children from lower income families with less education tend to watch more television, as it is often the only form of entertainment in the home. Research has shown that the educational level of the mother is inversely related to the number of hours children watch

television (Burton et al., 1979; Medrich, 1979). Lower income families and those in which mothers have less education also comprise the majority of constant television households--those in which the television is turned on for most of the day whether or not anyone is watching (Medrich). Also impacting television-viewing habits is the increasing number of "latchkey kids," those going home after school to households where no parent is present (Haines, 1984). Research suggests that children whose parents have defined rules and guidelines concerning television viewing achieve at significantly higher levels in both math and reading (Ridley-Johnson, Cooper, & Chance, 1982). Unfortunately, when no parent is present, there is no one to monitor when or what a child watches. Only about one third of parents attempt to control the amount of their children's television viewing. Many parents actually encourage it as a form of babysitting (Haines).

### *Summary*

Weston (1989) succinctly stated, "Parents are a child's first teachers, and families are their first, and most enduring, school" (p. 2). Morrow (1995) supported this view:

Parents are the first teachers their children have, and they are the teachers that children have for the longest time. Parents or other caregivers are potentially the most important people in the education of their children. Research supports a strong link between the home environment and children's acquisition of school-based literacy. (pp. 6-7)

The research reviewed in this chapter iterates the complexities involved in examining the effects of family demographics and structure on children's readiness and achievement in addition to the effects of family processes or ways parents generally interact with their children and working relationships within the family. The results of significant research have been described, and relevant studies pertaining to the variables used in this study have been cited. Numerous factors appear to relate directly and indirectly and in both simple and more complex ways to

school readiness. The relationship between school readiness and family income, family structure, parents' educational levels, amount of children's television viewing, availability of learning tools, and home literacy activities are further examined in this study.

## CHAPTER 3

### METHODOLOGY

The purpose of this study was to investigate the relationship of family environment and school readiness of children entering school in a rural East Tennessee county. Six broad areas for study were identified, including three nonprocess factors: family income, family structure, and parents' education and three process factors: participation in literacy activities, availability of home learning tools, and amount of children's television viewing.

Although the majority of previous studies and research agree that family characteristics and home environment affect school readiness and academic achievement, many questions remain as earlier works emphasize the complexities inherent in such a study. The selected variables relate both directly and indirectly in various ways to school success or the lack thereof. Many intricate relationships have been hypothesized or found to exist among the variables identified in this study. This chapter includes information on the research design, sample, population, instrumentation, data collection, and data analysis used in this research.

#### *Research Design*

A correlational research design was chosen for this study because the researcher is attempting to discover relationships, if any, between the designated variables. Correlational research is defined by Gall, Borg, and Gall (1996) as “a type of investigation that seeks to discover the direction and magnitude of the relationship among variables through the use of correlational statistics” (p.756). This method may also be called ex-post-facto research because “Causes are studied after they presumably have exerted their effects on another variable” (Gall et al., p. 381).

Correlational statistics can be used to explore cause-and-effect relationships between variables, but the obtained results generally do not lead to strong conclusions.

Correlational coefficients are best used to measure the degree and direction (i.e., positive or negative) of the relationship between two or more variables and to explore possible causal factors. (Gall et al., p. 414)

Therefore, by examining these statistics, the researcher will be able to infer, but not prove, causality. The emphasis on making inferences rather than justifying causality concurs with the argument of Teale (1986) that a shortcoming of research on the effects of family environment is its design. “Children are tested in, for example, various aspects of literacy development (usually referred to as reading readiness) and their achievement levels are then correlated with particular home background characteristics. Such research provides no direct evidence for cause-effect relations” (p. 174).

### *Population*

The study’s population was taken from parents and incoming kindergarten students enrolling in schools located in a generally rural county of East Tennessee known primarily for its growing tourist industry and significant in-migration of seasonal residents. Several grade configurations exist within the 20-school public education system. State mandated kindergarten programs are available in each of the four primary and four elementary schools within the county. Students are eligible to attend kindergarten if their fifth birthday falls on or before October 1 of the school year.

### *Sample*

Convenience cluster sampling was selected for use in this study because of availability and feasibility of selecting naturally occurring groups in the population. For the purpose of this study, the sample consisted of incoming kindergarten students who participated in the annual

spring kindergarten preregistration and *Brigance* screening in four geographically diverse schools within the system. Each site represented different size and school configurations: one small K-8 school, one mid-sized K-4 school, one mid-sized K-3 school, and one large K-2 school. Together, these four schools annually house approximately 50% of the total 800+ kindergarten students in the county. It is the belief of this researcher that the selected schools, which are located in different geographical regions of the county, fairly represent the broad spectrum of students found in this area.

### *Instrumentation*

The *Brigance K Screen* was used to determine entering kindergarteners' readiness for school. Adapted from the lengthy *Brigance Diagnostic Inventory of Early Development*, the *Brigance K* tests the following:

1. general knowledge and comprehension (identification of body parts, color recognition, following directions);
2. speech and language (personal data responses, picture vocabulary, syntax and fluency);
3. gross motor skills (standing, walking, hopping);
4. fine motor skills (draws a shape, draws a person);
5. math (counts by rote, numerals in sequence);
6. readiness (visual discrimination, recites alphabet, recognition of lower case letters);
7. basic reading (auditory discrimination); and
8. manuscript writing (prints personal data).

Both criterion- and norm-referenced, the *Brigance K* provides information not only about the child's mastery of critical readiness skills but also about how the child's performance compares with that of other children.

An independent study by Glascoe (1995) concluded that the *Brigance Screens* have a high degree of internal consistency (.81-.99), excellent test-retest reliability (<3 months 86%, >3 months 82%), and outstanding interrater reliability (97%). A summary of the validity research revealed substantial content validity; items were taken from research and other measures then selected by a pool of psychologists and educators. The *Brigance Screens* have excellent concurrent validity and are highly correlated with diagnostic measure of intelligence, academics, development, and teacher/examiner ratings. In addition, the *Brigance Screens* have substantial predictive validity. Additional studies provide support for these conclusions.

Based on Glascoe's (1995) validation study, separate cut-offs are identified for younger and older children within each form. The optimum cut-offs that best discriminate children with and without difficulties on the *Brigance K Screen* are as follows: ages 4-9 to 5-2<83 and ages 5-3 to 5-8<92. The *Brigance* is administered by kindergarten teachers to the incoming kindergarten students during appointed screening times in the spring.

The second instrument used in this research study was a self-reported parent survey. Incorporating 18 questions in a closed-form multiple-choice format, it also contained one open-ended and three short answer questions. In addition to a survey of demographic information including family income, family structure, and parents' educational background, the survey addressed home environment issues and family characteristics. The parent letter, informed consent, and parent survey were given to the parent or primary caretaker of each incoming kindergarten student at the four selected school sites.

### *Data Collection Planning*

Initially, a letter was sent to the Director of Schools (see Appendix A) requesting permission to collect data from selected school sites within the system. The principal at each site

received a letter of intent, explaining the purpose of the study and asking permission to survey parents and access *Brigance* scores (see Appendix B).

A letter was given to the parents of each incoming kindergarten student at the selected sites (see Appendix C). The letter accompanied the Informed Consent (see Appendix D), explained the purpose of the study, and asked for parents' assistance in completing the parent questionnaire (see Appendix E). Parents were assured that all information would be confidential. Questions and concerns about the study and questionnaires were addressed as needed. The researcher made special efforts to obtain the parents' truthful cooperation in response to the questionnaire by informing them that there were no right or wrong answers to the questions and that response accuracy was important for research purposes.

The *Brigance K Screen* was administered to incoming students by kindergarten teachers during the April 2002 countywide kindergarten screening. At that time, *Brigance* student data sheets with scores were completed for each kindergarten student entering school during August 2002, with one copy given to the parent and one copy placed in the child's cumulative record.

Parents were asked to complete the survey as their children were administered the *Brigance K Screen* in an adjacent area. After each child completed the screening process, the *Brigance* score was individually explained to the parents by the screening coordinator during a private exit conference. At this time, parents returned the consent form and the completed survey. The screening coordinator noted the total *Brigance* score in the upper right corner of the corresponding survey after each conference.

### *Data Analysis*

This study describes the demographics and family/home characteristics of incoming kindergarten students and their parents through descriptive analysis. This study also investigates the relationship between characteristics of family environment and school readiness of kindergarten children entering school in a rural East Tennessee county. From research question

2, eighteen hypotheses were developed and analyzed. From research question 3, an additional five hypotheses were developed.

Ho2<sub>1</sub>: There is no significant relationship between family structure and school readiness.

Ho2<sub>2</sub>: There is no significant relationship between father's level of education and school readiness.

Ho2<sub>3</sub>: There is no significant relationship between mother's level of education and school readiness.

Ho2<sub>4</sub>: There is no significant relationship between family income and school readiness.

Ho2<sub>5</sub>: There is no significant relationship between preschool care and school readiness.

Ho2<sub>6</sub>: There is no significant relationship between reading to a child and school readiness.

Ho2<sub>7</sub>: There is no significant relationship between the child "reading" to a parent and school readiness.

Ho2<sub>8</sub>: There is no significant relationship between participation in family teaching/learning activities and school readiness.

Ho2<sub>9</sub>: There is no significant relationship between participation in educational outings and school readiness.

Ho2<sub>10</sub>: There is no significant relationship between family mealtime and school readiness.

Ho2<sub>11</sub>: There is no significant relationship between meal conversation and school readiness.

Ho2<sub>12</sub>: There is no significant relationship between frequency of television viewing and school readiness.

Ho2<sub>13</sub>: There is no significant relationship between duration of television viewing and school readiness.

Ho2<sub>14</sub>: There is no significant relationship between involvement with educational toys or hobbies and school readiness.

Ho2<sub>15</sub>: There is no significant relationship between the number of home educational tools and school readiness.

Ho2<sub>16</sub>: There is no significant relationship between the availability of a home computer and school readiness.

Ho2<sub>17</sub>: There is no significant relationship between the number of children's books in the home and school readiness.

Ho2<sub>18</sub>: There is no significant relationship between the frequency of new book acquisition or library loans and school readiness.

Ho3<sub>1</sub>: There is no significant difference in the *Brigance* scores of prekindergarten students from two-parent homes and those from other home situations.

Ho3<sub>2</sub>: There is no significant difference in the *Brigance* scores of prekindergarten students from homes with different annual income levels.

Ho3<sub>3</sub>: There is no significant difference in the *Brigance* scores of prekindergarten students based on the father's level of education.

Ho3<sub>4</sub>: There is no significant difference in the *Brigance* scores of prekindergarten students based on the mother's level of education.

Ho3<sub>5</sub>: There is no significant difference in the *Brigance* scores of prekindergarten students who stayed at home with a parent prior to school entry and those from other preschool situations.

In answer to research question 1, descriptive analyses in the form of frequency tables were used to describe basic demographics and family characteristics. Research question 2 was analyzed using two correlational analyses. Kendall's tau-b was used to identify and explore the possible relationships between the ordinal predictor variables (family characteristics) and the dependent variable (*Brigance* score). Cramer's V was used to analyze the hypotheses that explored the association between nominal variables and the *Brigance* scores. Research question 3 was analyzed using analyses of variance (ANOVAs) and independent samples t-tests. A hierarchical multiple regression was used to analyze the effects of selected independent variables on the *Brigance* scores in response to research question 4.

This chapter included information about the research design, population and sample, instrumentation, and analysis of data. Chapter 4 presents an analysis of data, and chapter 5 includes the findings, conclusions, and recommendations for further consideration.

## CHAPTER 4

### ANALYSIS OF DATA

The importance of a rich, stimulating home learning environment in the early years of a child's cognitive development cannot be underestimated. Because of the family's extraordinary influence and the evolving home environment in today's society, a study of school readiness and its relationship to specific family environment factors is significant. The purpose of this study was to investigate the relationship between family environment and school readiness of children entering kindergarten in a rural East Tennessee county.

Four research questions evolved as the primary focus of this investigation:

1. What are the characteristics of the study's participants and their home environments?
2. What is the relationship between specific home/family characteristics and kindergarten readiness?
3. Are there differences in the total *Brigance* scores of prekindergarten students from different socioeconomic status groups?
4. To what extent can socioeconomic status, literacy activities, and learning resources be used to predict kindergarten readiness?

Data were gathered from self-reported parent surveys and *Brigance K* Screen results. For research question 1, simple descriptive statistics comprised an important framework for initial analysis of data. From research question 2, 18 hypotheses were developed and statistically analyzed using Cramer's V and Kendall's tau-b. Five null hypotheses emerged from question 3; t-tests for independent samples and analyses of variance (ANOVAs) were used for analysis of the data. Question 4 was analyzed through a hierarchical multiple regression.

The study's population consisted of parents and their incoming kindergarten students preregistered in four schools in a rural East Tennessee county. The schools are identified as A,

B, C, and D. During the annually scheduled spring kindergarten registration, *Brigance K Screens* were administered to 342 students, and parent surveys were distributed. In addition to basic demographic information, the parent survey gathered information regarding home environment including family activities and educational materials within the home. Three hundred thirty-eight parents signed consent forms agreeing to participate in the study. The overall survey return and subsequent student participation rate was 99.1%. The number of participants by school is shown in Table 1.

Table 1

*Number of Study Participants by School*

<u>School</u>	<u>n screened</u>	<u>n study participants</u>	<u>%</u>
A	139	138	99.3
B	93	92	98.9
C	24	24	100
D	86	84	97.6

Possible scores on the *Brigance K Screen* range from 0-100. Overall in this study, the minimum *Brigance* score obtained was 45.5 and the maximum score was 100. Therefore, the range of scores was 54.5. The mean score for all participating students was 88.43; the median score was 93.50. Out of 338 screened students, 37 (10.9%) scored a perfect 100 on the assessment instrument. A comparison of scores by school is shown in Table 2.

Table 2

*Mean and Median Scores on the Brigance K by School*

<u>School</u>	<u>M</u>	<u>n</u>	<u>Mdn</u>	<u>% of Total n</u>
A	91.19	138	94.50	40.8
B	86.99	92	92.75	27.2
C	85.40	24	96.25	7.1
D	<u>86.33</u>	<u>84</u>	<u>90.00</u>	<u>24.9</u>
Total	88.43	338	93.50	100.0

Distribution of scores is shown in Table 3.

Table 3

*Frequency Distribution of Brigance K Screen Scores*

	<u>f</u>	<u>%</u>
45.5 - 50.0	6	1.8
50.5 - 60.0	11	3.0
60.5 - 70.0	19	5.7
70.5 - 80.0	34	10.2
80.5 - 90.0	58	17.4
90.5 - 100.0	<u>210</u>	<u>62.3</u>
Total	338	100.4*

\*Total valid % >100 due to rounding error

*Research Question 1*

What are the characteristics of the study's participants and their home environments?

When reflecting on significant family characteristics, three specific socioeconomic factors were selected for consideration: family structure, parents' educational level, and family income. Parents' occupation was also considered an important family characteristic. As shown in Table 4, 79.5% of the incoming kindergarten children lived with both parents. In one-parent families, 57 (17%) lived with the mother while 5 (1.5%) lived with the father. A small number (seven) lived with grandparents or in other situations.

Table 4

*Frequency Table: Survey Responses to "My Child lives With"*

<u>Child Lives with</u>	<u>f</u>	<u>%</u>
Both parents	267	79.5
One parent - mother	57	17.0
One parent - father	5	1.5
Grandparents	2	.6
Other	<u>5</u>	<u>1.5</u>
Total	336	100.1*

\*Total valid % >100 due to rounding error

Table 5 indicates that the majority of fathers and mothers had a high school diploma, 43.8% and 41.5% respectively. Over one fourth (26.7%) of the fathers had from 1 to 4 years of college, while 30.1% of the mothers had some college experience. Thirteen percent of the fathers attended graduate or professional school while 17.6% of the mothers had advanced

educational experience. Three percent of the surveyed parents had an eighth grade or below education.

Table 5

*Frequency Table: Survey Responses to "Father's Education and Mother's Education"*

	<u>Father's Education</u>		<u>Mother's Education</u>	
	<u>f</u>	<u>%</u>	<u>f</u>	<u>%</u>
Graduate/professional	44	13.2	59	17.6
1-4 years of college	89	26.7	101	30.1
High school graduate	146	43.8	139	41.5
Some high school	49	14.7	31	9.3
8th grade or below	<u>5</u>	<u>1.5</u>	<u>5</u>	<u>1.5</u>
Total	333	99.9*	335	100.0

\* Total valid % < 100 due to rounding error

Disclosure of annual family income was an optional survey item. However, 286 (84.6%) chose to respond. Over one third (34.6%) of the parents reported an annual income of between \$20,000 and \$40,000. Eighty-two (28.7%) of the respondents reported incomes in excess of \$50,000. Eight percent of the parents had yearly incomes of \$10,000 or less. Table 6 shows the frequencies of each income increment.

Table 6

*Frequency Table: Survey Responses to "Approximate Family Income"*

<u>Family Income</u>	<u>f</u>	<u>%</u>
\$10,000 or less	23	8.0
\$10,000 - \$20,000	44	15.4
\$20,000 - \$40,000	99	34.6
\$40,000 - \$50,000	38	13.3
Over \$50,000	<u>82</u>	<u>28.7</u>
Total	286	100.0

Parent surveys showed that approximately one fourth of fathers were employed in skilled trades (25.3%). As one might expect in a tourist-oriented county, many parents worked as store managers and in sales related and personal service (housekeeping, leisure activity) occupations. Only eight fathers were reported as being unemployed, retired, or disabled. Ninety-two (28.2%) mothers were characterized as "stay at home" mothers. Twelve fathers (3.9%) and 28 mothers (8.6%) were reported as professionals in their occupational fields. Table 7 shows occupation frequencies for both fathers and mothers.

Table 7

*Frequency Table: Survey Responses to "Father's Occupation and Mother's Occupation"*

	<u>Father's Occupation</u>		<u>Mother's Occupation</u>	
	<u>f</u>	<u>%</u>	<u>f</u>	<u>%</u>
Professional	12	3.9	28	8.6
Semi-professional/tech.	33	10.7	20	6.1
Managerial	48	15.6	33	10.1
Administrative/clerical	11	3.6	42	12.9
Law enforcement	12	3.9	2	0.6
Skilled trades	78	25.3	11	3.4
Sales	36	11.7	30	9.2
Personal service	4	1.3	52	16.0
Machine/transportation	34	11.0	2	.1
Unskilled trades	12	3.9	2	.1
Stay at home mother	0	0	92	28.2
Unemployed	6	1.9	0	0
Self-employed (not otherwise specified)	18	5.8	7	2.1
Retired	1	.3	0	0
Disabled	1	.3	0	0
Student	1	.3	5	1.5
Military service	<u>1</u>	<u>.3</u>	<u>0</u>	<u>0</u>
Total	308	99.8*	326	98.8*

Total valid % < 100 due to rounding error

Table 8 describes types of preschool care afforded the children in this study. Almost one third of the respondents (32.8%) reported that their child stayed at home with his or her parent prior to kindergarten entry. The second most frequently used form of preschool care was licensed professional childcare (24.3%). Sixty-five (19.2%) of the incoming kindergartners attended a Head Start program. Similar numbers of children were cared for in a home setting (10.4%) or a church day care (11.5%).

Table 8

*Frequency Table: Survey Responses to "Prior to Kindergarten Entry, What Best Describes Your Child's Situation?"*

	f	%
Stayed at home with parent	111	33.3
Child care in home setting	35	10.5
Licensed professional care	82	24.6
Church day care	39	11.7
Head start	65	19.5
Early childhood preschool (SPED)	<u>1</u>	<u>.3</u>
Total	333	99.9*

\*Total valid % < 100 due to rounding error

The parent survey indicated that the respondents took an active role in various literacy activities with their preschool children. Over half of the parents (52.1%) reported that they read to their children a few times a week. Similarly, 50.4% of the parents reported that the children "read" (i.e. pointed out pictures and told a story about them) to them a few times a week. Over

one third (34.3%) of the respondents said that they read to their child everyday. Almost one fourth (24.6%) responded that the child "read" to them everyday. Educational games and activities were often shared between parent and child on a daily basis (65.4%) or a few times a week (29.9%). Table 9 reflects the response frequencies.

Table 9

*Frequency Table: Survey Responses to "How Often Do You Read to Your Child? How Often Does Your Child Read to You? How Often Do You Play With or Teach Your Child?"*

	<u>Reads to Child</u>		<u>Child "Reads"</u>		<u>Educational Activities</u>	
	<u>f</u>	<u>%</u>	<u>f</u>	<u>%</u>	<u>f</u>	<u>%</u>
Everyday	116	34.3	83	24.6	221	65.4
Few times a week	176	52.1	170	50.4	101	29.9
Once a week	22	6.5	30	8.9	9	2.7
Few times a month	24	7.1	30	8.9	6	1.8
Rarely, or never	<u>0</u>	<u>0</u>	<u>24</u>	<u>7.1</u>	<u>1</u>	<u>.3</u>
Total	338	100.0	337	99.9*	338	100.1*

\* Total valid % < and > 100 due to rounding error

Based on survey results, 28.1% of the incoming students participated in educational outings a few times a month. These trips might include visiting the public library, a zoo, an aquarium, a museum, or any other place with education value. Seventy-one children (21.1%) took educational trips about once a month while 85 children (25.3%) enjoyed outings every few

months. Forty-six parents (13.7%) reported taking their children on trips with educational value about once a week. These results are shown in Table 10.

Table 10

*Frequency Table: Survey Responses to "How Often Does Your Child Visit the Public Library, a Zoo, an Aquarium, a Museum, or Other Place With Education Value?"*

	<u>f</u>	<u>%</u>
About once a week	46	13.7
A few times a month	95	28.3
About once a month	71	21.1
Every few months	85	25.3
1-2 times a year	<u>39</u>	<u>11.6</u>
Total	336	100.0

Also considered in the category of literacy activities was the time spent together by families at the dinner table. A majority of parents (233) reported that the family dined together on a daily basis (68.9%). Even more (296) recorded that while eating together, there was some talk by the entire family (88.1%). Eighty-seven respondents (25.7%) said that their family ate together a few days a week. Twenty-six parents (7.7%) said that the children did most of the talking during meals. Tables 11 and 12 reflect the frequency of families eating together and the conversation patterns respectively.

Table 11

*Frequency Table: Survey Responses to "How Often Does Your Family Sit Down for a Meal Together?"*

	<u>f</u>	<u>%</u>
Everyday	233	68.9
Few times a week	87	25.7
About once a week	11	3.3
Few times a month	4	1.2
Does not eat together	<u>3</u>	<u>.9</u>
Total	338	100.0

Table 12

*Frequency Table: Survey Responses to "When Your Family Eats Together, Who Does the Talking?"*

	<u>f</u>	<u>%</u>
Talk by entire family	296	88.1
Talk, mostly by adults	7	2.1
Child does most talking	26	7.7
Limited or no talking	6	1.8
Family does not eat together	<u>1</u>	<u>.3</u>
Total	336	100.0

In the parent survey, two questions were specifically related to aspects of television viewing. As shown in Table 13, an overwhelming majority of parents (315) indicated that their children watched some amount of television every day (93.5%). Only one parent reported rare

or no use of the television. The survey also revealed that 128 children (38.1%) watched television for 2 hours and 91 children (26.9%) for 3 hours on an average weekday. Sixty-one children (18.2%) watched television for 4 or more hours as shown in Table 14.

Table 13

*Frequency Table: Survey Responses to "How Often Does Your Child Watch Television?"*

	<u>f</u>	<u>%</u>
Everyday	315	93.5
Few days a week	21	6.2
About once a week	0	0
Few times a month	0	0
Rarely, almost never	<u>1</u>	<u>.3</u>
Total	337	100.0

Table 14

*Frequency Table: Survey Responses to "On an Average Weekday, How Many Hours of Television Will Your Child Watch?"*

	<u>f</u>	<u>%</u>
4 or more hours	61	18.2
3 hours	91	27.1
2 hours	128	38.1
1 hour	54	16.1
None	<u>2</u>	<u>.6</u>
Total	336	100.1*

\* Total valid % > 100 due to rounding error

Four questions in the parent survey related to learning tools: child interaction with educational toys and hobbies, number of specifically named educational materials in the home, number of children's books, and frequency of new book purchases and library loans. Based on the survey, 198 respondents (58.8%) reported that their children were involved with educational toys or hobbies every day during the year before kindergarten screening. Additionally, 116 parents (34.4%) replied that their youngsters played with toys or participated in hobbies of some educational value a few days a week. Combined, this accounted for 93.2% of the total 337 children who were screened (Table 15).

Table 15

*Frequency Table: Survey Responses to "How Often Over the Past Year Has Your Child Been Involved With Toys or Hobbies That You Feel Have Educational Value?"*

	<u>f</u>	<u>%</u>
Everyday	198	58.8
Few times a week	116	34.4
Once a week	12	3.6
Few times a month	8	2.4
Rarely, almost never	<u>3</u>	<u>.9</u>
Total	337	100.1*

\*Total valid % > 100 due to rounding error

As shown in Table 16, only 15 parents (4.5%) reported having none of the specifically named educational resources in their home. In contrast, 134 respondents (39.8%) had 2 to 3 materials. Thirty percent (101) of parents had all 5 materials including an encyclopedia,

dictionary, almanac, atlas, and computer in their home. As indicated in Table 17, the specific availability of computers was corroborated by a later survey question that indicated that out of 332 respondents, 264 (79.5%) of the surveyed participants had a computer in their home.

Table 16

*Frequency Table: Survey Responses to "Of the Following Materials - Encyclopedia, Dictionary, Almanac, Atlas, Computer - How Many Do You Have in Your Home?"*

	<u>f</u>	<u>%</u>
All of the above	101	30.0
4	56	16.6
2-3	134	39.8
1	31	9.2
None of the above	<u>15</u>	<u>4.5</u>
Total	337	100.1*

\*Total valid % > 100 due to rounding error

Table 17

*Frequency Table: Survey Responses to Availability of Home Computer*

	<u>f</u>	<u>%</u>
Yes	264	79.5
No	<u>68</u>	<u>20.5</u>
Total	332	100.0

A majority of survey respondents (73.9%) reported that the number of children's books in their homes was 40 or more. Considering that an additional 48 parents (14.2%) reported the

availability of between 30 to 40 books in the home, this would suggest the possibility of abundant exposure to print materials for the incoming kindergarten children. As reported in Table 18, only 2 parents recorded fewer than 10 books in their homes.

Table 18

*Frequency Table: Survey Responses to "How Many Children's Books Do You Have in Your Home?"*

<u>Children's Books</u>	<u>f</u>	<u>%</u>
Over 50	249	73.9
30-40	48	14.2
20-30	29	8.6
10-20	9	2.7
Fewer than 10	<u>2</u>	<u>.6</u>
Total	337	100.0

As shown in Table 19, most respondents borrowed books from the library or bought books for their children a few times a month (45.2%) or once a month (34.8%). Only three parents reported purchasing new books or borrowing from the library two times or fewer per year.

Table 19

*Frequency Table: Survey Responses to "How Often Does Your Child Get a New Book From the Store or Library?"*

	<u>f</u>	<u>%</u>
Every week	35	10.4
Few times a month	152	45.2
About once a month	117	34.8
Few times a year	29	8.6
2 times or less a year	<u>3</u>	<u>.9</u>
Total	336	99.9*

\* Total valid % < 100 due to rounding error

Parent responses to the open-ended question, "What do you think is the most important thing you have done to prepare your child for school?" substantiated the overall multiple-choice survey results. Rather than naming a single most important means of school preparation, parents often responded with several measures they considered important in preparing their child for school. Three hundred seven parents responded with 583 comments regarding preparation for school. Shared teaching and learning activities between parent and child were mentioned on 169 surveys (29.0%) as an important preparation for kindergarten. Reading to the child was named 107 times (18.4%) by parents as important preparation for school. Not previously measured in the multiple-choice format was the importance of a nurturing home environment, rich in conversation and interaction with both peers and adults; yet, it was cited 120 times (20.6%) by respondents in answer to the open-ended question. Different day care options were named as important methods of school preparation but with much less frequency. Table 20 lists the answers given by parents; they are categorized in descending order based on the frequency found in the written short answer.

Table 20

*Frequency Table: Written Survey Responses to “What Do You Think Is the Most Important Thing You Have Done to Prepare Your Child for School?”*

	<u>f</u>	<u>% of Total N</u>
Teaching/learning activities	169	29.0
Home environment	120	20.6
Reading to child	107	18.4
Educational preschool	39	6.7
Head start	39	6.7
Day care/mother’s day out	34	5.8
Computer	26	4.5
Teaching self help skills	21	3.6
Older siblings	12	2.1
Stay at home mom	8	1.4
Church	4	.7
Monitoring television	<u>4</u>	<u>.7</u>
Total	583	100.0

*Research Question 2*

What is the relationship between specific home/family characteristics and kindergarten readiness?

From question 2, eighteen statistical hypotheses were developed and analyzed. Kendall's tau-b was used to measure the degree of association between the selected ordinal variables and school readiness. Cramer's V was used to test the relationship between the nominal independent variables and school readiness. In these analyses, the *Brigance* scores were broken into the

following categories: 45.5-69.5; 70.0-79.5; 80.0-89.5; 90.0-100.0. The eighteen null hypotheses were as follows:

Ho2<sub>1</sub>: There is no significant relationship between family structure and school readiness.

Ho2<sub>2</sub>: There is no significant relationship between father's level of education and school readiness.

Ho2<sub>3</sub>: There is no significant relationship between mother's level of education and school readiness.

Ho2<sub>4</sub>: There is no significant relationship between family income and school readiness.

Ho2<sub>5</sub>: There is no significant relationship between preschool care and school readiness.

Ho2<sub>6</sub>: There is no significant relationship between reading to a child and school readiness.

Ho2<sub>7</sub>: There is no significant relationship between the child "reading" to a parent and school readiness.

Ho2<sub>8</sub>: There is no significant relationship between participation in family teaching/learning activities and school readiness.

Ho2<sub>9</sub>: There is no significant relationship between participation in educational outings and school readiness.

Ho2<sub>10</sub>: There is no significant relationship between family meal time and school readiness.

Ho2<sub>11</sub>: There is no significant relationship between meal conversation and school readiness.

Ho2<sub>12</sub>: There is no significant relationship between frequency of television viewing and school readiness.

Ho2<sub>13</sub>: There is no significant relationship between duration of television viewing and school readiness.

Ho2<sub>14</sub>: There is no significant relationship between involvement with educational toys or hobbies and school readiness.

Ho2<sub>15</sub>: There is no significant relationship between the number of home educational tools and school readiness.

Ho2<sub>16</sub>: There is no significant relationship between the availability of a home computer and school readiness.

Ho2<sub>17</sub>: There is no significant relationship between the number of children's books in the home and school readiness.

Ho2<sub>18</sub>: There is no significant relationship between the frequency of new book acquisition or library loans and school readiness.

The following analyses will serve to answer research question 2. The significance tests are summarized and shown in Table 21.

Table 21

*Correlations of Each Independent Variable and School Readiness*

<u>Variable</u>	<u>n</u>	<u>tau-b</u>	<u>Cramer's V</u>	<u>p</u>
Family structure (2-parent vs. other)	336		.193**	.000
Father's education	333	.267**		.000
Mother's education	335	.247**		.000
Family income	286	.295**		.000
Preschool care (home with parent vs other)	333		.176**	.001
Parent reads to child	338	.141**		.004
Child "reads" to parent	337	.028		.578
Teaching/learning activities	338	.042		.417
Educational outings	336	.161**		.001
Family meal time	338	.033		.519

Table 21 (continued)

<u>Variable</u>	<u>n</u>	<u>tau-b</u>	<u>Cramer's V</u>	<u>p</u>
Meal conversation	336		.164**	.008
Television viewing (frequency)	337	-.045		.356
Television viewing (duration)	336	-.144**		.002
Educational toys/hobbies	337	.019		.723
Educational tools	337	.137**		.008
Home computer	332	.127*		.028
Number of children's books	337	.170**		.002
New books/library loans	336	.080		.127

\*statistically significant at .05

\*\*statistically significant at .01

Out of 18 null hypotheses, only 6 were retained. Based on the analyses, there was no relationship between the *Brigance* scores and the following variables: child "reads" to parent, participation in family teaching/learning activities, frequency of family meal times, frequency of television viewing, child's involvement with educational toys or hobbies, and the frequency of new book acquisition. Significant positive correlations existed between the remaining variables and *Brigances* scores with the exception of the duration of television viewing. A negative correlation indicated that as the number of viewing hours increased, children's *Brigance* scores significantly decreased ( $p = .01$ ). As a whole, the identified nonprocess variables directly corresponding to socioeconomic factors (family structure, parents' education, and family income) were more strongly related to higher *Brigance Screens* than were the identified process variables.

### *Research Question 3*

Are there differences in the total *Brigance* scores of prekindergarten students from different socioeconomic status groups?

Four socioeconomic variables were identified in the course of this study including family structure (2-parent family vs. other situations) and family income (annual incomes of \$10,000. or below, \$10,000-\$20,000, \$20,000-\$40,000, \$40,000-\$50,000, and \$50,000. and above). Also included as socioeconomic variables were father and mother's education (graduate or professional school, 1-4 years of college, high school graduate, some high school, and 8<sup>th</sup> grade or below). In addition, type of preschool care the child received was included in this analysis (stayed at home with parent, or other child care including care in home setting, licensed child care center, church day care, and Head Start). Therefore, from research question 3 emerged five null hypotheses for analysis:

Ho3<sub>1</sub>: There is no significant difference in the *Brigance* scores of prekindergarten students from two-parent homes and those from other home situations.

Ho3<sub>2</sub>: There is no significant difference in the *Brigance* scores of prekindergarten students from homes with different annual income levels.

Ho3<sub>3</sub>: There is no significant difference in the *Brigance* scores of prekindergarten students based on the father's level of education.

Ho3<sub>4</sub>: There is no significant difference in the *Brigance* scores of prekindergarten students based on the mother's level of education.

Ho3<sub>5</sub>: There is no significant difference in the *Brigance* scores of prekindergarten students who stayed at home with a parent prior to school entry and those from other preschool situations.

In comparing differences, an independent samples t-test was used to test Ho3<sub>1</sub> and Ho3<sub>5</sub>. A one-way analysis of variance (ANOVA) was used to investigate the differences in Ho3<sub>2</sub>, Ho3<sub>3</sub>, and Ho3<sub>4</sub>. Each hypothesis test is presented below.

Ho3<sub>1</sub>: There is no significant difference in the *Brigance* scores of prekindergarten students from two-parent homes and those from other home situations ( $p = .00$ ).

As shown in Table 22, there was a statistically significant difference in the mean scores of those children who lived in two-parent homes and those who lived in other family structures such as single mother, single father, grandparent, or other. The null hypothesis was rejected. Children from two-parent homes scored an average 89.61 on the *Brigance* compared to 83.61 for those children in other family structures.

Table 22

*t-test Comparison of Means by Family Structure*

<u>Family Structure</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>t</u>	<u>p</u>
Other situation	69	83.61	13.24	3.64	.00
2-parent home	267	89.61	11.93		

Ho3<sub>2</sub>: There is no significant difference in the *Brigance* scores of prekindergarten students from homes with different annual income levels.

An analysis of variance (ANOVA) was used to determine if children from higher income homes scored more proficiently on the *Brigance K Screen*. The results shown in Table 23 indicate that at the extreme limits of the income range, a significant difference was found with an overall  $F=14.28$ ,  $p = .00$ . Children from homes with annual incomes of over \$50,000 scored an average of over 13 points higher on the *Brigance* than those children from homes with annual incomes of \$10,000 or less. The null hypothesis was rejected.

Table 23

*Analysis of Variance (ANOVA) Comparison of Means of Brigance K Screen by Income Level*

<u>Income</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>F</u>	<u>p</u>	<u>Tukey LSD PostHoc Comparison</u>
(1) \$10,000 or below	23	80.89	17.55	14.28	.00	< 3,4,5
(2) \$10,000-\$20,000	44	79.75	14.04			< 3,4,5
(3) \$20,000-\$40,000	99	89.06	11.07			> 1,2 < 5
(4) \$40,000-\$50,000	38	90.33	10.70			> 1,2
(5) Over \$50,000	82	93.92	7.24			> 1,2,3

Ho3<sub>3</sub>: There is no significant difference in the *Brigance* scores of prekindergarten students based on the father's level of education.

Ho3<sub>4</sub>: There is no significant difference in the *Brigance* scores of prekindergarten students based on the mother's level of education.

An analysis of variance (ANOVA) was again used to determine if parents' education level was reflected in the *Brigance* scores of the incoming students, and once again, the null hypothesis was rejected. Children whose father had attended graduate or professional school obtained an average score of 93.68 while children whose father had an 8<sup>th</sup> grade or below education scored an average 76.50 ( $F=10.56$ ,  $p = .00$ ). Children's scores increased with the amount of education that the fathers had completed. Results were similar in regard to the mother's educational status. The children with mothers who had attended graduate or professional school had average scores ( $\underline{M} = 93.19$ ) that were almost 20 points higher than their counterparts whose mothers had an 8<sup>th</sup> grade education or less ( $\underline{M} = 73.80$ ). Both null hypotheses were rejected. Results are shown in Tables 24 and 25.

Table 24

*Analysis of Variance (ANOVA) Comparison of Means of Brigance K Screen by Father's Educational Level.*

<u>Educational Level</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>F</u>	<u>p</u>	<u>Tukey LSD PostHoc Comparison</u>
(1) 8th grade or below	5	76.50	25.34	10.56	.00	<3, 4, 5
(2) Some high school	49	81.09	15.72			< 3, 4, 5
(3) High school graduate	146	87.90	11.15			> 1, 2 < 4, 5
(4) 1-4 years college	89	91.96	9.81			> 1, 2, 3
(5) Graduate/professional	44	93.68	8.87			> 1, 2, 3

Table 25

*Analysis of Variance (ANOVA) Comparison of Means of Brigance K Screen by Mother's Educational Level.*

<u>Educational Level</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>F</u>	<u>p</u>	<u>Tukey LSD PostHoc Comparison</u>
(1) 8th grade or below	5	73.80	15.44	11.52	.00	< 3, 4, 5
(2) Some high school	31	77.76	17.99			< 3, 4
(3) High school graduate	139	87.90	11.80			> 1,2 < 5
(4) 1-4 years college	101	90.33	10.98			> 1, 2, 3
(5) Graduate/professional	59	93.19	7.73			> 1, 2, 3

Ho3<sub>5</sub>: There is no significant difference in the *Brigance* scores of prekindergarten students who stayed at home with a parent prior to school entry and those from other preschool situations.

Table 26 shows that there was a significant difference between the means of the two groups. The mean for those children who had preschool experiences outside of the home was significantly higher ( $M = 90.51$ ) than that of the children who stayed at home with a parent prior to school entry ( $M = 84.87$ ). The null hypothesis was rejected.

Table 26

*t*-test Comparison of Means by Preschool Care

<u>Preschool Care</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>t</u>	<u>p</u>
Other situations	221	91.51	10.56	4.08	.00
Stayed at home	111	84.87	14.16		

#### *Research Question 4*

To what extent can socioeconomic status, literacy activities, and learning resources be used to predict kindergarten readiness?

A hierarchical multiple regression analysis was used to answer research question 4. The regression analyzed the effects of three independent variables (socioeconomic status, learning tools, and literacy activities) on the dependent variable (*Brigance* score). The factors in each variable were those identified as significant in the correlation analyses. Family structure, the family's income, father's education, and mother's education were considered important socioeconomic predictors in model one. Literacy activities included in model two were time spent by a parent reading to the child (everyday, few times a week, once a week, few times a month, rarely almost never), shared teaching/learning activities ("teaching" the child everyday,

few times a week, once a week, few times a month, rarely almost never), educational outings (visits to educational venues once a week, few times a month, once a month, every few months, 1-2 times yearly), and conversation during meals (talk by entire family, mostly adult talk, mostly child talk, limited or no talk, family does not eat together). The availability of a home computer, number of specific learning resources, and number of children's books in the home were considered significant as learning resources and were included in model three. For the purpose of this study, the regression was a three-step process. The first step tested the effect of the socioeconomic variable on the *Brigance* scores. The second step tested the effect of the socioeconomic variable and the literacy activity variable. Finally, the third step added the effect of the learning resource variable with both the socioeconomic and literacy activity variables. Table 27 shows a comparison of the effects of the independent variables (socioeconomic status, literacy resources and literacy activities) on the dependent variable (*Brigance* scores).

Table 27

*Hierarchical Multiple Regression Analysis of the Effects of Independent Variables on Brigance Scores*

	<u>Socioeconomic Predictors</u>			<u>Socioeconomic and Resource Predictors</u>			<u>Socioeconomic, Resource, and Activity Predictors</u>		
	<u>b</u>	<u>Beta</u>	<u>p</u>	<u>b</u>	<u>Beta</u>	<u>p</u>	<u>b</u>	<u>Beta</u>	<u>p</u>
<u>Socioeconomic Variables</u>									
Family income	68.90	.24	.00*	1.89	.20	.00*	1.63	.17	.01*
Family structure	-.70	-.04	.51	-.41	-.02	.70	-.90	-.05	.38
Father's education	2.25	.17	.01*	1.91	.15	.02*	2.41	-.19	.00*
Mother's education	1.49	.11	.07	1.01	.08	.24	.61	.05	.47

Table 27 (continued)

	<u>Socioeconomic Predictors</u>			<u>Socioeconomic and Resource Predictors</u>			<u>Socioeconomic, Resource, and Activity Predictors</u>		
	<u>b</u>	<u>Beta</u>	<u>p</u>	<u>b</u>	<u>Beta</u>	<u>p</u>	<u>b</u>	<u>Beta</u>	<u>p</u>
<u>Literacy resources Variables</u>									
Home computer				-.21	-.01	.91	-.73	-.03	.69
Number of books				2.53	.17	.00*	1.39	.10	-.11
Educational tools				.88	.08	.20	-.43	.04	.52
<u>Literacy activities Variables</u>									
Parent reads							1.00	.07	.22
Educational outings							1.21	.13	.03*
Mealtime conversation							1.73	.11	.06
	R <sup>2</sup> = .18			R <sup>2</sup> = .22			R <sup>2</sup> = .25		
	F = 15.20			F = 15.20			F = 8.73		
	p = .00			p = .00			p = .00		

\*statistically significant at the .05 level

Table 27 shows that socioeconomic variables accounted for 18% of the variance of *Brigance* scores among incoming kindergarten students in this study ( $R^2 = .18$ ). Family income and father's education were statistically significant ( $p = .00$  and  $p = .01$  respectively). When literacy resources were added in the second regression model, the percentage of variance increased to 22% ( $R^2 = .22$ ); while statistically controlling for the socioeconomic factors, only the number of children's books in the home was statistically significant ( $p = .00$ ). Family income and father's education remained significant. The availability of a home computer and

educational tools had no impact. When literacy activity variables were added in the third regression model, educational outings were statistically significant along with family income and father's education. The percentage of variance in the *Brigance* increased another 3% ( $R^2 = .25$ ). The multiple regression showed that the identified socioeconomic factors most significantly impacted the *Brigance* scores, although resource and activity predictors could account for 7% of the variance in scores. The socioeconomic and literacy resource variables together had more impact on the *Brigance* scores than the socioeconomic variable alone; likewise, the three combined three variables impacted the scores even more significantly.

This chapter included an analysis of data. In Chapter 5, the findings are summarized and interpreted and from the analysis, conclusions are made. In addition, recommendations for further consideration are included.

## CHAPTER 5

### FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of the study was to investigate the relationship between family environment and school readiness of children entering kindergarten. The study's population consisted of parents and their children who were incoming kindergarten students preregistered in four schools in a rural East Tennessee county. The 4 selected schools were geographically and structurally diverse: small K-8, mid-sized K-4, mid-sized K-3, and large K-2. Each year the 4 schools house approximately 50% of the 800+ kindergarten students in the county. Although 342 preschool children were screened, 4 parents chose not to participate. Therefore, 338 parents signed consent forms to participate in the study. Data were examined through analysis of self-reported parent surveys and *Brigance K Screen* results.

The parent questionnaire surveyed demographic information and home environment issues. Primarily incorporating a multiple-choice format, it also contained one open-ended and three short-answer questions. Parents were asked to complete the survey as their children were assessed during the annual prekindergarten screening days in the spring prior to kindergarten enrollment. The *Brigance K Screen* is routinely administered to all incoming kindergarten students before entry into the county system. It is both criterion and norm-referenced and provides information not only about the child's mastery of critical readiness skills but also about how the child's performance compares with that of other children.

The findings of the study were analyzed using the Statistical Package for the Social Sciences (SPSS) software program, which is designed to analyze and display data (Gall et al., 1996). Although analyses were done to identify relationships between variables, the findings were basically descriptive in nature. The data were initially analyzed using frequency tables to identify basic demographic information or patterns. Kendall's tau-b and Cramer's V were used

to examine the relationships between the dependent variable (*Brigance* scores) and independent variables. One-way analyses of variance (ANOVAs) and t-tests were used to analyze the differences in test scores between groups. Finally, a hierarchical multiple regression analysis was used to analyze the effects of socioeconomic status, learning tools, and literacy activities on *Brigance* scores.

### *Findings*

With 338 participants, the participation and survey return rate for the study was excellent at 99.1%. The mean score of the *Brigance* for all participating students was 88.43. A difference of less than five points existed between the means of the highest and lowest achieving schools. The findings were summarized as responses to the four basic research questions.

#### *Research Question 1*

What are the characteristics of the study's participants and their home environments?

Frequency distributions indicated that a majority (79.5%) of the preschool children lived in a two-parent home. Most parents had a high school diploma or some college experience. Over one third of the parents disclosed an income of between \$20,000 and \$40,000. Frequency tables showed the most common occupation for fathers was a skilled trade, and almost one third of mothers stayed at home with the children. Most women who worked outside the home maintained administrative or clerical positions or worked in personal service jobs such as hotel housekeeping. The overall description of occupational status was reinforced by the question regarding preschool experiences in that almost one third of the respondents reported that their child stayed at home with a parent prior to school entry.

The parent survey indicated that over one half of the parents read to their child and the child “read” to them a few times a week. Educational activities and teaching games were initiated on a daily basis by over 65% of the respondents. Parent responses to the open-ended

question regarding the most important thing done to prepare their child for school strongly reinforced these statistics. The importance of teaching/learning activities was mentioned most, at 169 times; reading to the child was the third most frequent reply with 107 responses. The highest frequencies of educationally related outings were distributed between a few times a month (28.3%), about once a month (21.1%), and every few months (25.3%), which accounted for almost 75% of the responses. Over two-thirds of the families dined together daily, and 88.1% of those eating together experienced shared conversations by the entire family.

Survey results indicated that television remains an integral part of the home environment with 315 (93.5%) parents reporting that their children watched some television everyday. Over one third of the incoming students watched an average of two hours of television on a typical weekday. This was less than the three to five hours suggested by earlier studies (Gunter & McAleer, 1990).

Educational toys and hobbies were an everyday pastime for over half of the incoming students. An additional third of the respondents indicated that educational play took place a few days a week. Almost 40% of the surveyed homes had two to three of the educational tools that included an encyclopedia, dictionary, almanac, atlas, and computer. Almost 80% of the parents reported having a home computer. Children's books were an important component of the family environment with 88.1% reporting 30 or more books in the home. Over 45% of the children acquired a new book from the store or library a few times a month.

Parent comments to the open-ended question about preparation for school were most revealing with 120 responses emphasizing a factor not addressed in the multiple-choice format-- the importance of a warm caring environment. Typical comments included the importance of "together time," "a secure and loving home environment," "being supportive," and "respect." Remarks also included the significance of "manners," "caring," "talking and answering questions about everything," and "self-confidence." Another emphasized "teaching him to be kind, honest, and loving." One parent took advantage of the "teachable moments in everyday life." Parent

comments supported earlier research findings that pinpointed the importance of a home environment characterized by a warm accepting atmosphere with shared reading and open conversation (Barclay, Benilli, & Curtis, 1995; Snow, et al., 1991).

### *Research Question 2*

What is the relationship of specific home and family characteristics to kindergarten readiness?

The analysis of relationships in this study indicated that family income was more closely related to success on the *Brigance K Screen* than any other variable; there was a positive relationship between family income and *Brigance* scores ( $r = .295$ ). Generally, students with higher *Brigance* scores came from families with higher incomes. Next in importance were the levels of fathers' education and mothers' education. These findings support previous studies that found certain nonprocess (socioeconomic) factors relate more significantly to school success than the factors identified in this study as process variables. Socioeconomic factors including family income, family structure, and parents' education do play a statistically significant role in the school readiness of kindergarten children. In addition, the importance of parents' reading to their children, educational outings, two-way conversation at mealtime, availability of certain educational tools--including a computer, and the number of children's books in the home are also indicators of student success. A significant negative correlation was found between the duration of television viewing and *Brigance* scores; increased television viewing time was significantly related to lower test scores.

### *Research Question 3*

Are there differences in the total *Brigance* scores of prekindergarten students from different socioeconomic status groups?

Each of the five null hypotheses was rejected. Children from two-parent homes scored significantly higher on the *Brigance* than those from other home situations. Interestingly, those children who had preschool experiences outside of the home scored significantly higher than those who stayed at home with a parent prior to kindergarten entry. In addition, students with higher scores came from families with higher incomes. Finally, there were statistical differences in scores of students based on the parents' education level. Children whose parents had attained higher levels of education generally scored higher than those whose parents were less educated.

#### *Research Question 4*

To what extent can socioeconomic status, literacy activities, and learning resources be used to predict kindergarten readiness?

The multiple regression reinforced the statistical significance and magnitude of the relationship between socioeconomic factors and school readiness. Socioeconomic variables had the strongest impact on *Brigance* scores, but literacy tools and literacy activities also accounted for variance in the scores. This contrasted with earlier studies that suggested home environment rather than socioeconomic status predicted student achievement (Iverson & Walberg, 1982; Walberg, 1984a; White, 1982).

#### *Conclusions*

As we travel through the 21st century, we must continue to realize the importance of all aspects of the home environment as they relate to the academic success of our children. As with earlier endeavors during the last two decades, the findings in this study are mixed. However, two conclusions are clear.

First, the results of the study iterated the correlation between socioeconomic factors such as family income, parents' education, and family structure to school readiness that has been

frequently summarized in earlier findings. Socioeconomic factors do play a significant role in the school readiness of kindergarten students.

Secondly, home environment is still vitally important to a child's academic development. Reading and playing educational games with a child, enjoying educationally oriented outings, two-way conversation with adults and peers, and the availability of books and other educational tools--including a computer, were all important aspects of the home environment that significantly contributed to school readiness. Therefore, the conclusion drawn by Mattox (1995) remains quite relevant: What families actually do really matters. Values, habits, and relational dynamics are all at work within the family environment.

In many respects, it is unfortunate that family income has such a pervasive influence on the readiness of kindergarten children. Financial issues can either directly or indirectly affect many aspects of the home environment. Annual family income often dictates the availability of computers, books, and other educational tools within the home. It also influences the type of preschool care a child receives. Family income indirectly affects the amount of time that parents spend with their child. Parents who must labor extended hours, work second or third shifts, or hold two jobs just to make enough money to feed and clothe the family may find it difficult or impossible to spend time on a family outing, enjoy a meal together, or play and read. Generally, lower income parents are also less educated. This represents a complex and unyielding cycle that is disheartening to many educators. However, at the same time, it presents a challenge to public schools to set goals and raise expectations for all students to succeed academically, regardless of socioeconomic status.

Although schools cannot effect transformation in a family's socioeconomic situation, they can promote positive change in many of the process variables mentioned in this study through improved parent education and intervention programs, early childhood education, and relevant teacher education programs. Other community agencies can be called upon to guide and assist parents in providing optimal educational environments for their preschoolers.

Importantly, as society bemoans the idea of a breakdown in family units, it was especially interesting to read parent comments that spoke directly to the importance of family togetherness, mutual respect, two-way conversation, and the importance of character traits such as honesty and kindness. As they work and interact with parents, perhaps educators and other community agencies can also promote the importance of these characteristics and qualities to the overall development of children.

It should be noted that this study was done in the aftermath of the September 11, 2001, terrorist attack on the United States. This horrific event has seemingly led to a resurgence of patriotism with an added emphasis on family, personal character, values, and good citizenship. It is uncertain if this tragedy affected parent comments; however, the current world situation obviously represents a real life opportunity for the educational community to build on these important character traits.

#### *Recommendations*

1. A naturalistic inquiry or direct observation of the home environment and family characteristics would present a different variation of this research. In addition to being more insightful, this method would eliminate sole reliance upon parental perceptions and memory as a data source.
2. Proximal (face to face) interviews would provide an additional variation of this research. This method would minimize any problems with lack of reading skills or lack of understanding on the part of the parent.
3. An additional open-ended question asking parents what could be done to assist them as they prepare their child for school could provide additional ideas and opinions for schools and community agencies to consider.
4. Further correlation studies involving the same variables could be conducted with larger samples of preschoolers from various geographical locations to determine whether or not

the results from this sample can be generalized to the larger population. It would be particularly interesting to compare percentages of two-parent families and “stay at home” moms in other samples from various locations.

5. As several of the home characteristic variables were found to be significantly related to readiness for kindergarten, it is recommended that educators consider more thoroughly the home environment of the students and possible early intervention strategies. More time and money should be allocated to educating parents about the importance of the home environment and school readiness. Educators should encourage parents to invest more time reading to their children and sharing educational activities with them. An abundance of reading materials should be made available to a child throughout his or her life. If parents are not able to financially afford a variety of books, educators should strongly promote use of the community library. Educators should also strongly encourage parents to monitor the amount of time children watch television.
6. Schools should make every effort to engage parents in an educational partnership by providing various opportunities for parent involvement. This can be done even prior to official school entry through community-oriented activities. Recognizing that not all parents have regular working hours, activity days and times should be flexible.
7. With the acknowledgment that family ethos is constantly changing and that specific family and home characteristics are closely aligned with school readiness and later school achievement, it is recommended that educators continue to acquire and update knowledge in this area.

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## APPENDICES

### APPENDIX A

#### Letter to Superintendent

Dear \_\_\_\_\_:  
(Director of Schools)

As part of the requirements toward the completion of a Doctor of Education degree at East Tennessee State University, I am planning to complete a study of how identified home and family characteristics are related to kindergarten readiness. Procedures will include analysis of parent responses to a questionnaire and kindergarten *Brigance* scores. This letter is to request your permission for N School, N School, N School, and N School to participate in this study.

As an educator, I feel it is important to address individual needs of our students. We can best accomplish this through an understanding of home environment. With the acknowledgement that family background is an important contributor to achievement outcomes, it becomes imperative that educators continue to acquire knowledge in this area. This particular study will contribute to current research by focusing on family characteristics and the home environment of the kindergarten child while attempting to determine factors that strongly correlate with school readiness. The study will have practical significance in updating previous research, which, in turn, may have implications for parent and teacher education. This study will also determine which characteristics of the home environment are most conducive to promoting school readiness, so that schools and other community agencies can guide and assist parents in providing optimal educational environments for their preschoolers.

Upon completion, I will be happy to share the results of my study with you.

I appreciate your consideration. If you have any further questions, do not hesitate to call me at NNNNNNN.

Sincerely,

Nancye C. Williams

APPENDIX B

Letter to Principal

Dear \_\_\_\_\_:  
(Principal)

As part of the requirements toward the completion of a Doctor of Education degree at East Tennessee State University, I am planning to complete a study of how identified home and family characteristics are related to kindergarten readiness. Procedures will include analysis of parent responses to a questionnaire and kindergarten *Brigance* scores. This letter is to request your permission for  (name of school)  to participate in this study.

As an educator, I feel it is important to address individual needs of our students. We can best accomplish this through an understanding of home environment. With the acknowledgement that family background is an important contributor to achievement outcomes, it becomes imperative that educators continue to acquire knowledge in this area. This particular study will contribute to current research by focusing on family characteristics and the home environment of the kindergarten child while attempting to determine factors that strongly correlate with school readiness. The study will have practical significance in updating previous research, which, in turn, may have implications for parent and teacher education. This study will also determine which characteristics of the home environment are most conducive to promoting school readiness, so that schools and other community agencies can guide and assist parents in providing optimal educational environments for their preschoolers.

Upon completion, I will be happy to share the results of my study with you.

I appreciate your consideration. If you have any further questions, do not hesitate to call me at NNNNNNN

Sincerely,

Nancye C. Williams

## APPENDIX C

### Letter to Parents

Dear \_\_\_\_\_:  
(Parent)

In order to meet the requirements for a doctoral degree from East Tennessee State University, I am currently doing a study about the relationship between home environment and readiness for kindergarten. I need your help!

Attached you will find two documents. The first is an Informed Consent, a required form that simply says you are willing to participate in the study. The second is a simple parent survey containing items about different aspects of the home environment. Would you please take time to complete the survey? Your survey will be matched with your child's PreK screening score (*Brigance*). Surveys and scores will be completely anonymous.

Your survey is very important to the success of this study, and I certainly appreciate your time and help! If you have any questions, please feel free to call me at NNNNNNNN.

Sincerely,

Nancye C. Williams

APPENDIX D

Informed Consent

**East Tennessee State University  
Veterans Affairs Medical Center  
INSTITUTIONAL REVIEW BOARD**

**PRINCIPAL INVESTIGATOR:** Nancye C. Williams

**TITLE OF PROJECT:** The Relationship of Home Environment and Kindergarten Readiness

**PURPOSE:** The purpose of this research study is to investigate the relationship between family environment and school readiness of children in kindergarten at selected schools in Sevier County. Similar research has been conducted in the past by other researchers throughout the country.

**DURATION:** The survey instrument is brief and should take only 5 to 10 minutes to complete.

**PROCEDURES:** The instrument to be used in this study is a simple instrument calling for participants to respond by circling multiple choice answers. The instrument does not request participants' names, but it does contain an identification number that is strictly to permit matching your survey form with your child's *Brigance* score. In no way will the identification number be used to determine participant identity.

**POSSIBLE RISKS/DISCOMFORTS:** No risks or discomforts should be associated with this research, nor is there any direct benefit or compensation to the volunteer participants. Any potential benefit to the participant would arise from that individual's reflection upon the items contained on the survey instrument and his or her personal reaction to those items. The study will have practical significance in updating previous research, which in turn may have implications for both parent and teacher education. This study will also provide information about which characteristics of the home environment are most conducive to promoting school readiness, so that schools and other community agencies can guide and assist parents in providing optimal educational environments for their preschoolers.

**CONTACT FOR QUESTIONS:** If you have any questions or concerns, please contact Nancye Williams at NNN-NNNN. You may also call the chairman of the Institutional Review Board at NNN-NNNN for any questions you may have about your rights as a research participant.

CONFIDENTIALITY: Every attempt will be made to see that participants and test scores are kept confidential. A copy of the records from this study will be stored in the Educational Leadership and Policy Analysis Department for at least 10 years after the end of this research. The results of this study may be published and/or presented without naming you as a participant. Although your rights and privacy will be maintained, the Secretary of the Department of Health and Human Services, the East Tennessee State University/V.A. Medical Center Institutional Board, the Food and Drug Administration, and the ETSU Department of Educational Leadership and Policy Analysis have access to the study records. My records will be kept completely confidential according to current legal requirements. They will not be revealed unless required by law, or as noted above.

COMPENSATION FOR MEDICAL TREATMENT: East Tennessee State University (ETSU) will pay the cost of emergency first aid for any injury that may happen as a result of your being in this study. They will not pay for any other medical treatment. Claims against ETSU or any of its agents or employees may be submitted to the Tennessee Claims Commission. These claims will be settled to the extent allowable as provided under TCA Section 9-8-307. For more information about claims call the Chairman of the Institutional Review Board of ETSU at NNN-NNNN.

VOLUNTARY PARTICIPATION: The nature, demands, risks, and the benefits of the project have been explained to me as well as are known and available. I understand what my participation involves. Furthermore, I understand that I am free to ask questions and withdraw from the project at any time. I have read, or have had read to me, and fully understand this consent form. I sign it freely and voluntarily.

\_\_\_\_\_/\_\_\_\_\_  
SIGNATURE OF VOLUNTEER PARENT OR GUARDIAN/ DATE

\_\_\_\_\_/\_\_\_\_\_  
SIGNATURE OF INVESTIGATOR / DATE

## APPENDIX E

### Parent Questionnaire

Some studies have indicated that a child's home environment affects his/her school readiness. This questionnaire is an attempt to examine this influence. You can contribute to research on this topic by answering the following questions as carefully as possible. Because all families are different, there are no "right" or "wrong" answers. All responses are confidential and will not be part of any school records. By completing this survey, you give permission to correlate your answers with your child's Brigance scores. Please circle one response for each question.

How often do you read to your child?

1. everyday
2. a few times a week
3. once a week
4. a few times a month
5. rarely, almost never

How often does your child "read" to you? (For example, this could be by showing you pictures and telling a story about them.)

1. everyday
2. a few times a week
3. once a week
4. a few times a month
5. rarely, almost never

How often do you play with or "teach" your child? This could be writing, counting, playing games, etc.

1. everyday
2. a few times a week
3. once a week
4. a few times a month
5. rarely, almost never

How often does your child visit the public library, a zoo, an aquarium, a museum, or some place with educational value?

1. about once a week
2. a few times a month
3. about once a month
4. every few months
5. 1-2 times a year

How often does your family sit down for a meal together?

1. everyday
2. a few days a week
3. about once a week
4. a few times a month
5. family does not eat together

When your family eats dinner together, who does the talking?

1. some talk by the entire family
2. some talk, mostly by adults
3. child does most of the talking
4. limited or no talking at the table
5. family does not eat together

How often does your child watch television?

1. everyday
2. a few days a week
3. about once a week
4. a few times a month
5. rarely, or almost never

On an average weekday, how many hours of television will your child watch?

1. 4 or more hours
2. 3 hours
3. 2 hours
4. 1 hour
5. none

How often over the past year has your child been involved with toys or hobbies that you feel have educational value?

1. everyday
2. a few days a week
3. about once a week
4. a few times a month
5. rarely, or almost never

Of the following materials – encyclopedia, dictionary, almanac, atlas, computer – how many do you have in your home?

1. all of the above
2. 4
3. 2-3
4. 1
5. none of the above

How many children's books do you have in your home?

1. over 50
2. 30-40
3. 20-30
4. 10-20
5. fewer than 10

How often does your child get a new book from the store or library?

1. every week
2. a few times a month
3. about once a month
4. a few times a year
5. 2 times or less a year

My child lives with

1. both parents
2. one parent – mother
3. one parent – father
4. grandparents
5. other

Father's education

1. graduate or professional school
2. 1-4 years of college
3. high school graduate
4. some high school
5. 8<sup>th</sup> grade or below

Mother's education

1. graduate or professional school
2. 1-4 years of college
3. high school graduate
4. some high school
5. 8<sup>th</sup> grade or below

Approximate family income: (OPTIONAL)

1. \$10,000 or below
2. \$10,000 to \$20,000
3. \$20,000 to \$40,000
4. \$40,000 to \$50,000
5. over \$50,000

Prior to kindergarten entry, what best describes your child's situation?

1. Stayed at home with parent
2. Child care in a home setting
3. Licensed professional child care center
4. Church day care
5. Head Start

Please complete the following:

Father's occupation: \_\_\_\_\_

Mother's occupation: \_\_\_\_\_

Ages of your children: \_\_\_\_\_

Do you have a computer in your home? Yes\_\_\_\_\_ No\_\_\_\_\_

What do you think is the most important thing you have done to prepare your child for school?

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Thank you for your help.

VITA

NANCYE C. WILLIAMS

Personal Data:

Date of Birth: October 26, 1949  
Place of Birth: Pineville, Kentucky  
Marital Status: Married

Education:

Morehead State University, Morehead, Kentucky, 1972  
B.A., History

University of Tennessee, Knoxville, Tennessee, 1976  
M.S., Elementary Education

Lincoln Memorial University, Harrogate, Tennessee, 1996  
Ed.S., Administration and Supervision

East Tennessee State University, Johnson City, Tennessee, 2002  
Ed.D., Educational Leadership and Policy Analysis

Professional  
Experience:

Classroom Teacher, Montgomery County Schools,  
Mapleton Elementary, Mt. Sterling, Kentucky, 1972-1973

Classroom Teacher, Sevier County Schools,  
Pigeon Forge Elementary, Tennessee, 1974-1987

Assistant Principal, Pigeon Forge Primary School,  
Pigeon Forge, Tennessee, 1987-Present