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An investigation of the home and family questionnaire's concurrent and predictive validity

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AN INVESTIGATION OF THE HOME AND FAMILY QUESTIONNAIRE'S CONCURRENT AND PREDICTIVE VALIDITY

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ABSTRACT

The current study sought to replicate the findings of Pierce, Alfonso, & Garrison (1998) that constructed and tested the Home and Family Questionnaire (HFQ). More specifically, the internal consistency of the HFQ's three subscales, Maturity Facilitation, Child's Use of Stimulating Materials, and the Parent-Child Emotional Relationship, was investigated. Construct validity of the HFQ was investigated by correlating the HFQ subscale scores to the Parenting Styles Dimensions Questionnaire (PSDQ) subscale scores (Robinson, Mandleco, Olsen & Hart, 1995). Criterion-related validity was investigated by correlating the HFQ subscale scores with the Pictorial Scales of Perceived Competence and Social Acceptance in Young Children (PSPC) subscale scores (Harter & Pike, 1984) and with participants' math and reading grades. Concurrent validity of the HFQ and MC-HOME (Caldwell & Bradley, 1984) was investigated with chi-square analyses of individually matched items and with correlational analyses of the instruments' subscale scores. Internal reliability of the HFQ subscale scores in the current study were comparable to those found in Pierce et al.(1998), with the exception of the Parent-Child Emotional Relationship. Negative relationships were found between the HFQ Parent-Child Emotional Relationship subscale scores and the PSDQ Authoritarian and Permissive subscale scores. HFQ Maturity Facilitation scores were significantly related to Physical Competence scores and Peer Acceptance scores. Child's Use of Stimulating Materials scores were significantly related to Physical Competence scores. No significant correlations were found between the HFQ subscale scores and math and reading grades. Chi-square analyses for the individually matched HFQ and MC-HOME items demonstrated a high degree of agreement, with 75% of the matched items exhibiting agreement levels 70% or higher. Correlational analyses of the HFQ and MC-HOME subscale scores showed relationships between the HFQ Maturity

Facilitation and the MC-HOME Responsivity and Emotional Climate subscale scores. The HFQ Child's Use of Stimulating Materials subscale scores showed relationships with the MC-HOME Responsivity, Encouragement of Maturity, Family Companionship, and Emotional Climate subscale scores. No relationships were found between the HFQ Parent-Child Emotional Relationship subscale scores and the MC-HOME subscale scores.

CHAPTER 1

INTRODUCTION

Statement of the Research Problem

The home environment is considered a powerful influence on child development (Child Trends, 2004; Bono, Dinehart, Dobbins, & Claussen, 2008). Home environments are viewed as consequential for child developmental outcomes such as cognitive ability, school readiness, academic achievement, and emotional adjustment (Campbell & Parcel, 2009; Bradley, Corwyn, McAdoo, & Coll, 2001a; Bradley, Corwyn, McAdoo, & Coll, 2001b). Indeed, abundant and historical empirical evidence of the influence of children's home environments on all domains of development exists (Belsky, Lerner, & Spanier, 1984; Bloom, 1964; Bradley & Caldwell, 1980; Bradley et al., 2001a; Bradley et al., 2001b; Bradley & Tedesco, 1982; Clarke-Stewart, 1973; Gottfried & Gottfried, 1984; Hunt, 1961; Kagan, 1984; Laosa & Siegel, 1982; Lerner, 1986; Wachs & Gruen, 1982).

Historically, examinations of the influence of home environments on developmental outcomes have focused on distal variables as the primary measures of home experience, such as the family's socioeconomic status (SES), and on structural and static variables, such as family size, maternal education, poverty, unsafe neighborhoods, and the type and location of the primary dwelling (Barocas, Seifer, Sameroff, Andrews, Croft, & Ostrow, 1991; Bradley & Caldwell, Rock, Hamrick, & Harris, 1988; Hooper, Burchinal, Roberts, Zeisel, & Neebe, 1998; Luster & McAdoo, 1996; Pierce, Alfonso, & Garrison, 1998; Prelow & Loukas, 2003; Pungello, Kainz, Burchinal, Wasik, Sparling, Ramey, & Campbell, 2010; Sameroff & MacKenzie, 2003; Stanley, Comello, Edwards, & Marquart, 2008). For researchers framing their investigations of the influence of children's home environments from an ecological perspective, however, the

primary focus on static, contextual settings and variables omits the possibility of examining the dynamic influence of process variables that are found in the child's context of the home setting.

Rationale for the Study

Over the last thirty years, the Home Observation Measurement for the Environment (HOME) has been widely used for the assessment of children's home environments in investigations of the relationship between the quality of the home environment and a wide variety of child development outcomes (e.g., Bradley, Mundfrom, Whiteside, Casey, & Barrett, 1994; Bradley et al., 2001a). Caldwell and Bradley (1984) constructed the HOME Inventory to assess the levels of emotional support and cognitive stimulation to which children are exposed in their home environments. Use of the HOME has extended throughout six of the seven continents and has been applied to both typically and atypically developing populations of children (University of Arkansas, 2005a).

The purpose of the HOME is to measure, in as naturalistic a manner as possible, the quality and quantity of stimulation and support available to a child in his or her home environment (Totsika & Sylva, 2004). The middle childhood version of the HOME (MC-HOME) requires many hours of training and actual research time, in addition to the cost of the instrument itself.

In addition to the logistical and financial constraints of the MC-HOME's use, there is a fundamental theoretical issue with some of the assessment items found throughout the instrument. To the instrument's credit, the majority of items assess activities and opportunities arranged for the child by the parents and the family and, therefore, address dynamic variables. However, the assessment also assesses many static, structural variables (objects), such as the presence of audio equipment, musical instruments, a minimum of ten appropriate books, a desk

or other suitable place for studying or reading, artwork, playground equipment in the immediate vicinity, and the level of appeal or suitability of the child's room, the home's structure, and the outside play environment, but it fails to make a marked distinction between environmental setting and environmental process (Bradley & Caldwell, 1984; Pierce et al., 1998).

The Home and Family Questionnaire (HFQ) (Pierce et al., 1998) is a newer instrument in the assessment of children's home environments. The HFQ was designed in reaction to the authors' perceived omission of a distinction between the physical home setting and the home process variables that are captured by the HOME (Pierce et al.,1998). While seeking to assess characteristics of the home that are similarly assessed by the HOME, the HFQ constructs focus more specifically on proximal processes within the home. The most relevant distinction between the MC-HOME and the HFQ is that the HFQ makes a distinction between environmental setting and environmental process that is lacking in the MC-HOME (Pierce et al., 1998).

The other notable difference between the MC-HOME and the HFQ is that the HFQ is a self-report measure. The self-report administration of the HFQ saves the cost of research hours spent in observer training, use of the assessment, and the home observations and interviews that are associated with the MC-HOME. Given the interest in and historical research efforts focused on children's home environments as predictive of many developmental outcomes, the construction and use of additional measures of the home environment hold potential for both research and applied purposes (Belsky, Lerner, & Spanier, 1984; Bloom, 1964; Bradley & Caldwell, 1980; Bradley et al., 2001a; Bradley et al., 2001b; Bradley & Tedesco, 1982; Clarke-Stewart, 1973; Gottfried & Gottfried, 1984; Hunt, 1961; Kagan, 1984; Laosa & Sigel, 1982; Lerner, 1986; Wachs & Gruen, 1982). The potential of the HFQ as another option in the

investigation of children's home environments would, thus, be notable if concurrent validity with the MC-HOME can be demonstrated.

Research Goals

The purposes of the current study were two-fold. The first research goal was to replicate the three phases of Pierce et al. (1998), which report the development of the Home and Family Questionnaire (HFQ). Specifically, the current study examined the dimensions and internal structures of each of the three established HFQ subscales for internal consistency. To replicate the second phase of Pierce et al.'s Study 2 findings, the current study examined the construct validity of the HFQ by comparing it to the Parenting Styles and Dimensions Questionnaire-Short Form (PSDQ) (Robinson, Mandleco, Olsen & Hart, 1995), a widely used instrument that measures a similar construct, parenting styles. To replicate the third phase of Pierce et al.'s findings, the current study examined the criterion-related validity of the HFQ by investigating correlations between scores obtained with the HFQ, The Pictorial Scale of Perceived Competence and Social Acceptance for Young Children (PSPC, Harter & Pike, 1984) and participants' math and reading grades.

The second research goal was to investigate the concordance between the scores obtained with the Middle Childhood version of the Home Observation for Measurement of the Environment (MC-HOME, Caldwell & Bradley, 1984) and the scores obtained with the HFQ, in order to establish the HFQ as a viable and rich alternative instrument.

Theoretical Framework

The present study is grounded in the ecological theory and concepts of Urie Bronfenbrenner and, specifically, in the Process-Person-Context-Time model of the bi-directional and mutually influencing characteristics and settings of development. Bronfenbrenner

(1977, 1988) and Bronfenbrenner and Crouter (1983) criticized models of inquiry that use static indices to assess children's home environments, especially SES, and urged a theoretical shift in research designs and empirical assessments that capture proximal processes and experiences. Bronfenbrenner (1992) defined proximal processes as enduring interactions with the immediate environment and asserted that they are the "primary engines of development" (p.8). In order to investigate proximal processes, the environment needs to be conceptualized in such a manner that both context and process variables are recognized. Contextual variables include not only the physical characteristics of the child's home environment, but also the persons, symbols, objects, and activities within the child's home. Process variables are comprised of the interactions between the child and the immediate surroundings and the contextual variables and involve an exchange of energy between the child and his or her environment (Bronfenbrenner, 1992).

Whereas focus on static, contextual variables can inform us about the setting in which the child can engage in interactions with objects, people, and activities in the home environment, shifting the focus to an investigation of the dynamic, proximal process variables informs us how the child actually interacts and expends energy exchanges in his or her environmental context and provides us with a richer, more informative insight into the child's developmental outcomes (Pierce et. al, 1998).

Limitations

1. The sample is limited to participants from a small, rural geographic location.
2. The sample is limited to families of children in grades 1-3.

Assumptions

1. The MC-HOME (Bradley & Caldwell, 1984) reliably measures the quality of children's home environments.

2. The HFQ (Pierce et al., 1998) reliably measures proximal processes occurring in children's homes.
3. The PSDQ (Robinson, Mandleco, Olsen & Hart, 1995) reliably measures parenting styles.
4. The PSPC (Harter & Pike, 1984) reliably measures children's self-perceptions of their competence.
5. Math and reading grades are reliable measures of children's academic achievement.

CHAPTER 2

LITERATURE REVIEW

Summary of Purpose

The general purpose of the current study was to investigate the possibility of using a relatively new instrument, the Home and Family Questionnaire, (HFQ) (Pierce, Alfonso, & Garrison, 1998), rather than the Middle Childhood-Home Observation for the Measurement of the Environment (MC-HOME) (Caldwell & Bradley, 1984), in studies that are interested in investigating proximal constructs in children's home environments or that have financial or time restrictions. More specifically, one of the purposes of the current study was to establish the validity of the data obtained using the HFQ (Pierce et al, 1998). To that end, the scores for the three HFQ subscales were examined for internal consistency, construct validity was examined by comparing the HFQ's subscale scores to scores obtained with the Parenting Styles Dimensions Questionniare (PSDQ) (Robinson, Mandleco, Olsen, & Hart, 1995), and criterion-related validity was examined by comparing the HFQ's subscale scores both to scores obtained with the Pictorial Scales of Perceived Physical Competence and Social Acceptance in Young Children (PSPC) (Harter & Pike, 1984) and to the participating children's reading and math grades. The second purpose, and the primary distinction with Pierce et al., was to directly compare the scores obtained with the MC-HOME (Caldwell & Bradley, 1984) and those obtained with the HFQ, in order to investigate the concordance of the data obtained with both instruments.

The following literature review highlights the widespread investigation into children's home environments and experiences, detailing some of the many areas of focus and conclusions researchers have drawn between specific aspects of the home environment and child developmental outcomes. In this review, the ubiquitous use of the HOME in the investigation of

children's home environments is discussed. The need for an instrument that focuses on proximal processes in children's home environments is highlighted by current research that seeks to focus on proximal processes but still relies on home investigations of static and structural variables to determine the quality of children's home environments.

Areas of Research in the Traditional Assessment of Children's Home Environments

Cognitive ability. A specific area of interest related to the influence of the family and home is the investigation of children's IQ scores. More than forty decades of research has established a positive relationship between measures of children's home environments and their performance on IQ tests (Hanson, 1975). A significant relationship between higher levels of family SES and children's cognitive development has been demonstrated (Bradley & Corwyn, 2002). Normand, Baillargeon & Brousseau (2007) investigated the relationship between multiple family environmental factors: SES, parental education level, parental age, family type and size, and immigration status at time of birth and infants' cognitive development. Infants with smaller families, younger mothers, and non-immigrant status mothers scored significantly higher on cognitive development (Normand et al., 2007). Arranz, Oliva, Martin, Olabarrieta, Manzano, & Richards (2010) found a significant correlation between children's cognitive development and family SES, quality of the home environment, and the provision of stimulating materials in the home.

School readiness. The impact of poverty and the home environment on school readiness through the facilitation of sustained attention has been investigated (Razza, Martin, & Brooks-Gunn, 2010). The physical quality of the home environment was assessed using items from the HOME (Caldwell & Bradley, 1984). No significant correlations were found between the quality of the home environment and sustained attention or school readiness. The authors suggest a

limitation in their measurement of the home environment and specifically indicate that the items from the HOME's Physical Environment subscale measured potential stimulating behaviors by assessing the presence of stimulating materials in the home when a better measure might have assessed actual frequency of stimulating interactions existing in the home.

Academic achievement. The home environment's link to academic achievement has also been studied cross-culturally and found to be influential on early academic achievement (Chen, Lee, & Stevenson, 1996). Involvement in academic-related activities at home has been linked to children's increased academic achievement (Hill, Castellino, Lansford, Nowlin, Dodge, Bates, & Pettit, 2004). A significant correlation has been demonstrated between effects of the home environment and academic achievement by correlating parental education levels to students' GPA (Halawah, 2006).

Empirical research has shown that family variables influence children's educational achievements (Christensen, Rounds, & Gorney, 1992; Marjoribanks, 1994; Marjoribanks, 2002). Walberg (1984) argued that family process variables such as the home's learning structure and affective climate and the parents' disciplinary styles, which he termed part of the "home curriculum" were better predictors of academic achievement than the family structural variables such as family size and economic resources. The home curriculum has also been identified as one of nine major influences on academic performance (Fraser, 1987). Psychosocial interactions and parental academic expectations occurring within families have also been linked to children's learning (Chen & Kaplan, 2003; Marjoribanks, 1994; Marjoribanks, 2002; Martinez-Gonzalez, Symeou, Alvarez-Blanco, Roussounidou, Iglesias-Muniz, & Cao-Fernandez, 2008).

Literacy development. Children from higher-SES households tend to have higher initial reading scores and show faster rates of growth compared with children from lower-SES households (Aikens & Barbarin, 2008; Cheadle, 2008). Home environment characteristics have been found to be associated with children's literacy outcomes by means of rate of growth of early reading skills (Petrill, Deater-Deckard, Schatschneider, & Davis, 2007). Home environmental influences have been found to be consistently associated with letter knowledge, word knowledge, and spelling, all of which influence reading performance and literacy development (Petrill, Deater-Deckard, Thompson, Schatschneider, DeThorne, & Vandenbergh, 2006).

Emotional adjustment. Parental cohabitation is one static characteristic of the home environment that is often investigated in children's emotional wellbeing (Brown, 2004; Manning & Lamb, 2003). Children being raised in cohabiting families are generally found to experience more negative emotional and behavioral outcomes than children being raised in stepfamilies or married and intact families (Artis, 2007). Typically, such factors as family SES, family stability, and maternal mental health are the variables investigated in the relationship between children's emotional and behavioral outcomes and parental cohabitation (Thomson, Hanson, & McLanahan, 1994).

The Home Observation Measure of the Environment (HOME)

Caldwell and Bradley (1984) constructed the Home Observation for Measurement of the Environment (HOME) to assess the levels of emotional support and cognitive stimulation to which children are exposed in their home environments, through planned events, and within family surroundings (Linver, Brooks-Gunn, & Cabrera, 2004). The purpose of the HOME is to

measure, in a naturalistic manner, the quality and quantity of stimulation and support available to a child in his or her home environment (Totsika & Sylva, 2004).

The authors have described it as "a brief instrument designed to distinguish environments that pose a risk for developmental problems from environments which offer basically adequate support for development" (Bradley, Corwyn, & Whiteside-Mansell, 1996). Over the last 30 years, the HOME has been widely used for the assessment of children's home environments in the investigation of the relationship between the quality of the home environment and a wide variety of child development outcomes (e.g., Bradley, Mundfrom, Whiteside, Casey, & Barrett, 1994; Bradley, Corwynn, McAdoo, & Garcia Coll, 2001a). Use of the HOME has extended throughout North and South America (including the Caribbean), several European and Asian countries, Australia, and at least two African nations. Both clinical and research settings have employed the HOME, and it has also been used to evaluate the impact of intervention programs. (University of Arkansas, 2005a).

Philosophy of the HOME instrument. The HOME (Caldwell & Bradley, 1984) has evolved into 4 separate versions, targeting four specific age ranges. The basic philosophy underlying the concepts of the instrument is central to all four versions, however, as identified in the administration manual (Caldwell & Bradley, 1984). The data gathered by the instrument is collected in the home, in the child's "most intimate and powerful environment" (p.1). The home visit elicits rich detail and affords the data collector the opportunity to interact with the family in a very personal manner.

Much of the information that is gathered with the instrument is gathered through observation. The data collector must be a good observer, able to notice details without losing sight of the events transpiring in the bigger picture of the home setting and interactions.

The instrument is designed to provide systematic measurement of the child's home environment. The instrument quantifies specific behaviors and, in so doing, reduces the element of observer subjectivity or bias with specific scoring requirements. For example, the observer is required to observe whether certain behaviors occur ("parent praises child") and, if it does, how often is further specified by the instrument ("at least twice"). Scoring is done on a binary scale (Caldwell & Bradley, 1984).

Caldwell & Bradley (1984) maintain that the home environment is the primary environment of influence for young children. Therefore, assessment of the primary environmental influence should occur within the actual setting of the home. The combined interview and observation format of the instrument allows the data collector to view and inquire about not only the micro-environment of the home, but also about the larger contextual factors surrounding the immediate home setting. Interview questions probe such information as trips taken with the child and visits with extended family and also allow the data collector to note, through observation, such influences as unsafe neighborhoods or family composition factors that could impact child development.

The interview component of the HOME (Caldwell & Bradley, 1984) is considered a valuable tool in eliciting the information garnered by the instrument, as many of the items may not be directly observed and may need to be probed with interview questions. Caldwell and Bradley advise referring to the interviewers as "visitors" rather than as observers or interviewers, in order to better capture the non-intrusive tone of the instrument. The instrument should be used in such a manner that it leads to a natural-feeling conversation with a parent about his or her child, rather than as a strict guideline or script for the data collection process.

Infant-toddler HOME. The infant-toddler version of the HOME (IT-HOME) (Caldwell & Bradley, 1984) is used with infants and toddlers. The IT-HOME version contains 55 individual items that measure six subscales: Responsivity (11 items), Acceptance (8 items), Organization (6 items), Learning Materials (9 items), Involvement (6 items), and Variety (5 items). Each item is scored on a binary basis (yes, no), and items are summed to obtain the subscale score. Two-thirds of the data can be collected with an observation only, and the remaining one-third of the total items requires supplementary interviews.

Early childhood HOME. The early childhood version of the HOME (EC-HOME) (Caldwell & Bradley, 1984) is used with families of children ages 3 to 5 years. The EC-HOME version contains 55 individual items that measure eight subscales: Learning Materials (11 items), Language Stimulation (7 items), Physical Environment (7 items), Responsivity (7 items), Academic Stimulation (5 items), Modeling (5 items), Variety (9 items), and Acceptance (4 items). Each item is scored on a binary basis (yes, no), and items are summed to obtain the subscale score. Half of the data can be collected with an observation only, and the remaining half of the total items requires supplementary interviews.

Middle childhood HOME. The middle childhood version of the HOME (MC-HOME) (Caldwell & Bradley, 1984) is used with families of children ages 6 to 10 years. The MC-HOME version contains 59 items that measure eight subscales: Responsivity (10 items), Encouragement of Maturity (7 items), Emotional Climate (8 items), Learning Materials and Opportunities (8 items), Enrichment (8 items), Family Companionship (6 items), Family Integration (4 items), and Physical Environment (8 items). Each item is scored on a binary basis (yes, no). One-third of the data can be collected with an observation only, and the remaining two-thirds of the items require supplementary interviews.

Early adolescent HOME. The early adolescent version of the HOME (EA-HOME) (Caldwell & Bradley, 1984) is used with families of children ages 10 to 15 years. The EA-HOME version contains 60 individual items that measure seven subscales: Physical Environment (7 items), Learning Materials (10 items), Modeling (10 items), Fostering Self-Sufficiency (6 items), Regulatory Activities (10 items), Family Companionship (8 items), and Acceptance (9 items). Each item is scored on a binary basis (yes, no). One-third of the data can be collected with an observation only, and the remaining two-thirds of the items require supplementary interviews.

Financial and time constraints. Although the MC-HOME is not an expensive assessment, the costs of training and research time are considerable. The current price for the comprehensive scoring manual is $50, and the MC forms are $12.50 per package of 25 forms (University of Arkansas, 2005b). Many valuable hours of research time, however, are spent in training the observer on the use of the assessment and on the actual interviews and observations, which require between 45 to 90 minutes per family and must be conducted while the child is awake and in the presence of the child's parent/ primary caregiver, severely limiting the times during the day when the interviews and observations can occur.

Theoretical issues. In addition to the logistical and financial constraints of the MC-HOME's use, there is a fundamental, theoretical issue to be taken with some of the assessment items found throughout the instrument. The MC-HOME was created to assess the levels of emotional support and cognitive stimulation to which children are exposed in their home environments. And to the instrument's credit, the majority of items outlined in the administration manual assess activities and opportunities arranged for the child by the parents/ family and, therefore, address proximal process variables. However, the assessment also

assesses many static, structural variables (objects) such as the presence of: audio equipment, musical instrument, a minimum of ten appropriate books, a desk or other suitable place for studying/ reading, artwork, playground equipment in the immediate vicinity and the level of appeal and/or suitability of the child's room, home's structure, and outside play environment and fails to make a marked distinction between environmental setting and environmental process (Bradley & Caldwell, 1984; Pierce et al., 1998).

Development is facilitated through a stimulating environment and a strong presence of contextual support factors (Bronfebrenner, 2000). Historically, though, the examination of the influence of home environments on development outcomes focused on distal variables such as the family's socioeconomic status (SES) as a primary measure of home experience and/or on the influence of structural and static variables such as family size, maternal education, poverty, unsafe neighborhoods, and the type and location of the primary dwelling (Barocas, Seifer, Sameroff, Andrews, Croft, & Ostrow, 1991; Bradley & Caldwell, Rock, Hamrick & Harris, 1988; Hooper, Burchinal, Roberts, Zeisel, & Neebe, 1998; Luster & McAdoo, 1996; Pierce et al., 1998; Prelow & Loukas, 2003; Pungello, Kainz, Burchinal, Wasik, Sparling, Ramey, & Campbell, 2010; Sameroff & McKenzie, 2003; Stanley, Comello, Edwards, & Marquart, 2008). For researchers framing their investigations into the influence of children's home environments from an ecological perspective, however, the primary focus on static, contextual settings and variables omits the possibility of the dynamic influence of process variables existing in the child's context of the home setting. Recent research has also shown that distal variables such as maternal education, when homogeneous, may fail to predict child outcomes. Investigating proximal variables, however, when distal variables are homogeneous may facilitate the

identification of within-group differences that differentiate child outcomes (Bono, Dinehart, Dobbins & Claussen, 2008).

Bronfenbrenner (1977, 1988) and Bronfenbrenner and Crouter (1983) have criticized models of inquiry that use static indices to assess children's home environments and have urged a theoretical shift in research designs and empirical assessments that capture proximal processes and experiences (Pierce et. al, 1998). To consider proximal processes, it is imperative that the environment be conceptualized in such a manner that both context and process variables are recognized. Contextual variables include not only the physical characteristics of the child's home environment, but also the persons, symbols, objects, and activities within the child's home. Process variables are comprised of the interactions between the child and the immediate surroundings and contextual variables and involve an exchange of energy between the child and his or her environment (Pierce et. al, 1998).

Bronfenbrenner (1992, 1995) defined proximal processes as enduring interactions with developing individuals and the "persons, objects, and symbols" of their immediate environment and hailed them the "primary engines of development" (p.8, p. 620). Proximal processes are central to Bronfenbrenner's (1979, 1995) Process-Person-Context-Time model and hold the potential to profoundly impact human development. Bronfenbrenner and Morris (1998) state that individuals bring important personal characteristics to their developmental activities. Personal characteristics are particularly influential in that they can either facilitate or undermine constructive proximal processes, as they act in a bi-directional, mutually influencing manner with aspects of the developing individual's immediate environment. Context refers to features and characteristics of the developing individual's immediate environment, specifically the persons, objects, and symbols within the immediate environment. Time is included in the model

as influential in that the "person-process-context" ecology changes across elapsed time, shared experiences over time, and through historical occurrences, trends, and influences. Whereas focus on static, contextual variables can inform about the setting in which the child can engage in interactions with objects, people, and activities in the home environment, shifting the focus to investigation of the dynamic, proximal process variables informs how the child actually interacts and expends energy exchanges in his or her environmental context and reveals a broader and richer picture of the child's developmental outcomes (Pierce et. al, 1998).

Bronfenbrenner's & Morris's (1998) proposals of ecological theory have influenced researchers to hypothesize that the experiences of stress and diminished opportunities often associated with distal risk variables such as poverty, low educational attainment, and larger sized households serve to diminish the family's psychological capacities, which result in diminished parenting practices and care (Conger & Elder, 1994; Pungello et al., 2010).

Recent research has supported the theoretical shift toward the investigation of proximal process variables. Heft (1997) proposed applying Gibson's (1977) ecological approach to perception to environment-behavioral studies. Specifically, Gibson's terms "affordances" and "events" were introduced as a means of discussing opportunities that allow an individual potential for action, that allow the individual an opportunity to learn and develop a new skill, and that occur in the individual's immediate contexts. Brody & Flor (1998) found that proximal variables such as parenting style, mother-child relationship quality, and maternal involvement in children's school activities were linked to child outcomes and served to mediate the effect of the distal variables of maternal education, religiosity, and extent of financial resources. Distal risk factors may not be associated with developmental outcomes directly, but through the mediating effect of proximal processes associated with the quality of the early home environment (Brody,

Kim & Murry, 2003). Person-environment interactions are integral to our analysis and understanding of development (Bronfenbrenner & Morris, 2006).

Investigation of Proximal Processes and Their Influence on Child Outcomes

Cognitive ability. Infants and preschoolers, for enhanced cognitive development, have been shown to benefit from responsive and stimulating interactions with their parents (Bronfenbrenner & Morris, 1998; Sameroff, 1983). It has also been repeatedly demonstrated that the quality of stimulation provided to children in the early years is linked to later cognitive ability in children (e.g., Bradley & Caldwell, 1976). The importance of parenting for individual cognitive development has been widely studied in developmental psychology (Bornstein, 2002; Maccoby & Martin, 1983). Specific parenting practices and skill-building activities in the home have been linked to children's academic achievement (DeGarmo, Forgatch, & Martinez, 1999).

Parental warmth and support may have a significant impact on child behaviors and adjustment in many areas, including academic competence and school adjustment (Booth, Rose-Krasnor, McKinnon, & Rubin, 1994; Dishion, 1990; Hart, DeWolf, Woznick, & Burts, 1992; Kochanska, 1995; & Patterson, 1982). Competence-promoting parenting practices have also been indirectly linked with children's academic competence (Brody, Flor, & Gibson, 1999). Findings that suggest parental involvement, parental interest, and parental teaching are significantly correlated with children's IQ and academic achievement scores have been replicated throughout the historical investigation of family influence (Bacete & Remirez, 2001; Elbedour, Bart, & Hektner, 2003; Mohan & Gulati, 1986).

Bono, Dinehart, Dobbins & Claussen (2008) investigated the effects of proximal characteristics of the home environment on cognitive, language, and behavioral outcomes with a high risk population, infants prenatally exposed to cocaine. In their study, they examined the

influence of three proximal characteristics- quality of the home environment, family routines, and daily hassles of parenting- on 56 36- month old children who had been enrolled in an intervention program based on a maternal report of prenatal cocaine exposure or evidence of cocaine exposure at birth. To assess the 3 proximal characteristics of interest, Bono et al. (2008) had to employ 3 separate measures. The Infant-Toddler Home Observation for Measurement of the Environment (IT-HOME) (Caldwell & Bradley, 1984) was used to assess the quality of the home environment. The Family Routines Inventory (FRI) (Jensen, James, Boyce, & Hartnett, 1983) was used to assess family routines. The Parenting Daily Hassles Scale (PDHS) (Crnic & Greenberg, 1990) was used to assess the daily hassles of parenting.

Bono et al. (2008) found that quality of the home environment predicted expressive language and internalizing behavior problems. Daily hassles and family routines predicted internalizing behavior problems. None of the three proximal characteristics were found to predict externalizing behavior problems.

School readiness. Forget-Dubois, Dionne, Perusse, Tremblay, Lemelin, & Boivin (2009) based their investigation of the role of early language on school readiness on the premise that school readiness can be traced to influences and practices of the home environment (Melhuish, Phan, Sylva, Sammons, Siraj-Blatchford & Taggart, 2008). Forget-Dubois et al. (2009) specifically hypothesized that home environments that are characterized by stimulating learning experiences would produce early language, which would significantly contribute to a child's school readiness that is assessed immediately prior to school entry. The specific predictors they investigated included a distal characteristic of the home environment, SES, and a proximal characteristic, exposure to reading in the home. Forget-Dubois et al. (2009) found that exposure to reading, the proximal characteristic studied, made a direct contribution to school

readiness. SES, the distal characteristic, made an indirect contribution to school readiness through expressive language and through joint reading, as parents of higher SES families were found to be more likely to read to their children.

Academic achievement. Walberg (1984) stated that family process variables such as the home's learning structure and affective climate and the parents' disciplinary styles, which he termed part of the "home curriculum," were better predictors of academic achievement than family structure variables such as family size and economic resources. The home curriculum has also been identified as one of nine major influences on academic performance (Fraser, 1987). Psychosocial interactions occurring within families have also been linked to children's learning (Marjoribanks, 1994).

Specific parenting practices and skill-building activities in the home have been linked to children's academic achievement (DeGarmo et al., 1999). Parental warmth and support may have a significant impact on child behaviors and adjustment in many areas, including academic competence and school adjustment (Booth et al., 1994; Dishion, 1990; Fulton & Turner, 2008; Hart et al., 1992; Kochanska, 1995; Patterson, 1982). Competence-promoting parenting practices have also been indirectly linked with children's academic competence (Brody et al., 1999). Conversely, child maltreatment and familial risk factors such as homelessness have been found to be negatively associated with academic achievement (Perlman & Fantuzzo, 2010).

Involvement in academic-related activities at home has been linked to children's increased academic achievement (Hill et al., 2004). Davis-Kean (2005) found that parental beliefs, expectations, and achievement-oriented behaviors link distal characteristics such as SES and parental education level to child achievement outcomes. Specifically, Davis-Kean (2005) found that reading and parental warmth were predictive of child achievement outcomes, even

when SES and family expectations were controlled. The distal characteristic of parental education level, then, influenced child outcomes, but indirectly so through literacy-related behaviors and the affective parent-child relationship that occurs in the home.

Dupere, Leventhal, Crosnoe, & Dion (2010) applied Bronfebrenner's (1977) ecological model's argument that larger social contexts influence child development through proximal contexts that have a direct impact on the child to investigate the influence of affluent, professional ("advantaged") neighborhoods on proximal contexts of their participants and subsequent child academic achievement outcomes. They proposed that the quality of learning experiences available to the children through school and child care settings and also within the family setting in advantaged neighborhoods would be higher than those found in less advantaged neighborhoods. Dupere et al. (2010) assessed quality of the home environment with the HOME (Bradley & Caldwell, 1979) and found a weak association between quality of the home environment and neighborhood advantage. The institutional settings, school and child care, were found to have a stronger association with neighborhood advantage.

Fraser & Kahle (2007) investigated the joint influences of the school/class, home, and peer environments on student achievement outcomes. The Home Support scale was created by the authors and based on a "home involvement" scale of the National Assessment of Educational Progress (Mullis & Jenkins, 1998) and on parental involvement in education (Kelleghan, Sloan, Alvarez & Bloom, 1993). The Home Support scale was given as a self-report instrument to the sample's 7000 students across 200 schools. Fraser & Kahle found that the home and peer environments made statistically significant contributions to student attitude scores, though classroom environment made a significant contribution to student achievement scores. However,

the findings did support beneficial effects that home and class environments can mutually elicit on student achievement outcomes.

Literacy development. Johnson, Martin, Brooks-Gun & Petrill (2008) investigated the role of "household chaos" on children's literacy growth and development. The concept of "household chaos" was established by Wachs (1989; 2000) and is defined as environments that are overly noisy, crowded, have high levels of foot traffic and lack routine, order, and predictability. Parents in chaotic homes have been found to be less responsive and verbally stimulating and more likely to exhibit parental stress and depression. Johnson et al. (2008) found that the degree of household order was significantly related to children's expressive vocabulary, scores on the Woodcock Reading Mastery exam, and phonological awareness. Carter, Chard, & Pool (2009) found that the quantity and quality of language interactions that children have with their parents in the home and print exposure in their home environment prior to school entry have a significant effect on individual differences in language and literacy skills. Aikens & Barbarin (2008) also found that children demonstrate higher reading performances and increased reading growth patterns when their parents provide literacy-rich experiences in the home such as shared reading.

Emotional adjustment. Negative relationships have been established between household chaos and children's communication, cognitive, and social emotional development. (Corapci & Wachs, 2002). Children who reside with unmarried cohabiting parents have been found to exibit higher levels of psychological distress than children who live with parents who are married (Artis, 2007; Brown, 2004; Dunifon & Kowaleski-Jones, 2002; Manning & Lamb, 2003). Klausli & Owen (2009) argued that studying demographic risk factors of cohabiting families likely obscures the proximal processes that underlie relationships between cohabitation

and child outcomes. In their investigation of the proximal processes affecting established patterns of maternal cohabitation and negative child outcomes, Klausli & Owen (2009) found that parental sensitivity was an influential mediating factor in negative child outcomes.

Alternate Instruments to Measure the Home Environment

Development of the Home and Family Questionnaire (HFQ). Pierce et al. (1998) maintained that early, traditional examinations of the influence of the home environment on child developmental outcomes focused on distal variables such as SES as the primary measure of the home environment's influence. Other static, structural variables such as family size, location of family residence, or type of family dwelling have also been widely investigated in the influence of the home environment (Bradley, Caldwell, Rock, Hamrick & Harris, 1998). Pierce et al., however, argued that static, structural variables offer no direct evidence about the proximal processes and experiences occurring in the home that directly influence children's developmental outcomes.

Referring to Bronfenbrenner's theory and research, Pierce et al. (1998) maintained that an ecological conceptualization of the environment requires a distinction between environmental context and environmental process (Bronfenbrenner, 1977, 1988, 1992, 2000; Bronfenbrenner & Ceci, 1994). In the ecological use of the term, "context" encompasses not only the physical setting characteristics of the environment but also the people, symbols, and activities that the child encounters within. The term "process" indicates an interaction between the child and his or her immediate surroundings of persons, objects, and symbols.

Pierce et al. (1998) opted for the use of the word "setting" over "context" to explicitly differentiate between the static nature of setting and the dynamic nature of process. A child's setting can exist even in the child's absence, but the child must be present in order for processes

to occur. Pierce et al. further distinguished the nature of the setting of the home and the processes occurring therein with the following definitions:

> Home setting. Enduring elements of the home environment that remain when the child is absent, such as parents, television, books, family, rituals, and parental beliefs and attitudes.
> Home process. Interaction between the child and the enduring elements of the home setting that requires the child's presence, such as discipline, conversation, and reading.

Identifying proximal processes in young children's home environments.

Recognizing the value of data collected using the HOME (Caldwell & Bradley, 1984) to predict child development outcomes, Pierce et al. (1998, Study 1) sought to identify the in-home proximal processes revealed by data collected with the HOME and to separate constructs and measures of setting from constructs and measures of process. Following the separation of setting and process variables, Pierce et al. (1998, Study 2) focused on the construction and testing of a new instrument, the Home and Family Questionnaire (HFQ), to measure the proximal processes derived from the HOME measures.

Pierce et al. (1998) derived their initial data from a larger study (Pierce & Lange, 1996) in which they had measured the home environments of elementary-age children as they sought to identify the influence of general and activity-specific home experiences on cognitive development. The sample included 53 second graders and 25 third graders, ranging in age from 6.6 to 9.5 years. Forty-two boys (33 White, 9 Black) and 36 girls (31 White, 5 Black) participated in the larger study. The data were obtained using the elementary version of the HOME (Caldwell & Bradley, 1988), the version which is now the MC-HOME, which contained 59 items distributed among 8 subscales: Emotional and Verbal Responsivity (10 items); Encouragement of Maturity (7 items); Emotional Climate (8 items); Growth Fostering Materials and Experiences (8 items); Provision for Active Stimulation (8 items); Family Participation in

Developmentally Stimulating Experiences (6 items); Paternal Involvement (4 items); and Aspects of the Physical Environment (8 items).

An exploratory factor analysis with principal components extraction and oblique rotation was performed on the 8 subscale scores. Two factors were identified: Factor 1, In-Home Environment (eigenvalue = 3.17; 40% of the variance in scores; Cronbach's alpha = .74) and Factor 2, Out-of-Home Environment (eigenvalue = 1.09; 14% of the variance in scores; Cronbach's alpha = .67). Five HOME subscales loaded on Factor 1: Emotional and Verbal Responsivity, Encouragement of Maturity, Emotional Climate, Growth Fostering Materials and Experiences, and Physical Environment. Three HOME subscales loaded on Factor 2: Provision for Active Stimulation, Family Participation in Developmentally Stimulating Experiences, and Paternal Involvement. The measure of children's in-home environment did not make a distinction between environmental setting and environmental process, as the ecological model would suggest.

In order to explore an ecological model of the home environment clusters that separated static setting and dynamic process, Pierce et al. (1998) analyzed the data that had been collected with the HOME (Caldwell & Bradley, 1984) to reveal that the in-home environment data could be further separated into in-home setting variables and in-home process variables. The in-home process variables were largely representative of the HOME's Emotional and Verbal Responsivity, Emotional Climate, and Encouragement of Maturity subscales. From this finding, Pierce et al. proposed that the constructs maturity facilitation, the child's use of stimulating materials available in or around the home, and the parent-child emotional relationship effectively capture some of the proximal processes that are inherent to the HOME measures.

HFQ Construction and Testing.

Pierce et al. (1998, Study 2) constructed a questionnaire to assess characteristics of children's home environments similar to those assessed by the HOME, but with two important distinctions. First, the measured constructs focus on the identified proximal processes occurring in the homes. Second, the questionnaire is in self-report format, offering economical advantages to the costly and time-consuming home observations and interviews conducted with the HOME.

The Home and Family Questionnaire (HFQ) was, thus, designed in reaction to the authors' perceived omission of a distinction between the physical home setting and the home process variables that are captured by the HOME , a widely used and reliable instrument for examining the influence of the home environment (Pierce et al., 1998). While seeking to assess characteristics of the home that are similarly assessed by the HOME, the HFQ constructs focus more specifically on proximal processes within the home. Proximal processes occur as interactions or energy exchanges between the child and the objects, persons, and symbols that occupy his or her home environment (Bronfenbrenner & Ceci, 1994, p. 568). The proximal processes that influence cognitive outcomes include interactions with adults, which are characterized by ample conversation; turn-taking during play; contingent and focused attention on the child; and plentifully rich opportunities for exploration (Bradley et al., 1989; Hoff-Ginsburg, 1991; Tomasello & Farrar, 1986). The most relevant distinction between the data collected with the MC-HOME and that collected with the HFQ is that the HFQ data makes a distinction between home setting and home process that is lacking in the MC-HOME data (Pierce et al., 1998). Although Pierce et al. recognized the value of the HOME data to measure important characteristics of children's home environments and further recognized that the HOME data reliably predicts many child developmental outcomes, they sought to advance the

study of young children's home environments by developing an instrument that more closely identifies with the ecological systems model and that identifies the actual proximal processes that are captured by the HOME data (Bradley & Caldwell, 1984).

To construct the new scale and to investigate its internal consistency, 307 families were recruited. There were 135 boys (104 White, 27 Black, 4 other) and 172 girls (128 White, 38 Black, 6 other). The children participating ranged in age from 7 years to 11.2 years.

The HOME items were rewritten as self-report questionnaire items to separately measure in-home process, in-home setting, and out-of-home activities. Additional items derived from parent feedback in the initial study were also included and assessed parent-child emotional relationship, child responsibility, and the child's use of stimulating materials that are available in or around the home.

The questionnaire administered to the sample included 101 items: 81 HOME-derived items and 20 original items. Of the 101 items, 67 focused on proximal processes in the home, 12 focused on static settings in the home, and 22 focused on activities outside the home. After factor analysis item reduction, 46 items were retained that assessed in-home proximal processes among 3 subscales. There were 21 maturity facilitation items with a Cronbach's alpha of .78. There were 9 child's use of stimulating materials items with a Cronbach's alpha of .65. There were 16 parent-child emotional relationship items with a Cronbach's alpha of .67. Thirty-nine items are derivatives of HOME questions, and 7 items are original items.

Using principle axes factor analysis followed by oblique rotation, the dimensions and internal structures of the three subscales, Maturity Facilitation, Child's Use of Stimulating Materials, and Parent-Child Emotional Relationship were identified. There were 6 factors identified in the Maturity Facilitation subscale: child's personal chores, family routine and

structure, child's personal hygiene, parental rule enforcement, child's family chores, and child's self-care. There were 5 factors identified in the Parent-Child Emotional Relationship subscale: parental-child conflict, parental warmth/ physical punishment, emotional openness, parental hostility, and parent-child communication. There were 3 factors identified in the Child's Use of Stimulating Materials subscale: child's use of reading materials, child's use of entertainment materials, and child's use of materials requiring special intellectual skills.

To investigate the construct validity of the data collected with the 46-item questionnaire, Pierce et al. (1998, Study 2) correlated the scores of the three proximal processes with the scores of the three parenting styles collected with the Primary Caregivers Practices Report (PCPR) (Robinson, Mandleco, Olsen & Hart, 1995). The PCPR is a self-report instrument that assesses the levels of three parenting styles used by the primary caregiver and draws from Baumrind's (1971) typologies of parenting styles: authoritarian, authoritative, and permissive.

A subsample of 171 families who had previously completed the HFQ were randomly selected to complete the PCPR (Robinson et al., 1995). The three subscale measures of the HFQ, Maturity Facilitation, Children's Use of Available Stimulating Materials, and Parent-Child Emotional Relationship, were correlated with the PCPR's three subscale measures: Authoritative Parenting, Authoritarian Parenting, and Permissive Parenting. As expected, the Authoritative Parenting score was significantly related to the three HFQ identified proximal processes, and the Authoritarian Parenting score was significantly negatively correlated to the Child's Use of Materials score. Pierce et al. (1998) suggested that this could possibly be due to the lack of child independence allowed in an authoritarian home environment.

To investigate the criterion-related validity of the HFQ data, Pierce et al. (1998, Study 2) compared the three proximal processes scores with the measures of children's academic

performance and level of academic motivation. A sample of 73 families was randomly selected, and participating mothers completed the HFQ at home and mailed it to the experimenter's lab address.

Their third-grade children were interviewed at their schools by experimenters trained in the administration of the Scale of Intrinsic versus Extrinsic Motivation in the Classroom (SIEMC) (Harter, 1981). The SIEMC consists of five subscales: Preference for Challenge versus Preference for Easy Work, Curiosity versus Pleasing the Teacher, Independent Mastery versus Dependence on the Teacher, Independent Judgment versus Reliance on the Teacher's Judgment, and Internal Criteria for Success or Failure versus External Criteria. Additionally, report card grades for math and reading for 46 of the children were collected from the schools.

The three HFQ proximal process scores were correlated with the 5 SIEMC (Harter, 1981) scores and the math and reading annual grade averages. As predicted, the Maturity Facilitation scores were significantly and positively correlated with the Curiosity and Judgment scores and also with the reading and math grades.

The HFQ was, thus, designed in reaction to the authors' perceived omission of a distinction between the physical home setting and the home process variables that are captured by the HOME (Pierce et al., 1998). While seeking to assess characteristics of the home that are similarly assessed by the HOME, the HFQ constructs focus more specifically on proximal processes within the home. The most relevant distinction between the MC-HOME and the HFQ is that the HFQ makes a distinction between environmental setting and environmental process that is lacking in the MC-HOME (Pierce et al., 1998).

The other notable difference between the MC-HOME and the HFQ is that the HFQ is a self-report measure. The self-report administration of the HFQ saves the cost of research hours

spent in observer training, use of the assessment, and the home observations and interviews that are associated with the MC-HOME. If concurrent validity can be established between the MC-HOME scores and HFQ scores, a more time- and cost-efficient measure of the quantity and quality of stimulation present for a child in his or her most intimate setting, the home environment, will be available for use in research and intervention purposes. The research time and money saved using the HFQ, as compared to the HOME instrument, can be used to broaden the empirical and ecological investigations and understandings of a child's home environment and its relationship to child developmental outcomes.

Validity

Construct validity. Research Goal 1 of the present study examined the construct and criterion-related validity of the HFQ, that is, replicated Pierce et al. (1998, Study 2). Construct validity relates to measures with multiple indicators and is the extent to which the measure of a particular theoretical concept is related to other measures of similar theoretical concepts (Neumann, 1997; Carmines & Zeller, 1979). Construct validity, in a valid measure, is demonstrated when the various indicators operate in a consistent manner (Neuman, 1997). Therefore, to establish construct validity of the proximal processes that involve interactions between children and the objects, activities, people, and events in their home environments, it is reasonable to examine the relationships of the proximal process constructs with established parenting constructs. The PSDQ is a widely used instrument that captures Baumrind's (1971) authoritative, authoritarian, and permissive models of parenting styles, which conceptualize parents' attitudes, beliefs, and specific parenting practices.

According to Baumrind's (1971) conceptualizations, authoritative parents tend to be high on control, warmth, maturity demands, and clarity of communication. Authoritarian parents tend

to be high on control and maturity demands but low on warmth and clarity of communication. Permissive parents tend to be low on control and maturity demands but high on warmth and clarity of communication.

In the present study, construct validity was examined by comparing the HFQ subscale scores (Pierce et al., 1998) and the PSDQ scores (Robinson, Mandelco, Olsen & Hart, 1995). It was expected that Maturity Facilitation scores would be positively related to Authoritative and Authoritarian scores and negatively related to Permissive scores. It was expected that Child's Use of Stimulating Materials scores would be positively related to the Authoritative scores. It was expected that Parent-Child Emotional Relationship scores would be positively related to Authoritative and Permissive scores and negatively related to Authoritarian scores.

Criterion-related validity. Criterion-related validity uses a standard or criterion that is widely accepted or known to indicate a construct accurately (Neumann, 1997). To demonstrate criterion-related validity, a new measure can be compared to another established, widely accepted measure of the same, or theoretically related, construct. That is, criterion-related validity involves using data collected with an instrument to estimate some relevant behavior that is external to the instrument itself but might be logically related to the construct believed to be assessed by the instrument (Carmines & Zeller, 1979). Children's self-perceptions of competence and social acceptance are established constructs in child development and are considered influenced by the level of support received by parents and peers and social judgments regarding their physical and cognitive abilities (Harter & Pike, 1984). It is expected that measures of child-environment proximal processes that encourage maturity, challenging use of stimulating materials, and a positive parent-child emotional relationship, as measured by the

HFQ, would be positively related to children's self-perceptions of physical and cognitive competence and maternal acceptance, as measured by the PSPC.

Predictive validity. To demonstrate predictive validity, an instrument should predict future events that are logically related to the construct (Neumann, 1997). In the present study, predictive validity of the HFQ data (Pierce et al., 1998) was examined by the correlational analysis of the HFQ data with the children's academic performance, as demonstrated by their math and reading scores, and to the four self-perception subscale scores of the PSPC (Harter & Pike, 1984). The influence of the home environment is widely acknowledged to be related to academic achievement (Fraser, 1987; Hill, Castellino, Lansford, Nowlin, Dodge, Bates, & Pettit, 2004). Further, the influence of significant others' judgments and feedback on children's abilities and competences is widely recognized as influential on children's developing self-perceptions (Nurra & Pansu, 2009).

Concurrent validity. In the present study's Research Goal 2, concurrent validity was examined between two separate measures of the child's home environment, the Home Observation for Measurement of the Environment- Middle Childhood version (MC-HOME) (Caldwell & Bradley, 1984), an instrument widely used to assess the quality of the home environment, and the more recently developed Home and Family Questionnaire (HFQ) (Pierce et al., 1998).

To demonstrate concurrent validity, an instrument must be associated with a pre-existing measure that is judged to be valid (Neumann, 1997). To examine concurrent validity, then, measures collected with a new instrument such as the HFQ (Pierce et al., 1998) should be demonstrated to be associated with scores collected with an existing instrument believed to be a

valid measure of the constructs measured, the MC-HOME (Caldwell & Bradley, 1984), in the present study, and its ability to measure aspects of the home environment.

CHAPTER 3

METHODS

Participants

Institutional Review Board (IRB) approval, #2812, was obtained from Louisiana State University for the current study. Participation in the present study was then solicited by the distribution of flyers in the Columbia, MS, school district and in the Marion County, MS, school district (see Appendix A). The flyers described the proposed study and were distributed to all 1st through 3rd grade students (831 students) in both districts, at three separate schools. Participants were offered their choice of gift certificates for their full participation. Seventy-one families returned the consent form (8.5%), from which 50 were randomly selected for participation.

Of the 50 children who participated in the study, 24 were male, and 26 were female. Twenty-five (50%) of the students were in the 3rd grade, 12 (24%) were in the 2nd grade, and the remaining 13 (26%) were in the 1st grade. Twenty-nine (58%) of the participants self-identified their ethnicity as Caucasian; 18 (36%) self-identified as African American; 2 participants (4%) self-identified as "other," and 1 (2%) self-identified as Hispanic. The participants classified their marital status as follows: 28 (56%) of the families were married; 3 (6%) were divorced; 1 (2%) was separated; 13 (26%) were never married, and 5 (10%) were cohabitating.

Design

The current study used a correlational and counterbalanced-presentation research design. To enable the examination of the data for possible presentation effects, half of the participants were randomly selected to be administered the MC-HOME interview before receiving and completing the HFQ (MC-HOME / HFQ condition); the other half of the participants completed the HFQ before being administered the MC-HOME interview (HFQ / MC-HOME condition).

Constructs and Instruments

Home environment. The children's home environments were assessed using the two instruments of interest that are the focus of the study: the MC-HOME version of the HOME Inventory (University of Arkansas, 2005a) and the HFQ (Pierce et al., 1998). One of three available versions of the HOME Inventory, the middle childhood version (MC-HOME) was designed for use with families of elementary-age children, ages 6 to 10 years (Caldwell & Bradley, 1984). The data collected with the instrument assesses various actions, objects, conditions, and events that are thought to contribute positively to children's development (Han, Leventhal, & Linver, 2004). It is composed of 59 items that are distributed among the following eight subscales: (1) Responsivity (10 items); (2) Encouragement of Maturity (7 items); (3) Emotional Climate (8 items); (4) Learning Materials and Opportunities (8 items); (5) Enrichment (8 items); (6) Family Companionship (6 items); (7) Family Integration (4 items); and (8) Physical Environment (8 items).

MC-HOME.

The 59 items of the MC-HOME are scored with either a "yes" or "no" response by an observer who has been trained to administer the MC-HOME (see Appendix B). Completion of the scale requires the observer to conduct a series of semi-structured interviews with the child's primary caregiver and to observe the child's home while the child is present. Of the MC-HOME's 59 items, 19 items can be scored solely by observation; the remaining 40 items require information from the caregiver. Four of the 59 items can be scored during either observation or, in the absence of observation, an interview probe. Slightly less than half of the items, therefore, can be scored based on observations, which the authors, Caldwell & Bradley (1984), consider a better source of information than interview questions. The questions and observations must be

administered in the home when the child and the primary caregiver are both present. The assessment also requires that the child be awake during the interview and observation. The required presence of the child severely restricts scheduling opportunities with school-age children, limiting MC-HOME observations conducted during the school year to afternoons and evenings after school and weekends only. Other family members or guests of the family may be present, but their presence is not required for the observation. The observer is trained to be as non-intrusive as possible while in the child's home in order to facilitate typically occurring family behaviors. Home visits are scheduled at the convenience of the family, and the home visits typically last 45 to 90 minutes.

HFQ.

In-home proximal processes were assessed using the Home and Family Questionnaire (HFQ, Pierce et al., 1998; see Appendix C), a self-report assessment consisting of 46 items divided among three subscales: 21 items were summed for the measure Maturity Facilitation, 16 items were summed for the measure Parent-Child Emotional Relationship, and 9 items were summed for the measure Child's Use of Stimulating Materials. Forty-five of the items are assessed using a 4-point Likert-type scale. The 46th item is presented in multiple-choice format. Thirty-nine of the HFQ statements are derivatives of the MC-HOME questions, and the remaining six HFQ statements are original items (Pierce et al., 1998). It is completed by the child's primary caregiver.

Matched HFQ and MC-HOME items.

In preparation for statistical analysis measuring concordance, the individual items of the HFQ and the MC-HOME were examined for similar content and matched for the purpose of analysis. Table 3.1 below includes the matched HFQ and MC-HOME items. As noted in Table

3.1, several HFQ items corresponded with one MC-HOME item, and several MC-HOME items had no correspondence with individual HFQ items.

Table 3.1

Individually Matched HFQ and MC-HOME Items

HFQ Item	HFQ Statement	MC-HOME Item	MC-HOME Statement
1	(Child) makes up bed.	11	Family requires child to carry out certain self-care routines, e.g., makes bed, cleans room, cleans up after spills, bathes self.
2	(Child) cleans room (e.g., picks up, sweeps, dusts)		
3	(Child) cleans up after spills.		
6	(Child) bathes self.		
7	(Child) washes hair.		
15	(Child) does own hair in the morning.		
17	(Child) picks out own clothes to wear.		
18	(Child) fixes own food.		
19	(Child) gets self up in morning.		
31	Child must clean his or her room.		
4	(Child) cleans the living room or den or playroom.	12	Family requires child to keep living and play area reasonably clean and straight.
5	(Child) puts away his or her things.	13	Child puts own outdoor clothing, dirty clothes, night clothes in special place.
8	(Child) places night-clothes in special place (e.g., drawer, bed)		
9	(Child) places dirty clothes in laundry.		
10	(Child) uses climber, slide, swings, or trampoline.	38	Child has ready access to at least two pieces of play-ground equipment in the immediate vicinity.

Table 3.1 (continued)

HFQ		MC-HOME	
Item	Statement	Item	Statement
11	(Child) uses home dictionary or encyclopedia.	27	Family has a dictionary and encourages child to use it.
13	(Child) reads by self.	4	Child is encouraged to read on his own.
16	(Child) plays a real musical instrument.	30	Child has free access to musical instrument (piano, drum, ukulele, or guitar, etc.)
22	(Child) makes me angry.	18	Parent has not lost temper with child more than once during previous week.
23	(Child) annoys me when he or she interrupts me.	7	Parent responds to child's questions during visit.
24	(Child) discusses the TV programs watched with me.	46	Parent discusses TV programs with child.
25	(Child) reads or studies in a special place other than the kitchen or dining room table.	32	Child has free access to desk or other suitable place for reading or studying.
26 28 29 30	(Child) eats most meals on schedule. (Child) goes to bed at same time each night. (Child) gets up at same time each day. (Child) does homework at same time each day.	1	Family has fairly regular & predictable daily schedule for child (meals, day care, bed-time hour, how much TV, homework, etc.).
27	(Child) uses radio, tape player, CD player, VCR, or TV	29	Child has free access to tapes, CD, or record player or radio.
32 33	Child has a set time to come in from playing. Child must complete homework before watching TV.	14	Parents set limits for child and generally enforce them.

Table 3.1 (continued)

HFQ		MC-HOME	
Item	Statement	Item	Statement
34	(Parent) allowed child to say she/he hates me, or made other negative comments.	20	Child can express negative feelings toward parents without harsh reprisals.
35	Child has a set time to come in from playing.	14	Parents set limits for child and generally enforce them.
36	(Parent) had to physically punish child.	19	Parent reports no more than one instance of physical punishment occurred during past month.
38	(Parent) talked to child about things other than her/his behavior.	23	Parent talks to child during visit (beyond correction and introduction).
40	(Parent) Let my child see me when I was upset or crying.	21	Parent has not cried or been visibly upset in child's presence more than once during past week.
41	(Parent statement) I feel proud when someone praises my child.	6	Parent shows some emotional response to praise of child by Visitor.
42	(Parent statement) I feel surprised when someone praises my child.		
43	(Parent statement) Overall, my child is more good than bad.	25	Parent does not express overt annoyance with or hostility toward child (complains, describes child as "bad", says child won't mind, etc.).
44	(Parent statement) Overall, my child is more bad than good.		
45	(Parent statement) My child does not mind me.		
46	How much time does your child spend reading at home, by herself/himself or with someone else?	31	Child has free access to at least ten appropriate books.

Self-perceptions of competence. Assessments of the children's self-perceptions of competence were conducted using The Pictorial Scale of Perceived Competence and Social Acceptance for Young Children (PSPC) (Harter & Pike, 1984; see Appendix D). The PSPC is a measure that is used to gather self-reported feelings of cognitive and physical competence and social and maternal acceptance in children ages 4 to 7 years. The instrument consists of 24 items divided evenly among 4 subscales (i.e., 6 items per subscale): Cognitive Competence, Physical Competence, Peer Acceptance, and Maternal Acceptance. Because the instrument is designed to measure the self-perceptions of young children, the items and response sets are presented in the form of pictures.

The time required to administer the PSPC is brief, typically requiring only 10-15 minutes. There are two illustrations for each item presented to the child being tested. The illustrations typically present a child who is very good at the task(s) depicted and a child who is not very good at the task(s) depicted. The administrator reads two brief statements to the child, one positive and one negative, for each of the pictures (e.g., this child is very good with numbers, and this child is not very good with numbers). The child is asked to state which of the children from the two statements he or she most resembles, the child depicting the positive statement or the child depicting the negative statement. After the child self-identifies with one of the depicted children, the administrator asks the child if he or she is "a lot like" that child or "a little like" that child. In addition to minimal administration time, training time with the instrument is nominal. Familiarity with the individual items and administration manual are considered adequate training by the authors of the instrument (Harter & Pike, 1984).

The 24 items are scored on a 4-point Likert-type scale, with 4 indicating the highest level of perceived competence or acceptance. Each of the 4 subscale scores, Cognitive Competence,

Physical Competence, Peer Acceptance, and Maternal Acceptance, has a possible range of 6 to 24.

Parenting style. The parent's general style of parenting was assessed using the Parenting Styles and Dimensions Questionnaire-Short Form (PSDQ) (Robinson, Mandelco, Olsen & Hart, 1995), a self-report instrument that is composed of 32 statements of different parent reactions to children's behaviors (see Appendix E). The assessment measures parenting styles along the continuum of Baumrind's (1989) typologies of authoritarian, authoritative, and permissive parenting styles, which are based on the levels of warmth and control that characterize parents' attitudes and behaviors during parent-child interactions. Authoritative parents rate high on parental control and high on parental warmth. Authoritarian parents rate high on parental control but low on parental warmth. Permissive parents rate low on parental control but high on parental warmth. The instrument is in a questionnaire format and can be completed by either mothers or fathers of the children. To complete the assessment, the parent rates his or her own parenting behaviors.

The 32 items are scored on a 5-point Likert-type scale, with 5 indicating that the parent "always exhibits" the stated behavior with his/her child and 1 indicating that the parent "never exhibits" the stated behavior with his/her child. The Authoritarian Parenting Style subscale is composed of 15 items and has a potential range of 15 to 75. The Authoritative Parenting Style subscale is composed of 12 items and has a potential range of 12 to 60. The Permissive Parenting Style subscale is composed of 5 items and has a potential range of 5 to 25. The composite parenting style subscale score with the highest overall mean indicates the parent's preferred style of parenting (Robinson et al., 1995).

Academic performance. The most recent 9 weeks' reading and math numeric grades were collected from the schools as an index of the children's academic performance at the midpoint of the fall semester.

Demographic information. Demographic information about the participants was collected using an administrator-designed questionnaire. The questionnaire assessed the following items: gender, marital status, level of education, occupation, and ethnicity.

Procedures

Approval of the use of human subjects was granted by the Louisiana State University Institutional Review Board prior to data collection. Permission to advertise for subjects was granted by the superintendents of the Columbia, MS, school district and the Marion County, MS, school district, as well as by the 3 individual school principals. From the 71 returned consent forms, 50 families were randomly selected for participation.

Phase I: Training the interviewer. Two undergraduate female students, one a Child and Family Studies major and one a nursing major were trained to collect the data for the study. Both of the students had plentiful experience working with children and families, one as a childcare provider in a daycare and the other as a regular volunteer with the children's department of her church; both were invited to participate in data collection because of their ease with children and families. Being able to feel comfortable going into the participants' homes and being able to put the participants at ease in doing so were considered important characteristics for data collectors to possess in this process. Training consisted of two, 3-hour Saturday sessions in which all instruments to be used were viewed, discussed, and practiced.

In training session 1, the students were introduced to the overall research goals and to all the paperwork to be used and completed during the data collection process. The first training

session, then, was used as a basic introduction to the research itself and to the instruments to be used. Two of the 4 instruments used in data collection, the HFQ and the PSDQ-Short Form, were questionnaires to be completed by the parents and required very little training for the data collectors beyond informing them how to instruct parents to complete the questionnaires. The instructions to the parents were also clearly labeled at the top of each instrument. The Pictorial Scale of Perceived Competence and Social Acceptance for Young Children (Harter & Pike, 1984) also requires minimal training before administration. The interviewers, therefore, were given time to look over the instrument and discuss any questions they had about its use during the training session. Questions were few and seemed to focus on how to best hold and handle the instrument during presentation to the children and where to mark the child's responses. Training session 1 concluded with each interviewer receiving 25 copies of each instrument, the paperwork to be used for each instrument, and 25 folders in which to keep each participant's information and data.

In training session 2, the training focused on the use and administration of the MC-HOME. Each of the interviewers was provided a HOME Inventory Administration Manual and a pack of 25 scoring booklets for reference during the training and for self-study at home prior to data collection. The MC-HOME section of the training manual explains that 19 of the scored items are clearly observation items and that 40 of the items are usually interview items, although 4 items are considered "either" items, which means that the information may be obtained either through observation or through an interview probe. The observation items are sufficiently described on the instrument to warrant very little discussion time during training. The bulk of the training, therefore, focused on the interview items of the MC-HOME.

Before discussion of the individual items, general tips were offered to the students about how to enter the families' homes and put them at ease with the research process. As the MC-HOME manual advocates, the students were encouraged to practice the interview questions repeatedly to achieve a conversational, non-judgmental tone in the interview process so that the families would feel comfortable offering information and not feel "put on the spot" or judged.

Time was devoted during the second training session for discussing each interview and "either" item and reviewing the recommended interview tactics and questions for obtaining the needed information assessed by each interview item. The MC-HOME training manual offers a script to initiate the interview process that recommends that each interview should begin by asking the parent to describe a typical day. The training manual also offers scripts and suggested questioning techniques for each individual interview item. Scoring the instrument was also addressed during training session 2, and the manual's guidelines for doing so were strictly followed.

Following the MC-HOME discussions and review of the MC-HOME materials, the interviewers practiced scoring observation/interview sessions using the HOME Training DVD. The DVD features 3 sessions for trainees to follow and score, and discussion of the scoring is offered at the end for comparisons of obtained scores. Both interviewers obtained scores equivalent to those obtained by the interviewer featured on the training DVD. The interviewers were given time for questions and discussion, and they were encouraged to review the materials at home prior to data collection and to call or email the primary researcher with any questions or issues that arose during their study of the materials and the procedures.

Phase II: Collecting the data. The 50 families were randomly assigned, by the primary investigator, to the interviewers for data collection, and the families were also randomly assigned

to either the HFQ/MC-HOME condition or the MC-HOME/HFQ condition. The interviewers were responsible for making their contacts with their assigned families, arranging appointment times, and obtaining directions to the families' homes.

When the interviewer arrived at a family's home, they obtained written parental permission for participation in the study. The children also gave their written assent to participate and were informed they could stop participating at any time if they became uncomfortable. (See Appendix B.) Families who had been randomly selected to complete the MC-HOME first did so. In these families, the participating adults completed the demographic information in conjunction with the written permission for participation paperwork. After completion of the MC-HOME interview/observation, the participating adults completed the HFQ while the interviewer completed scoring the MC-HOME. The families who had been randomly selected to complete the HFQ first did so, after which the interviewer conducted the MC-HOME interview/observation. While the interviewer scored the MC-HOME, the participating adult completed the demographic questionnaire. After the MC-HOME and HFQ were completed, the interviewer administered the Pictorial Scale of Perceived Competence and Acceptance for Young Children (PSPC) to the child away from the immediate presence of the participating adult. The PSPC was administered last in the hope that the child would feel more comfortable with the interviewer after she had been in the home for an extended amount of time.

Planned statistical analyses. Prior to analyses, the data was examined to determine that the variables met the assumptions of normality, linearity, and homoscedasticity. Descriptive statistics, including the means, standard deviations, and the potential and actual ranges of the HFQ, MC-HOME, PSDQ, and PSPC subscale scores were calculated. Inter-correlations were examined to provide information regarding the psychometric properties of the four instruments

used. A *t*-test was conducted to determine any order of presentation effects on the MC-HOME and HFQ subscale scores. A 3-way ANOVA was conducted to determine any possible race, sex of the participant, and community effects on the HFQ and MC-HOME subscale scores, and a one-way ANOVA was conducted to test for any possible grade classification effects on the HFQ and MC-HOME subscale scores. To accomplish the first research goal of replicating the findings of Pierce et al. (1998, Study 2), Cronbach's alphas were computed for each of the three HFQ subscales to compare internal consistency established in Pierce et al.'s (1998) original exploratory factor analysis. To accomplish the second and third goals of replicating the findings of establishing construct and criterion-related validity, correlations between the HFQ, PSPC, and PSDQ subscale scores, reading grades, and math grades were computed. To accomplish the second research goal of establishing concordance between scores obtained with the MC-HOME and scores obtained with the HFQ, individual HFQ and MC-HOME items were matched, and chi-square analyses were conducted to test the agreement between the matched items' scores yielded by the two instruments. Correlational analyses were also conducted between the three HFQ subscale scores and the eight MC-HOME subscale scores as another possible indicator of concordance between the scores of the two instruments.

CHAPTER 4

RESULTS

Preliminary Analyses

The descriptive statistics, including the means, standard deviations, and actual ranges, of the HFQ, MC-HOME, PSDQ, and PSPC subscale scores are shown in Table 4.1.

Table 4.1

Actual Ranges, Means, and Standard Deviations of Principle Variables (N=50)

Instrument	Range		M	SD
	Potential	Actual		
Subscales				
HFQ	46-184	121-166	147.72	10.03
Maturity Facilitation	21-84	55-84	71.44	6.40
Parent-Child Emotional Relationship	16-64	40-58	48.26	10.09
Child Uses Materials	9-36	21-36	27.28	3.66

Table 4.1(continued)

Instrument	Range		M	SD
	Potential	Actual		
Subscales				
MC-HOME	0-59	28-59	49.42	9.13
Responsivity				
	0-10	4-10	9.06	1.71
Encouragement of Maturity				
	0-7	2-7	6.26	1.34
Emotional Climate				
	0-8	4-8	6.94	1.28
Learning Materials				
	0-8	2-8	5.64	2.04
Enrichment				
	0-8	1-8	5.88	2.06
Family Companionship				
	0-6	2-6	5.12	1.17
Family Integration				
	0-4	1-4	3.44	.86

Table 4.1 (continued)

Instrument	Range		M	SD
	Potential	Actual		
Subscales				
MC-HOME				
Physical Environment				
	0-8	3-8	7.08	1.56
PSDQ	32-160	79-129	99.90	10.09
Authoritative Parenting Style				
	12-60	3.40-4.93	4.21	.42
Authoritarian Parenting Style				
	15-75	1.08-4.08	2.00	.68
Permissive Parenting Style				
	5-25	1.40-4.40	2.56	.84
PSPC	24-96	63-96	83.44	10.38
Cognitive Competence				
	6-24	17-24	22.06	2.26
Physical Competence				
	6-24	12-24	20.58	3.07
Peer Acceptance				
	6-24	15-24	21.54	6.54

Table 4.1 (continued)

Instrument	Range		M	SD
	Potential	Actual		
Subscales				
PSPC				
Maternal Acceptance				
	6-24	10-24	18.46	3.48

Examination of the data showed that the total PSPC score was positively skewed at 1.26. Because the total score was not intended for comparative analyses, the score was left as is. Further examination of the data showed that 6 of the MC-HOME subscale score variables were negatively skewed: Responsivity (-1.92), Encouragement of Maturity (-2.26), Family Companionship (-1.27), Family Integration (-1.21), Physical Environment (-1.64), and Emotional Climate (-1.15). Examination of the standardization statistics summary for the MC-HOME provided in the MC-HOME Training Manual (Caldwell & Bradley, 1984), however, revealed that the means for the MC-HOME subscale scores reflected above in Table 4.1 were comparable to those found during the standardization of the MC-HOME scores (Caldwell & Bradley, 1984). The standard deviation scores reflected in Table 4.1 are actually smaller than those reported in the MC-HOME standardization data. A comparison of the MC-HOME subscale score means, medians, and standard deviations for the present study and the MC-HOME subscale score means, medians, and standard deviations reported for the MC-HOME

standardization scores are provided below in Table 4.2. Because the data collected here appear to have behaved similarly to that collected in the standardization process of the MC-HOME, with scores falling more in the upper range of possible scores, the decision was made to not transform the skewed variables before further analyses were conducted.

Table 4.2

Comparisons of Means and Standard Deviations of MC-HOME Standardization Data with Means and Standard Deviation of MC-HOME Data Collected in the Present Study

Scale	Mean	SD	Median
Responsivity			
MC-HOME a	8.40	2.30	9.00
MC-HOME b	9.06	1.71	10.00
Encouragement of Maturity			
MC-HOME a	4.80	1.60	5.00
MC-HOME b	6.26	1.34	7.00
Emotional Climate			
MC-HOME a	6.90	1.60	7.00
MC-HOME b	6.94	1.28	7.00
Family Companionship			
MC-HOME a	4.10	1.40	5.00
MC-HOME b	5.12	1.72	6.00
Family Integration			
MC-HOME a	2.40	1.20	3.00
MC-HOME b	3.44	0.86	4.00

Table 4.2 (continued)

Scale	Mean	SD	Median
Physical Environment			
MC-HOME a	6.80	1.70	7.00
MC-HOME b	7.08	1.56	8.00

Note. a = standardized data; b = present study data

To test for possible presentation effects, an independent samples *t-test* was conducted. Table 4.3 shows that the order of the presentation of the MC-HOME and the HFQ did not have statistically significant effects on the subscale scores of either instrument. The data, therefore, were collapsed across presentation order.

Table 4.3

Comparisons of Order of Presentation on Scores of the MC-HOME and HFQ (N=50)

Variable	*M*	*SD*	*t*	*df*	*p*
Responsivity			.74	48	.46
HOME/HFQ	9.24	1.59			
HFQ/HOME	8.88	1.83			
Encouragement of Maturity			1.17	48	.25
HOME/HFQ	6.48	1.16			
HFQ/HOME	6.04	1.49			
Emotional Climate			.99	48	.33
HOME/HFQ	7.12	1.20			
HFQ/HOME	6.76	1.36			
Learning Materials			.14	48	.89
HOME/HFQ	5.68	2.17			
HFQ/HOME	5.60	1.94			

Table 4.3 (continued)

Variable	*M*	*SD*	*t*	*df*	*p*
Enrichment			-.41	48	.68
HOME/HFQ	5.76	2.18			
HFQ/HOME	6.00	1.96			
Family Companionship			-.48	48	.63
HOME/HFQ	5.04	1.21			
HFQ/HOME	5.20	1.15			
Family Integration			.00	48	1.00
HOME/HFQ	3.44	.820			
HFQ/HOME	3.44	.916			
Physical Environment			-.18	48	.86
HOME/HFQ	7.04	1.57			
HFQ/HOME	7.12	1.59			
Maturity Facilitation			-.39	48	.69
HOME/HFQ	71.08	6.56			
HFQ/HOME	71.80	6.36			
Child's Use of Stimulating Materials			-.77	48	.44
HOME/HFQ	26.88	2.92			
HFQ/HOME	27.68	4.31			
Parent-Child Emotional Relationship			-.15	48	.880
HOME/HFQ	48.88	6.67			
HFQ/HOME	49.12	4.26			

To test for possible race, sex of the participant, or community main effects or interactions on the principal variables, a 3-way ANOVA (race (2): white, of color; sex (2): male, female; school (2): rural, town) was conducted. Because only 3 of the 50 participants identified themselves as either "other" (2) or "Hispanic" (1), the decision was made to recode the race variable into two discrete categories, participants who classified themselves as "non-Caucasian" and participants who classified themselves as "Caucasian." The 3-way ANOVA revealed that there was a main effect for school on the PSPC Maternal Acceptance subscale scores, F (1,43) =

5.72, p=.02. Children in the rural schools had higher scores on Maternal Acceptance than students in the town school, t (48) = 2.02, p=.05. There was a main effect for race on the MC-HOME Emotional Climate subscale scores, F (1,43) = 11.85, p=.001. Caucasian children had higher scores on the Emotional Climate subscale than non-Caucasian children, t (48) = 2.02, p=.05. There was a main effect for race on the MC-HOME Learning Materials & Opportunities subscale scores, F (1,43) = 4.62, p=.04. Caucasian children had higher scores on the Learning Materials & Opportunities subscale than non-Caucasian children, t (48) = 2.02, p=.05.

There was a main effect for school on the MC-HOME Enrichment subscale scores, F (1,43) = 7.07, p=.01. Children attending the city school had higher scores on the Enrichment subscale than children attending the county schools, t (48) = 2.02, p=.05. There was also a main effect for race on the MC-HOME Enrichment subscale scores, F (1,43) = 7.92, p=.007. Caucasian children had higher scores on the Enrichment subscale than non-Caucasian children, t (48) = 2.02, p=.05.

There was a main effect for school on the MC-HOME Family Companionship subscale scores, F (1,43) = 14.01, p=0.001. Children attending the city schools scored higher than children attending the county schools on the MC-HOME Family Companionship subscale. There was a main effect for race on the MC-HOME Family Companionship subscale scores, F (1,43) = 8.11, p=0.01. Caucasian children scored higher than non-Caucasian children on the MC-HOME Family Companionship subscale.

There was a main effect for race on the MC-HOME Family Integration subscale scores, F (1,43) = 10.32, p=0.003. Caucasian children scored higher than non-Caucasian children on the MC-HOME Family Integration subscale.

There was a main effect for race on the HFQ Maturity Facilitation subscale scores, F (1,43) = 4.81, p=0.03 and on the HFQ Parent-Child Emotional Relationship subscale scores, F (1,43) = 5.09, p=0.03. Non-Caucasian children scored higher on the HFQ Maturity Facilitation subscale. Caucasian children scored higher than non-Caucasian children on the HFQ Parent-Child Emotional Relationship subscale.

The 3-way ANOVA also revealed that an interaction between school and race on the PSPC Physical Competence subscale scores, F (1, 43) = 4.08, p=.049. Non-Caucasian children attending the rural schools perceived themselves as more physically competent than their non-Caucasian peers attending the town school. There was an interaction between gender and race on the MC-HOME Encouragement of Maturity subscale scores, F (1, 43) = 4.97, p=.03. Caucasian male children scored highest on the MC-HOME Encouragement of Maturity subscale. There was an interaction between school and gender on the HFQ Maturity Facilitation subscale scores, F (1, 43) = 4.18, p=0.03. Male children attending the county schools scored highest on the HFQ Maturity Facilitation subscale. There was also an interaction between school and race on the HFQ Maturity Facilitation subscale scores, F (1,43) = 6.21, p=.02. Non-Caucasian children attending the county schools scored highest on the HFQ Maturity Facilitation subscale.

There was an interaction between school and gender on the HFQ Child's Use of Stimulating Materials subscale scores, F (1,43) = 5.47, p=0.02. Male children attending the county schools scored highest on the HFQ Child's Use of Stimulating Materials subscale. There was also an interaction between school and race on the HFQ Child's Use of Stimulating Materials subscale scores, F (1,43) = 4.29, p=0.04. Non-Caucasian children attending the county schools scored the highest on the HFQ Child's Use of Stimulating Materials subscale.

There was an interaction between school and race on math grades, F (1,43) = 6.53, p=.01. Caucasian children attending the county schools had the highest math grades. There was also an interaction between school and race on reading grades, F (1,43) = 5.53, p=0.02. Caucasian children attending city schools had the highest reading grades.

To test for a possible grade effect on the principle variables, a one-way ANOVA (grade (3): first, second, third) was conducted. The one-way ANOVA, F (2, 47) = 3.43, p =.04, demonstrated statistically significant differences among the grade levels of the participating children on the HFQ Parent-Child Emotional Relationship subscale score. The 3rd grade participants had the highest mean (M=49.64), with the 1st and 2nd grade participants trailing at 47.23 and 46.5, respectively.

Research Goal 1: Establishing Internal Consistency, Construct Validity, Criterion Validity

To compare the internal consistency established in Pierce et al.'s (1998) original exploratory factor analysis to measures of internal consistency in the current study, Cronbach's alphas were computed on scores collected in the present study on each of the three HFQ subscales. Findings are presented below in Table 4.6.

Table 4.6

Comparison of Internal Consistency for the Three HFQ Subscales

	Pierce et al. (1998) Study	Present Study
Maturity Facilitation	Cronbach's alpha = .78	Cronbach's alpha = .72
Parent-Child Emotional Relationship	Cronbach's alpha = .67	Cronbach's alpha = .36
Child Uses Materials	Cronbach's alpha = .65	Cronbach's alpha = .55

To examine possible reasons for the low reliability of the Parent-Child Emotional Relationship subscale, a corrected-item total correlation was conducted on the individual items

of the Parent-Child Emotional Relationship subscale. Negative correlations were found for HFQ 20 (Child "needs spanking"), HFQ 40 ("Let my child see me when crying"), and HFQ 34 ("Allowed my child to say she hates me or made other negative comments"). Further, HFQ 42 ("I feel surprised when someone praises my child.") was the only individual HFQ item with a corrected item-total correlation above .40, specifically .49.

To replicate the construct validity findings of Pierce et al. (1998), which compared the scores of the 3 HFQ subscales, Parent-Child Emotional Relationship, Child Uses Materials, and Maturity Facilitation, to the three parenting style subscale scores of the PSDQ, Authoritarian, Authoritative, and Permissive, correlations between the six subscale scores were computed. Table 4.7 below shows that a significant positive correlation was found between Parent-Child Emotional Relationship and Authoritative parenting style scores (r=.319), as expected. Significant negative correlations were found between Parent-Child Emotional Relationship subscale scores and the Authoritarian (r=-.430) and Permissive (r=-.325) parenting style subscale scores, as expected. No other significant correlations were found among the six HFQ and the three PSDQ subscale scores.

Table 4.7

Correlations Between HFQ Subscale Scores and PSDQ Subscale Scores

	HFQ Subscales		
PSDQ Subscales	Parent-Child Emotional Relationship	Child Uses Materials	Maturity Facilitation
Authoritative	.32	.13	.19
	p =.02		
Authoritarian	-.43	-.03	-.19
	p =.01		

Table 4.7 (continued)

Correlations Between HFQ Subscale Scores and PSDQ Subscale Scores

	HFQ Subscales		
PSDQ Subscales			
Permissive	-.33	.08	.01
	p =.04		

The findings presented above in Table 4.7 did not fully replicate the findings of Pierce et al. (1998). As noted below in Table 4.8, Pierce et al. (1998) found significant correlations between all three HFQ subscale scores and the Authoritative parenting style subscale scores. The present analysis produced a significant correlation between only the HFQ Parent-Child Emotional Relationship subscale scores and the Authoritative subscale scores. Pierce et al. (1998) also found a significant correlation between the HFQ subscale scores for Child Uses Materials and the Authoritarian subscale scores, whereas the present analysis did not. The current analysis revealed significant negative correlations between the HFQ Parent-Child Emotional Relationship subscale scores and the Authoritarian (r = -.43, p = .01) and Permissive (r = -.33, p = .04) parenting style subscale scores, which were not found in the Pierce et al. (1998) findings.

Table 4.8

Comparisons of Pierce et al. (1998) Findings and Present Findings of Correlations Between HFQ and PSDQ Subscales

	HFQ Subscales					
PSDQ Subscales	P-C Emotional Rel.		Child Uses Materials		Maturity Facilitation	
	Current Study	Pierce et al. (1998)	Current Study	Pierce et al. (1998)	Current Study	Pierce et al. (1998)
Authoritative	.32	.19	.13	.23	.19	.21
	p=.02	p <.01		p <.01		p <.01
Authoritarian	-.43	.07	-.03	-.17	-.19	-.08
	p =.01			p <.05		
Permissive	-.33	.05	.08	.07	.01	.08
	p =.04					

To establish criterion validity parallel to the findings of Pierce et al. (1998), which compared the 3 HFQ subscale scores for Parent-Child Emotional Relationship, Child Uses Materials, and Maturity Facilitation, to academic performance and the scores for the Scale of Intrinsic versus Extrinsic Motivation in the Classroom's (Harter, 1981) motivation subscales- Challenge, Curiosity, Mastery, Judgment, and Criteria- the three HFQ subscale scores were correlated with the PSPC (Harter, 1984) four subscales of Cognitive Competence, Physical Competence, Maternal Acceptance, and Peer Acceptance, and with the children's math and reading numeric grades. Table 4.9 below reveals that the results were somewhat consistent with expectations, as significant correlations were found between the scores for the HFQ subscale

Maturity Facilitation and scores for two of the PSPC subscales, Physical Competence and Peer Acceptance. Pierce et al. found Maturity Facilitation scores to be significantly positively related to the PSPC Curiosity subscale scores. Pierce et al. also found significant correlations between Maturity Facilitation scores and reading grades, whereas the current study did not. Pierce et al. (1998) found significant positive correlations between Child's Use of Materials scores and Curiosity and Judgment scores, reading grades, and math grades. No significant correlations between Child's Use of Materials scores and the PSPC subscale scores or academic performance scores were found in the present study. No significant correlations between the HFQ Parent-Child Emotional Relationship scores and the PSPC scales and academic performance variables were found in either the Pierce et al. study or the current study.

Table 4.9

Relationships Between HFQ Scores, PSPC Scores, and Academic Performance Scores

	HFQ Subscales		
Criterion Variable	Maturity Facilitation	Child Uses Materials	Parent-Child Emotional Relationship
PSPC Subscales			
Cognitive Competence	.19	.10	.00
Physical Competence	.43	.29	.08
	p =.002	p =.05	
Maternal Acceptance	-.11	.01	-.09
Peer Acceptance	.29	.08	.12
	p =.043		

Table 4.9 (continued)

Criterion Variable	Maturity Facilitation	Child Uses Materials	Parent-Child Emotional Relationship
Academic Performance			
Math	-.05	.09	-.17
Reading	-.10	.12	-.03

Research Goal 2: Concurrent Validity between HFQ and MC-HOME Scores

To establish concurrent validity between the scores obtained with the MC-HOME and the HFQ, individual MC-HOME and HFQ questions were matched for similarity, and chi square analyses were performed to determine agreement between the scores from the two instruments. As noted below in Table 4.10, all but 10 of the 40 matches exhibited parallelism for individually matched scores, with agreements of 70% or higher.

Table 4.10

Chi Square Analyses for Individually Matched HFQ and MC-HOME Items

Matched Items	Agreement	Disagreement	Pearson Chi- Square	*p*
HFQ1*MC11	72%	28%	6.10	.11
HFQ2*MC11	90%	10%	4.08	.13
HFQ3*MC11	90%	10%	.16	.92
HFQ4*MC12	86%	14%	3.39	.34
HFQ5*MC13	80%	20%	1.11	.77
HFQ6*MC11	No statistics were computed because HFQ6 was a constant, with a score of 4.			
HFQ7*MC11	82%	18%	1.63	.65

Table 4.10 (continued)

Matched Items	Agreement	Disagreement	Pearson Chi- Square	*p*
HFQ8*MC13	84%	16%	3.41	.33
HFQ9*MC13	82%	18%	1.95	.38
HFQ10*MC38	70%	30%	1.76	.41
HFQ11*MC27	66%	34%	12.07	.01
HFQ13*MC4	90%	10%	.69	.71
HFQ15*MC11	74%	26%	1.03	.79
HFQ16*MC30	66%	34%	5.88	.11
HFQ17*MC11	88%	12%	.31	.96
HFQ18*MC11	82%	18%	1.49	.69
HFQ19*MC11	66%	34%	1.94	.59
HFQ22*MC18	60%	40%	19.05	.00
HFQ23*MC7	54%	46%	4.87	.18
HFQ24*MC46	72%	28%	2.37	.31
HFQ25*MC32	72%	28%	.79	.85
HFQ26*MC1	88%	12%	.31	.96
HFQ27*MC29	76%	24%	3.10	.21
HFQ28*MC1	82%	18%	.44	.93
HFQ29*MC1	86%	14%	.32	.96
HFQ30*MC1	90%	10%	1.55	.46
HFQ31*MC11	80%	20%	4.58	.21

Table 4.10 (continued)

Matched Items	Agreement	Disagreement	Pearson Chi- Square	*p*
HFQ32*MC14	74%	26%	3.74	.29
HFQ33*MC14	86%	14%	1.43	.70
HFQ34*MC20	44%	56%	5.15	.16
HFQ35*MC18	68%	32%	9.32	.03
HFQ36*MC19	74%	26%	20.30	.00
HFQ38*MC23	98%	2%	.11	.74
HFQ40*MC21	58%	42%	2.49	.48
HFQ41*MC6	90%	10%	2.02	.36
HFQ42*MC6	68%	32%	6.52	.09
HFQ43*MC25	88%	12%	3.98	.14
HFQ44*MC25	90%	10%	19.10	.00
HFQ45*MC25	82%	18%	3.37	.34
HFQ46*MC31	38%	62%	10.93	.01

To test for significant relationships between the three HFQ subscale scores and the eight MC-HOME subscale scores, a correlational analysis was performed. Significant correlations were found between the HFQ Maturity Facilitation scores and MC-HOME Responsivity scores; the negative relationship was unexpected. Significant negative correlations were also found between the HFQ Child Uses Materials scores and the MC-HOME Responsivity, Encouragement of Maturity, Family Companionship, and Emotional Climate scores. No significant correlations

were found between the HFQ Parent-Child Emotional Relationship scores and MC-HOME scores. The findings are presented in Table 4.11 below.

Table 4.11

Correlations Between HFQ and MC-HOME Subscales

	HFQ Subscales					
MC-HOME Subscales	Maturity Facilitation	p	Child Uses Materials	p	Parent Child Emotional Relationship	p
Responsivity	-.36	.01	-.39	.01	.11	.46
Encouragement of Maturity	-.18	.22	-.31	.03	-.08	.59
Learning Materials & Opportunities	-.19	.19	-.12	.43	-.03	.82
Enrichment	-.14	.34	-.11	.45	.09	.55
Family Companionship	-.26	.07	-.31	.03	.17	.23
Family Integration	-.25	.08	-.23	.11	.22	.12
Physical Environment	.05	.73	-.03	.86	.05	.72
Emotional Climate	-.39	.01	-.51	.00	-.03	.82

CHAPTER 5

DISCUSSION AND CONCLUSIONS

Summary and Explanation of Findings

Replication of Pierce, Alfonso, & Garrison (1998). Research Goal 1 sought to compare the internal consistency established in Pierce, Alfonso, & Garrison's (1998) original exploratory factor analysis of the HFQ subscales to measures in the current study. Examination of the Cronbach's alphas showed similar findings in the two studies. In both the Pierce et al. (1998) and the current study, the Maturity Facilitation subscale was the only HFQ subscale with a Cronbach's alpha > .70, demonstrating a high level of internal consistency. It is of note, however, that the Child Uses Materials subscale had comparable Cronbach's alphas in both studies, with Pierce et al. finding a Cronbach's alpha of .65 and the current study finding a Cronbach's alpha of .55. The highest discrepancy in internal consistency was found in the Parent-Child Emotional Relationship subscale, with Pierce et al. finding a Cronbach's alpha of .67 and the current study finding a Cronbach's alpha of .36.

Examination of the Parent-Child Emotional Relationship subscale's individual items' corrected item-total correlations revealed three negative correlations, which are considered problematic. Negative correlations can indicate wording issues and can also indicate issues of conceptual fit (Leech, Barrett, & Morgan, 2005). Each of these items, HFQ 20 (Child "needs spanking"), HFQ 40 ("Let my child see me when crying"), and HFQ 34 ("Allowed my child to say she hates me or made other negative comments") may, through their wording, carry a negative connation for a parent-child emotional relationship. Further reliability testing should be conducted on the Parent-Child Emotional Relationship to see if the aforementioned items continue to indicate a need for further examination and possible revision.

It is also possible that the individual HFQ items of the Parent-Child Emotional Relationship subscale are actually assessing parental values, rather than parental behaviors. It was interesting to note that significantly more African-American parents reported that their children "need spanking," while significantly more Caucasian parents reported that they actually spanked their children within the last month. It is widely recognized that parenting values, behaviors and expectations vary across ethnic groups (Bradley, Corwyn, Burchinal, McAdoo & Coll, 2001b). For instance, harsh discipline used in a Caucasian home may have different implications in the parent-child emotional relationship than it would in an African-American home (Deater-Deckard, Dodge, Bates & Pettit, 1996). The item on the Parent-Child Emotional Relationship that directly assesses the use of physical punishment, HFQ 20, had the strongest negative corrected item-total correlation in the reliability analysis. Discrepant findings of internal consistency between the Pierce et al. and the current study, then, may reflect the need to reword some of the problematic individual HFQ items on the Parent-Child Emotional subscale to reflect a better distinction between parental values and parental behaviors or consider whether items with a negative connotation are a good conceptual fit in the subscale.

Such a marked discrepancy could also be related to the difference in sample size and makeup, however. Pierce et al. (1998) had a sample size of 307 families, whereas the current study had a sample size of only 50 families. In addition to sample size, sample makeup was different. Pierce et al.'s sample consisted of families living in an urban university city, whereas the current study's sample consisted of families living in a very rural setting. The Pierce et al. study sample included a higher percentage of Caucasian families (76%) than the current study (58%). The current study, then, had a higher rate of participants who self-identified as non-Caucasian (42%) than the Pierce et al. (1998) study (24%). The discrepancy in Cronbach's

alphas for the Parent-Child Emotional Relationship between the Pierce et al. (1998) and the current study, then, could possibly be attributed to the higher percentage of non-Caucasian children in the current study's sample.

In the examination of correlations between HFQ and PSDQ subscale scores in the current study, the HFQ Parent-Child Emotional Relationship subscale scores were, as expected, positively related to the PSDQ Authoritative subscale scores and negatively related to the PSDQ Authoritarian subscale scores and the PSDQ Permissive subscale scores. The high nurturance characterized by Authoritative parents, as contrasted to the harsh discipline and low nurturance of the Authoritarian parents are supportive of the above finding (Larzelere & Baumrind, 2010). No other significant correlations were found between the HFQ subscale scores and the PSDQ subscale scores in the current study. It is possible that, given a larger sample, significant correlations might have been noted throughout the remaining HFQ and PSDQ subscale scores.

In the examination of correlations between HFQ and PSPC subscale scores, HFQ Maturity Facilitation scores were found to be significantly related to Physical Competence scores and Peer Acceptance scores. Child Uses Materials scores were found to be significantly related to Physical Competence scores. No significant correlations were found between the HFQ Parent-Child Emotional Relationship subscale scores and the PSPC subscale scores. No significant correlations were found between the HFQ subscale scores and indices of academic performance, math and reading grades. Again, this could have been due to the small sample size and its inadequacy to properly detect effect sizes. Further, the issues mentioned earlier with the racial makeup of the current study's sample size could have inaccurately represented aspects of the parent-child emotional relationship. Given the higher percentage of African American families in the current study, it is possible that the HFQ Parent Child Emotional Relationship

subscale did not accurately assess the parent child emotional relationship existing in non-Caucasian families.

Investigation of concordance of HFQ and MC-HOME data. Chi-square analyses for the individually matched HFQ and MC-HOME items demonstrated a high degree of agreement between scores obtained on the matched items. Thirty of the 40 matches exhibited agreement levels 70% or higher. Correlational analyses of the HFQ subscale scores and the MC-HOME subscale scores showed significant relationships between the HFQ Maturity Facilitation subscale scores and the MC-HOME Responsivity and Emotional Climate subscale scores. The HFQ Child Uses Materials subscale scores showed significant relationships with the MC-HOME Responsivity, Encouragement of Maturity, Family Companionship, and Emotional Climate subscale scores. No significant relationships were found between the HFQ Parent-Child Emotional Relationship subscale scores and the MC-HOME subscale scores. It is of note that the HFQ Parent-Child Emotional Relationship subscale scores were not significantly related to the MC-HOME subscale scores, again giving credibility to the potential need to offer additional versions of the Parent-Child Emotional Relationship for different ethnicities.

Additional findings. The significant main effects for school, race, and gender and the significant interaction effects found on the various PSPC, MC-HOME, and HFQ scores is likely reflective of the widely acknowledged belief that children experience different behaviors, objects, and events in their home environments according to many characteristics such as gender, SES, and race (Bradley, Corwyn, Burchinal, McAdoo & Coll, 2001a).

It was interesting to note that both of the primary instruments, the HFQ (Pierce et al., 1998) and the MC-HOME (Caldwell & Bradley, 1984) seemed to show a ceiling effect. That is, the majority of participants scored in the higher range on both instruments. A ceiling effect

could be the result of a homogeneous sample or, possibly, at least in the case of the MC-HOME, be an artifact of the observer. Another possibility is a selection factor in that families who believe they are doing good things in the home are the ones who will most readily allow you into their homes for observations and interviews and be willing to complete questionnaires on the activities and processes occurring in their homes. Because both instruments demonstrated a ceiling effect, it is not considered problematic in investigating the concurrent validity of the instruments.

Implications of Findings

As recent research indicates a need to investigate proximal characteristics of children's home environments, in contrast to a primary emphasis on static, structural variables, the HFQ (Pierce et al., 1998) is an instrument worthy of further reliability testing. The high rate of agreement between the majority of the individually matched HFQ and MC-HOME item responses indicates that the two instruments garner similar responses on items of similar inquiry. Many studies reviewed for the current study that emphasized the need to examine proximal characteristics of the home environment relied on the HOME (Caldwell & Bradley, 1984), which focuses on many static and structural characteristics, to investigate the quality of the home environment.

In the Bono, Dinehart, Dobbins & Claussen (2008) study, for instance, it was noted that they had to use three separate instruments, one of which was the infant-toddler version of the HOME (IT-HOME) (Caldwell & Bradley, 1984) in an attempt to investigate proximal characteristics of the home environment. Family routines and parenting hassles, both of which are measured with the HFQ (Pierce et al., 1998), were measured with two other instruments. It would be beneficial, then, to have one instrument to measure the proximal characteristics of the

home. An instrument such as the HFQ (Pierce et al., 1998) that focuses only on proximal processes, rather than static, structural variables as the HOME (Caldwell & Bradley, 1984) does, seems a more legitimate measure if the stated research goal is to investigate proximal characteristics of the home environment.

Limitations of Current Study

One obvious limitation of the current study is the sample size and makeup. First, the sample size (50 participants) may have been insufficient in accurately capturing significant relationships between the instruments' subscale scores. Further, the makeup of the sample in that the participants were all from a rural setting prohibits the findings from being generalized to participants in more diverse settings.

Another limitation that was unforeseen was due to the fact that one of the interviewers had to quit data collection after only two home visits, preventing establishment of interrater reliability with the use of the MC-HOME (Caldwell & Bradley, 1984). However, during interviewer training, the two interviewers separately assessed the visits on the HOME training dvd comparably. Further, a review of her notes and MC-HOME scores, by the primary investigator and other interviewer, on the two home visits she completed suggested interrater reliability would have been demonstrated. Still, it is a recognized limitation of the current study's data collection. The possible ceiling effect demonstrated in the current data for both of the primary instruments, the HFQ (Pierce et al., 1998) and the MC-HOME (Caldwell & Bradley, 1984), however, suggest that the high scores on the MC-HOME (Caldwell & Bradley, 1984) may not be necessarily an artifact of the observer, as the HFQ (Pierce et al., 1998), in self-report format, also demonstrated a possible ceiling effect.

Future Directions

The viability of the HFQ (Pierce et al., 1998) as a valid and reliable alternative to the MC-HOME (Bradley & Caldwell, 1984) is worthy of future investigation. The need for a measure that accurately assesses the quality of the home environment from an ecological perspective has been demonstrated. A broader, richer picture of children's most intimate interactions within the home environment is afforded by an instrument such as the HFQ with its primary focus of examining and uncovering the proximal processes directly and mutually contributing to developmental outcomes.

In addition, it was noted in the current study that participants were somewhat hesitant at times to invite interviewers into their homes for observations. One mother stated to the primary investigator that she would be glad to be interviewed at her work setting but was not willing to allow anyone inside her home. It is possible that potential participants felt similarly hesitant in inviting people into their home to assess their home environments. This could have contributed to the poor response rate in advertising for study participants. In the particular case mentioned above, the mother indicated shame regarding the condition of her home. However, other issues such as busy after-work and after-school schedules could also prohibit participants from indicating a willingness to participate. The self-report nature of the HFQ (Pierce et al., 1998) is an attractive alternative format to these possible participant concerns, and there is evidence to support parents as accurate reporters of many developmental outcomes and characteristics (Goldberg, Thorsen, Osann, & Spence, 2008). The HFQ (Pierce et al., 1998) can be completed quickly and at any time, and the anonymity of a self-report that is coded and mailed in to the researcher with no face-to-face interaction may afford more honest, accurate self-assessments.

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APPENDIX A

STUDY CONSENT AND FLYERS

Would you like to learn more about children's home environments
AND
earn your choice of prizes????

You are invited to participate in an
LSU research study…

Your choice of a $15.00 Toys R Us OR a $15.00 movie gift certificate for participation!!!

If interested, please sign below and return to your child's teacher tomorrow!

_____ *Yes, I am interested in learning more about children's home environments!*

_____ *No, I am not interested in learning more about children's home environments.*

Parent's/ Guardian's Name: _____ *Signature:* _____

Child's Name: _____

Telephone: _____

School: _____ *Teacher:* _____ *Room #:* ____

**This study is not affiliated with your child's school; and your decision to participate (or not) will not affect your child's classroom performance or experience in any way. Subjects can only participate once. If you have been interviewed recently, you are not eligible to participate again.*

APPENDIX A (Continued)

STUDY CONSENT AND FLYERS

An Investigation of the Reliability between the MC-HOME and the HFQ

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LSU

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Purpose of the study: To learn about different ways researchers can observe children's home experiences.

Participants: Approximately 50 families with children ages six to nine years old in the Columbia, MS, City School District and Marion County, MS, School District.

Performance Sites: Families will be observed and interviewed in their homes.

Procedures: Each family will be visited in their home by 1-2 researchers at a time convenient to the family, when both parent(s) and the child are available. The parent(s) and the child will be informed of the purpose of the study and complete the demographic, consent, and assent forms. The researcher(s) will then talk with the parent(s) and child for 45-60 minutes about typical experiences that take place during the week. After the talk, the parent(s) will fill out a short questionnaire which asks about attitudes toward children and parenting and the HFQ. While they are filling out the questionnaires, the child will be interviewed separately for 10-15 minutes. Reading and math grades for participating children will also be collected from each child's school, with parental permission.

Benefits: Each family who completes full participation in the study will be given their choice of a $15 Toys R Us gift card or a movie theater gift card.

Risks: There are no physical or psychological risks to the children or their families. No information is of a clinical nature. The interviewer will be a trained female who is sensitive to the needs of children.

Participants' Rights: Participation is voluntary; families are free to withdraw from the study at any time.

Privacy: Data will be kept confidential unless release is legally compelled. Research records will include only an identification number after all the questionnaires and observations are complete. No names will be included on any final research records. All results will be reported as group averages. All information will be destroyed when it is no longer needed for the reporting of the research.

Release of Information: The general findings of the study will be available to the participants when it is published. Information about individual families will not be available to families or the involved school systems.

APPENDIX A (continued)

STUDY CONSENT AND FLYERS

The study has been discussed with me to my satisfaction, and all questions answered to my satisfaction. I may direct additional questions regarding study specifics to the investigator, Angel Lewis Herring. If I have questions about the subjects' rights or other concerns, I can contact the primary investigator, Dr. Sarah Pierce, at (225) 578-1725 and/or Robert C. Matthews, Chairman, LSU Institutional Review Board, at (225) 578-8692. I agree to participate in the study described above and acknowledge the researchers' obligation to provide me with a copy of this consent form if signed by me.

_____ _____

Parent's Signature Date

_____ _____

Please print your name. Relationship to child

_____

Child's Signature

_____

Phone number and times of day we can reach you to schedule your appointment.

_____

Mailing address

_____

Physical address, if different from mailing

_____

Your email address, if you have one

Names and ages of all persons living in your home

APPENDIX A (continued)

STUDY CONSENT AND FLYERS

CHILD ASSENT FORM FOR THE PICTORIAL SCALES OF PERCEIVED COMPETENCE AND ACCEPTANCE OF YOUNG CHILDREN

Child's Name:_____ Date:_____

During the home interview, the target child will be asked the following question:

"Hi, _____, my name is (name of the interviewer). I study young children. I need you to help me with my studies, please. Will you come with me and let me show you some pictures and ask you some questions? I will bring you back to your parents whenever you want to come."

Check the appropriate statement:

____ Yes, the child agrees to participate in the interview.

____ No, the child does not agree to participate in the interview.

Name of researcher: _____

APPENDIX A (continued)

STUDY CONSENT AND FLYERS

Permission to allow Angel Herring to review research participants' grades:

As part of an LSU-sponsored research project, I, _____

Parent/ Guardian's Name

do hereby grant permission for _____ to allow Angel Herring to review

School's Name

and record my child's (_____) most recent reading and math

Child's name

cumulative grades.

APPENDIX B

MIDDLE CHILDHOOD HOME

Responsivity

1. Family has fairly regular and predictable daily schedule for child (meals, day care, bedtime hour, how much TV, homework, etc.)
2. Parent sometimes yields to child's fears or rituals (allows night light, accompanies child to new experiences, etc.)
3. Child has been praised at least twice during past week for doing something.
4. Child is encouraged to read on his own.
5. Parent encourages child to contribute to the conversation during visit.
6. Parent shows some positive emotional response to praise of child by Visitor.
7. Parent responds to child's questions during visit.
8. Parent uses complete sentence structure and some long words in conversing.
9. When speaking of or to child, parent's voice conveys positive feelings.
10. Parent initiates verbal interchanges with Visitor, asks questions, makes spontaneous comments.

Encouragement of Maturity

11. Family requires child to carry out certain self-care routines, e.g., makes bed, cleans room, cleans up after spills, bathes self.
12. Family requires child to keep living and play area reasonably clean and straight.
13. Child puts own outdoor clothing, dirty clothes, night clothes in special place.
14. Parents set limits for child and generally enforce them.
15. Parent is consistent in establishing or applying family rules.
16. Parent introduces Visitor to child.
17. Parent does not violate rules of common courtesy during visit.

Emotional Climate

18. Parent has not lost temper with child more than once during previous week.
19. Parent reports no more than one instance of physical punishment occurred during past month.
20. Child can express negative feelings toward parents without harsh reprisals.
21. Parent has not cried or been visibly upset in child's presence more than once during past week.
22. Child has a special place in which to keep his/her possessions.
23. Parent talks to child during visit (beyond correction and introduction).
24. Parent uses some term of endearment or some diminutive for child's name when talking about child at least twice during visit.
25. Parent does not express overt annoyance with or hostility toward child (complains, describes child such as "bad", says child won't mind, etc.)

APPENDIX B (continued)

MIDDLE CHILDHOOD HOME

Learning Materials and Opportunities

26. Parent buys and reads a newspaper daily.
27. Family has a dictionary and encourages child to use it.
28. Child has visited a friend by him/herself in the past week.
29. Child has free access to tapes, CD, or record player or radio.
30. Child has free access to musical instrument (piano, drum, ukulele, or guitar, etc.)
31. Child has free access to at least ten appropriate books.
32. Child has free access to desk or other suitable place for reading or studying.
33. House has at least two pictures or other type of art work on the walls.

Enrichment

34. Family has a TV, and it is used judiciously, not left on continuously
35. Family encourages child to develop or sustain hobbies.
36. Child is regularly included in family's recreational hobby.
37. Family provides lessons or organizational membership to support child's talents (Y membership, gymnastic lessons, art center, etc.)
38. Child has ready access to at least two pieces of playground equipment in the immediate vicinity.
39. Child has access to a library card, and family arranges for child to go to library once a month.
40. Family member has taken child to (or arranged for child to visit) a scientific, historical or art museum within the past year.
41. Family member has taken child on (or arranged for child to take) a plane, train, or bus trip within the past year.

Family Companionship

42. Family visits or receives visits from relatives or friends at least twice a month.
43. Child has accompanied parent on a family business venture 3-4 times within the past year (to garage, clothing shop, appliance repair shop, etc.)
44. Family member has taken child, (or arranged for child to attend) some type of live musical or theatre performance.
45. Family member has taken child on (or arranged for child to take) a trip of more than 50 miles from home (50 mile radial distance, not total distance).
46. Parents discuss TV programs with child.
47. Parent helps child to achieve advance motor skills- ride a two-wheel bicycle, roller skate, ice skate, play ball, etc.

APPENDIX B (continued)

MIDDLE CHILDHOOD HOME

Family Integration

48. Father (or father substitute) regularly engages in outdoor recreation with child.
49. Child sees and spends some time with father or father figure 4 days a week.
50. Child eats at least 1 meal per day, on most days, with mother and father (or mother and father figures).

Family Integration

51. Child has remained with this primary family group for all his life aside from 2-3 week vacations, illnesses of mothers, visits to grandparents, etc.

Physical Environment

52. Child's room has a picture or wall decoration appealing to children.
53. The interior of the home or apartment is not dark or perceptually monotonous.
54. In terms of available floor space, the rooms are not overcrowded with furniture.
55. All visible rooms of the house are reasonably clean and minimally cluttered.
56. There is at least 100 square feet of living space per person in the house.
57. House is not overly noisy- TV, shouts of children, radio, etc.
58. Building has no potentially dangerous structural or health defects (e.g., plaster coming down from ceiling, stairway boards missing, rodents, etc.)
59. Child's outside play environment appears safe and free of hazards. (No outside play area requires an automatic minus.)

APPENDIX C

HOME AND FAMILY QUESTIONNAIRE

In the table below are listed several activities that parents tell us their children sometimes do. Some children never do these activities, and some do them a lot. Please place a checkmark to indicate how often your child does each activity: *never, seldom, sometimes,* or *a lot*.

Child Behaviors:	Never	Seldom	Sometimes	A lot
a. Makes up bed				
b. Cleans room (e.g., picks up, sweeps, dusts)				
c. Cleans up after spills				
d. Cleans the living room or den or playroom				
e. Puts away his or her things				
f. Bathes self				
g. Washes hair				
h. Places night-clothes in special place (e.g., drawer, bed)				
i. Places dirty clothes in laundry				
j. Uses climber, slide, swings, or trampoline				
k. Uses home dictionary or encyclopedia				
l. Uses computer at home				
m. Reads by self				
n. Helps with family meals (for example, sets table or rinses dishes)				
o. Does own hair in the morning				

APPENDIX C (continued)

HOME AND FAMILY QUESTIONNAIRE

p. Plays a real musical instrument				
q. Picks out clothes to wear				
r. Fixes own food				
s. Gets self up in morning				
t. Needs spanking				
u. Plays with puzzles				
v. Makes me angry				
w. Annoys me when he or she interrupts me				
x. Discusses the TV programs watched with me				
y. Reads or studies in a special place other than the kitchen or dining room table				
z. Eats most meals on schedule				
aa. Uses radio, tape player, CD player, VCR, or TV				
bb. Goes to bed at same time each night				
cc. Gets up at same time each day				
dd. Does homework at same time each day				

APPENDIX C (continued)

HOME AND FAMILY QUESTIONNAIRE

B. Place a checkmark in the appropriate box to indicate the rules that you and your family have set for your child (Section A) and how often you enforce each rule (Section B):

Rules:	A. We have this rule:	B. How often I enforce the rule:
a. Child must clean his or her room	No Yes	Never Seldom Sometimes A lot
b. Child has a set time to come in from playing		
c. Child must complete homework before watching TV		

C. Below are several statements that describe behaviors that parents say they sometimes do. Please place a checkmark in the box that indicates how often you do each behavior.

Parent Behaviors:	Never	Seldom	Sometimes	A lot
a. Allowed my child to say she/he hates me, or made other negative comments				
b. Lost my temper with my child				
c. Had to physically punish my child				
d. Talked to my child about his/her behaviors				
e. Talked to my child about things other than her/his behavior				

APPENDIX C (continued)

HOME AND FAMILY QUESTIONNAIRE

f. Discussed my feelings with my child when I was upset or crying				
g. Let my child see me when I was upset or crying				

D. Below are statements that parents sometimes make about their child. Please place a checkmark in the box that indicates whether you *strongly disagree*, *disagree*, *agree*, or *strongly agree* with each statement.

Parent Statements:	Strongly Disagree	Disagree	Agree	Strongly Agree
a. I feel proud when someone praises my child.				
b. I feel surprised when someone praises my child.				
c. Overall, my child is more good than bad.				
d. Overall, my child is more bad than good.				
e. My child does not mind me.				

E. How much time does your child spend reading at home, by herself/himself or with someone else? (Circle the letter)

a. none

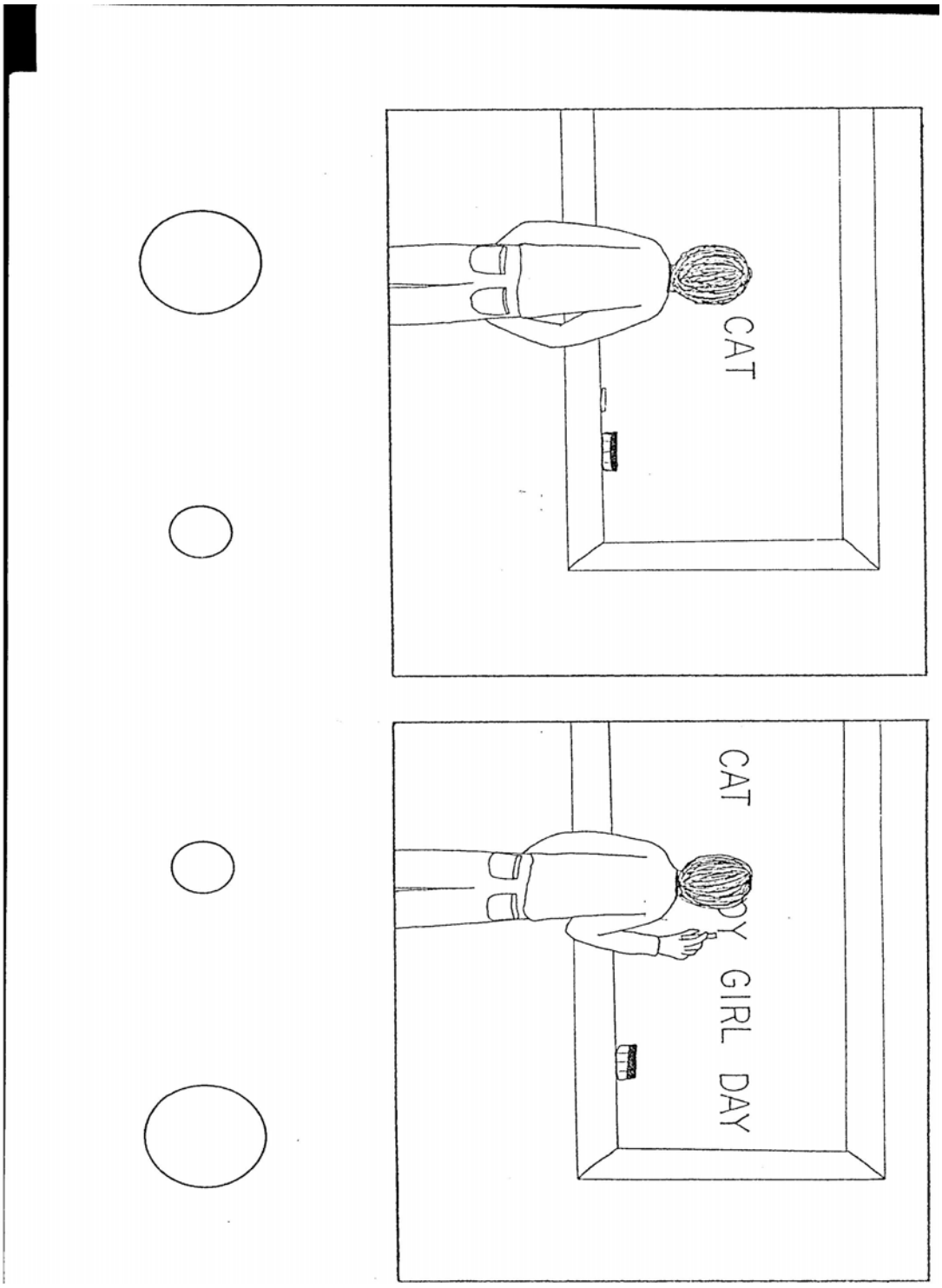
b. about 30 minutes a day

c. about 1 hour a day

d. more than 1 hour a day

APPENDIX D

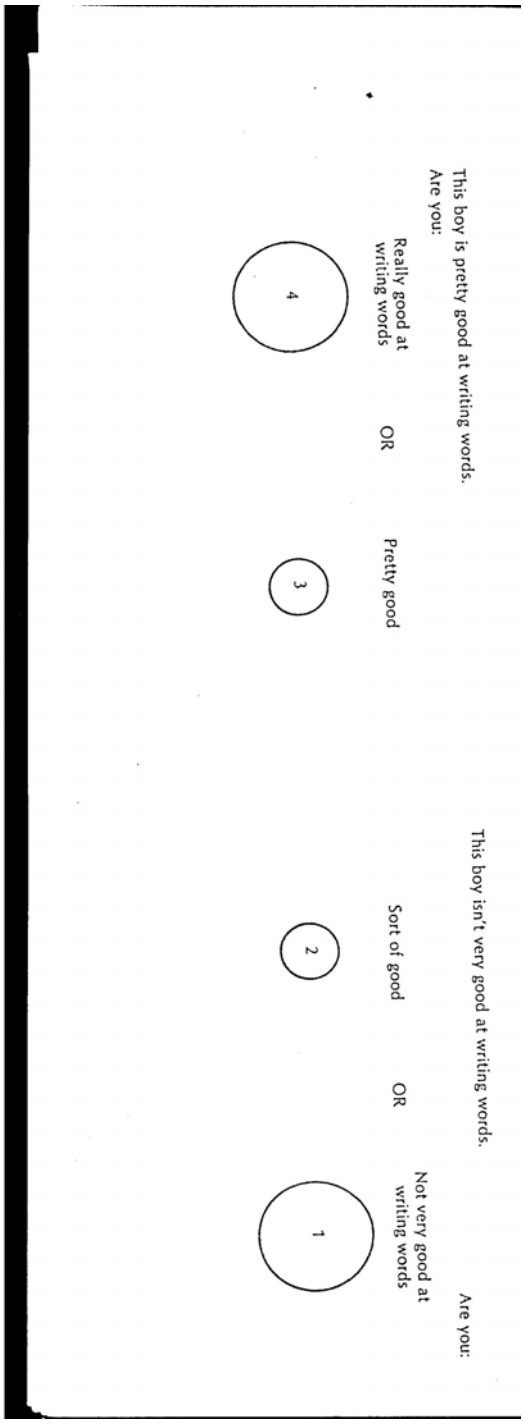
PICTORIAL SCALES OF PERCEIVED COMPETENCE AND SOCIAL ACCEPTANCE FOR YOUNG CHILDREN



APPENDIX D (continued)

PICTORIAL SCALES OF PERCEIVED COMPETENCE AND SOCIAL ACCEPTANCE

FOR YOUNG CHILDREN



APPENDIX D (continued)

PICTORIAL SCALES OF PERCEIVED COMPETENCE AND SOCIAL ACCEPTANCE FOR YOUNG CHILDREN

The Pictorial Scale of Perceived Competence
and Social Acceptance for Young Children*
Individual Recording and Scoring Sheet, Form 1-2

Child's Name _____ Age _____ Gender: M F

Class/Grade _____ Teacher _____ Testing Date _____

Item Order and Description	Cognitive Competence	Peer Acceptance	Physical Competence	Maternal Acceptance
1. Good at numbers	1 ___			
2. Friends to play with		2 ___		
3. Good at swinging			3 ___	
4. Eats at friends				4 ___
5. Knows alot in school	5 ___			
6. Others share		6 ___		
7. Good at climbing			7 ___	
8. Mom takes you places				8 ___
9. Can read alone	9 ___			
10. Friends to play games with		10 ___		
11. Good at bouncing ball			11 ___	
12. Mom cooks favorite foods				12 ___
13. Good at writing words	13 ___			
14. Has friends on playground		14 ___		
15. Good at skipping			15 ___	
16. Mom reads to you				16 ___
17. Good at spelling	17 ___			
18. Gets asked to play by others		18 ___		
19. Good at running			19 ___	
20. Stays overnight at friends				20 ___
21. Good at adding	21 ___			
22. Others sit next to you		22 ___		
23. Good at jumping rope			23 ___	
24. Mom talks to you				24 ___
Column (Subscale) Total:	☐	☐	☐	☐
Column (Subscale) Mean: (Total Divided by 6)	_____	_____	_____	_____

Comments:

*Susan Harter and Robin Pike, University of Denver, 1983

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APPENDIX E

PARENTING STYLES DIMENSIONS QUESTIONNAIRE

Rate how often you exhibit this behavior with your child.
I EXHIBIT THIS BEHAVIOR:
1 = Never
2 = Once In Awhile
3 = About Half of the Time
4 = Very Often
5 = Always

___ 1. I am responsive to our child's feelings and needs.
___ 2. I use physical punishment as a way of disciplining our child.
___ 3. I take our child's desires into account before asking the child to do something.
___ 4. When our child asks why he/she has to conform, I state: because I said so, or I am your parent and I want you to.
___ 5. I explain to our child how we feel about the child's good and bad behavior.
___ 6. I spank when our child is disobedient.
___ 7. I encourage our child to talk about his/her troubles.
___ 8. I find it difficult to discipline our child.
___ 9. I encourage our child to freely express himself/herself even when disagreeing with parents.
___ 10. I punish by taking privileges away from our child with little if any explanations.
___ 11. I emphasize the reason for rules.
___ 12. I give comfort and understanding when our child is upset.
___ 13. I yell or shout when our child misbehaves.
___ 14. I give praise when our child is good.
___ 15. I give into our child when the child causes a commotion about something.
___ 16. I explode in anger towards our child.
___ 17. I threaten our child with punishment more often than actually giving it.
___ 18. I take into account our child's preferences in making plans for the family.
___ 19. I grab our child when being disobedient.
___ 20. I state punishments to our child and does not actually do them.
___ 21. I show respect for our child's opinions by encouraging our child to express them.
___ 22. I allow our child to have input into family rules.
___ 23. I scold and criticize to make our child improve.
___ 24. I spoil our child.
___ 25. I give our child reasons why rules should be obeyed.
___ 26. I use threats as punishment with little or no justification.
___ 27. I have warm and intimate times together with our child.
___ 28. I punish by putting our child off somewhere alone with little if any explanations.
___ 29. I help our child to understand the impact of behavior by encouraging our child to talk about the consequences of his/her own actions.
___ 30. I scold or criticize when our child's behavior doesn't meet our expectations.
___ 31. I explain the consequences of the child's behavior.
___ 32. I slap our child when the child misbehaves.

VITA

Angel Lewis Herring was born and raised in Columbia, Mississippi. She earned her Bachelor of Arts in Psychology from Millsaps College in May, 1994. She began her graduate studies in Child Development at the University of Tennessee in Knoxville and completed her master's in Family Relations at the University of Southern Mississippi in May, 2000. Angel received her PhD in Human Ecology with a concentration in Family, Child, and Consumer Sciences from LSU in May, 2011.

Angel currently teaches part-time in the Child and Family Studies department at The University of Southern Mississippi. She is also the Children's Director at First United Methodist Church of Columbia, Mississippi. Married to Simon Herring, she makes her home in Columbia, Mississippi, where they raise their four children.