2011

Investigating the validity of scores obtained with the Home and Family Questionnaire and their reliability with scores obtained with the home observation for the measurement of the environment-middle childhood

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INVESTIGATING THE VALIDITY OF SCORES OBTAINED WITH THE HOME AND FAMILY QUESTIONNAIRE AND THEIR RELIABILITY WITH SCORES OBTAINED WITH THE HOME OBSERVATION FOR THE MEASUREMENT OF THE ENVIRONMENT-MIDDLE CHILDHOOD

A Dissertation
Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy
in
The School of Human Ecology

by
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May 2011

ACKNOWLEDGMENTS

Many hands have taken part in the preparation of this document, either directly or indirectly. Most gracious gratitude goes to the many professors at Louisiana State University either present, or retired, or otherwise, whose tireless efforts shape the future of research. Especial thanks to those who were willing to instruct in a non-traditional format in order to make a graduate degree a reality for this and other single mothers who aspire to it. Thanks to the staff of the Human Ecology Department, and thanks to Dr. Sarah Pierce who never let me get away with anything less than my best effort. Most of all, thanks to Amy, Peter, and Audrey, who caught the brunt of everything, and to Barb and Spencer my most faithful cheerleaders. Mom's finally a doctor gang- now let's get to work and pay the bill.

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ABSTRACT

The study of home environments and their relationships to child outcomes has become common practice among researchers of child development. As such, having a reliable instrument for measuring home environments that is also cost and time efficient is of primary interest to researchers. The most widely used instrument for measuring home environments is the Home Observation Measurement of the Environment (HOME) developed by Caldwell and Bradley in 1984. Use of the HOME is prevalent among researchers, yet it is costly to implement both in time and in money. An alternative tool for home environment measurement is the Home and Family Questionnaire (HFQ) (Pierce, Alfonso, & Garrison, 1998) which is cost and time effective, and is in conceptual congruence with ecological theory. The purpose of the present study was to test the construct validity of scores obtained with the HFQ by comparing them with scores obtained with the Parenting Styles and Dimensions Questionnaire (PSDQ) (Robinson, Mandleco, Olsen, & Hart, 1995). The criterion validity of the HFQ was also tested by comparing scores obtained with it to children's scores obtained with the Dynamic Inventory of Basic Literacy Skills (DIBELS) (Good & Kaminski, 2003). Finally, the reliability of scores obtained with the HFQ was tested with scores obtained with the HOME Middle Childhood version (MC-HOME). Scores as collected with the HFQ subscales of Maturity Facilitation, Parent-Child Emotional Relationship, and Child's Use of Stimulating Materials were found to exhibit construct validity, criterion-related validity, and reliability with MC-HOME data.

CHAPTER 1

INTRODUCTION

Justification. Academic success has been demonstrated in the literature to be positively correlated with early literacy acquisition (Bradley, Corwyn, McAdoo, & Garcia Coll, 2001; Chatterji, 2006; Hammer, Farkus, & Maczuga, 2010). Although many factors affect literacy acquisition in children, current research suggests that one salient factor is the *environments* in which children develop (e.g., home, school). The environments in which children develop can either enhance or hinder the process of acquiring spoken and written language (Farver, Xu, Eppe, & Lonigan, 2006). Research suggests that the home environment is one of the most influential settings affecting the development of young children (Roberts, Jurgens, & Burchinal, 2005; Serpell, Sonnenschein, Baker, & Ganapathy, 2002). The home environments of children vary on many levels, and many instruments have been designed in an attempt to capture the crucial elements of the environment that positively affect child development.

The Home Observation Measurement of the Environment (HOME), designed by researchers Caldwell and Bradley in 1984, has for many years been the most widely used instrument for evaluating the home environment (Bradley et al., 1994; Goelman, Shapiro, & Pence, 1990; Leventhal, Martin, & Brooks-Gunn, 2004; Linver, Martin, & Brooks-Gunn, 2004; Molfese, Molfese, Key, & Kelly, 2003; Mott, 2004; Pierce, Alfonso, & Garrison, 1998; Roberts et al., 2005). The HOME was created to measure the emotional support and cognitive stimulation that children experience in their homes through a combination of observation and interview. Data collected with the HOME are often paired with data that measures child outcomes in order to identify the aspects of the home environment that facilitate child development (Mott, 2004).

The HOME is not without criticism, however. Many researchers have found short-comings in the implementation and design of the instrument, especially the expense in time and money that is necessary to administer the HOME (Han, Leventhal & Linver, 2004; Leventhal, Selne-O'Hagan, Brooks-Gunn, Bingenheimer & Earls, 2004; Linver, Brooks-Gunn, & Cabrera, 2004; Pierce et al, 1998). Dissatisfaction with the short-comings of the HOME has led to the exploration of the development of new instruments for environmental assessment by various research partners.

One alternative instrument to the HOME, the Home and Family Questionnaire (HFQ) (Pierce, Alfonso, & Garrison, 1998), was designed to measure *proximal processes* that occur in homes environments as a result of the *facilitative influences* of the individuals and the environment contained therein (Bronfenbrenner & Ceci, 1994; Gottlieb, 1991). Urie Bronfenbrenner defines proximal processes as the interactions and experiences that affect the actualization of latent potential of the developing individual (Bronfenbrenner & Ceci, 1991). Bronfenbrenner delineates the possibilities for individual potential actualization as influenced by proximal processes into six categories: (a) differentiated perception and response, (b) directing and controlling one's behavior, (c) coping successfully under stress, (d) acquiring knowledge and skill, (e) establishing and maintaining mutually rewarding relationships, and (f) modifying and constructing one's own physical, social, and symbolic environment. Bronfenbrenner suggests that developmental outcomes are directly related to the strength and type of the proximal processes in place, their duration over time, the environmental context they take place in, and the personal characteristics of the developing individual (Bronfenbrenner & Ceci, 1991).

The concepts of facilitative and inductive influences are derived from the work of Gilbert Gottlieb (1991). Gottlieb described four processes, listed here from weakest to strongest effect,

through which experience can influence development: maintenance, facilitation, induction, and canalization. Facilitative developmental influences encourage the child to pursue the development of skills and of knowledge that have already been induced. They encourage the child to act independently on his or her world. Inductive developmental influences initiate or entice the child to initiate exploration of their abilities. Induction also suggests that the developmental influence is dual in nature with the child affecting the environment as well as the environment influencing the child. The reciprocal influence can include interactions with persons or with materials in the environment. Inductive processes have far-reaching effects in that these processes strongly influence what skills, interests, abilities, or preferences the child will develop (Baumrind, 1970; Gottlieb, 1991).

Proximal processes then, as measured by the HFQ, are direct child interactions with persons and with materials within the home environment, especially those that require the active participation of the child, and are the primary influences of child development. The HFQ is unique in that, unlike other measures of the environment, it is designed to separate proximal processes from the static, physical elements of the home setting, making it possible to evaluate the quality of interactions taking place in the home environment.

Because the HFQ is a self-report instrument that relies on parents' disclosure concerning interactions and influences in the life of their child, it is an instrument that is respectful to the role of parents and to ecological systems theory as conceptualized by Urie Bronfenbrenner (1994). Ecological systems theory suggests that active reciprocal influences that happen in direct contact with the person over time are those that are most salient in individual development. Due to the nature of their role in the life of the child, the parent has unique insight into the influences that are most pervasive in the child's world. Because parents are imbedded in the child's

developmental system, they are in a position to convey information about their child's experiences that a trained observer might not be able to detect in an isolated observation. Self report instruments such as the HFQ capture the salient elements of family life by respecting parents as accurate reporters of their children's experiences.

Results obtained with the HFQ have been tested for validity suggesting that the instrument is useful for measuring three proximal processes that take place in home settings maturity facilitation, the parent-child emotional relationship, and children's use of stimulating materials (Pierce, et al., 1998). Early tests of the HFQ suggest that the proximal processes measured with it are similar to those measured by the HOME. The construction of the HOME however, does not allow for differentiation between home processes and home context as does the HFQ. If it can be established that the HFQ does in fact measure the same or similar phenomenon as the HOME, and does so with similar predictive power, the HFQ would be available as an alternative measurement for home environments: one that delineates home processes and contexts, and one that would also be more economical and less time consuming to administer.

Objectives. The primary objective of this study was to compare data obtained with the Home and Family Questionnaire (HFQ) against data obtained with the Home Observation Measurement of the Environment Middle Childhood MC-HOME) with the goal of establishing the HFQ as a viable, cost and time effective instrument for the measurement of home environments that is respectful of ecological systems theory and of the parent as an accurate reporter of child behaviors and influences.

A secondary objective of this study was to examine the construct validity of scores obtained with the HFQ by comparing scores obtained with it with scores of parenting styles

obtained with The Parenting Styles and Dimensions Questionnaire (PSDQ) (Robinson, Mandleco, Olsen, & Hart, 1995). The PSDQ was designed as a self report instrument that measures the beliefs of parents about interactions with their children, and categorizes them into one of three parenting style profiles: authoritative, authoritarian, and permissive. It is expected that parents who fall into the authoritarian category will also be those with higher scores in maturity facilitation, child's use of stimulating materials, and parent-child emotional relationship on the HFQ.

A third purpose of this study was to examine the criterion validity of data collected with the HFQ. One of the most studied outcomes of child development concerning home environments is early literacy acquisition (Mott, 2004). This is possibly because influences in the home environment have been shown to have a strong correlation with child literacy acquisition (Farber, Xu, Eppe, & Lonigan, 2006). Data collected with the HFQ was correlated with the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) (Good & Kaminski, 2003). The DIBELS was created to measure student performance in reading over time with sensitivity to subtle changes in student proficiency over time; thus the term dynamic is used as a descriptor for the instrument (Kaminski & Good, 1996). DIBELS scores are also designed to be representative of isolated skills in important literacy acquisition areas such as phonological awareness, knowledge of letter names, and language skills. DIBELS scores have demonstrated validity based on psychometric analysis performed by Kaminski and Good, and the instrument is gaining in national use and recognition in the United States (Elliott, Lee, & Tollefson, 2001). The DIBELS is also useful for the current study because in the aspects of age equivalency and prevalent use, the DIBELS matches the criteria of most of the measures of child outcomes that are paired with the HOMES data (Mott, 2004). It also matches the target age and grade levels

associated with the HFQ and the MC-HOME. In the current study the children with higher literacy scores as measured by the DIBELS are expected to also be from homes with higher scores on the Child's Use of Stimulating Materials and the Maturity Facilitation subscales as measured by the HFQ.

Assumptions. For the purposes of this study, it is assumed that parents are accurate reporters of their child's and their own behaviors (Lee, Chiu, van Hasselt, & Tong, 2009; Visser, Smeekens, Rommelse, Verkes, van der Gaag & Buitelaar, 2010). It is also assumed that scores obtained using the chosen instruments, i.e., the MC-HOME, the DIBELS, and the PSDQ, are representative of the constructs they are intended to measure. Further, it is assumed that coursework across the sampled schools and parishes is comparable, affording the children an equal opportunity to develop academically. It is also assumed that the demographics across the Acadia and St. Landry parishes are comparable.

Limitations. Some possible limitations to the proposed study exist. The planned sample size has been chosen in order to keep the project from becoming unwieldy in terms of man-power, time, and financial constraints. It is possible that the chosen sample size was too small to yield data that are statistically significant. The study sample is located in a rural region of the southern United States, thus the findings from the study may not be generalizable to other locales and cultures (Polit & Beck, 2010). The sample population that was drawn upon for participants is approximately 50% white and 50% black, and although that ethnic profile was roughly reflected in the study population, it is possible that the findings are not transferable to other cultural or ethnic mixes. Due to the necessity that both the primary caregiver and the child be present for the home observations, the observations were conducted either in the evening or on the weekends. The inability to vary observation times and days may have had an effect on the

data collected in that evening and weekend family routines may not represent the full spectrum of interaction that takes place weekly within the home. Children in the study were between the ages of five through eleven years of age and thus the findings may not be applicable to other age groups.

Summary. The salient influences of home environments on child developmental outcomes have become a paradigm among researchers in the fields of both sociology and psychology. Being able to accurately measure and report on the variables of home environments in an economical fashion concerning time and money is desirable. Having an instrument that is theoretically sound is also desirable. The HFQ is a unique measure of home environments in that it delineates and measures processes occurring in the home that directly affect child development. It has been found worthy of further scrutiny. This study is the vehicle for further confirming the reliability, construct validity, and criterion validity of the HFQ.

CHAPTER 2

LITERATURE REVIEW

Introduction. Researchers who study the substantial effects of home environments on child developmental outcomes argue that the relationships are strong because of the amount of time spent in the home by the child, the extent of the direct interactions that the child experiences in the home, and the timing of those interactions within the developmental trajectory of the child (Baker, & Ganapathy, 2002; Leventhal, Martin, & Brooks-Gunn, 2004; Molfese, Mofese, Key, & Kelly, 2003; Serpell, Sonnenschein, Battle Bailey, 2006). Home environments are then of interest to those who study child development.

Measuring the elements of the home environment and pairing the findings with measures of child development has become a standard procedure among researchers who are interested in exploring the relationships between home experiences and child outcomes (Bradley, Corwyn, Burchinal, Pipes, McAdoo, & Garcia Coll, 2001; Leventhal, Selner-O'Hagan, Brooks-Gunn, Bingenheimer, & Earls, 2004; Molfese et al., 2003; Mott, 2004; Roberts, Jurgens, & Burchinal, 2005). Having a reliable measure of home environments that is also economical to administer and is cost effective is of primary importance in the field of child development studies (Bradley, Mundfrom & Whiteside, 1994; Linver, Brooks-Gunn, & Cabrera, 2004).

This literature review will focus first on a widely used measurement of children's home environments, the HOME (Caldwell & Bradley, 1984), and the strengths and limitations of the instrument. Second, preliminary work with a possible alternative for the HOME, the HFQ, will be reviewed. Third, the instruments used for establishing construct and criterion validity for the HFQ will be reviewed.

The Home Observation Measurement of the Environment (HOME). The most used and most reliable instrument to measure the general home environments of young children is the Home Observation for Measurement of the Environment (HOME) (Bradley et al., 1994; Caldwell & Bradley, 1984; Goelman, Shapiro, & Pence, 1990; Leventhal et al., 2004; Linver, Martin & Brooks-Gunn, 2004; Molfese et al., 2003; Mott, 2004; Pierce, Alfonso, & Garrison, 1998; Roberts et al., 2005). For example, a subject search for the HOME on the database Academic Search Complete, performed in February of 2011, yielded 29,012 hits. The HOME was designed to measure the emotional support and cognitive stimulation that children experience in their homes. The phenomena measured by the HOME include the materials in the surroundings of a child's home, and the events and interactions that take place there (Linver et al, 2004).

HOME Versions and Subscales. Originally four versions of the HOME were created: an infancy toddler version (IT-HOME), a preschool- early childhood version (EC-HOME), a middle childhood version (MC-HOME), and an early adolescence version (EA-HOME). Three newer assessments have been added to the original battery that was created in 1984, two of which measure in-home childcare environments; the Child Care Infant-Toddler HOME (CC-IT-HOME), the Child Care Early Childhood HOME (CC-EC-HOME), and the Disability HOME (DA-HOME). All versions of the HOME are administered during in-home observations by a trained observer, and take approximately one to one and a half hours to complete. A HOME short form (HOME-SF) (Baker & Mott, 1989) was created for the National Longitudinal Study of Youth-Child Supplement, and is sometimes now used by other researchers (Mott, 2004).

The original inventory for the MC-HOME contains 59 items divided into eight subscales: Emotional and Verbal Responsibility (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).

Limitations and Criticisms of the HOME. Although the HOME inventories are widely used by researchers, they are not without limitations. Some criticisms of the HOME inventories include methodology, reliability, validity, external validity, the lack of coherence with ecological theory, the time requirements, the cost, and lack of conceptual coherence (Bradley, 2004; Bradley et al., 2001; Bradley et al., 1994; Han et al., 2004; Leventhal et al., 2004; Leventhal et al., 2004; Linver et al., 2004; Mott, 2004; Mundfrom, Bradley, & Whiteside, 1993; Pierce et al., 1998). These will be discussed in detail below.

Expense. Because the many versions of the HOME inventory are designed as observations, they are expensive to implement in terms of time and money (Mott, 2004; Han, et al., 2004). Observers must be trained to conduct the observation-interviews. The individual observations take a minimum of one hour to conduct. Time spent recruiting and scheduling participants can be substantial, and because the HOME observations are conducted in the home setting, travel time must also be considered. Any cost in time can also be quantified in terms of monetary cost to the researcher. Another monetary expense can be incurred through payment to study participants (Iltis, A.S., DeVader, S., Matsuo, H., 2006). It is typical for researchers to pay a stipend to participants based on the level of invasiveness of the study, thus stipends for a home visit would be customarily higher than that of a self-report questionnaire.

Methodology. Some researchers suggest that a weakness in the design of the IT-HOME, the EC-HOME, and the MC-HOME is that, although most data is collected by a trained observer,

some questions have to be asked in the process of the home observation in order to obtain the necessary data (Linver, et al, 2004). For example, under the subscale entitled Emotional & Verbal Responsivity, item number one reads, "Family has fairly regular & predictable daily schedule for child (meals, daycare, bedtime, TV, homework)." This line item is scored by the observer as a *yes* or *no* response; *yes* adding a point to the subscale score, and a *no* eliminates the possibility for a point. During a 60- to 90-minute observation interview it may not be possible to determine a definitive answer to this question without inquiry to the parent caregiver involved. The items on the inventory that must be completed as such rely on the report to the observer from a single caregiver. It has been suggested (Linver et al, 2004) that receiving information from only one caregiver may create problems with reporter bias in spite of the employment of a trained observer. Linver and colleagues (2004) suggest that items that require parent report be separated from those from observation alone as a means of ameliorating problems with reporter bias (Linver et al., 2004). Another limitation of using observations as a method of data collection is the timing of the observation-interviews. To implement the HOME inventories both the child and primary caregiver must be present for the home visit. This requirement restricts the times in which a family can be observed due to family schedules. Most families are together in the evenings and weekends, and observations performed at those times may not be representative of the full range of family interactions throughout a typical day.

The HOME-SF was created for use in The National Longitudinal Survey of Youth 1979 cohort (NLSY79) because the researchers determined that the standard version of the HOME would be too cumbersome to implement in a large-scale project (Baker & Mott, 1989). Findings from a study of the HOME-SF suggest that there are some problems with the methodology of the HOME-SF (Mott, 2004). Observers who are in the home for an average of 60 minutes get only a

snapshot view of the home life of families in their one observation. This can lead to a distorted view of the interactions and relationships that persevere in the home environment. For example, reliability scores for home environments of young children (age four and younger) was low, as measured by a Cronbach's alpha, when compared to the scores of the home environments of older children. This was especially true for items in the inventory addressing socio-emotional factors as opposed to cognitive factors. The researchers concluded that the discrepancy in scores was due to variability in child or mother mood during the observation appointment (Mott, 2004).

Reliability. Another problem that has been suggested concerning the HOME inventories is that the number of items in each of the HOME versions is different. For example; the IT-HOME contains 45 items, the EC-HOME contains 55 items, and the MC-HOME contains 59 items. The discrepancy in item number is due to an effort on the part of the authors to recognize and be sensitive to the developmental abilities that emerge in children with age, but it makes comparing scores across age groups, as in a longitudinal study such as the NLSY79, difficult. It is common for researchers to adapt the HOME inventories to suit specific study needs (Han, et al., 2004; Linver, et al, 2004; Linver, et al, 2004; Mott, 2004). Items are added and eliminated from the inventory, and sometimes rearranged within the subscales for analysis. The common practice of manipulating the HOME instruments causes problems with reliability when comparing data results across studies.

Conceptual Coherence. The IT-HOME, the EC-HOME, and the MC-HOME were assessed in one study in the hopes of creating subscales from the inventory items that were conceptually meaningful (Linver, et al., 2004). The reconstruction of the subscales was in response to the view of the researchers that the prevalently used subscales originally designed by Caldwell and Bradley (1984) were not conceptually based, but instead were constructed for ease

of scoring. The researchers asserted that grouping the inventory items in subscales that are conceptually consistent could possibly yield data that is more useful and reliable than that yielded by the current model (Linver, et al., 2004). Seven conceptually-based subscales were developed and found reliable using data sets from various longitudinal studies. These included the following subscales: Parental Warmth, Parental Verbal Skills, Parental Lack of Hostility, Learning/Literacy, Interior of Home, Exterior of Home, and Developmental Advancement. However, not all of the data sets were found to be reliable for all of the subscales, and some of the original items from the HOME could not be placed in any of the newly created subscales due to lack of congruency with the chosen concepts; those items were therefore discarded. (Linver, et al, 2004).

Validity. It has been found that some of the items within the subscales of the HOME tend to score participants consistently high; 90% or more of participants are coded in the affirmative (Linver, et al., 2004). The high percentage of affirmative scores suggests those items do not differentiate between subjects. For example, in the present study, all participants scored a *yes* answer for two MC-HOME items: 13, Child puts own outdoor clothing, dirty clothes, night clothes, in a special place, and 29, Child has free access to tapes, CD, or record player, or radio. Some items do not exhibit high consistency with others within the same subscale (Linver, et al., 2004). Researchers appear divided as to which items, scales or format to use as evidenced by the tendency to add or omit items within the subscales at will, and on occasion change the subscale format to suit the needs and interests of individual studies (Mott, 2004; Linver, et al., 2004; Han, Leventhal, & Linver, 2004). The employment of license with the inventory items by researchers makes it difficult to make comparisons across studies and across data sets (Linver et al., 2004).

External Validity. There has been some controversy concerning bias in the HOME inventories. Based on research results, the question arises whether the HOME is widely applicable across ethnic and socioeconomic groups, suggesting that the HOME may lack external validity (Bradley et al., 2001; Han, et al., 2004). For example, in one study, ethnicity was factored into the data analysis, and it was found that for those items for which ethnicity interacted with the home environmental processes, the interactions were stronger in the positive direction for European Americans and Asian Americans (Bradley et al., 2001). The strong positive correlations for European and Asian American ethnicities suggest a possible bias against other ethnicities when measured by the same items.

Some researchers suggest that it would be efficacious to create one set of subscales for all versions of the HOME. Standardizing the inventories may facilitate comparisons of the same children's scores taken at different points across their lifetime (Bradley et al., 2001; Leventhal, Selner, O'Hagen, Brooks-Gunn, Bingenheimer, & Earls, 2004). This would be particularly useful for longitudinal studies.

Frequency of experiences and perseverance over time of parent-child interactions are not reflected through the recommended data collection methods employed by the HOME. Currently observers record one short session with a family in a single setting. These may be atypical of enduring events occurring in the household, or may not reflect experiences across other contexts at all. Information on frequency and perseverance would facilitate intervention attempts for children (Bradley et al., 2001).

Lack of Coherence with Ecological Theory. Ecological systems theory as conceptualized by Urie Bronfenbrenner (1983) views the individual as developing as an embedded component of the multiple social systems that make up their environment. The systems overlap and

intersect, but have a hierarchy based on the level of contact to the developing individual. The *microsystem* is made up of those components of the environment that come in direct contact with the individual. The *exosystem* is composed of elements of the environment that do not come in direct contact with the individual, but do come in direct contact with one or more of the members of the individual's microsystem, and therefore have an indirect effect on the individual. The *macrosystem* includes the values, beliefs, and attitudes of the culture within which the micro and exosystems are embedded. Each system is seen as affecting the others, and as affecting the development of the individual. In turn the developing individual is seen as active in their own development and as acting on and affecting their environment.

Some researchers suggest that in making decisions about child development the macro-level context in ecological systems theory must also be considered along with the micro level as is measured by the HOME (Bradley et al., 2001). For example, cultural values and cultural context, both macro-level components, can influence the quality and frequency of parent-child interactions. Results from research suggest that some items contained in the HOME may be culturally irrelevant for some participant pools especially outside the United States. As an example, when used with families in the Caribbean, the inventory item concerning the child having access to a musical instrument was found to be culturally irrelevant. So was the item concerning the parent introducing the child to the observer; an act that would be culturally inappropriate there (Bradley, 2004).

Researchers suggest that in order to recognize the influence of macro-level components, and in order to alleviate problems with external validity in the HOME inventories, items contained in the HOME could be calculated on an item level basis rather than by subscale (Bradley et al., 2001). Item level calculations would also assist in determining the frequency and

perseverance of functions within the home, and cultural influences that enhance or deter from the developmental processes taking place. Indicators in most home environmental measures are chosen because they are thought to exert a certain influence on the child. Some researchers recommend the assessment of many indicators for each dimension of development in order to assure accurate representation (Bradley et al., 2001). The need for the assessment of multiple indicators is especially essential for items that address macro-level components of the home environment. An item-by-item analysis employed with the HOME would simulate a multiple indicator approach to variable assessment. In one study that looked at the macro-level influences of poverty and ethnicity on home environments through item-by-item comparison found striking differences in the educational materials available to children based on child age, ethnicity, and poverty status (Bradley, et al, 2001). The effects of poverty were discovered to be salient in almost every aspect of the six environmental indicators examined. Item to item comparison allowed for the findings to be examined in a way that delineated more clearly how home experiences differ for families, and how poverty affects the micro-culture in families, and the home environments for children

In another study, the proximal aspects of the environment were significantly associated with achievement even when controlling for family income, maternal education, family size, and father presence (Bradley et al., 2001b). In ecological systems theory, proximal processes are conceptualized as experiences that are directly available to the child that affect their development (Bronfenbrenner, 1994). Child competence and behavior were found to be directly associated with the proximal processes available in their home environments. There was limited support for the assertion that the salience of proximal home factors decreases with child age (Bradley et al., 2001b).

Summary. Although the HOME inventories are prevalently used to measure elements of the home environment, there are several shortcomings found in the data collected with the instruments. Some researchers question the methodology through which the HOME is administered (Mott, 2004; Linver et al., 2004). Some suggest that the reliability of the HOME is questionable due to inconsistency in the number of items across the different forms, and due to the creative license that researchers take in including or discarding items from the battery in order to customize the inventories for individual purposes (Linver, Brooks-Gunn, & Cabrera, 2004). The original design of the subscales has also been questioned in that they are not conceptually based, but based on ease of scoring which may also affect the reliability of the instruments. Some researchers suggest that certain items in the HOMES lack validity in that they do not differentiate between subjects, but score them consistently high or low (Linver et al, 2004). The external validity of the HOME has also been questioned in that some research findings suggest that the inventory is not applicable across ethnic and socioeconomic groups (Bradley et al, 2001; Han, et al., 2004). Some researchers assert that the HOME inventories lack coherence with ecological theory (Bradley, 2004; Pierce et al, 1998). Perhaps the most deterring criticism of the HOME inventories however, is the large amount of time and money required to administer them (Han, Leventhal, & Linver, 2004; Pierce et al, 1998).

The Home and Family Questionnaire (HFQ). A home environment as measured by the HOME inventories (Caldwell & Bradley, 1998) includes the materials that are available as well as the quality and frequency of parent-child interactions, and individual children's use of available materials. Pierce and colleagues (1998) examined the Middle Childhood version of the HOME from a different perspective. Drawing from Bronfenbrenner's ecological theory (Bronfenbrenner & Ceci, 1994), the researchers assert that the phenomena measured by the

HOME inventories can be separated into two categories; *static context* and *dynamic process*. *Static context* refers to the physical environment and includes the people, symbols, and activities that the child encounters in the home. The term *dynamic process* refers to enduring interactions between the child and their surroundings. The concepts of *static context* and *dynamic process* are based on the work of Urie Bronfenbrenner (1994) who has argued that *proximal processes,* or enduring interactions with the environment, are the driving force in children's' development.

Pierce et al (1998) assert that it is useful to distinguish between the static context, or setting, within which the developing child engages in interactions, and the dynamic interactions themselves. They see the lack of separation of these factors as a weakness in the design of the HOME inventories, and argue that in order to understand the various influences in home environments concerning child development more clearly, it is critical to distinguish between *home setting* and *home process*. *Home setting* is defined as "the 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" (Pierce et al., 1998. p. 4). *Home process* is defined as "interaction(s) between the child and the enduring elements of the home setting that require the child's presence, such as discipline, conversation, and reading" (Pierce et al., 1998, p. 4).
The researchers examined items on the MC-HOME in order to delineate the proximal processes captured by it. After initial culling, three proximal processes were derived: Maturity Facilitation, Child's Use of StimulatingMaterials, and Parent-Child Emotional Relationship. They created and tested an instrument designed to measure the three proximal processes: the Home and Family Questionnaire (HFQ).

Derivation of the Original Items and Subscales for the HFQ. For the first phase of the study 53 second graders and 25 third graders were recruited from three public elementary

schools in the upper South. The children ranged in age from 6.6 to 9.5 years. Forty-two boys and 36 girls were included in the study. The sample was approximately 18% black and 82% white with a wide range of socioeconomic status represented as evidenced by the varying professions of the parents. The MC-HOME was administered in the households of these children with most (68%) of the interviews being completed by mothers.

The 59 items of the 8 subscales were administered following the standard protocol. During data analysis, the 59 items were separated into two theoretical clusters of *home process* and *home setting* by applying the principles of ecological systems theory. Three criteria guided this process: the distinction between setting and process suggested by ecological systems theory, the distinction of in-home processes versus out-of-home processes based on a confirmatory factor analysis completed previously (Pierce et al., 1998, Study 1, Phase 2), and the retention of standard-used HOME scale clusters, where possible. Items were grouped into one of two categories, home process or home setting, by applying the criteria that setting remains when the child is absent; process requires the child's presence.

From this analysis three in-home process subscales were confirmed; Responsivity-Process, Maturity-Process, and Emotional Climate- Process. Four in-home setting subscales were confirmed: Responsivity-Setting, Emotional Climate-Setting, Materials-Setting, and Physical Environment-Setting.

Pierce et al (1998) assert that three proximal processes were captured in the MC-HOME data set. The three proximal processes were titled maturity facilitation, child's use of stimulating materials, and parent-child emotional relationship. The term *facilitation*, as used in Maturity Facilitation, was taken from the work of Gilbert Gottlieb (1976). Gottleib used this term to describe one of the roles that experience can have on species-typical development. Facilitation

refers to those experiences that encourage or enhance development after the initiation of a skill or ability. Experiences that are facilitative affect development in quantifiable ways. The term *maturity* comes from the original HOME inventory subscale (Caldwell & Bradley, 1984), Encouragement of Maturity, and also acknowledges the maturity demands construct in Baumrind's (1971) authoritative and authoritarian parenting styles. The second proximal process, child's use of stimulating materials, was named based on the ecological systems theory, which separates the presence of items from the process of the child's use of them. The third proximal process parent-child emotional relationship, is supported by extensive research that indicates parental warmth and responsiveness as a recurring, powerful, predictive construct in the parent-child relationship. All three of the proximal processes include enduring interactions between the child and their home setting, but do not focus on the setting or items in the setting themselves. Although the proximal processes may involve materials, the focus here is on the actions and interactions of the child.

Testing the HFQ and Refining the Subscales. For the second phase of the study, the researchers designed the Home and Family Questionnaire (HFQ) using the three proximal processes derived from the MC-HOME as a foundation. The goal was to create and test an instrument that measured the same phenomena as the MC-HOME, but did so more economically and in less time as it could be administered by parent self-report, and that was coherent with ecological systems theory.

Most of the items for the HFQ were taken from the MC-HOME, but were rewritten as self-report questions. Parents have been found to be accurate reporters of their child's development, experiences, and capabilities (Visser, Smeekens, Rommelse, Verkes, van der Gaag & Buitelaar, 2010; Lee, Chui, van Hasselt & Tong, 2009). Other items were added based on

parent comments from the initial phase of the study. The questions were divided into three categories: in-home process, in-home setting, and out-of-home activities. The questionnaire was piloted to determine the time requirements and readability of the inventory, and those items deemed redundant or unclear were deleted. This process yielded 101 items, 81 of which were derived from the HOME. Sixty-seven items measured proximal processes.

The HFQ prototype was administered to 307 urban families with 3rd graders in the Deep South. The participants were recruited through the local school system. One-hundred-thirty-five children were boys and 172 were girls; approximately 80% were white, 21% were black and 3% were other ethnicities.

After administration, the scores of those items that were theorized to measure the three proximal processes were put through a series of principal component analyses followed by promax (oblique) rotation (see Abdi, 2003 for more information), and analyzed using Cronbach's alpha (see Santos, 1999 for more information). Of the 67 items thought to measure proximal processes, 46 were retained after analysis, including 39 items that had been derived from the MC-HOME, and 7 that had been created specifically for the HFQ.

Six factors were derived via exploratory factor analysis from the 21 items making up the subscale Maturity Facilitation: child personal chores, family routine and structure, child's personal hygiene, parental rule enforcement, child's family chores, and child's self care. The nine items making up the subscale Child's Use of Stimulating Materials yielded three factors: child's use of reading materials, child's use of entertainment materials, and child's use of materials requiring special intellectual skills. The 16 items making up the Parent-Child Emotional Relationship subscale clustered into five factors; parent-child conflict, parental warmth physical punishment, emotional openness, parental hostility, and parent-child

communications. Findings for emotional openness were unexpected in that one of the items loaded in an unanticipated direction. The item, "Let my child see me when I was upset or crying," loaded positively on the sub-factor Emotional Openness. The analogous item on the MC-HOME, "Parent has not cried or been visibly upset in child's presence more than once during the past month," loaded negatively on the subscale Emotional Climate. The researchers suggest this will require further investigation.

Testing the Final HFQ. The three proximal-process subscale scores were put to a test of construct validity by comparing the scores with those collected with the *Primary Caregiver's Practices Report* (PCPR), which has since been re-titled *The Parenting Styles and Dimensions Questio*nnaire (PSDQ) (Robinson, Mandleco, Olsen, & Hart, 1995). The participants were a sub-sample of 171 parents from the formative study. The researchers hypothesized that the three proximal process scores would be correlated with scores of the three parenting styles conceptualized by Baumrind (1970) as measured by the PCPR (PSDQ). It was predicted that the scores for maturity facilitation and child's use of available materials would be positively correlated with the authoritative parenting style scores, and that the parent-child emotional relationship scores would be positively correlated with both the authoritative and permissive parenting style scores, but would be negatively correlated with the authoritarian parenting style scores. The three proximal process scores were found to be correlated as predicted with the authoritative parenting style scores. Scores of child's use of materials were negatively related to the authoritarian parenting style scores, and parent-child emotional relationship scores were not related to scores of either the authoritarian or the permissive parenting style.

As part of phase three of the research, the criterion- related validity of the HFQ was examined by correlating the three proximal processes with child academic motivation and

performance as measured by the *Scale of Intrinsic versus Extrinsic Motivation in the Classroom* (Harter, 1981). The underlying theory was that items on the HFQ that measure activities that require independence, self responsibility, or planfulness in the child would be positively related to intrinsic motivation and academic performance.

Participants included 73 families with third grade children in the Deep South. The mothers completed the questionnaire at home, and the children were administered *The Scale of Intrinsic versus Extrinsic Motivation in the Classroom* (Harter, 1981) at their respective schools. The results of the correlations were as expected; maturity facilitation scores were positively related to scores of curiosity ($p < .01$) and reading ($p < .05$). *Scores of child's use of stimulating materials* were positively related to scores of curiosity ($p < .05$) and judgment ($p < .01$), reading ($p < .01$), and math ($p < .05$).

Summary. The authors of the HFQ concluded that one of the phenomenon captured by the MC-HOME is proximal processes, and that based on the work of Gotlieb (1976) and Bronfenbrenner (1994), these may be the focal pieces of prediction that make the MC-HOME so powerful. The researchers assert that they have constructed an instrument that captures the same phenomena as is captured through the MC-HOME, but one that can be administered more economically, in terms of time and cost, and that could be useful in examining the effects of home environments on development in a way that is consistent with ecological systems theory.

Other Instruments of Interest. For the purposes of the proposed study two other instruments were necessary in examining the construct and criterion validity of the HFQ. They are the Parenting Styles and Dimensions Questionnaire (PDSQ) (Robinson, Mandleco, Olsen, & Hart, 1995), and the Dynamic Inventory of Basic Early Literacy Skills (DIBELS) (Good & Kaminski, 2003).

The Parenting Styles and Dimensions Questionnaire. *The Parenting Styles and Dimensions Questionnair*e (PSDQ), formally titled the *Primary Caregivers Practices Report* (PCPR) was designed by researchers at Brigham Young University to measure the frequency of behaviors displayed by parents towards their child, and to provide a self-report instrument that yielded data consistent with Baumrind's (1970) parenting styles typology (Robinson et al., 1995). The PSDQ is based on the work of Diana Baumrind (1970) on parenting dimensions with items being derived from the *Child Rearing Practices Report* (Block, 1965). In a critical review of 55 parenting style instruments, the PSDQ was found to be theoretically and psychometrically sound (Locke & Prinz, 2001). The PSDQ is a self-report questionnaire on which each parent reports on their parenting behaviors when interacting with their child. Originally called the Parenting Practices Questionnaire, the initial instrument consists of 62 items derived through exploratory factor analysis. The items are scored on a Likert-type five-point scale with responses ranging from never to always with an emphasis on frequency of behaviors. A short form has been developed using confirmatory factor analysis that consists of 32 items.

The PSDQ is designed to place parents into one of three categories of parenting styles: authoritative, authoritarian, or permissive. The three styles delineate a spectrum of parenting behavior: the authoritative style represents a balance between emotional warmth and child behavioral control, the authoritarian style represents a strong need to control child behavior regardless of emotional warmth, and the permissive style represents little desire to control their child in favor of emotional warmth. The authoritative parenting style has been found to be the most conducive to desirable child developmental outcomes (Baumrind, 1966; Baumrind, 1970; Robinson et al, 1995).

Scores derived from the PSDQ were correlated with scores from the HFQ in order to establish construct validity for the HFQ. Construct validity is the extent of the accuracy of a measurement to assess the targeted constructs (Cohen, 1977). Parenting styles and beliefs directly affect the quality of the proximal processes experienced by the child. Because of the causal relationship between proximal processes and parent beliefs, the HFQ and the PSDQ both measure to some extent the same phenomenon, and convergent validity between the two instruments should be present, which in turn would suggest construct validity for the HFQ.

The Dynamic Inventory of Basic Early Literacy Skills. *The Dynamic Inventory of Basic Early Literacy Skills* (DIBELS) was developed by researchers at the University of Oregon as a diagnostic tool for early literacy screening (Good & Kaminski, 2003). It is now used in schools in more than 40 states to monitor progress in literacy acquisition of children in first through third grade (Manzo, 2005). The DIBELS assesses seven dimensions of accomplishment in reading skills: initial sound fluency, letter naming fluency, phoneme segmentation fluency, nonsense word fluency, oral reading fluency, retell fluency, and word use fluency. Students receive a numeric score for each dimension within the battery for their grade level, and the scores are used to classify students into one of three levels of achievement for each of the sub-tests administered based on their corresponding scores: at risk, some risk, and low risk. Summative assessments are given at the completion of the school year. Based on the summative assessment scores children are placed into one of three categories that are used as recommendations for the following school year reading placement: deficit, emerging, and established. The assessments are designed to be administered to students by their teachers in the classroom setting. The DIBELS is gaining in use within the United States, being mandated in many states as the sole instrument of early literacy assessment (Elliott et al., 2001).

For the present study scores from two of the six sub-tests within the DIBELS battery were utilized to assess the criterion validity of scores from the HFQ: oral reading fluency and word use fluency. Criterion validity assesses the ability of a measurement to make accurate predictions concerning a criterion outside of, but related to, the scope of the measurement. It is common for measurements of home environment to be paired with measurements of child development in order to assess relationships between them (Mott, 2004). The oral reading fluency subtest is a timed oral reading test. The number of words that are read accurately within a specified time limit are recorded as the child's score. The number and difficulty of words varies between grade levels, and the inventory is not administered in the kindergarten year due to the level of reading proficiency required to attempt the test. In the word use frequency subtest the child is given words to use orally in a sentence. If the child uses the word correctly they are awarded a point. If they fail to use the word in a sentence within ten seconds the child is given a zero for that item and the next word is issued. The overall examination is timed, and the number of correct responses within the time limit is recorded as the child's score. As with the oral reading fluency inventory, in the word use fluency subtest, the number and difficulty of the words increases with grade level. Both prevalent use of the DIBELS and the target age range of the inventory make it viable as a measure of criterion validity for the HFQ.

Summary. Both the PSDQ and the DIBELS have been found to have validity through empirical examination. Parenting styles are logically related to the proximal processes within the home setting, making the PSDQ a reasonable choice for testing the construct validity of the HFQ. Assessments of child literacy outcomes are often paired with measurements of the home environment. The prevalent use and the target age range of the DIBELS make it a logical choice for testing the criterion validity of the HFQ.

Summary. Although the HOME is the most often used instrument for measuring home environments, the adjustments made to the HOME inventories by various researchers suggests that their wide use may be at least in part due to the lack of an alternate form of measurement rather than the intrinsic usefulness of the inventory (Linver et al, 2004). The work of validating another instrument for the measurement of home environments seems prudent to pursue for other reasons as well. The HFQ is economical in design, offers concept-based subscales, and is coherent with ecological theory in that it distinguishes between influences of structure and of process within the home environment. It is respectful of the role of the parent as a substantial influence in the child's microsystem. It could be a formidable tool for research once the reliability and the construct and criterion validity are tested and established concerning it.

CHAPTER 3

METHOD

Purpose. The purpose of the present study is to examine the reliability between scores obtained with the Home Observation Measurement of Environment Middle Childhood (MC-HOME) (Caldwell & Bradley, 1984) (see appendix A) and scores obtained with the Home and Family Questionnaire (HFQ) (Pierce et al., 1998) (see appendix B), and to examine both the construct validity and the criterion validity of the HFQ scores.

In the present study construct validity was examined by comparing scores obtained with the HFQ with the scores collected with the Parenting Styles and Dimensions Questionnaire (PSDQ) (Robinson et al., 1995) (see appendix C). Construct validity is the quality of an instrument of upholding universally agreed upon measurement criteria as demonstrated with data collected with it (Cronbach & Meehl, 1955). A test for construct validity is employed when no adequate universal criterion is available. That is, when there is no operational definition available for the attributes or qualities being measured, a test of construct validity is appropriate. The PSDQ has been empirically demonstrated to provide valid measures of parenting style, which is similar in theoretical concept to the sub-scales of the HFQ (Pierce et al., 1998). As such, correlations of the HFQ sub-scales data with the PSDQ parenting styles data would suggest construct validity for the HFQ data as well.

Criterion validity involves testing the predictive power of a measurement (Cronbach & Meehl, 1955). Criterion validity was assessed by examining the power of the HFQ scores to predict child literacy acquisition as measured by the Dynamic Inventory of Basic Early Literacy Skills (DIBELS) (Good & Kaminski, 2003). The DIBELS has been empirically tested as an accurate measurement of child success at acquiring the various skills needed to be a proficient

reader (Elliott, Lee & Tollefson, 2001; Manzo, 2005). Because reading skill acquisition has been strongly linked to academic success for children (Chatterji, 2006) and home environments have been strongly linked to child reading skill acquisition, a correlation between the DIBELS sub-test scores and scores collected with the HFQ on home environments would suggest criterion validity for the HFQ.

The reliability of scores from the HFQ was tested with scores from the MC-HOME through cross-tabs and chi-square analyses (Cohen, 1977; Cronbach& Meehl, 1955; Santos, 1999; Zarr, 1974). Chi-square is a measure of goodness-of-fit, and is calculated using the actual frequencies observed. Cross-tabs is also a test for frequency distribution, and compares joint frequency distributions of variables by quartile. A percentage of agreement or disagreement of the distribution of scores was obtained through cross-tabulation analyses.

Research Design. This study involved a one-time observation interview that yielded quantitative data that was used to calculate between-subjects correlations. The variables of interest consist of scores from the three subscales of the HFQ (maturity facilitation, parent-child emotional relationship, and child's use of stimulating materials) scores from the eight subscales of the MC-HOME, (responsivity, encouragement of maturity, emotional climate, learning materials and opportunities, enrichment, family companionship, family integration, and physical environment), the three parenting styles derived from PSDQ scores (authoritative, authoritarian, and permissive), and the six DIBELS subtest scores (letter naming fluency, phoneme segmentation fluency, nonsense word fluency, oral reading fluency, retell fluency, and word use fluency) (see Table 1). A counter-balanced presentation design was planned in order to examine the potential of presentation-order effects. In such a design the order of the inventory battery is alternated in order to preserve the reliability of the data (Jensen, Watanabe, & Richters, 1999;

TABLE 1

Subscales of the HFQ, the MC-HOME, the PSDQ, and the DIBELS

Instrument	Subscales
HFQ	Maturity Facilitation (21 items)
	Child's Use of Materials (9 items)
	Parent-Child Emotional Relationship (16 items)
MC-HOME	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)
	Aspects of the Physical Environment (8 items)
DIBELS	Letter Naming Fluency (110 items)
	Phoneme Segmentation Fluency (24 items)
	Nonsense Word Fluency (50 items)
	Oral Reading Fluency (213 items)
	Retell Fluency (94 items)
	Word Use Fluency (18 items)
PSDQ	Authoritarian (20 items)
	Authoritative (27 items)
	Permissive (15 items)

Lucas, 1992). It is possible that exposure to the interview questions first might influence parent responses on the following self-report questionnaires. The participating families were randomly assigned to one of two groups, each numbering 25 participants in order to alternate the administration of the two primary instruments: the HFQ and the MC-HOME. Each family was randomly assigned to one of two groups: HOME first, HFQ second (HOME/HFQ*)* and HFQ first, HOME second (HFQ/ HOME*)*. They were also assigned an identification number in the order that they were observed.

Assessments. *The Home and Family Questionnaire* was created by Pierce, et al (1998) as an alternative to the HOME as a measurement of children's home environments. Advantages that are offered by the HFQ include the economy of time and money to administer the instrument, a conceptual framework that is in congruence with ecological theory (Bronfenbrenner, 1994), and respects the role of parents as observers and reporters of their children's environment, which is in congruence with family systems theory (Bowen, 1978). The HFQ is designed as a parental self-report questionnaire of 46 items scored on a four-point Likert-type scale with responses ranging from strongly agree (4) to strongly disagree (1), and a single question with four possible responses delineating the amount of time a child reads per day: none, about 30 minutes, about 1 hour, more than 1 hour. The inventory questions are presented to the participants under the following subheadings: child behaviors, rules, parent behaviors, and parent statements (see appendix B). Following data collection, the 46 items are divided into three subscales for statistical analysis: Maturity Facilitation (21), Child's Use of Stimulating Materials (9), and Parent-Child Emotional Relationship (16) (see appendix B).

The Home Observation Measurement of the Environment (Caldwell & Bradley, 1984) has become the "gold standard" of home environment measurements as evidenced by its being the

most widely used instrument of its kind (Bradley et al., 1994; Goelman et al., 1990; Leventhal et al., 2004; Linver et al., 2004; Mott, 2004; Molfese et al., 2003; Pierce et al., 1998; Roberts et al., 2005). For this study, the middle childhood version of the HOME (MC-HOME) was used because it is the version of the HOME from which the HFQ was derived. There are 59 items contained in the MC-HOME, which are grouped into eight subscales for both administration and analysis: Responsivity, Encouragement of Maturity, Emotional Climate, Learning Materials and Opportunities, Enrichment, Family Companionship, Family Integration, and Physical Environment (see appendix A). The MC-HOME is administered through in-home observation by a trained observer. The caregiver and child must both be present at the observation, and some questioning techniques may be employed by the observer in order to obtain the information necessary to complete the inventory.

The Parenting Styles and Dimensions Questionnaire (Robinson, et al., 1995) is a measurement for the three parenting styles that were identified by Baumrind (1970). It is a 62-item questionnaire in which parents report their parenting behaviors and attitudes on a five-point Likert-type scale with responses ranging from never (1) to always (5) (see appendix C). Scores from the PSDQ yield measures of three parenting styles: authoritative, authoritarian, and permissive. The PSDQ has been found to be theoretically and psychometrically sound (Locke & Prinz, 2001).

The Dynamic Inventory of Basic Early Literacy Skills (Good & Kaminski, 2003) is a measurement of the basic literacy skills that are believed to be required for reading competency. It is designed to be administered to children who are enrolled in first through third grades by their classroom teacher, and consists of six diagnostic tests, each covering a literacy skill area. The DIBELS is administered several times within a school year with a summative test at the end

of the term, and is gaining in use within the United States (Elliott et al., 2001). The DIBELS was chosen because it is available for kindergarten, first, second, and third grade children, which are the target grade levels for the study. The DIBELS is also a required assessment by the Louisiana State Department of Education for all schools participating in the Federal Reading First program, and it is administered in all the public elementary schools in the St. Landry Parish, from where the sample pool was recruited. The DIBELS contains 509 items, more or less depending on grade level, which are divided over six subscales. Summative scores for spring 2009 or spring 2010 were employed in the statistical analysis for this study.

Participants.

Recruitment: Phase I. Participants for the study were recruited from two public school districts located in rural southern Louisiana. Public schools were selected because all state schools in Louisiana perform the Dynamic Inventory of Basic Early Literacy Skills (DIBELS) testing on students in Kindergarten through third grade. LSU Institutional Review Board approval was obtained and permission from the School Board offices was received to distribute recruitment packets containing letters of introduction, as well as consent forms to the families with children in the parish schools (see Appendices D & E). Eight school principals, four from each parish, agreed to distribute the letters to all first, second, and third graders in their respective schools. Fifteen hundred letters were distributed in May of 2009 yielding 27 responses. Three responses were duplicates, one contact phone number was invalid, and one respondent declined to participate, yielding 20 families that were interviewed. The 20 participants were given the HFQ and PSDQ questionnaires at the time of the observation with the instructions to return the completed inventories by mail. Eighteen of the twenty participants returned the questionnaires.

Recruitment: Phase II. Lack of response to the first inquiry for participants made it necessary to continue recruitment. In September of 2009 another 800 letters of invitation to participate in the study were sent to four of the original contact schools from one parish. Consent forms and other paperwork were distributed and filled out at the time of the interviews. The intent was that distribution of a short interest form would yield more responses than the full packet of paperwork had. The second inquiry yielded 44 responses. Of the 44 responses one was a duplicate that had already been interviewed, two indicated no interest in participating in the study, five refused to participate once contacted, three had phone numbers that were invalid, and one had moved out of the area. Of the 32 contacts remaining, four were not home for the observation appointments, and five were not able to be contacted directly and did not respond to messages left; therefore, 23 families were interviewed for a total of 43 families observed at the end of phase II.

Recruitment Phase: III. Sixteen other contacts were obtained by referral from an itinerant teacher in one of the target school districts. Five of the sixteen referrals were not directly reachable or did not respond to messages left at their contact phone numbers. Two of the families were not home at the time of the observation appointment. The remaining 9 families were interviewed bringing the total of families who were observed to 52 families at the end of phase III of the recruitment process. Two families did not return the questionnaires; analyses, therefore, were performed on the data collected from only 50 families. Each family that completed the consent forms, observation, and questionnaires was paid with a ten-dollar Wal-Mart gift card for their participation.

Participant Demographics. Twenty-five (25) participant children were female, and 25 were male. One child was in kindergarten at the time of the interview, 21 were in the first grade,

16 were in the second grade, 11 were in the third grade, and 1 was in the fourth grade. Child ages ranged from age five to age eleven (M = 7.71 years; SD = 1.35). Three ethnic groups were self-identified in the participant pool. Three children were Hispanic (Male n = 1; Female n = 2), 15 were African American (Male n = 7; Female n = 8), and 32 were White (Male n = 16; Female n = 16). Four children, three males and one female, were identified as having identified special needs (autism) by the primary care givers during the interviews. English was a second language for one female child. Spanish was the primary language spoken in the home, although English was also spoken. The primary care givers who were interviewed were most often mothers (n = 41). Two interviews were with fathers only; two were with grandmothers who were raising the children as their own. Four observations were with both the mother and the father figure, and one was with the mother, grandmother, and aunt present, all of whom resided in the same household. As a general measure of socioeconomic status, caregivers were asked to indicate on the consent form whether they were eligible for free or reduced lunch. According to the United States Department of Agriculture, a family of four with an annual income of $40,793.00 or less qualifies for the reduced lunch price (Gomez, 2009). Thirty-seven (37) families indicated they were eligible for free or reduced lunch, 12 indicated they were not eligible, and 1 did not respond.

Procedures. Due to the counter-balanced research design, approximately half of the participating families (n = 25) were given the observation interview first (HOME- HFQ group), while the remaining families (n = 25) were given the questionnaires to complete first (HFQ-HOME group). The families who received the observation first were given the questionnaires and a self addressed stamped envelope at the time of the observation, and were instructed to fill out the forms and return them by mail to the researcher. The families who were given the

questionnaires first received them by mail, and were also sent instructions to complete the forms before the observation interview appointment, and were to return the forms to the researcher at the appointment time. Although the above procedures for instrument distribution were followed, the counter-balanced research design was thwarted; the details of which will be discussed further.

In-Home Observations. Prior to the study, the researcher passed a semester course in data collection through observation of young children at an accredited university. In preparation for the present study, the researcher was trained by reading the administration manual and through two one-hour training sessions with a professional researcher that was familiar with administration of the MC-HOME. One practice observation was conducted with a family known to the researcher before implementation; however no tests for reliability were performed before beginning data collection.

The families were observed in the afternoons or evenings when both a primary caregiver and the child were present. One child from each family was chosen as the focus for each observation, and data was collected on the focus child. Each child was asked to give verbal assent to the interview, and responses were recorded on a child consent form. All children agreed to participate without coercion by parents or the researcher. Administration of the MC-HOME required 60 to 90 minutes to administer. Most of the observation interviews were administered in the home of the child and the primary caregiver with two exceptions. In one exception the observation interview was performed with the mother and grandmother and the aunt in the grandmother's home, which was across the street from the child's house, and where the child spent much of the day. In the second exception the observation interview was

administered in a second-hand shop, which was a family-owned business run by the mother, and where the child spent much of the day.

The researcher began the interview by asking the caregiver to describe a typical school day routine for the focus child. Many items from the inventory could be scored from the description offered. Other prompts included asking what the child enjoyed doing in their free time, what kinds of activities they did outside or inside, and who came to visit their home. Direct questions were avoided. Questioning was used to foster a natural conversation between the researcher and participants, and most participants spoke readily about their family life and the child's routine. Many times the observation interview ran longer than planned due to the candidness of the conversation from the participating caregivers.

Parent Self-Report Questionnaires. Copies of the HFQ and PSDQ were delivered to the first 27 participants at the time of the observation interview along with a self-addressed-stamped envelope so that they could be returned by mail to the researcher. The HFQ and PSDQ questionnaires were mailed to families in the HFQ/HOME group (n = 25) ahead of the observation interviews with instructions for the participants to fill out the questionnaires prior to the observation interview appointments. The questionnaires from the HFQ/HOME families were to be picked up by the researcher at the time of the interviews. The order of the procedure was changed in an attempt at a counter-balanced presentation design. Less than five participants followed the directions and filled out the questionnaires prior to the observation as requested. Most of the participants needed another copy of the questionnaires provided to them at the time of the observation therefore it was not possible to examine any effect due to the order of presentation. The remaining questionnaires were either mailed to or picked up by the researcher a few days after the home visit.

Literacy Assessments. The DIBELS scores for the participating children were requested and received by mail and fax from the parish schools or from the district offices. The DIBELS contains six benchmark inventories that are administered periodically throughout the year from kindergarten through third grade. The battery of inventories varies for each grade level and across school districts. Scores from three of the six possible assessments were represented in the collective data from the two parishes: Oral Reading Fluency, Retell Fluency, and Word Use Fluency.

Statistical Analysis and Predictions.

Construct Validity. It was expected that scores obtained with the HFQ for the three HFQ subscales would be positively correlated ($p < .05$) with the PSDQ authoritative parenting style scores. The authoritative parenting style as conceptualized by Baumrind is the parenting style most conducive to positive child development in all areas. It was expected that scores obtained with the HFQ subscale Child's Use of Stimulating Materials would be negatively correlated with scores obtained with the PSDQ subscale Authoritarian Parenting Style. The authoritarian parenting style is conceptualized as the parenting style allowing the least independence and freedom for a child. It was also expected that scores obtained with the HFQ subscale Parent-Child Emotional Relationship would not be correlated with either the PSDQ score for authoritarian parenting style or the PSDQ score for permissive parenting style because the permissive parent is conceptualized as lacking engagement with the child on any level, and the authoritarian style is characterized to be demanding but austere.

Criterion Validity. It was expected that measures of child's use of stimulating materials, and measures of parent-child emotional relationship would be positively correlated with the DIBELS scores of literacy acquisition. This expectation was based on empirical observations

that suggest that children who have more exposure to a variety of materials and experiences, and who have parental support, excel academically (Bradley & Corwin, 2002).

Reliability. Item scores obtained with the MC-HOME and corresponding item scores obtained with the HFQ were expected to display a level of agreement of 75% or higher as measured by crosstabs and chi-square analyses (Cohen, 1977; Cronbach& Meehl, 1955; Santos, 1999; Zarr, 1979) (see Table 2). Chi-square is a measure of goodness-of-fit between two variables. The higher the yielded statistic, the closer the two variables are in congruence.

Table 2: MC-HOME Items and Derived HFQ Items

MC-HOME Item Number	MC-HOME Item Description	HFQ Section and Item Number	HFQ Item Description
1	Family has a fairly regular & predictable daily schedule for child (meals, day care, bedtime hour, how much TV, homework, etc.)	A) z	Child eats most meals on schedule
		A) bb	Child goes to bed at same time each night
		A) cc	Child gets up at same time each day
		A) dd	Child does homework at same time each day
4	Child is encouraged to read on his own.	A) m	Child reads by self
6	Parent shows some positive emotional response to praise of child by Visitor.	D) a	I feel proud when someone praises my child
		D) b	I feel surprised when someone praises my child- (reverse coded)
7	Parent responds to child's questions during visit.	A) 23	Child annoys when he or she interrupts- (reverse coded)
11	Family requires child to carry out certain self-care routines, e.g., makes bed, cleans room, cleans up after spills, bathes self.	A) a	Child makes up bed
		A) b	Child cleans room (e.g., picks up, Sweeps, dusts)
		A) c	Child cleans up after spills
		A) f	Child bathes self
		A) g	Child washes hair
		A) o	Child does own hair in the morning

(Table 2 continued)

MC-HOME Item Number	MC-HOME Item Description	HFQ Section and Item Number	HFQ Item Description
		A) q	Child picks out own clothes to wear
		A) r	Child fixes own food
12	Family requires child to keep living and play area reasonably clean.	A) d	Child cleans the living room or den or playroom
13	Child puts own outdoor clothing, dirty clothes, night clothes in special place.	A) e	Child puts away his or her things
		A) h	Child places night-clothes in special place (e.g., drawer, bed)
		A) i	Child places dirty clothes in laundry
14	Parents set limits for child and generally enforce them	B) b	Child has set time to come in from play
		B) c	Child must complete homework before watching TV
18	Parent has not lost temper with child more than once during previous week.	A) v	Child makes me angry (reverse coded)
		C) b	I lost my temper with my child (reverse coded)
19	Parent reports no more than one instance of physical punishment occurred during past month.	C) c	I have to physically punish my child (reverse coded)
20	Child can express negative feelings toward parents without harsh reprisals.	C) a	I allowed my child to say s/he hates me or make other negative comments.
21	Parent not been visibly upset in child's presence more than once a week.	C) f	Parent discussed own feelings with child while upset or crying
23	Parent talks to child during visit (beyond correction and introduction).	C) e	I talked to my child about things other than his/ her behaviors.
25	Parent does not express overt annoyance with or hostility towards child (complains,	D) c	Overall, my child is more good than bad

(Table 2 continued)

MC-HOME Item Number	MC-HOME Item Description	HFQ Section and Item Number	HFQ Item Description
	describes child as "bad," says they don't mind, etc.).	D) d	Overall, my child is more bad than good (reverse coded)
		D) e	My child does not mind me (reverse coded)
27	Family has a dictionary and encourages child to use it.	A) k	Child uses home dictionary or encyclopedia
29	Child has free access to tapes, CD, or record player or radio.	A) aa	Child uses radio, tape player, CD player, VCR, or TV
30	Child has free access to a musical instrument.	A) p	Child plays real musical instrument
31	Child has free access to at least ten appropriate books.	E)	How much time does your child reading at home by herself/ himself or with someone else?
32	Child has free access to desk or other suitable place for reading or studying. room	A) y	Child reads or studies in a special place other than the kitchen or dining table
38	Child has ready access to at least two pieces of playground equipment in the immediate vicinity.	A) j	Child uses climber, slide, swings, or trampoline
46	Parents discuss TV programs with child.	A) x	Child discusses the TV programs watched with me

CHAPTER 4

RESULTS

Raw Data Preparation. As the data from the Parenting Styles and Dimensions Questionnaire (PSDQ) and the Home and Family Questionnaire (HFQ) inventories were being reviewed it became evident that missing answers were present in the data. Of the PSDQ inventories, six contained unanswered questions. Of the HFQ inventories, eight contained unanswered questions. In most cases one or two items had been overlooked by the participants. In four cases on the PSDQ and in two cases on the HFQ one entire page of items was left blank probably due to the pagination of the inventories. Participants with missing items were contacted and asked to give their responses verbally over the phone, which were then recorded by the researcher. The questions were read aloud and repeated if necessary, but no explanation of the questions was given. An examination of the verbal responses from the participants in comparison to their written responses showed consistency between the two response types overall. Respondents for one PSDQ questionnaire and three HFQ questionnaires could not be reached to complete the inventories. In these four cases the group mean for each question was substituted for the corresponding missing data. In the few cases where two responses were marked for a single question the average of the two responses was used.

Designated HFQ items were reverse coded and summed for each score; 21 items for Maturity Facilitation, 9 items for Child's Use of Stimulating Materials, and 16 items for Parent-Child Emotional Relationship. The subsequent analyses were performed at the subscale score level. Designated PSDQ items were reverse coded and summed for each parenting style score; 27 items for the authoritative parenting style, 20 items for the authoritarian parenting style, and

15 items for the permissive parenting style. The subsequent analyses were performed using the cumulative score for each parenting style.

The Middle Childhood, or Elementary School, version of the HOME was used for the observation interview data collection. The 59 items in the inventory are scored dichotomously with one point for each positive finding and no points for a negative finding. The items are grouped by the authors into eight subscales for topical evaluation: (a) Responsivity (10 items), (b) Encouragement of Maturity (7 items), (c) Emotional Climate (8 items), (d) Learning Materials & Opportunities (8 items), (e) Enrichment (8 items), (f) Family Companionship (6 items), (g) Family Integration (4 items), and (h) Physical Environment (8 items). Following the procedure used in the development of the HFQ, the HOME data were summed, and analyzed at the subscale level rather than at the item level. Subscale-level analysis assisted in avoiding the difficulties inherent in the analysis of dichotomous scores such as are collected with the HOME items (Pierce et al., 1998).

Three out of six possible subtest scores for the DIBELS were available from the two school districts. The scores reported were from the subtests Oral Reading Fluency, Retell Fluency, and Word Use Fluency. Oral Reading Fluency scores were available for all but two of the children. One child's scores were not released because the parent did not sign the release form and could not be reached to do so. The second, a kindergartener, had not received the assessment because it is not part of the battery for that grade level. Word Use Fluency scores were available for all but four of the children. The group mean was substituted for the missing scores for both assessments to complete the data sets. Nineteen (19) participant's scores for the Retell Fluency assessment were not reported by the schools so the decision was made to not

include that variable in the subsequent analyses. The total subtest scores rather than the per-item scores were reported by the schools so total scores were used in the final analyses.

Preliminary Analysis.

Frequencies and Descriptive Statistics. Frequencies and descriptive statistics were calculated for the child demographic information (see Table 3). Some adjustments were made in categorizing grade level, ethnicity, and interviewee relationship that will be discussed later.

Table 3

Frequencies for Child Demographic Variables (N = 50)

Variable	Frequency						
Child Gender	Male	Female					
	25	25					
Ethnicity	White	Black	Hispanic				
	32	15	3				
Child Age	five	six	seven	eight	nine	ten	eleven
	1	8	15	13	8	4	1
Grade Level	k	1st	2nd	3rd	4th		
	1	21	16	11	1		
Interviewee	Mom	Dad	Grandma	Mom & Dad	Other		
	41	2	2	4	1		
Free Lunch	Yes	No	Missing				
	37	12	1				
Special Ed.	Declared	Undeclared					
	4	46					

Frequencies and descriptive statistics were calculated for the 16 variables of interest: the three HFQ subscales of Maturity Facilitation, Parent-Child Emotional Relationship, Child's Use of Stimulating Materials; the eight MC-HOME subscales of Responsivity, Encouragement of Maturity, Emotional Climate, Learning Materials and Opportunities, Enrichment, Family Companionship, Family Integration, and Physical Environment; the three PSDQ parenting styles of authoritative, authoritarian, and permissive; and the two DIBELS subtests of Oral Reading Fluency, and Word Use Fluency (see Table 4). The distribution of the variables was found to

Table 4

Frequencies For All Major Variables

Variable	N	Mean	Sd	Possible Range	Actual Range	Skewness
HFQ						
Maturity Facilitation	50	71.94	6.42	21- 84	55- 83	-.83
Parent/Child Emotional Relationship	50	48.64	4.50	16- 64	39- 58	-.32
Child's Use of Stimulating Materials	50	26.78	3.58	9- 36	20- 35	.45
HOME						
Responsivity	50	9.17	.96	0- 10	6- 10	-1.18
Encouragement of Maturity	50	5.80	.90	0- 7	4- 7	-.58
Emotional Climate	50	6.00	1.29	0- 8	3- 8	-.95
Learning Materials & Opportunities	50	5.05	1.52	0- 8	3- 8	.20
Enrichment	50	4.53	1.60	0- 8	1- 8	-.02
Family Companionship	50	5.25	.81	0- 6	3-6	-.95
Family Integration	50	2.61	1.8	0- 4	0- 4	-.27

(Table 4 continued)

Variable	N	Mean	Sd	Possible Range	Actual Range	Skewness
Physical Environment	50	7.13	1.18	0- 8	4- 8	-1.36
PSDQ						
Authoritative Parenting Style	50	118.78	8.26	27- 135	101- 133	-.33
Authoritarian Parenting Style	50	50.92	9.28	20- 100	33- 72	.58
Permissive Parenting Style	50	29.92	6.26	15- 75	18- 46	.30
DIBELS						
Oral Reading Fluency	50	84.06	36.83	0- 213*	3- 160	.19
Retell Fluency	33	37.18	22.36	0- 200*	0- 110	1.41
Word Use Fluency	50	51.33	22.91	0- 486*	0- 11	.76

*Test score range varies per grade level and per benchmark assessment administered. Range represented is the highest score possible on the first-grade level benchmark assessments.

generally be within normal range with the exception of the subscales of the MC-HOME. In a frequency analysis negative skewness was found in many of the MC-HOME subscales. Skewness is the measure of the distribution of a variable. Data is said to be skewed when the data points are not normally distributed around the mean (Averous & Meste, 1997). The decision was made to not adjust the data for skewness in the scores because the scales behaved similarly to that of the sample study data presented in the *HOME Inventory Administration Manual* for the MC-HOME (see Table 5) (Caldwell & Bradley, 2003).

Tests for Demographic Effects.

Effects for Interviewee Relationship. In order to test for the possibility of bias due to interviewee relationship, an independent samples *t*-test was used to compare the group means for

the eight HOME subscale scores and for the three HFQ subscale scores. Because the majority of the observation interviews were conducted with mothers alone (n = 42) the variable for interviewee relationship to the child was dummy coded into 1 for mother interviewed alone and 2 for all others (n = 10). None of the pairs of means yielded a significant difference, so the data were pooled across interviewee relationship for the remaining analyses.

Table 5

Frequencies for MC-HOME Subscale Scores for Comparison

	Current Study			Bradley & Caldwell (1988)		
Scale	Mean	SD	Median	Mean	SD	Median
Responsivity	9.1	.96	9.0	8.4	2.3	9.0
Encouragement of Maturity	5.8	.90	6.0	4.8	1.6	5.0
Emotional Climate	6.0	1.2	6.0	6.0	1.6	7.0
Learning Materials & Opportunities	5.0	1.5	5.0	3.4	2.2	4.0
Enrichment	4.5	1.6	5.0	5.2	2.0	6.0
Family Companionship	5.2	.81	5.0	4.1	1.4	5.0
Family Integration	2.6	1.3	3.0	2.4	1.2	3.0
Physical Environment	7.1	1.1	8.0	6.8	1.7	7.0

Effects for Grade Level. Because the number of fourth-graders (n =2) and of kindergarteners (n =1) were small, grade level was collapsed into three groups for analysis: kindergarten and first grade, second grade, and third and fourth grade. The subsequent analyses were performed by grade level for each of the variables of interest to test for a main effect for

grade. One-way ANOVAs (GRADE (3)): k-1st, 2nd, 3rd-4th) that were performed on the MC-HOME subscales revealed no main effect for grade level. A main effect was found for Child's Use of Stimulating Materials ($F = 4.06$; $p = .02$); second graders scored higher ($M = 28.75$) than the k-1st or 3rd & 4th grade groups ($M = 26.00$; M = 25.58). There were no main effects for grade level found for Maturity Facilitation or for Parent-Child Emotional Relationship. The PSDQ subscale scores and the DIBELS sub tests were examined with one-way ANOVAs for main effects of grade level (GRADE (3): k-1st, 2nd, 3rd-4th). No main effects for grade level were found.

Effects for Gender. The three HFQ and eight MC-HOME subscales were also tested for gender effects with one-way ANOVAs (GENDER (2)): male, female). There were no gender effects found for the MC-HOME subscale scores. The mean for females was higher ($M = 27.76$) than that for males ($M = 25.70$) for the HFQ subscale Child's Use of Stimulating Materials ($F = 4.42$; $P = .04$). No gender effects were found for scores from either of the subscales of Maturity Facilitation or Parent-Child Emotional Relationship.

Effects for Ethnicity. Ethnicity was originally coded into three groups; African American, White, and Hispanic. Due to the low number of Hispanic participants, the Hispanic's data were combined with that of the African Americans'. The resulting ethnic category was titled persons of color. The MC-HOME and HFQ subscales were examined for an effect for ethnicity with one-way ANOVAs (ETHNICITY (2): white, persons of color). An ethnicity effect was found for Responsivity ($F = 6.98$; $p = .01$); white children ($M = 8.75$) scored higher than children of color ($M = 8.75$). An ethnicity effect was found for oral reading fluency ($F = 3.93$; $p = .05$); white children scored higher ($M = 91.72$) than persons of color ($M = 71.16$). No effects were found for the HFQ or the PSDQ subscales for ethnicity.

Gender and Ethnicity Interactions. A variable was created to test for gender*ethnicity interactions (four groups: male persons of color; female persons of color; male white; female white). Each of the major variables was tested with one-way ANOVAs for a gender*ethnicity effect. A gender*ethnicity effect was found for Responsivity ($F = 2.57$; $p = .01$); white females ($M = 9.38$), had the highest scores; male persons of color ($M = 8.50$) had the lowest scores.

Primary Analysis.

Replication of the Factor Analysis of the HFQ. In the original study in which the HFQ was created (Pierce et al, 1998; Study 1, Phase 1), a principal components factor analysis with oblique rotation was employed to identify the dimensions and internal structures within the three proximal process subscales of the HFQ. For the current study, the HFQ subscales were assessed using an exploratory factor analysis, in part to replicate the original study, and in part to examine the ability of the original subscales model to fit the current set of data.

Maturity Facilitation. An exploratory factor analysis was conducted on the 21 items that were used to assess maturity facilitation. The results are presented in Table 6. Seven factors with Eigen values greater than 1 were extracted from the current data. In the factor analysis from the original study, six factors were derived. The item, child bathes self, which clustered in the sub-factor child's personal hygiene in the original study, clustered alone in the current study creating a seventh factor. The remaining items clustered similarly to the six factors rendered in the original study with a few exceptions. Some of the seven factors were re-named to reflect the variation in the items' loadings. Child personal chores (Pierce, et al., 1998) became child personal responsibilities to account for the additional clustering of two items that refer to parent rule enforcement, parent enforces must clean room rule, and parent enforces homework before TV rule. These two items were clustered within the parental rule enforcement factor in the

Table 6

HFQ Maturity Facilitation Subscale Factor Analysis (N = 50)

Item Description	M	SD	Loading
Maturity Facilitation (Cronbach's alpha = .76; Cumulative R^2 = .56; 21 items)			
Child personal responsibilities (E = 4.76; R^2 = .46)			
Child makes up bed (f)	2.96	.88	.66
Child puts things away (a)	3.52	.61	.84
Child cleans up after spills (a)	3.54	.54	.67
Child cleans up her room (a)	3.48	.64	.80
Parent enforces must clean room rule (d)	3.64	.59	.78
Parent enforces homework before TV rule (d)	3.82	.43	.48
Family routine and structure (E = 2.57; R^2= .47)			
Child gets up at same time each day (b)	3.56	.70	.71
Child eats most meals on schedule (b)	3.52	.67	.85
Child does homework at same time each day (b)	3.56	.73	.85
Parent enforces child's set time to come in from play (d)	3.64	.66	.83
Child meal preparation (*E* = 2.07; R^2 = .66)			
Child fixes own food (e)	2.94	.86	.70
Child helps with family meals (e)	3.32	.71	.87
Child laundry responsibilities (*E* = 1.71; R^2 = .35)			
Child puts dirty clothes in laundry (a)	3.70	.54	.81
Child puts night clothes away (a)	3.60	.63	.82
Child personal hair care (*E* = 1.47; R^2 = 1.21)			
Child does own hair in the morning (c)	2.94	1.16	.86
Child washes own hair (c)	3.46	.97	.87
Child Morning Routine (*E* = 1.22; R^2 = .84)			
Child gets self up in the morning (f)	2.44	1.05	.68
Child picks out own clothes to wear (f)	3.58	.53	.70
Child cleans living room or den or playroom (e)	3.20	.70	.44 (g)
Child personal hygiene (*E* = 1.05; R^2 = 3.98)			

(Table 6 continued)

Item Description	M	SD	Loading
Child bathes self (c)	3.98	.14	.90

Factor analysis as aligned in the Pierce, et al., 1998 study:

a. Child's personal chores.

b. Family routine and structure.

c. Child's personal hygiene.

d. Parental rule enforcement.

e. Child's family chores.

f. Child's self- care.

g. Factor loading below .45 limit.

original study. The title was retained for the factor family routine and structure, but the factor contained the addition of the item parent enforces child's set time to come in from play, which was also from the parental rule enforcement factor in the original study. Child's personal hygiene became child hair care in the absence of the item child bathes self because the two remaining items in the cluster both concerned hair grooming. The two items from the child's family chores factor concerning food preparation clustered together exclusive of other items. The new factor was titled child meal preparation. The two items concerning clothing care from the original factor of child personal chores (Pierce, et al., 1998) clustered together exclusive of other items. The new factor was titled child laundry responsibilities. Two items from the original factor titled child self care-- child gets self up in the morning, child picks out clothes to

wear-- and one item, child cleans living room, playroom or den, from the original factor titled child's family chores, clustered together. The new factor was titled child morning routine. All items clustered with a strength of .45 or higher as per the original study with the exception of child cleans living room, playroom, or den, which clustered at .44.

Parent-Child Emotional Relationship. The 16 items from the Parent-Child Emotional Relationship subscale were factored together. Six factors with Eigen-values greater than 1 were derived from the data as opposed to the five factors in the original study. All 16 of the items loaded at .45 or higher. In many cases, items that had factored together in the original study also clustered together in the current study, but with the addition or subtraction of other items. In some cases the clusters were smaller and more specific than those from the original study. In other cases the clusters were larger and more general. The changes in clustering suggested a need for newly descriptive factor titles. The new factor titles are parent emotional openness, parent negative expectations of the child, physical punishment, parent positive expectations of the child, communication surrounding child's needs and behaviors, and communication reciprocity. The results of the factor analysis for the Parent-Child Emotional Relationship subscale, including the new factors and reference to the original factor loading for each item, are presented in Table 7.

Child's Use of Stimulating Materials. Nine items are included in the Child's Use of Stimulating Materials subscale. A factor analysis yielded three factor clusters with Eigen-values greater than 1 as in the original study. All items clustered at .45 or higher. The original factor child's use of reading materials was renamed child's use of study space and materials. The title change was employed due to the included clustering of the items child uses a home dictionary or

Table 7

HFQ Parent-child Emotional Relationship Subscale Factor Analysis (N = 50)

Item Description	M	SD	Loading
Parent-child Emotional Relationship (Cronbach's alpha = .60; Cumulative R^2 = .99; 16 items)			
Parent emotional openness (E = 3.24; R^2 = .56)			
Parent lets child see parent upset (c)	2.32	0.96	.80
Parent and child discuss parent's feelings (c)	2.80	1.05	.81
Parent negative expectations of child (E = 2.36; R^2 = .66)			
Child makes parent angry (a) (f)	2.32	.77	-.60
Child annoys parent when interrupting (a) (f)	2.52	.84	-.52
Parent surprised when child is praised (d) (f)	3.18	.84	.84
Child does not mind parent (d) (f)	3.26	.98	.61
Physical punishment (E = 1.65; R^2 = .33)			
Child needs a spanking (b) (f)	2.78	.73	.67
Parent used physical punishment (b) (f)	3.00	.83	.89
Parent positive expectations of child (E = 1.29; R^2 = .20)			
Parent is proud when child is praised (b)	3.94	.24	.58
Child is more good than bad (b)	3.66	.55	.83
Child is more bad than good (d) (f)	3.80	.45	.66
Parent-child communication (E = 1.18; R^2 = .34)			
Parent and child talk about things other than behavior (e)	3.76	.51	.80
Parent and child talk about child's behavior (e)	3.60	.63	.83
Communication Reciprocity (E = 1.11; R^2 = 1.22)			
Parent lost temper with child (a) (f)	2.06	.71	.76
Parent allows child's negative expression (c)	1.12	.43	.48
Parent and child discuss TV shows (e)	3.32	.74	.47

a. Parent-child conflict
b. Parental warmth/ physical punishment
c. Emotional openness
d. Parental hostility
e. Parent-child communication
f. Item is reverse coded

encyclopedia, and child uses radio, CD or [MP3 player], VCR or TV, which clustered with the original reading items. The remaining items from the factors child's use of entertainment materials and child's use of materials requiring special intellectual skills clustered together, with the exception of the item child uses home computer, which factored alone. The new single-item factor was titled child's use of technology. The remaining items required some type of gross or fine motor use so that factor was titled child's use of kinesthetic materials. The results for the child's use of stimulating materials factor analysis are presented in Table 8 including the new factors with reference to the original factor loading for each item.

Table 8

HFQ Child's Use of Stimulating Materials Subscale Factor Analysis (N = 50)

Item Description	M	SD	Loading
Child's Use of Stimulating Materials (Cronbach's alpha = .57; Cumulative R^2= .97; 9 items)			
Child's use of study space and materials (E = 2.29; R^2 = .90)			
How much time child reads at home (a)	2.50	0.64	.51
Child reads to self (a)	3.62	0.69	.47
Child has a special place to study and read (a)	2.88	1.06	.55
Child uses radio, CD or MP3 player, VCR or TV (b)	3.72	0.45	-.44
Child uses a home dictionary or encyclopedia (c)	2.50	1.07	.72
Child's use of kinesthetic materials (E = 1.29; R^2 = 1.22)			
Child uses puzzles (b)	2.94	0.76	.55
Child uses climber, swings, or trampoline (b)	3.50	0.67	.55
Child plays a real musical instrument (c)	1.86	0.96	.71
Child's use of technology (E = 1.18; R^2 = 3.26)			
Child uses home computer (c)	3.26	0.96	.81

a. Child's use of reading materials
b. Child's use of entertainment materials
c. Child's use of materials requiring special intellectual skills

Construct Validity. Just as in the formative study, the HFQ scores in the present study were tested for construct validity using correlations between the in-home proximal process subscales and the parenting styles derived from the PSDQ scores. Correlations were calculated between the six variables; maturity facilitation, parent-child emotional relationship, child's use of stimulating materials, authoritative parenting style, authoritarian parenting style, and permissive parenting style. The results of the correlations are presented in Table 9.

Table 9

Correlations between In-Home Proximal Processes and Parenting Styles ($N = 50$)

	In-Home Proximal Processes		
	Maturity	Child's Use	Parent- Child
Parenting Styles	Facilitation	of Materials	Emotional Relationship
Authoritative parenting	.22	.19	.60**
Authoritarian parenting	-.13	.10	-.39**
Permissive parenting	-.20	-.05	-.17

* p < .05. ** p < .01. *** p < .001.

Parent-child emotional relationship was positively correlated with authoritative parenting style ($r = .60$, $p = .00$), and was negatively correlated with the authoritarian parenting style ($r = -.39$, $p = .00$). Authoritarian parenting style was negatively correlated with maturity facilitation ($r = -.13$; $p = .34$). Permissive parenting style was negatively correlated with maturity facilitation ($r = -.20$; $p = .14$) and with child's use of stimulating materials ($r = -.054$; $p = .70$), and with parent-child emotional relationship ($r = -.17$; $p = .23$). The eight MC-HOME subscale scores were also

examined in correlations with scores for the three parenting styles in order to compare them with the correlations between the HFQ subscale scores and the PSDQ subscale scores. The results of the correlations are presented in Table 10. The authoritarian parenting style was negatively correlated with family companionship (r = -.31; p = .19). Permissive parenting style was negatively correlated with responsivity (r = -.28; p = .04), and with learning materials and opportunities (r = -.35; p = .01).

Table 10

Correlations Between MC-HOME Subscale Scores and Parenting Style Scores (N = 50)

	Parenting Styles		
MC-HOME Subscales	Authoritative	Authoritarian	Permissive
Responsivity	.00	-.25	-.28*
Encouragement of Maturity	.00	.08	-.20
Emotional Climate	.13	-.15	-.03
Learning Materials & Opportunities	.25	-.12	-.35*
Enrichment	.21	-.04	.09
Family Companionship	.15	-.31*	-.18
Family Integration	.11	-.15	.03
Physical Environment	.19	.01	-.00

* p < .05 ** p < .01 *** p < .001

Criterion-Related Validity. To explore the criterion-related validity of the HFQ, correlations were calculated between the three proximal process scores and the two scores of child reading skill acquisition, oral reading fluency and word use fluency. Correlations were calculated using the scores from the three HFQ proximal processes and the two DIBELS reading skill inventories of oral reading fluency and word use fluency (see Table 11). Word use

frequency was positively correlated with maturity facilitation ($r = .31$, $p = .11$), with child's use of stimulating materials ($r = .38$, $p = .12$), and with parent- child emotional relationship ($r = .28$, $p = .06$).

Table 11

Correlations between In- Home Proximal Processes and Criterion Variables ($N = 50$)

	In-Home Proximal Processes		
DIBELS Subtests	Maturity Facilitation	Child's Use of Materials	Parent- Child Emotional Relationship
Oral Reading Fluency	.25	.17	.20
Word Use Fluency	.31*	.38**	.28*

* $p < .05$. ** $p < .01$. *** $p < .001$

Table 12

Correlations Between MC-HOME Subscale Scores and DIBELS Subtest Scores ($N = 50$)

	DIBELS Subtests	
MC-HOME Subscales	Oral Reading Fluency	Word Use Fluency
Responsivity	.29*	.20
Encouragement of Maturity	-.02	-.05
Emotional Climate	.29*	.06
Learning Materials & Opportunities	.31*	.15
Enrichment	.38**	.23
Family Companionship	.26	.13
Family Integration	.18	.09
Physical Environment	.34*	.09

* $p < .05$ ** $p < .01$ *** $p < .001$

Correlations between the eight MC-HOME subscale scores and the two DIBELS scores were calculated in order to compare them with the correlations between the HFQ and DIBELS scores. The results of the correlations are presented in Table 12. Oral reading fluency was positively correlated with responsivity (r =.29; p = .03), with emotional climate (r =.29; p = .03), with learning materials and opportunities (r =.31; p = .02), with enrichment (r =.38; p = .00), and with physical environment (r =.34; p = .01).

Reliability. Scores for the 39 items from the HFQ that were derived directly from items contained in the MC-HOME were tested for reliability using item-level analyses with both crosstabs and Pearson's chi-square analyses. The results of the analyses are presented in Table 13. In the chi-square analyses 33 of the item pairs were found to be significantly related. Nine

Table 13

Chi-square Analyses of HFQ Items and Related MC-HOME Items (N =50)

HFQ Item	MC-HOME Item	Percentage Agreement	Percentage Disagreement	Chi-square Value[a]	DF	p =
A) a.	11	.78	.22	11.73	3	.00
A) b.	11	.90	.10	1.81	2	.40
A) c.	11	.96	.04	1.40	2	.49
A) d.	12	.84	.16	4.86	2	.08
A) e.	13	.94	.06	*	*	*
A) f.	11	.98	.02	50.00	1	.00
A) g.	11	.84	.16	5.35	3	.14
A) h.	13	.92	.08	*	*	*
A) i.	13	.96	.04	*	*	*

(Table 13 continued)

HFQ Item	MC-HOME Item	Percentage Agreement	Percentage Disagreement	Chi-square Value[a]	DF	*p* =
A) j.	38	.58	.42	6.61	3	.08
A) k.	27	.50	.50	5.52	3	.13
A) l.	**	**	**	**	**	**
A) m.	4	.78	.22	7.03	3	.07
A) n.	**	**	**	**	**	**
A) o.	11	.68	.32	4.64	3	.19
A) p.	30	.68	.42	6.15	3	.10
A) q.	11	.96	.04	1.66	2	.43
A) r.	11	.74	.26	1.02	3	.79
A)s.	**	**	**	**	**	**
A) t.	**	**	**	**	**	**
A) u.	**	**	**	**	**	**
A) v.	18	.52	.48	4.75	3	.19
A) w.	7	.48	.52	9.18	3	.02
A) x.	46	.84	.16	5.22	3	.15
A) y.	32	.46	.54	.64	3	.88
A) z.	1	.90	.10	1.38	3	.70
A) aa.	29	1.00	.00	*	*	*
A) bb.	1	.88	.12	1.17	3	.70
A) cc.	1	.88	.12	1.07	3	.78
A) dd.	1	.90	.10	1.07	3	.78
B) a.	11	.96	.04	2.38	2	.30

(Table 13 continued)

HFQ Item	MC-HOME Item	Percentage Agreement	Percentage Disagreement	Chi-square Value[a]	DF	*p* =
B) b.	14	.84	.16	2.16	3	.54
B) c.	14	.88	.12	.26	2	.87
C) a.	20	.52	.48	.00	2	.07
C) b.	18	.66	.34	1.57	2	.45
C) c.	19	.78	.22	11.89	3	.00
C) d.	**	**	**	**	**	**
C) e.	23	.94	.06	.25	2	.88
C) f.	**	**	**	**	**	**
C) g.	21	.40	.60	1.95	3	.58
D) a.	6	.82	.18	4.34	1	.03
D) b.	6	.64	.36	2.72	3	.43
D) c.	25	.98	.02	6.78	3	.07
D) d.	25	1.00	.00	50.0	2	.00
D) e.	25	.80	.20	2.62	3	.45
E)	31	.50	.50	.26	2	.87

[a]All chi-square analyses contained cells with an expected count less than 5 (range 2-6 cells; range of minimum cell counts .02 - 3.30; range of percentage of pairs containing a count less than 5 was 33.3% - 75.0%).

*No measure of association could be computed because at least one variable is a constant.

**HFQ item not derived from MC-HOME item.

item pairs yielded a *p* value of .75 or higher, and 20 item pairs yielded a *p* value of .50 or higher. Six item pairs were found to have a *p* value below .05, and were not significantly related. It was not possible to conduct a chi-square analysis on four of the item pairs because the item from the MC-HOME contained no value for a *no* answer, which created one empty cell in the analyses.

In the cross-tabs analyses 34 of the 39 item pairs yielded an agreement above .50, of which, 26 item pairs had an agreement of .75 or higher, and two item pairs displayed agreement at 1.00. Three item pairs yielded an agreement below .50, and two item pairs showed agreement at .50. Both the cross-tabs and chi-square analyses suggest reliability for the HFQ scores with scores collected with the MC-HOME.

CHAPTER 5

DISCUSSION

Summary. Fifty ethnically diverse, low income families of kindergarten through fourth graders from the rural south were assessed for proximal processes within their homes with the Home and Family Questionnaire (HFQ) (Pierce, et al., 1998). Parenting preferences were assessed with the Parenting Styles and Dimensions Questionnaire (PSDQ) (Robinson, at al., 1995) and scores were examined as a test of the criterion validity of the HFQ scores. Measurements of child literacy development were obtained with the Dynamic Inventory of Basic Early Literacy Skills (DIBELS) (Good & Kaminski, 2003) and were examined as a test of construct validity for the HFQ scores. The overall home environments of the subjects were assessed with the Home Observation Measurement of the Environment-Middle Childhood (MC-HOME) (Caldwell & Bradley, 1984) and the scores obtained were examined as a test for reliability of the HFQ scores. A review of the data suggests there is reason to implement use of the HFQ as a measurement of proximal processes in the home because each subscale was found to relate significantly to one or more of the test measurements that were employed. The item-level analyses for reliability with the MC-HOME items were particularly salient suggesting that the HFQ is a viable instrument for the measurement of home environments.

Demographic Effects. In preparation for calculating the tests for construct and criterion validity, and for reliability, the data was examined for mean effect with the demographic variables. The findings for demographic effects bear examination.

Effects for Gender. A gender effect for child's use of stimulating materials favored the girls over the boys. It is possible that this gender effect was due to the proportion of items in this variable that either have to do directly with reading or are sedentary activities, or both. Research

indicates that girls are traditionally socialized into less-active pursuits and boys are traditionally socialized into physically active pursuits (Langlois & Downs, 1980). Only three of the items in the child's use of stimulating materials construct could be considered outwardly kinesthetic and they clustered together. It would be interesting to examine the kinesthetic items alone for a gender effect to see if the effect is congruent with the full subscale results. Many of the items contained in the subscale also have to do with reading and study. Research indicates that girls tend to be socialized into more sedentary school work and activities over boys - especially at the grade-school level (Baumrind & Black, 1967). Although many of the items contained in Child's Use of Stimulating Materials were derived directly from the MC-HOME, it might be interesting to delineate more kinesthetic activities in the subscale by adding some specific questions that address them. For example, the item child uses climber, slide, swings, or trampoline could be divided to produce various kinesthetic options. However, the subscale Child's Use of Stimulating Materials was one of the statistically supported variables, and the activities delineated within that subscale are those that are empirically linked with child academic success regardless of gender (Saracho & Spodeck, 1998).

It is not surprising that the gender effect for maturity facilitation was higher overall for boys than for girls. Research suggests that boys are parented to be more independent at younger ages than girls are (Baumrind, 1970). Also not surprising, the gender effect for parent-child emotional relationship was higher for girls than for boys. The socialization of girls to be more emotionally open in submissive ways is also supported by prior research (Chaplin, Cole, & Zahn-Waxler, 2005).

It is noteworthy that parents of boys tended to use an authoritative style somewhat more than did the parents of girls. Although the effect did not reach statistical significance, this

finding parallels the finding of a higher mean for boys on the HFQ subscale of Maturity Facilitation. It would be expected that of the three parenting styles, the authoritative parent would also be the one most likely to support independence acquisition. The finding that both variables display a higher effect for boys suggests a theoretical correlation between the two variables.

Effects for Ethnicity. The twenty variables of interest were examined for effect by ethnicity, a dichotomous variable with the categories white and persons of color. There were no significant effects found for ethnicity on the HFQ subscale scores. Persons of color did display a higher mean for the subscale of child's use of stimulating materials. This seems contradictory to current research which suggests that children that are of ethnic minority typically have less access to materials due to the large percentage of ethnic minority families that are of lower socio-economic status nationally (Mashburn, 2008). The sample population of this study is of lower socio-economic status regardless of ethnicity, however. The findings suggest that for this population socio-economic status may be the defining factor for access to materials rather than ethnicity, which is also supported in other research (Bradley et al., 2001b).

The mean for the MC-HOME subscale of Responsivity was significantly higher for white than for persons of color. In fact the mean for white was higher than for persons of color for all eight of the MC-HOME subscale scores. The HOME instruments have been criticized for being culturally biased and not widely applicable to various cultures (Bradley & Corwyn, 2005). It is also possible that there is some effect taking place due to observer bias, which is not present in a self-report instrument such as the HFQ.

Effects for Grade Level. Child's use of stimulating materials yielded a significantly higher mean for second-graders than for that of the first and third grade groups. More

interesting, although the mean was quite high when compared to the first and third grade groups, the third grade group mean was lower than that of the first graders. It is reasonable to expect the mean to rise with grade level and age due to the development of skills rather than to drop, but the current data does not support this. It would be interesting to examine the data further to try to detect what may have caused the disparity. The mean for second graders was also highest for the subscale score of Maturity Facilitation. The mean was quite a bit lower for first graders, which might be expected due to their age, but also dropped for the third grade group. It is reasonable to expect that maturity facilitation would gain in implementation with child age so the data did not behave as expected. The mean for third graders was also lowest for the subscale score of parent-child emotional relationship, and first graders was the highest. This finding is congruent with that of other researchers who found that parental responsiveness weakened as the children aged (Bradley et al., 2001b).

There may be several reasons for the ranking of third-graders as the lowest means on all the HFQ subscales. The HFQ was designed for use in middle childhood, just as the MC-HOME is. Some of the participants exceeded the target age for the instrument, and those subjects would be found in the third and fourth grade. It is also possible that the effect is due to the smaller group size in comparison to the first and second grade group. If the third grade group happens to have idiosyncrasies that are atypical to the general population, a small group size may exaggerate the differences.

The lowest mean for the DIBELS word use fluency score was for the third grade group for both reading inventories. The pattern of the DIBELS grade level findings parallels and supports the findings for lower mean effects for third graders for the HFQ subscales, and

suggests that the effects lie within the study population rather than with the research tools or method.

Third graders had the lowest means for six of the eight MC-HOME subscales, again supporting earlier findings for the HFQ and DIBELS. First graders had the highest mean effect for the MC-HOME subscale of Family Integration and Enrichment, and second graders had the highest means for the remaining five subscales.

Summary. Overall, the strongest demographic effects were found for white, female, and second graders. The means for the third grade group were lower throughout the four instruments, which was unexpected. The reasons for the effect on third graders may vary, but the consistently low ranking by three of the four instruments suggests integrity in the research procedures, and supports the viability of the HFQ subscale scores. The majority of effects for demographic characteristics were not significant, and no adjustment of the data for demographic effect was considered necessary.

Construct Validity. The three parenting style subscale scores for the PSDQ were correlated with the three proximal process subscales of the HFQ as a test for construct validity. The authoritative parenting style was positively correlated with all three of the proximal processes. This correlation supports the construct validity of the HFQ in that the authoritative style is the most philosophically congruent of the three parenting styles with the dynamics delineated within the proximal processes of Maturity Facilitation, parent-child emotional relationship, and child's use of stimulating materials.

The authoritarian parenting style was negatively correlated with two of the three proximal processes, maturity facilitation and parent-child emotional relationship. The authoritative parenting style is conceptually the most controlling of the three parenting styles, and parental

need for control would logically seem in opposition to nurturing towards maturity and independence. The authoritarian parent is also considered the least emotionally responsive in theory, so a negative correlation with the parent-child emotional relationship subscale is conceptually congruent, and also supports the construct validity of the HFQ. Authoritarian parenting scores were positively correlated with child's use of stimulating materials. It is conceivable that authoritarian parents would guide their children into more structured activities in which stimulating materials would be used, thus the positive correlation, while surprising, does not detract from the construct validity of the HFQ.

The permissive parenting style was negatively correlated with all three of the proximal processes. This finding supports the construct validity of the HFQ in that the permissive parent is conceptually lackadaisical about child rearing thus it would be expected that the quality and quantity of proximal processes taking place in the home would be low as indicated. Based on the same reasoning, having none of the correlations with the permissive parenting style score indicate statistical significance suggests construct validity for the HFQ as well.

Parent-child emotional relationship was found to correlate significantly in the positive direction with the authoritative parenting style, and significantly in the negative direction with the authoritarian parenting style. These findings are especially supportive of the construct validity of the HFQ. It would be expected that the authoritative parent would be the most emotionally responsive of the three parenting styles, and that the authoritative parent would be the least emotionally responsive of the three parenting styles, as is supported by the data.

Criterion Validity. The criterion validity for the three HFQ proximal process subscales was tested with correlations between the DIBELS scores of oral reading fluency and word use fluency. The correlations with word use fluency were significant for each of the proximal

process subscale scores. This is especially interesting in that word use fluency is a test of reading comprehension, which particularly requires the use of higher order thinking skills (Rapp, van den Broek, McMaster, Kendeou, & Espin, 2007). Proximal processes are the primary causal elements for child psychological and cognitive development (Bronfenbrenner & Ceci, 1994). The consistency and quality of the proximal processes in the home may support or hinder child acquisition of higher order thinking skills.

It is interesting to note that several subscale scores from the MC-HOME were significantly correlated with the measure for oral reading fluency, but not that of word use fluency as did the HFQ subscale scores. The correlations highlight the differences between the two instruments. The MC-HOME contains items that measure elements of the static home setting as well as items that are not home-based. An example of out-of-home questions would be items that assess whether the child has ever been to a museum, or whether the family visits the library on a monthly basis. It is possible that the difference found in how the four instruments correlate with one another is an effect of the conceptual elements of the HFQ and the MC-HOME that are not shared.

The positive relationships between the proximal processes and child academic achievement based on higher order thinking skills strongly supports criterion validity for the HFQ subscales. It would be interesting to investigate further the differences in the correlations between the HFQ and the MC-HOME with the DIBELS subscale tests.

Factor Analysis of the HFQ. In an effort to replicate part of the original study in which the HFQ was created, a factor analysis was calculated on the three proximal processes. For the most part the factor analysis mirrored that of the original study in which the HFQ was created. This suggests reliability in the HFQ inventory items.

The original factor clusters were readily evident, and the items that clustered differently still formed conceptually consistent factors. For example, under Maturity Facilitation, the clustering of the parent-rule items, parent enforces must clean room rule and parent enforces homework before TV rule, with the child personal chore items seemed appropriate in that the rules being enforced did concern the child's responsibilities. One parent-rule item, parent enforces child's set time to come in from play, clustered with the family routine items, but also had to do with a consistent family schedule.

Other items that clustered together in the original analysis clustered together with the current analysis, but more exclusively, forming more specific clusters such as the child hair care items that clustered together in the Maturity Facilitation subscale or the item child needs a spanking that clustered with parent use of physical punishment in the Parent-Child Emotional Relationship subscale.

A few clusters became broader, such as the use of reading materials factor in Child's Use of Stimulating Materials that clustered with the items child has a special place to study and read, child uses a home dictionary or encyclopedia, and child uses radio, CD, or MP3 player, VCR or TV.

Conceptual consistency was displayed among the factor clusters, and the number of clusters remained close to that of the formative factor analysis. The exception to this was when two items from separate subscales clustered apart from the other items causing the addition of an extra factor to the original cluster numbers. In the case of the item child uses computer under the child's use of stimulating materials subscale, the single item factor seems reasonable in that the use of technology is different in task and skill from the other activities described by the subscale

items. The conceptual consistency of the factor clusters with the item content suggests reliability for the HFQ proximal process subscales overall.

Reliability. The reliability of scores obtained with the HFQ was tested with Pearson's chi-square analysis and with crosstabs analysis on an item-by-item level with corresponding items from the MC-HOME. The overall agreement for the items was supported by the analyses. There was some possible relationship between items that were found to have less agreement. For example, of the items that had less than .75 agreement, three pairs had been reverse coded. It is possible that for this study reverse coding was a procedure that was counterproductive. Some participants expressed confusion over the wording of some of the items, including those that were reverse coded, and their confusion may have affected the reliability of the item scores.

Some item pairs contained items from the HFQ that were designed to measure child's use of materials. Those items were derived from items on the MC-HOME that measured the presence of such materials, but not the use of them. Five of these types of pairings were among those that had agreements less than .75. The lower agreement between the materials-access item and materials-use item pairs may not portend a flaw in the design of the HFQ items. It is possible that, instead, it suggests that although access to materials is imperative to the child's use of those materials, it does not necessarily translate into actual child's use of the materials. An example of this discrepancy is found in the HFQ item that measures the amount of time a parent perceives that their child reads each day. This item was paired for analysis with the MC-HOME item measuring whether the child has access to ten age-appropriate books. Agreement between the scores from the two items was .50. However, the same HFQ item in a crosstabs analysis with the MC-HOME item that measures whether the child is encouraged to read on their own presented at .56. Although the difference is marginal, it does suggest a stronger conceptual

relationship between the amount of time that the child reads with the process of parental encouragement of to read, than that of the static environment of the availability of the books.

It is interesting to note that it was not possible to conduct a chi-square analysis on four of the HFQ and MC-HOME item pairs because those HOME items contained values for only a "yes" answer. Linver et al. (2004) argue that some items contained in the HOME are not reliable because 90% or better of the participants receive a "yes" scoring. The data set in this study upheld that observation.

Study Limitations. Recruitment of a pool of participants for the study proved more difficult than expected. Because of the low response rate on the first inquiry a second invitation had to be issued. When the second pool of participants fell short of the planned number a referral process was employed to obtain the full count of 50 participants. It is possible that accepting participants by referral may have influenced the data set. Even though letters of introduction had been issued, and forms of interest had been obtained, phone calls to potential participants often yielded responses that suggested mistrust in the caller. The researcher was mistaken for a bill collector or phone solicitor on more than one occasion. This seemed especially prevalent for lower socio-economic or ethnically diverse families. Such difficulties in making the researcher's intent clear would suggest that some portion of the general population was excluded from the study on the basis of the recruitment process alone. The participants were also drawn from a specific geographic area- rural southern Louisiana. Thus the findings from the study may not be generalizable to other populations or geographic locations.

More time and precision may have needed to be taken in training the observer for data collection. Because the researcher was new to the MC-HOME instrument some tests for intra-rater reliability would have been appropriate.

It was not possible to conduct the counter-balanced presentational design as planned because the majority of selected participants did not follow the directions given concerning the filling out of the questionnaires before the home observation took place. Therefore it is possible that there was an effect for presentation of the observation on the questionnaire data due to the fact that most of the questionnaires were filled out after having the observation experience.

Although inventory items were checked for congruence, it is possible that obtaining missing answers to the blank questionnaire items verbally over the phone may have affected the data collected as such. Also using the group means in place of missing answers that were not obtainable, even though there were few of them, may have had an effect on the outcomes of the study as well, especially considering the small sample size.

Some participants voiced opinions that the questionnaire items for both the PSDQ and the HFQ were confusing to them, and that they did not fully comprehend what they were answering. This may be due to the literacy level of the population, which is typically lower than the national average, or this may be a matter for future consideration for instrument design.

The MC-HOME may not have been the appropriate instrument for assessing some of the home environments. It is designed for middle childhood, and a few of the children were out of the target age range for the instrument. Four of the participant children were identified by the parents at the time of the observation as being in special education classes at school. A specific HOME inventory has been created by the authors specifically for children with exceptionalities. The need for a special instrument for homes with children with exceptionalities suggests that other HOME inventories may fall short of the goal of assessment for those homes.

The Family Integration subscale of the MC-HOME raised some issues in this study. Due to proximity to the Gulf of Mexico, many of the father figures in the population from which the

current sample was taken work in the oil industry off shore. This type of work requires them to be on duty from seven days to several months at a time, and then home for a comparable duration. In order for a family to receive the full four points for the family integration section of the MC-HOME the father must be present in the home and life of the child every day. If that is not the case, the family automatically loses three of the four points. The original intent of the authors of the MC-HOME was to capture the effect on child development of the absence of the father from the home-- as in a case of divorce or of single parenting mothers. The circumstances of the current study population warrant some reflection on the relevance of this subscale for some populations. Another interpretation of the findings is possible as well. A low score for the Family Integration subscale of the MC-HOME is expected for single parent families with the mother as the head of household. A higher score for the proximal process of parent-child emotional relationship for such families, as was found in the current study may be an indication of an extraordinary effort by single mothers to be emotionally supportive to their children due to the awareness of the absence of another parent in the home.

Due to the time and manpower limitations of the study the sample was kept purposefully small. Small sample size is not ideal for many of the statistical tests that were conducted. According to Cohen (1977), in order to achieve sufficient statistical power for a between-subjects correlational design, a sample of 271 participants would be necessary to achieve significance at the .05 level. Clearly the present study falls short of the needed number of participants to yield definitive results. On the other hand, the fact that some statistically significant results were obtained with such a small sample size is very encouraging.

The HOME data were presented as negatively skewed over several of the subscales. This finding was congruent with the sampling example contained in the HOME inventory

administration manual, so it is possible that the skewness of the scores is an anomaly of the instrument. It is also possible, however, that the researcher was over generous in the assessment of the home environments. Observer bias is a possible inherent limitation in instruments that rely on data collection from an outside party (Linver et al, 2004). Scores for many of the variables were found to have a higher mean for white families than for persons of color. This too may have been a function of observer bias. Although participant bias may also be suggested as inherent in the data collection process of self report inventories such as the HFQ and PSDQ, such a bias would not be expected to have definitive effects in areas such as ethnicity.

Future Directions. Each of the HFQ proximal processes were related to one or more subscales from the three test instruments of the PSDQ, the DIBELS, and the MC-HOME. In a test for item agreement, 87% of the HFQ items were related to the corresponding MC-HOME items. The findings of the study suggest construct validity, criterion validity, and reliability for scores that are obtained with the HFQ. Certainly the efficacy of the HFQ should be publicized in order to make it available for use by researchers. Although the present findings are impressive, a next step for use of the Home and Family Questionnaire would be to replicate the current study with a participant pool of a statistically viable size in order to reach more definitive conclusions about its application as a measure of proximal processes in the home. The HFQ might also be employed to track the quality, timing, and perseverance of proximal processes in the home and their affect on child developmental outcomes, through its use in a longitudinal study with multiple measurement intervals. This could be a future step for utilization of the HFQ to further research in child development on a larger scale.

Summary. The Home and Family Questionnaire is a measure of home environments that was developed through careful research to measure proximal processes taking place in home

environments. The construct validity, criterion related validity, and reliability of scores collected with the three proximal process subscales of the HFQ were empirically supported by the tests employed in this study. The HFQ is an alternative instrument for measuring home environments that is cost effective in terms of time and money, is in congruence with ecological systems theory, and affords the opportunity for researchers to measure the processes taking place in home environments separately from elements of the physical environment.

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APPENDIX A

THE HOME OBSERVATION MEASUREMENT OF THE ENVIRONMENT-MIDDLE CHILDHOOD

I. RESPONSIVITY

1. Family has fairly regular & predictable daily schedule for child (meals, daycare, bedtime, TV, homework)
2. Parent sometimes yields to child's fears or rituals (allows nightlight, accompanies child to new experience)
3. Child has been praised at least twist during past week for doing something
4. Child is encouraged to read on own
5. *Parent encourages child to contribute to the conversation during visit
6. *Parent shows positive emotional responses to praises 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

II. ENCOURAGEMENT OF MATURITY

11. Family requires child to carry out certain self-care routines; e.g., make bed, clean room, clean up after spills, bathes self (YES requires 3 out of 4)
12. Family requires child to keep living & play area reasonably clean & straight
13. Child puts outdoor clothing, dirty clothes, night clothes in special place
14. *Parents set limits for child & generally enforce them (curfew, homework before TV, other regulations that fit family pattern)
15. *Parent introduces interviewer to child

16. *Parent is consistent in establishing or applying family rules

17. *Parent does not violate rules of common courtesy

III. 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 month

22. Child has a special place in which to keep possessions

23. *Parent talks to child during visit (beyond correction & introduction)

24. *Parent uses some term of endearment of some diminutive for child's name when talking about child at least twice during visit

25. *Parent does not express over-annoyance with or hostility toward child (complains, describes child as "bad," says child won't mind)

IV. LEARNING MATERIALS & OPPORTUNITIES

26. Child has free access to record player or radio (*or CD or MP3 player)***

27. Child has free access to musical instrument (piano, drum, ukulele, guitar, etc.)

28. Child has free access to at least 10 appropriate books

29. Parent buys and reads newspaper daily

30. Child has free access to desk or other suitable place for reading or studying

31. Family has a dictionary and encourages child to use it

32. Child has visited a friend by him/herself in the past week

33. *House has at least 2 pictures or other type of art work on walls

V. ENRICHMENT

34. Family has a television, and it is used judiciously, not left on continuously

35. Family encourages child to develop of sustain hobbies

36. Child is regularly included in family's recreational hobby

37. Family provides lessons or organizational membership to support child's talents (esp Y, gymnastics, ART Center, etc)

38. Child has ready access to at least 2 pieces of playground equipment in the immediate vicinity

39. Child has ready access to library card, & family arranges for child to go to the library once a month

40. Family member has taken child, or arranged for child to go to a scientific, historical, or art museum within the past year

41. Family member has taken child, or arranged for child to take a trip on a plane, train, or bus within the past year

VI. FAMILY COMPANIONSHIP

42. Family visits or receives visits from relatives or friends at least once every other week

43. Child has accompanied parent on a family business venture 3-4 times within the past year; e.g., to garage, clothing shop, appliance repair shop

44. Family member has taken child, or arranged for child to attend some type of live musical or theater performance

45. Family member has taken child, or arranged for child to go on a trip of more than 50 miles from his home (50 mi radial distance)

46. Parents discuss TV programs with child

47. Parent helps child to achieve motor skills (ride a 2-wheel bike, roller skate, ice skate, play ball)

VII. 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 & father (or mother and father figure)

51. Child has remained with this primary family group ALL his life aside from 2-3 week vacations, illnesses of mother, visits of grandmother, etc.

VIII. PHYSICAL ENVIRONMENT

52. Child's room has a picture or wall decoration appealing to children

53. * The interior of the apartment is not dark or 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 form ceiling, stairway with boards missing, rodents, etc.)

59. *Child's outside play environment appears safe and free of hazards (no outside play area requires an automatic NO)

APPENDIX B

THE HOME AND FAMILY QUESTIONNAIRE

A. 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				
p	Plays a real musical instrument				
q	Picks out own 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				

(Continued)

B. Below are a few rules some parents have for their child: Indicate how often you enforce each rule by placing a check in the appropriate box. If you do not have the rule, place the check in the *never* box.

Rules:	Never	Seldom	Sometimes	A lot
a Child must clean his or her room				
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 make 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				
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 Behaviors	Never	Seldom	Sometimes	A lot
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 C

THE PARENTING STYLES AND DIMENSIONS QUESTIONNAIRE

Parent Descriptions

Below are several statements that some people sometimes use to describe parents. How much do you agree or disagree that each statement describes "pretty good" parents?

Circle the **1**, if you **STRONGLY DISAGREE** with the statement.
2, if you **DISAGREE** with the statement.
3, if you are **UNSURE.**
4, if you **AGREE** but not strongly.
5, if you **STRONGLY AGREE** with the statement.

Good Parents:	*strongly disagree*	*disagree*	*unsure*	*agree*	*strongly agree*
a. encourage their child to talk about the child's troubles.	1	2	3	4	5
b. guide their child with punishment.	1	2	3	4	5
c. know the names of their child's friends.	1	2	3	4	5
d. find it difficult to discipline their child.	1	2	3	4	5
e. give praise when their child is good.	1	2	3	4	5
f. spank their child when the child is disobedient.	1	2	3	4	5
g. joke and play with their child.	1	2	3	4	5
h. don't scold or criticize their child even when the child acts against their wishes.	1	2	3	4	5
i. show sympathy when their child is hurt or frustrated.	1	2	3	4	5
j. punish their child by taking away privileges with a few explanations.	1	2	3	4	5
k. spoil their child.	1	2	3	4	5
l. give comfort and understanding when their child is upset.	1	2	3	4	5
m. have to yell or shout when their child misbehaves.	1	2	3	4	5
n. are easy going and relaxed with their child.	1	2	3	4	5
o. allow their child to annoy someone else.	1	2	3	4	5
p. tell their child about their behavior expectations before the child does an activity	1	2	3	4	5

Good Parents:	*strongly disagree*	*disagree*	*unsure*	*agree*	*strongly agree*
q. scold and criticize their child to make the child improve.	1	2	3	4	5
r. show patience with their child.	1	2	3	4	5
s. grab their child when the child is being disobedient.	1	2	3	4	5
t. state punishments to their child but don't actually do them.	1	2	3	4	5
u. respond promptly to their child's needs or feelings.	1	2	3	4	5
v. allow their child to contribute to making family rules.	1	2	3	4	5
w. argue with their child.	1	2	3	4	5
x. are confident about their parenting abilities	1	2	3	4	5
y. explain to their child why rules should be obeyed.	1	2	3	4	5
z. know that their feelings are more important than their child's feelings	1	2	3	4	5
aa. tell their child that they appreciate what the child tries to do or accomplish.	1	2	3	4	5
bb. punish their child by putting the child off somewhere alone with few explanations.	1	2	3	4	5
cc. encourage their child to talk about the consequences of their actions.	1	2	3	4	5
dd. are afraid that disciplining their child for misbehavior will cause the child to dislike them.	1	2	3	4	5
ee. consider their child's desires before asking them to do something.	1	2	3	4	5
ff. express strong anger toward their child.	1	2	3	4	5
gg. are aware of problems or concerns about their child at school.	1	2	3	4	5
hh. threaten their child with punishment more often than actually giving it.	1	2	3	4	5
ii. express affection to their child by hugging, kissing, and holding the child.	1	2	3	4	5

Good Parents:	*strongly disagree*	*disagree*	*unsure*	*agree*	*strongly agree*
jj. ignore their child's misbehavior.	1	2	3	4	5
kk. use physical punishment (spanking, grabbing, pushing, slapping) to discipline their child.	1	2	3	4	5
ll. carry out discipline immediately after their child misbehaves.	1	2	3	4	5
mm. apologize to their child when make a mistake.	1	2	3	4	5
nn. tell their child what to do.	1	2	3	4	5
oo. give in to their child when the child causes a commotion about something; for example, in the grocery store or at someone's house.	1	2	3	4	5
pp. talk over their child's misbehavior with the child.	1	2	3	4	5
qq. slap their child when the child misbehaves.	1	2	3	4	5
rr. disagree with their child.	1	2	3	4	5
ss. allow their child to interrupt others.	1	2	3	4	5
tt. have warm and intimate times with their child.	1	2	3	4	5
uu. when two children are fighting, they discipline their child first and ask questions later.	1	2	3	4	5
vv. encourages their child to freely express himself (or herself) even when disagreeing with the parent.	1	2	3	4	5
ww. use rewards or treats or favors to get their child to obey.	1	2	3	4	5
xx. scold or criticize their child when the child's behavior doesn't meet the parent's expectations.	1	2	3	4	5
yy. encourage their child to express their own opinions.	1	2	3	4	5
zz. set strict well-established rules for their child	1	2	3	4	5
aaa. explain to their child how they feel about the child's good and bad behavior.	1	2	3	4	5

Good Parents:	*strongly disagree*	*disagree*	*unsure*	*agree*	*strongly agree*
bbb. use threats as punishment with little or no justification.	1	2	3	4	5
ccc. think about their child's preferences in making plans for the family.	1	2	3	4	5
ddd. tell their child, "Because I said so" or "Because I am your parent and I want you to," when the child asks why the child has to obey.	1	2	3	4	5
eee. are unsure how to solve their child's misbehavior.	1	2	3	4	5
fff. explain to their child the consequences of the child's misbehavior.	1	2	3	4	5
ggg. demand that their child do things.	1	2	3	4	5
hhh. redirect their child's misbehavior into an activity that is more acceptable.	1	2	3	4	5
iii. shove their child when the child is disobedient.	1	2	3	4	5
jjj. emphasize the reasons for rules.	1	2	3	4	5

5

APPENDIX D

SCHOOL BOARD APPROVAL LETTER

March 15, 2009

St. Landry Parish School Board
1013 East Creswell Lane
Opelousas, LA 70571

RE: Research proposal request

Dear School Board Officials:

I am a graduate student at LSU working on a PhD in Early Childhood through the Department of Human Ecology; Family, Child and Consumer Sciences Division.

The purpose of this letter is to seek approval from you to invite parish families to participate in a study for my dissertation work. Letters of invitation will be distributed to eligible families through the elementary schools in Eunice, and possibly Opelousas, with permission from the respective school principals. A draft of the invitation letter is enclosed.

As part of my research, I would like to conduct hour long in-home observations of families with at least one school-age child enrolled in the first, second, or third grade. Parents will also be asked to complete two short surveys, and to sign a consent form allowing me access to their child's summative DIBELS scores for the 2008-2009 school year.

Data collected through the home observations and surveys will be compared with the DIBELS scores with the object of seeing how parent self-reports compares with that of trained observers, and to see what components of the various home environments in St. Landry Parish are conducive to the development of literacy skills in children in the primary grades.

For full participation in the proposed study, families will receive an age-appropriate children's book for their home.

Please feel free to contact me with any questions you may have concerning the study. I thank you for your assistance in completing my research goals, and look forward to working with parish personnel to fulfill the ends of the study.

Sincerely,

Holly M. Bell, Graduate Student, LSU
521 S. 3rd St.
Eunice, LA 70535
M(337) 250-1633

W(337) 550-1405
H(337) 546-1856
hbell@lsue.edu

APPENDIX E

PARENT INVITATION LETTER

March 15, 2009

Dear Families of first, second, and third graders:

I am a doctoral student at LSU, and I need your help in collecting the data for my dissertation. I hope that you and your child will help me by taking part in my study. My study is about child care and education.

For the study, you will be asked to fill out two short surveys and chat with me (or another student-researcher) during a one-hour home visit. We will need you and your child to be present during the home visit.

Families who complete all parts of the study will be given a new book for their child to keep.

If you are interested in participating in the study, please fill out the **PINK** form stapled to this letter and return it to your school by **May 22, 2009**. The **YELLOW** copy of the form is for you to keep.

If you have any questions about the study please call me at any of the phone numbers listed at the bottom of this letter or email me at the address below.

I look forward to meeting you and your child. Thank you for your help.

Sincerely,

Holly Bell, Assistant Professor
LSUE
P O BOX 1129
Eunice, LA 70535

hbell@lsue.edu

(337) 550-1405
(337) 546-1856
(337) 250-1633

APPENDIX F

PARENT OR CAREGIVER PARTICIPATION AND CONSENT FORM

RETURN THIS SHEET TO YOUR SCHOOL BEFORE MAY 22, 2009

Holly Bell
Work (337) 550-1405
Home (337) 546-1856
hbell@lsue.edu

Department of Education
LSUE
P O Box 1129
Eunice, LA 70535

1. Purpose of the study: To examine home environments of children in first, second, or third grade in St. Landry Parish public schools, and to compare data on home environments with data from child reading achievement tests.

2. Participants: The parents (or other primary care givers) and children enrolled in first, second, or third grade classes in public elementary schools in the St. Landry Parish school system.

3. Performance sites: The homes of participating families.

4. Procedures: The caregivers will fill out two surveys; one about their home environment, and one about their beliefs about good parenting.

At least one parent and their child will participate in a home interview. The home interview will be conducted by a trained observer, and usually takes about an hour to an hour and a half to complete. During the observation the parent and child will be asked questions about their child's and their family's daily activities and routines.

5. Benefits: There are no expected immediate benefits to the participants of the study, but the information gathered will hopefully help professionals provide better information and training for future parents and educators.

6. Risks: There are no physical or psychological risks to the children or their families. None of the information being gathered is of a sensitive or clinical nature. The interviewer(s) will be graduate and undergraduate students who are majoring in early childhood, education, or psychology, and are sensitive to family issues and the needs of young children.

7. Participants' rights: Participation is voluntary; caregivers are free to withdraw themselves and their child from the study at any time.

8. Privacy: Data will be kept confidential unless release is legally compelled. Research records will include only an identification number once 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 once it is no longer needed for the reporting of research.

9. Release of information: The general findings of the study will be available to the participants after it is published. Information about individual families or children will not be available to parents, future teachers, or school systems.

The study has been discussed with me to my satisfaction and all my questions have been answered to my satisfaction. I may direct additional questions about study specifics to the primary investigator, Holly Bell. If I have questions about subjects' rights or other concerns, I can contact Robert C. Mathews, Chairman, LSU Institutional Review Board, (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. I also agree to allow the investigator, Holly Bell, to access my child's school records, specifically, to obtain DIBELS reading scores for my child for the 2008-2009 school years. I understand that the DIBELS scores obtained will be used for research purposes only, and will not affect the future academic experiences of my child.

_____

Caregiver signature date

_____

Please print your name relationship to child

_____

Phone number alternate phone number times/days we can reach you

_____

Your mailing address: house number/ street city state zip code

_____

Your email address (if you have one): eligible for free/reduced lunch? (yes/ no)

_____

Child's name name of child's school grade level

_____

Name of child's teacher

_____

Child's age child's gender child's ethnicity/ race

VITA

Although Holly Bell was born in Santa Ana, California, she has lived in many states throughout her academic pursuits. Holly earned a Bachelor's of Arts degree at Brigham Young University in Provo, Utah, and completed a Master's of Education in Elementary Education Instruction and Curriculum at Arizona State University in Tempe, Arizona. Holly taught elementary school music in kindergarten through eighth grade before moving to Texas to teach in the Education Department at South Texas Community College. Holly was an Assistant Professor in the Education Department at Louisiana State University Eunice for seven years. Currently Holly works for The Louisiana Endowment for the Humanities as Assistant Director of the Prime Time Family Reading Time program. She has four children, Spencer, Amy, Peter, and Audrey, and lives in New Orleans, Louisiana.