# An Examination of the The HOME-Short Form in Relation to Observational Measures of Mother-Child Interaction

**The Observational Studies Team**[1]

**Methods Working Paper # 98.4**

*In this paper we contrast the HOME-Short Form with measures of parenting based on direct observation of mother-child interaction. Data come from the JOBS Observational Study, a study that used multiple methods to assess parenting behavior, including two separate procedures for coding observed mother-child interaction (one focusing on the affective quality of interaction, and one on aspects of interaction related to the emergence of literacy), and interview-based measures of parenting, including the measure focused on here, the abbreviated version of the HOME Inventory developed for use in survey research (HOME Short-Form). The JOBS Observational Study involves a sample of families with preschool-age children (between about 3 and 4 years at the time of the observations of interaction and interviews with mothers) from the Atlanta, Georgia area. All of the mothers had applied for or were receiving Aid to Families With Dependent Children, and all of the families in the sample were African-American.*

*Examination of the intercorrelations of the observational measures and the HOME-Short Form subscales revealed significant correlations in about half of the instances, with the correlations generally falling in the low to moderate range. This suggests that the observational and interverview-based measures are related, yet not highly overlapping. The predictive validity of the observational measures and the HOME-Short Form subscales was examined in relation to measures of the children's school readiness, behavior problems, and positive social behaviors assessed 1 ½ to 2 years after the assessments of parenting behavior. The findings indicate that a significantly greater proportion of the variance was explained in two of three child outcomes considered when the HOME-Short Form subscales were added to variables measuring background characteristics of the families. Adding the observational measures to the set of background characteristics significantly increased the proportion of variance explained in each of the three child outcomes. When control variables and the HOME-Short Form subscales had already been taken into account, consideration of the observational measures continued to improve prediction of two of the child outcomes. These findings indicate that while the HOME-Short Form and observational measures <u>both</u> capture aspects of the mother-child relationship that are important to development, the observational measures capture aspects of the relationship that extend beyond the HOME-Short Form.*

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## Introduction

One of the goals of this working paper series is to assess, from multiple perspectives, the functioning of the most widely used survey measure of parenting and the home environment, the HOME-Short Form (HOME-SF). We have reviewed the literature on the reliability and validity of the HOME-SF from studies that have used this measure within the National Longitudinal Survey of Youth-Child Supplement dataset (NLSY-CS) (Mariner & Zaslow, 1998: Methods Working Paper # 98.1). We have asked whether the HOME-SF functions similarly in different racial/ethnic groups within the NLSY-CS (Mariner & Zaslow, 1998: Methods Working Paper # 98.2). We have moved beyond the NLSY-CS dataset in order to ask if the internal structure of the HOME-SF, as assessed via factor analysis, is consistent within a further sample (Mariner & Zaslow, 1998: Methods Working Paper # 98.3).

In the present working paper we will use yet a further strategy to assess the functioning of the HOME-SF: We will examine how closely the HOME-SF subscales are correlated with measures of the mother-child relationship based on direct observation of interaction. In addition, we will compare the survey and observational measures as predictors of child outcomes in longitudinal analyses.

**Observational Measures as a "Gold Standard"**

In some previous research, observational measures of mother-child interaction have been seen as a "gold standard" against which interview-based measures can be evaluated. A lack of significant correlations, or low correlations between observational and interview measures, have been seen as reflecting a lack of validity in the interview measures.

Kochanska and colleagues (Kochanska, Kuczynski & Radke-Yarrow, 1989), for example, in reviewing previous findings on the correspondence between parental cognitions and actions, note as problematic that associations have been found to be "relatively small in magnitude" (p. 56). They propose that evidence for an association between the two types of measures will be greatest when the particular action described in the verbal report and captured through direct observation correspond more closely, when the verbal report involves *sets* of statements rather than individual items, when observed behavior is summarized across multiple child-rearing situations, and when researchers distinguish between verbal reports that describe child rearing behaviors and those that describe subjective reactions to child-rearing. They present evidence of significant associations across maternal report and observational measures when these criteria are met. Implicit in this view, however, is the perspective that the maternal report measures need to be validated against observational measures.

The view of observational measures as a "gold standard" rests at least in part on methodological grounds. In particular, direct observations of parenting behavior are free of response biases that can be present in maternal report measures. Response biases may also be present in ratings of parenting behavior or of the home environment completed by interviewers,

for example because of other information that they collect during the course of an interview (which, in experimental studies, may include awareness of interviewee research group). In contrast, those who code or rate behavior in observational studies, either at the time of the interaction or from a videotape, are typically "blind" or unaware of family background characteristics or research group.

In addition, in observational studies, a great deal of initial work is devoted to delineating the types of behaviors that will be attended to, and developing the specific criteria for assigning particular behavioral ratings. It is standard practice in observational studies for those coding behavior to be required to reach a criterion of interrater reliability before they begin coding, and to demonstrate that they maintain this agreement as they continue to code. The careful definition of ratings and the establishment and maintenance of interrater reliability provide a very strong basis for face validity of the measures which are reported: it is clear *what* behavior has been observed when results are reported for particular measures, and that multiple observers would report on these measures in the same way (see for example, De Temple & Snow, 1998; Egeland, Weinfield, Hiester, Lawrence, Pierce, Chippendale & Powell, 1995; Weinfield, Egeland & Ogawa, 1998).

Perhaps most important, however, observational measures can capture aspects of interaction that, while critical to characterizing mother-child relations, are not easy or perhaps even possible for respondents to report. For example, previous research has identified "Non-Immediate Talk" as an aspect of maternal behavior in the context of book reading that encourages the development of literacy in young children (De Temple & Snow, 1998). This

behavior involves going beyond the immediate stimuli of pictures and text in the book that mother and child are reading together by, for example, using these stimuli as a basis for making connections to the child's other experiences, making inferences, or discussing hypothetical situations. Yet it is unlikely that mothers could reflect or report reliably on the frequency with which they use such talk when reading with their children. Observational measures, then, permit documentation especially of qualitative aspects of behavior for which respondents would not be an appropriate source.

**Complementarity of Observational and Interview-based Measures of Parenting**

Yet it is interesting and important to note that numerous studies of parenting have included *both* observational and interview-based measures of parenting. Indeed it is noteworthy that a number of these studies have included both the HOME Inventory (long or short form) and observational measures of interaction (Crockenberg, 1987; Garcia Coll, Hoffman & Oh, 1987; Schilmoeller & Baranowski, 1985; Unger & Wandersman, 1988; Walker, Rodriguez, Johnson & Cortez, 1995).

This suggests an implicit assumption by some researchers that observational and interview-based measures can complement each other within a study. If observational measures were seen only in terms of the "gold standard," then when it is possible to include observational measures, it would not be necessary or desirable to include measures of parenting which rely on respondent report.

A careful examination of observational and interview-based measures of parenting does reveal important differences. In presenting the results of the New Chance Observational Study, a

study that can be listed among those that included both the HOME-SF and observational measures of interaction, we argued that the HOME-SF and observational measures of interaction differ specifically in terms of *scope, informant, and nature of behavior considered* (Zaslow, Dion & Morrison, 1998). In the following sections we will illustrate these dimensions of difference, making reference to the observational procedures of the New Chance Observational Study. While we acknowledge that other observational studies may differ from the New Chance Observational Study in terms of their specific observational procedures (just as other interview-based measures of parenting may differ from the HOME-SF in specific content), the contrast of the HOME-SF and observational measures from this particular observational study helps to illustrate many of the differences that recur across studies using these approaches.

**Scope.** The metaphor of "window into a house" helps to illustrate the difference in the scope of the two measurement approaches. The observational measures used in the New Chance Observational Study appear to shed a very intense light into the house (the mother-child relationship), but through a small window. By contrast, the HOME-SF appears to use a much larger window, but also less penetrating or intense light. Both provide important, though differing, perspectives on what is within.

The observational measures provide a smaller window in the sense that they sample a limited time and a limited situation. In the New Chance Observational Study this involved a half hour observation of mother-child interaction structured around a book-reading task and a series of specific teaching tasks. The materials for the book reading and teaching task were provided by the researchers, and thus were held constant for all dyads. The goal of each of the

teaching tasks was also defined. For example, mothers were asked to guide their children through a task in which the goal was to use smaller blocks to match the shape of a larger model. The time available for each task was limited and was held constant across dyads (Morrison, Eldred, Zaslow & Dion, 1998).

By contrast, the HOME-SF does not require restricting the context, time, materials, or partners for interaction. Indeed it is specifically the variation in the stimulation that the child receives that is the focus of this measure. The HOME-SF encompasses items concerning the child's experiences both within the home and on trips and outings outside the home. The HOME-SF includes items that go beyond the immediate period of the interview in the home, for example to ask about the frequency of certain experiences over a period of weeks (e.g., "How often in the past week have you taken away TV or other privileges?"). Items focus on the frequency with which the mother provides certain experiences, but also ask about input from other social partners (e.g., the father, other family members). Rather than holding materials constant, the mother and interviewer are asked to report on the range of stimulating materials in the home (e.g., toys, children's books).

**Informant.** While the observational measures rely on a highly trained behavioral rater as the informant, the HOME-SF relies on both the mother and the interviewer as informants. We have already noted that there is a difference across these informants in terms of potential for response bias. We have also noted that there are certain types of behavior (especially subtle, qualitative aspects of mother-child interaction) for which a mother or survey interviewer would not be appropriate informants. Yet at the same time it must be acknowledged that the mother and

interviewer can serve as informants for aspects of the child's experience that an observational coder (for a structured and delimited interaction context) cannot. Unless observations are carried out over a period of weeks and across multiple settings, (something that *has* been done in observational studies, but because of the intensive nature of the procedures, has been done rarely), an observational rater is not an appropriate source of information about the child's experiences over a longer span of time or across multiple settings. Similarly, an observational coder rating behavior from videotapes of a structured interaction does not have access to the information needed to rate the stimulation available in the home environment. The informant chosen for each measurement approach is thus linked to the scope of information sought by each measure. In studies drawing upon *both* observational and interview-based measures, it is a strength that the portrayal of behavior will rest on multiple informants.

**Nature of behavior sampled.** A key difference in terms of the nature of behavior captured by the observational measures and the HOME-SF as used in the New Chance Observational Study pertains to whether behavior is sampled in the context of everyday events or in the context of mild stress. The HOME-SF documents cognitive input and emotional support provided in the course of daily life. By contrast, the observational measures used in the New Chance Observational Study document behavior of the mother and child in a specific and mildly stressful context: when the child is faced with a series of challenging but interesting tasks, and the mother is asked to guide the child through the tasks.

The assumption behind sampling behavior in the challenging task context is that such a situation will distill out key aspects of the relationship, such as the mother's harshness or

directiveness, and sensitivity of the mother to the level of understanding the child is showing of the task. These aspects of the relationship may not be manifested in a visit to the home for an interview, or addressed in questions about the child's experiences over the course of recent weeks.

Again a metaphor helps to illustrate this difference. The HOME-SF parallels a measure of cardiac functioning during normal activity. By contrast, the observational measures of the New Chance Observational Study parallel the examination of cardiac functioning during a stress test (although with the key distinction that the observational procedures are structured to involve *mild* stress in an interesting context). Both approaches to measuring cardiac functioning (and mother-child interaction) are useful and important.

Finally, we note that the observational measures focus on the *quality* of interactions, while the HOME-SF tends to focus on *quantities* of materials and experiences. For example, the affective coding of mother-child interaction completed by Weinfield and colleagues in the New Chance Observational Study (Weinfield, Egeland & Ogawa, 1998) involved a rating of the quality of *Harshness* in the course of mother-child interaction. By contrast, the HOME-SF includes items concerning the frequency of physical punishment (as reported by the mother and observed by the interviewer during the course of the interview).

To summarize, the multiple differences in scope, informant, and nature of behavior documented by the HOME-SF and observational measures used in the New Chance Observational Study point to key differences in the purposes of these measures. While the HOME-SF focuses on the frequency of observations over time from a range of people and

stimuli in the course of everyday life, the observational measures focus on the quality of interactions that occur specifically when the mother guides her child in a challenging task. *Both* kinds of information about the child's experience are potentially of interest to researchers, and it is a source of strength to be able to rely on the perspectives of multiple informants. Perhaps the two perspectives, that observational measures reflect a "gold standard," and that observational measures and the HOME-SF can be seen as complementary measurement approaches, need not be entirely mutually exclusive. Perhaps we can acknowledge the methodological rigor of the observational measures, and the fact that they can better capture subtle but important qualitative aspects of relationships, yet at the same time acknowledge the useful difference in the goals of the two types of parenting measures.

**Methodological Analyses within the New Chance Observational Study**

Analyses were carried out within the New Chance Observational Study dataset to examine the intercorrelations of the observational measures and interview-based measures of parenting included in that study (with some interview-based measures other than the HOME-SF considered in these analyses as well). In addition, the observational and interview-based measures of parenting were examined as predictors of child outcome measures (see Zaslow, Dion & Morrison, 1998). It should be noted that for this study, HOME-SF subscales were created that differ somewhat from those used in the National Longitudinal Survey of Youth-Child Supplement. In particular, the subscales used in this study were: Emotional Support, Cognitive Stimulation, Harsh Discipline, and Physical Environment.

Correlations between the HOME-SF subscales and total score, and the specific

observational measures obtained for the New Chance Observational Study ranged from .01 to .29 (in absolute terms). While a fairly large number of correlations were statistically significant, none of the correlations went beyond the moderate range, suggesting that the HOME-SF measures and the specific observational measures were related but not highly overlapping. Consideration of which specific observational measures were significantly correlated with the HOME-SF scores indicated that in general, observational measures that were more molar were more closely related to the HOME-SF than observational measures that sought to describe very specific and discrete behaviors. For example, the observational rating of Book Reading Quality (that summarized the mother's fluency, intonation, and comfort in reading to her child) was significantly correlated with the HOME-SF total score, while number of mother's utterances during book reading was not.

The observational measures of parenting and the HOME-SF were collected when the children were between 30 and 60 months of age. Longitudinal analyses examined selected observation measures and HOME-SF subscales as predictors of five child outcomes measured approximately 2 ½ years after the measures of parenting: maternal and teacher report of the Behavior Problems Index, the Positive Behavior Scale, and a direct assessment of the child's school readiness: the Bracken Basic Concept Scale School Readiness Composite. These analyses found that the HOME-SF subscales improved prediction of three of the child outcome measures beyond consideration of family background characteristics. These outcomes were mother's report of both problem and positive child behavior, as well as the assessment of cognitive development. The observational measures also significantly improved prediction to three of the

child outcome measures, though these were not an identical set: mother's report of both problem and positive social behavior, but also the teacher report of child positive behavior.

In a particularly stringent examination of the observational measures, the question was asked whether consideration of the selected observational measures improved prediction to any of the child outcomes once background characteristics and interview-based measures of parenting (both the selected HOME-SF subscales and additional maternal report scales) had been taken into account. These analyses indicated that there was a significant increase in the variance explained for two of the child outcome measures: maternal report of the child's behavior problems and teacher report of child positive behaviors.

Thus, the New Chance findings are in accord with a view that (1) the HOME-SF and observational measures provide different though related perspectives on parenting behavior; (2) that *both* provide a basis for predicting child outcomes; and (3) that in some ways, the observational measures go beyond the interview-based measures.

**Goals of the Present Working Paper**

The present working paper will provide a replication and extension of the analyses we have just summarized based on the New Chance Observational Study. In particular, we will rely on data from a further study that included both the HOME-SF and observational measures. Indeed, in this study, the JOBS Observational Study, the observational procedures and the measures derived based on coding of mother-child interaction are nearly identical (with the variation in procedure involving a small adaptation to a single mother-child interaction task, to accommodate the slightly older age of the children in the JOBS Observational Study).

However, there are two differences between the JOBS Observational Study and the New Chance Observational Study that will help us extend the analyses already completed for the New Chance study. First, we noted above that in the New Chance Observational Study, the HOME-SF was summarized into four subscales rather than into the two used in the National Longitudinal Survey of Youth-Child Supplement. If we are seeking to explore the measure of parenting which has been used most widely in survey work, it is helpful to have scores that correspond to those available through the NLSY-CS. In the present analyses we will report on findings for the HOME-SF computing the two subscales, Emotional Support and Cognitive Stimulation, in the same manner in which they are computed in the NLSY-CS.

A second difference concerns the nature of the sample. Both the New Chance and JOBS Observational Studies focus on families with preschool-age children in which the mothers had applied for or were receiving welfare benefits. Yet the New Chance sample was a more seriously disadvantaged sample in that all of the mothers in that sample had given birth as teenagers and had dropped out of school (see Morrison et al., 1998). By contrast, the JOBS sample includes mothers who were older at the time of the assessments of parenting (with none in their teens at the time of the observational study), and with a far greater range in terms of educational background (including a substantial proportion of mothers who had completed high school). It will be important to see if the patterns of intercorrelation of the parenting measures and of prediction to child outcomes are similar in this more heterogeneous sample.

Based on the overview of the issues presented above, as well as on the analyses completed within the New Chance Observational Study, we make the following specific

predictions for the present analyses:

- The correlations between the observational and survey measures of parenting will fall in a range from zero to moderately strong correlations.
- Correlations will be higher within the affective domain and within the cognitive domain, than across these. For example, we predict that the HOME-SF Emotional Support subscale will show more significant correlations, and higher correlations, with observational measures of the affective quality of the mother-child relationship than with the observational measures of mother-child interaction related to the emergence of literacy.
- Both the observational and survey measures of parenting will predict to child outcome measures above and beyond background characteristics of the families.
- The observational measures will have explanatory power, above and beyond that accounted for by the HOME-SF subscales and background characteristics.

## Method

### Sample

For the present analyses we rely on data from the JOBS Observational Study. The JOBS Observational Study is a study focusing on parenting behavior, that is embedded within a larger evaluation of the Job Opportunities and Basic Skills (JOBS) Training Program, now called the National Evaluation of Welfare-to-Work Strategies (NEWWS). The "embedding" of the JOBS Observational Study is illustrated in Figure 1.

JOBS was the program put in place in response to the Family Support Act of 1988. This

law manifested a view of reciprocal obligation between welfare recipients and government, in which the recipient was obligated to take steps towards economic self-sufficiency (which could include basic education, skills training or job search as well as employment activities) while the government provided benefits and services to support these steps. As part of the 1988 legislation, the government called for a national evaluation of the economic impacts of the JOBS Program that would employ an experimental design, with random assignment of participants to experimental and control groups. The outer ring in the figure shows this evaluation. It is important to note that there are two experimental groups within this evaluation (along with a control group): a labor force attachment group, in which participants were encouraged to participate in job search activities and make a rapid transition to employment, and a human capital development group, in which participants were encouraged to participate in basic education and job skills training as a longer term strategy to enhance employability.

There was also a suggestion at the time of the 1988 legislation for a study focusing on outcomes of the JOBS Program for children. In response to this suggestion, a Child Outcomes Study was launched within the NEWWS, illustrated by the next inner ring in the figure. This study was carried out with families in 3 of the 7 sites in the full evaluation, and focuses on children who were between about 3 and 5 years of age when their mothers were enrolled in the evaluation.

For this study, follow-up interviews in the families homes were completed 2 and 5 years after baseline. During the interviews, measures of the children's development (in the areas of health, social and behavioral development, and cognitive development) were obtained via

maternal report and direct assessment. Interview measures provided information on the family circumstances (including family economic status, maternal employment

Two special studies were embedded within the Child Outcomes Study and are indicated by the two innermost rings in the figure: the Descriptive Study and the Observational Study. The Descriptive Study focused on families in only 1 of the study sites, Atlanta, and was carried out near the start of the evaluation (approximately 3 months after random assignment). The aim of the Descriptive Study, as its name implies, was to describe the development of the children and the circumstances of the families close to the start of the evaluation.

The JOBS Observational study was completed with families who had participated in the Descriptive Study (and thus for whom there were detailed interview data on family circumstances and child development); who had a child of 3 or 4 years of age at baseline; and who were in either the human capital development group (one of the two experimental groups) or the control group. Additional visits to interview the mothers and to carry out observations of mother-child interaction have been carried out about 5 months after baseline, and again 4 ½ years after baseline for the observational study sample. It should be noted that because of the embedded nature of the observational study, data from the 2 year follow-up in the Child Outcomes Study are available for families in the observational study sample. While the 5 year follow-up is still in the field for the Child Outcome Study, data from this further follow-up study will also be available in time.

In the present analyses, we rely upon parenting measures collected as part of the Descriptive Study (approximately 3 months after random assignment) and the first wave of the

observational study (approximately 5 months after random assignment). In particular, we will use the HOME-SF as completed during the Descriptive Study, and observational measure of mother-child interaction collected as part of the first wave of the JOBS Observational Study. Child outcome measures will be taken from Two Year Follow-Up of the Child Outcomes Study. Because the impact analyses for the Two Year Follow-Up, contrasting child outcomes in experimental and control group families, have not yet been released, our analyses will control for group assignment.

Table 1 presents selected sample characteristics at baseline for the 351 families in the JOBS Observational Study. As can be seen, almost 75 percent of the mothers had never been married. Mothers averaged about 29 years of age when they enrolled in the evaluation. The mothers' average age at the birth of the oldest child living in the household was 21.5. At baseline, a quarter of the sample had only one child, with the remainder equally distributed between families with two, and those with three or more children. Although two-thirds of the mothers held a high school diploma or GED, more than half had low levels of literacy. Similarly, although many of the mothers reported having worked full-time for at least six months at some point, few were employed at baseline, and most reported no earnings in the past year. Nearly 45 percent of the mothers reported that they had been on welfare for at least five years, and a third of the sample reported that their families of origin had also received public assistance. Almost 40 percent of the mothers reported some depressive symptoms. Yet 72 percent reported that they had some social support.

**Procedures**

The data come from three visits to the families' homes. During the Descriptive Study visit (during which the HOME-SF was completed) and the Two Year Follow-up visit (source of the child outcome measures), interviews with the mothers were completed, interviewers completed a series of ratings about the home environment, and direct assessments of the children's cognitive development were completed.

During the observational study visit (source of the observational measures of mother-child interaction), in addition to a brief interview with the mother and the completion of interviewer ratings of the home environment, mothers and children were also videotaped interacting in the context of a series of structured tasks. The interviewer first explained the goal of each task to the mother and confirmed that she understood them; then the child was asked to join the mother, and the mother guided the child through the tasks. The tasks included the mother reading and discussing a children's book with the child, a sorting task (in which the child sorted plastic disks onto a board according to shape, color and size), a block task (that involved using combinations of blocks to match a larger block model), a maze task (in which the mother gave the child instructions for using the dials on an Etch-a-Sketch board to trace a maze drawn on the board), and a word guessing game (in which the mother tried to get the child to name as many objects as he or she could that have wheels). The procedures for the observational session were adapted from procedures developed in the laboratories of Egeland and colleagues at University of Minnesota, and Snow and colleagues at Harvard Graduate School of Education. The procedures and their adaptation for administration in a survey context are described in detail by Eldred (1998).

Each of the visits to the families home (the Descriptive Study at about 3 months after baseline; the Wave 1 Observational Study visit about 5 months after baseline; and the Two Year Follow-up) took about 1 ½ hours.

**Measures**

**HOME-SF.** We will report on the total score and two subscales from the HOME-SF early childhood version: the Emotional Support and Cognitive Stimulation subscales. Details regarding the administration of the HOME-SF, and the contents of these subscales, are presented in Working Paper # 98.1 in the present series (Mariner & Zaslow, 1998).

**Observational measures.** Given the findings of the New Chance Observational Study, we have selected for focus here the more molar observational measures of mother-child interaction. We have also selected those measures that consider maternal rather than child behavior, or seek to describe the quality of the mother-child relationship.

From the full set of measures describing the affective quality of mother-child interaction, completed in the laboratory of Egeland, Weinfield and Ogawa, we have selected for focus the ratings of Supportive Presence and Harsh Treatment. The rating of Supportive Presence reflects the degree to which the mother was emotionally supportive and encouraging toward her child during the structured tasks. This rating had a potential range of 1 to 7, with higher scores indicating more supportiveness. The composite measure of Harsh Treatment represents punitive and coercive maternal behavior. The measure combines a rating of Maternal Hostility with six items from a checklist of observed punitive behaviors. The Harsh Treatment measure ranges from 0 to 7, with higher scores reflecting greater harshness in parenting. The criteria for the

points on the two rating scales are presented in detail by Weinfield and colleagues. Interrater reliability for these ratings was high, with an intraclass correlation of .81 for both Supportive Presence and Harsh Treatment (Weinfield, Egeland & Ogawa, 1998).

From the full set of measures describing the aspects of interaction that can foster the emergence of literacy in young children, completed in the laboratory of Snow, De Temple and Tabors, we have selected for focus the measures of Book Reading Quality and Ease of Ideas. Book Reading Quality is a global composite of three ratings, each with a possible range of 1 to 3. These ratings are: Mother's Intonation and Animation, Comfort Level, and Fluency in reading to the child. The global scale could range from 3 to 9, with a higher score indicating better quality of book reading. As DeTemple and Snow (1998) indicate, interrater reliability was examined in previous work with these ratings, where it was found to be high. Ease of Ideas was rated on a 4 point scale, with a higher score denoting a better understanding and use of effective strategies by the mother to get her child to name as many wheeled objects as possible. Ease of Ideas was rated by one coder, and verified by an experienced transcriber and coder. Discrepancies were discussed with a third coder until consensus was reached (DeTemple & Snow, 1998).

**Child outcomes.** We will consider three child outcomes: the total scores on the Behavior Problems Index, a Social Competence Subscale of the Positive Behavior Scale, and the total score on the Bracken Basic Concept Scale School Readiness Composite. These three outcomes include three of the five outcome measures considered in the parallel analyses within the New Chance Observational Study. Thus, we will be able to look across the two studies at findings for these particular measures. The present study does not have teacher report versions of the two

behavioral outcomes. The JOBS Child Outcomes Study does include a Teacher Questionnaire, but it will be completed during the final Five-year Follow-up study. Therefore, these data are not yet available.

The Behavior Problems Index (BPI) is a maternal-report measure used to describe the occurrence of behavioral problems in young children. The BPI has been widely used in a survey context, most notably in the National Longitudinal Survey of Youth-Child Supplement. In the BPI, the mother is asked to indicate whether statements about the child's behavior are not true, sometimes true, or often true. Examples of BPI items include the degree to which the child cheats or lies, has trouble getting along with other children, or is high strung. The BPI has high internal consistency reliability, and distinguishes between children who have and have not received clinical treatment (Zill, 1985).

***In the present analyses, we use items from the Social Competence (SC) subscale of the Positive Behavior Scale (PBS) developed by Polit for the New Chance Evaluation (Polit, 1996). The PBS is a measure of the child's socioemotional development that focuses on positive aspects of child development, such as self-esteem, social competence, and self-control. As Polit describes, the PBS was created by modifying items from existing scales to make it appropriate for disadvantaged samples. The internal consistency reliability of the Positive Behavior Scale was good, with a coefficient alpha of .94 in the New Chance sample. For the present study, seven items from the Social Competence subscale of the PBS were administered to the mothers as part of the 2-Year Follow-Up. These items ask the mothers to indicate the degree to which her child is helpful and cooperative, shows concern for other people's***

***feelings, and the degree to which the child is admired and well-liked by other children. The 7 item version of the Social Competence subscale of the Positive Behavior Scale (to which we will refer as SC/PBS) had good internal consistency reliability within our sample, with a coefficient alpha of .78.***

Finally, the Bracken Basic Concept Scale School Readiness Component is a direct assessment of cognitive development that assesses a child's mastery of basic concepts. The complete version of the measure has 11 subtests, each covering a specific area. The first five subtests (colors, letters, numbers/ counting, comparisons, and shapes), administered in the JOBS and New Chance Evaluations, comprise the School Readiness Component. Internal consistency reliability in the standardization sample was high (.90 for the School Readiness Component), and was found to be similarly high in the New Chance Evaluation sample. The children's raw scores were computed by tallying the number of concepts answered correctly out of a possible 61. Raw scores were used in place of standardized scores because children in the JOBS sample were at the high end of the appropriate age range for this assessment.

## Results

### Correlations Between Observational Measures and HOME-SF

As can be seen in Table 2, the correlations between the HOME-SF subscales and the four observational measures are in the low to moderate range. Although about half of the correlations reach statistical significance, they do not exceed .31. This sugests that the HOME-SF subscales and observational measures are related, but they do not greatly overlap. We note that the correlations that reach significance are in the expected direction.

Table 2 also indicates that there is support for the prediction that correlations would be more frequently significant within the affective domain and within the cognitive domain than across these. The Emotional Support subscale significantly relates to one of the affect variables, while it does not correlate at all with the observational measures related to literacy. The Cognitive Stimulation subscale of the HOME-SF is significantly related to both literacy-related observational measures, but relates significantly to only one measure in the affective domain, Supportive Presence. However, note that the relationship between Cognitive Stimulation and Supportive presence is actually somewhat higher than those relationships within the cognitive domain.

**Prediction to Child Outcomes**

Tables 3 through 5 provide summary statistics for how the observational and HOME-SF measures predict to each of the three child outcomes in the JOBS Observational Study sample.

Table 3 presents results for the Behavior Problems Index. Here we see that both the HOME-SF and the observational measures significantly predict scores on the BPI. In Model 1, we note that control variables (background characteristics of the families) account for 8 percent of the variance in BPI scores. When the HOME-SF scales are added to the background characteristics in Model 2, an additional 6 percent of the variance is explained. Adding the observational measures to the controls in Model 3 results in accounting for 14 percent more of the variance than control variables alone. Finally, we see in Model 4 that the observational measures explain an additional 11 percent of the variance in BPI scores beyond the HOME-SF measures, with background characteristics also taken into account.

Table 4 presents similar results for the version used here of the Social Competence subscale of the Positive Behavior Scale. Again, our hypotheses are supported. The addition to the control variables of the observational measures significantly increases the proportion of variance explained in the SC/PBS scores. The same result is found when the HOME-SF subscales are added to the control variables. Further, the observational measures account for a marginally significant proportion of the variance beyond both the HOME-SF measures and background characteristics of the families.

Table 5 shows the prediction of parenting measures to the Bracken assessment of school readiness. Here we see that the HOME-SF subscales only marginally increase prediction of the outcome beyond the control variables. However, the observational measures significantly predict 7 percent of the variance over and above the control variables. The observational measures also explain an additional 6 percent of the variance in school readiness scores over and above the HOME-SF subscales and background characteristics.

## Summary and Discussion

This study addressed four hypotheses generated on the basis of previous research and on the basis of analyses carried out within the New Chance Observational Studies. All four predictions were supported by analyses carried out within the JOBS Observational Study dataset. In particular, we documented correlations between the HOME-SF subscales and observational measures of parenting falling in the low to moderate range. About half of the correlations between observational and HOME-SF measures were significant. There were, as predicted, more significant correlations within domains of parenting (affective aspects of the relationship, and

cognitive stimulation provided to the child), although the highest correlation found crossed domains. Consideration of the observational measures as well as of the HOME-SF subscales improved prediction to child outcome measures beyond consideration of family background characteristics alone. However there was evidence that the observational measures provided a stronger basis for prediction beyond consideration of family background variables. The observational measures significantly improved prediction to all three child outcomes considered beyond control variables, while the HOME-SF subscales improved prediction to two child outcomes (with the change in $R^2$ marginally significant for the third outcome). Further, the observational measures improved prediction of two of the child outcomes even with *both* control variables *and* the HOME-SF subscales taken into account (with the change in $R^2$ was marginally significant for the third outcome).

From this set of analyses, the analyses reported on in Methods Working Paper # 98.2 in the present series (Mariner & Zaslow, 1998), as well as from previous research reviewed in Methods Working Paper # 98.1 in this series (Mariner & Zaslow, 1998), we see consistent evidence of the predictive validity of the HOME Short Form with respect to measures of children's cognitive as well as behavioral development. Yet at the same time, our analyses suggest that observational measures provide somewhat different information, and go beyond the HOME-SF subscales in terms of predictive validity. Studies in which parenting behavior is a particular focus, and for which specific qualitative aspects of the mother-child relationship are important, should include observational measures. However they may wish to consider doing so *alongside* such survey measures as the HOME-SF. Together the two types of measures provide a

composite of parenting and the home environment from different perspectives.

## Figure 1
## The National Evaluation of Welfare-to-Work Strategies

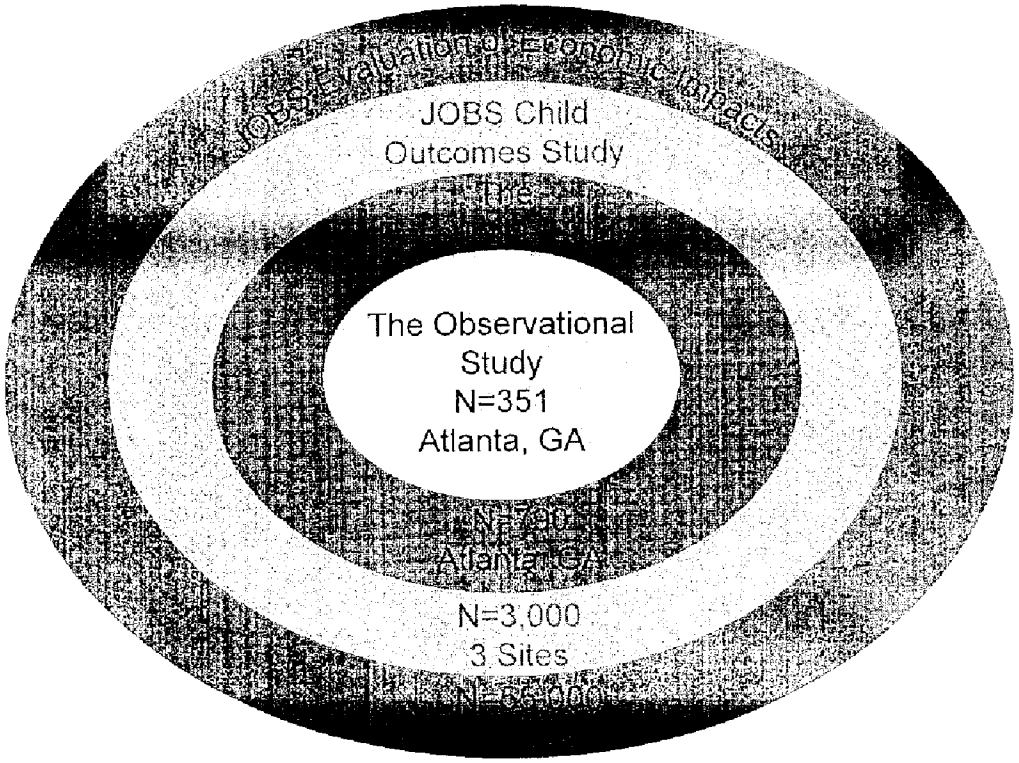

**Table 1**

**Selected Characteristics of Wave I JOBS Observational Study Sample At Random Assignment**

| Characteristics | Average | Percent |
|---|---|---|
| **Demographic Characteristics** | | |
| Age of focal child (months) | 49.2 | |
| Age of focal child (years) | | |
| 3-0 to 3-11 | | 44.2 |
| 4-0 to 4-11 | | 53.0 |
| 5-0 to 5-11 | | 2.8 |
| Marital Status | | |
| Never Married | | 72.1 |
| Ever Married | | 28.0 |
| Maternal age (years) | 29.3 | |
| Maternal age (years) | | |
| 20-29 | | 57.5 |
| 30-39 | | 37.9 |
| 40-49 | | 4.6 |
| Age at first birth (years) | 21.5 | |
| Housing Type[a] | | |
| Public | | 43.4 |
| Subsidized | | 29.0 |
| Neither public nor subsidized | | 27.6 |
| Number of Moves in Past 2 Years | | |
| No moves | | 45.3 |
| One move | | 35.6 |
| Two or more moves | | 19.1 |
| **Education And Literacy** | | |
| Educational Attainment | | |
| No Degree | | 34.2 |
| HS diploma, GED, any college | | 65.8 |
| Maternal Literacy[b] | | |
| Lower (Level 1 or 2) | | 52.6 |
| Higher (Level 3 or 4) | | 47.4 |

**Table 1 (cont.)**

| Characteristics | Average | Percent |
|---|---|---|
| | | 43.0 |
| School Orientation[c] | | |
| Less interest in attending school | | 57.0 |
| More interest in attending school | | |
| **Employment and AFDC History** | | |
| Ever Worked Full-Time for 6 Months or More | | 33.3 |
| No | | 66.7 |
| Yes | | |
| Currently Employed | | |
| No | | 91.9 |
| Yes | | 8.1 |
| Earnings in past year | | |
| No Earnings | | 79.9 |
| Some Earnings | | 20.1 |
| Family Receipt of AFDC During Childhood | | 64.1 |
| No | | 35.9 |
| Yes | | |
| Welfare Duration | | |
| Less than 2 years | | 18.5 |
| More than 2 years, but less than 5 years | | 36.7 |
| 5 years or more | | 44.8 |
| **Employment and AFDC History** | | |
| Involved in program prior to JOBS | | |
| No | | 83.8 |
| Yes | | 16.2 |
| **Perceived Barriers to Work** | | |
| Logistical Barriers to Work[d] | | |
| No logistical barriers | | 28.6 |
| One logistical barrier | | 27.4 |
| Two logistical barriers | | 44.0 |

Table 1 (cont.)

| Characteristics | Average | Percent |
|---|---|---|
| Family barriers to work[e] | | |
| No perceived barriers | | 34.7 |
| Some perceived barriers | | 29.2 |
| Many perceived barriers | | 36.2 |
| **Psychosocial Characteristics** | | |
| Locus of Control[f] | | |
| External locus of control | | 17.7 |
| Mixed locus of control | | 42.3 |
| Internal locus of control | | 39.9 |
| Social Support[g] | | |
| No support | | 27.6 |
| Some support | | 72.4 |
| Depression[h] | | |
| Low risk of depression | | 60.8 |
| Moderate risk of depression | | 22.2 |
| High risk of depression | | 17.0 |
| **Child Care/Early Childhood Education** | | |
| Mother has Negative Attitude Towards Child care | | |
| Less Negative | | 46.7 |
| More Negative | | 53.3 |
| Ever any regular child care or early childhood education before random assignment[i] | | 27.2 |
| None | | 72.8 |
| Some | | |
| **Overall Risk[j]** | | |
| 0-3 risks | | 27.8 |
| 4-5 risks | | 29.6 |
| 6-10 risks | | 42.7 |
| **Sample Size** | 351 | |

SOURCE: JOBS baseline surveys (Private Opinion Survey and Standard Client Characteristics)

Notes: Calculations for this table used data for all 351 observational study respondents for whom there were baseline survey data, including experimental group members who did not participate in the JOBS Program. The sample size may fall slightly short of the number reported because of missing or unusable items from some respondents' questionnaires.

**Table 1 (cont.)**

[a]Two families were in emergency/temporary housing and were coded as missing on this variable.

[b]The document literacy scale of the Test of Applied Literacy Skills (TALS) was administered to respondents at baseline. The TALS was developed by the Educational Testing Service and yields measures of broad reading and math skills used in everyday life, such as the ability to locate and use information contained in materials such as tables, schedules, charts, graphs, maps and forms. The ETS divides scores into five levels. Scores in Levels 3, 4, or 5 indicate an ability to integrate multiple pieces of information or to disregard information in complex documents that are irrelevant to the main task. (There were no cases of Level 5 in this sample.) Levels 1 or 2 indicate difficulty in the performance of tasks that require integration of information from various parts of a document.

[c]School Orientation was a self-reported measure created for the JOBS Descriptive Study that is composed of 7 items intended to reflect the respondent's interest in and preference for going to school. Examples of items are: " I like going to school" and "If you had a choice, which would you prefer: going to school to study basic reading and math or going to a program to get help looking for a job?" Mothers who indicated a positive attitude toward school on 3 or fewer items were classified as having less interest in attending school, while mothers who indicated a preference for school on 4 to 7 items were classified as having more interest in attending school.

[d]Mothers responded to two questions which asked about two logistical barriers to working. Specifically, mothers indicated whether they perceived having a problem with (1) being able to afford child care, and (2) having transportation to work.

[e]Family Barriers to Work was a self-reported measure created for the JOBS Descriptive Study that comprised 8 items intended to reflect the respondent's degree of preference for staying home to be with her family instead of working (e.g., Right now I'd prefer not to work so I can take care of my family full-time"), or for other personal reasons such as family health or emotional problems. The measure ranged from 8-32 and had a coefficient alpha of .84 in this sample. For use as a subgroup variable, mothers who disagreed or disagreed a lot with all items were classified as having "No perceived barriers." Those who agreed with some items but disagreed with others (including a few who agreed or agreed a lot with all items) were grouped as having "Some barriers."

[f]Locus of Control was a 4- item self-reported measure constructed from statements intended to tap how much control the respondent felt she had in her life (e.g. "I have little control over the things that happen to me" and " There is little I can do to change many of the important things in my life"). The scale had a coefficient alpha of .60 in this sample, and was recoded into three categories. Mothers who agreed or agreed a lot with all 4 items were grouped as "External locus of control"; those who agreed with some items but disagreed with others were grouped as "Mixed locus of control"; and those who disagreed or disagreed a lot with all items were classified as "Internal locus of control."

[g]Respondents indicated their level of agreement with the statement "When I have trouble or need help, I have someone I can really talk to." Respondents who disagreed or disagreed a lot with this statement were classified as having no social support, while those who agreed or agreed a lot were classified as having some social support.

[h]The Brief Depression Scale administered at baseline was comprised of four items drawn from the Center for Epidemiological Studies Depression (CES-D) scale, which asked how many days during the past week the respondent felt sad, depressed, lonely or could not shake off the blues even with the help of family and friends. The summary score, which had an alpha of .84 in this sample, was divided into three categories to create a subgroup variable. Those mothers who responded "rarely" or "a little" to each of the items were grouped as "Low risk of depression." Those who responded "moderate" or "most" to some but not all items were grouped in the category "Moderate risk of depression"; those who responded "moderate" or "most" to all items were considered to be at "High risk of depression." Follow-up analyses indicated that the "high risk" category maps well onto the clinical cutoff of 16 using the full 20-item version of the CES-D in the JOBS Descriptive Study.

[i]The data source for this measure was created from a set of questions in the Descriptive Study survey that asked the respondent to recall the dates when her child had been in child care.

[j]As discussed in the text, an index for Overall Risk at baseline was created by summing the presence or absence of the following 10 risk factors: Mother lacked a high school diploma or GED, Mother had three or more children, Family had been on AFDC for two or more years, Family was living in public housing; Mother had low reading literacy test scores and

**Table 1 (cont.)**

low math literacy test scores, Mother had moderate to high levels of depressive symptoms; Mother had a more external or mixed locus of control, Mother perceived more family barriers to work, and Mother lacked social support. The measure was then divided by nearly equal terciles of the distribution.

**Table 2**

**Correlations between HOME-SF and Selected Observational Measures**

| | HOME-SF and Subscales | | |
|---|---|---|---|
| **Affective & Observational Measures** | HOME Total | Emotional Subscale | Cognitive Subscale |
| Supportive Presence | .31*** | .21** | .27*** |
| Harsh Treatment | -.05 | .04 | -.10 |
| Book Reading Quality | .20* | .00 | .25** |
| Ease of Ideas | .15$^{+}$ | .03 | .17* |

SOURCE: JOBS Descriptive Study and data coded from observational study sessions.

NOTES: Statistical significance levels are indicated as ***≤.1 percent, **≤1 percent, * ≤ 5 percent, and +≤ 10 percent.

**Table 3**

**Summary Statistics for Analyses Examining the HOME-SF Subscales and Observational Measures as Predictors of Mother-Reported Behavior Problems Index**

| Summary Statistic | Model 1<br>Control Variables Only[a] | Model 2<br>Controls with HOME Subscales[b] | Model 3<br>Controls with Observational Measures[c] | Model 4<br>Controls with Observational Measures, Controlling for HOME Subcales |
|---|---|---|---|---|
| $R^2$ | .08 | .14 | .22 | .25 |
| Adjusted $R^2$ | .06 | .11 | .19 | .21 |
| F-Statistic for Model | 3.26** | 4.64*** | 6.28*** | 5.97*** |
| Models being compared | | 2 Versus 1 | 3 Versus 1 | 4 Versus 2 |
| Difference in $R^2$ for above comparison | | .06 | .14 | .11 |
| Difference in adjusted $R^2$ | | .05 | .13 | .10 |
| F-statistic for difference | | 8.15*** | 10.02*** | 7.55*** |

SOURCE: JOBS Descriptive Study, data coded from observational study sessions, and the Two-Year Follow-Up Survey, n=232.

NOTES: Statistical significance levels are indicated as ***≤.1 percent, **≤1 percent, *≤5 percent, and +≤ 10 percent.

[a] The control variables include the following background characteristics: Child Age at random assignment, Number of children, Mother's age at random assignment, Maternal Literacy, Work History, and Group Assignment.

[b] The HOME subscales used in these analyses are: Cognitive Stimulation and Emotional Support.

[c] The observational measures selected for these analyses are: Supportive Presence, Harsh Treatment, Ease of Ideas, and Book Reading Quality.

**Table 4**

**Summary Statistics for Analyses Examining The HOME Measures and Observational Measures as Predictors of Mother-Reported Present Version of the Social Competence Subscale of the Positive Behavior Scale**

| Summary Statistic | Model 1<br>Control Variables Only[a] | Model 2<br>Controls with HOME Subscales[b] | Model 3<br>Controls with Observational Measures[c] | Model 4<br>Controls with Observational Measures, Controlling for HOME Subcales |
|---|---|---|---|---|
| $R^2$ | .13 | .17 | .18 | .20 |
| Adjusted $R^2$ | .11 | .14 | .14 | .16 |
| F-Statistic for Model | 5.67*** | 5.70*** | 4.86*** | 4.65*** |
| Models being compared | | 2 Versus 1 | 3 Versus 1 | 4 Versus 2 |
| Difference in $R^2$ for above comparison | | .04 | .05 | .03 |
| Difference in adjusted $R^2$ | | .03 | .03 | .02 |
| F-statistic for difference | | 5.15** | 3.30** | 2.30$^{+}$ |

SOURCE: JOBS Descriptive Study, data coded from observational study sessions, and the Two-Year Follow-Up Survey, n=232.

NOTES: Statistical significance levels are indicated as ***≤.1 percent, **≤1 percent, *≤5 percent, and +≤ 10 percent.

[a] The control variables include the following background characteristics: Child Age at random assignment, Number of children, Mother's age at random assignment, Maternal Literacy, Work History, and Group Assignment.

[b] The HOME subscales used in these analyses are: Cognitive Stimulation and Emotional Support.

[c] The observational measures selected for these analyses are: Supportive Presence, Harsh Treatment, Ease of Ideas, and Book Reading Quality.

**Table 5**

**Summary Statistics for Analyses Examining the HOME Subscales and Observational Measures as Predictors to the Bracken**

| Summary Statistic | Model 1<br>Control Variables Only[a] | Model 2<br>Controls with HOME Subscales[b] | Model 3<br>Controls with Observational Measures[c] | Model 4<br>Controls with Observational Measures, Controlling for HOME Subscales |
|---|---|---|---|---|
| $R^2$ | .15 | .16 | .22 | .22 |
| Adjusted $R^2$ | .12 | .13 | .18 | .18 |
| F-Statistic for Model | 6.38*** | 5.46*** | 6.10*** | 5.28*** |
| Models being compared | | 2 Versus 1 | 3 Versus 1 | 4 Versus 2 |
| Difference in $R^2$ for above comparison | | .02 | .07 | .06 |
| Difference in adjusted $R^2$ | | .01 | .06 | .05 |
| F-statistic for difference | | 2.45$^{+}$ | 5.00*** | 4.28** |

SOURCE: JOBS Descriptive Study, data coded from observational study sessions, and the Two-Year Follow-Up Survey, n=232.

NOTES: Statistical significance levels are indicated as ***≤.1 percent, **≤1 percent, *≤5 percent, and +≤ 10 percent.

[a] The control variables include the following background characteristics: Child Age at random assignment, Number of children, Mother's age at random assignment, Maternal Literacy, Work History, and Group Assignment.

[b] The HOME subscales used in these analyses are: Cognitive Stimulation and Emotional Support.

[c] The observational measures selected for these analyses are: Supportive Presence, Harsh Treatment, Ease of Ideas, and Book Reading Quality.

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