FINAL REPORT

Evaluating the Effectiveness of Home Visiting Services in Promoting Children's Adjustment in School

New York State Office of Children and Family Services

Healthy Families New York (Grant # 2010-0588)

May 31, 2012

Prepared by:

Kristen Kirkland

Susan Mitchell-Herzfeld

New York State Office of Children and Family Services,

Bureau of Evaluation and Research

Table of Contents

Chapter 1: Project Description

Overview

There is evidence to suggest that involving families in home visiting services early on promotes positive experiences within the home for children during the first few years of life. Given the important role played by the family in shaping children's development, we would expect these early experiences to also play a role in later academic achievement (Bronfenbrenner, 1979). Unfortunately, little is known about how home visiting impacts children's functioning once they enter elementary school. The current study expands the scope of a seven–year randomized controlled trial of an evidence-based home visiting program, Healthy Families New York (HFNY), to examine the effects of home visiting on the academic adjustment of children following their transition to school.

Healthy Families New York, which is based on the Healthy Families America (HFA) model, was established as a strengths-based, intensive home visitation program with the explicit goals of 1) promoting positive parenting skills and parent-child interaction; 2) preventing child abuse and neglect; 3) supporting optimal prenatal care, and child health and development; and 4) improving parent's self-sufficiency. In 2000, a randomized controlled trial (RCT) was initiated at three sites with the HFNY home visiting program. Families eligible for HFNY at each site were randomly assigned to either an intervention group that was offered HFNY services or to a control group that was given information on and referrals to appropriate services other than home visiting. Baseline interviews were conducted with 1173 of the eligible women (intervention, n=579; control, n=594), with high rates of retention at the Year 1 and Year 2 follow-ups. A subset of the original sample was assessed at Year 3. Interviews were again conducted during a Year 7 follow-up with the original study respondents (n=942). Administrative data were also

obtained with regard to child protective services reports, foster care placements, preventive services, federal and state supported benefits and program services and costs. For the first time, interviews were conducted with the target children (n=800). These interviews assessed children's receptive vocabulary skills, emotional health, self-regulatory abilities, and problem behaviors. A release form authorizing the researchers to obtain the target child's first grade school records was also obtained from respondent mothers during the Year 7 informed consent process.

In 2010, a grant from The Pew Center on the States provided the funding necessary to contact the individual schools to request the first grade records. The data extracted from these school records will make it possible to address several critical gaps in the home visiting knowledge base:

1) What effect does home visiting have on children's academic outcomes immediately following the transition to school?;

2) Are there conditions under which home visiting is particularly effective at promoting positive child development?; and

3) What is the relationship between service duration, intensity and content and children's adjustment?

The answers to these questions will fill an important gap in the field's knowledge base about home visiting's impact on children's adjustment following their transition to school. The findings will also influence program and policy decisions regarding structuring the most efficient and effective service delivery model to produce meaningful benefits for children and their families and the need for continued support as children transition from the home to other settings.

The remainder of this chapter is dedicated to a description of the HFNY home visiting program model. Chapter 2 reviews the literatures relevant to each of the critical gaps addressed by this study. An overview of the methods is presented in Chapter 3 and includes the history and details of the randomized controlled trial, a discussion of the school record data collection and abstraction procedures, provides a description of the study samples, to include baseline characteristics and treatment arm equivalence, and operationalizes the data sources utilized by the study. Chapter 4 describes the data analysis plan and presents the results for each research question. Finally, the conclusions and implications of the findings are discussed in Chapter 5 with a lens specific to the practice and policy aspects of home visiting.

Background on the Home Visiting Model: Healthy Families New York

Based on the national Healthy Families America (HFA) model, HFNY is a community-based prevention program that seeks to improve the health and well-being of children by providing intensive home visiting services to expectant and new parents who are considered to be at high risk for child abuse and neglect. Specially trained home visitors provide families with support, education, and referrals to community services to: (1) promote positive parenting skills and parent-child interaction; (2) prevent child abuse and neglect; (3) ensure optimal prenatal care and child health and development; and (4) increase parents' self-sufficiency. Participation in the program is voluntary. HFNY started in 1995 and now operates 36 programs throughout New York State. The HFNY program is managed by the New York State Office of Children and Family Services (OCFS), which contracts with community-based agencies to provide home visitation services.

Screening. Screening is used to target expectant parents and parents with an infant less than three months of age who are deemed to be at risk for child abuse or neglect and live in

communities that have high rates of teen pregnancy, infant mortality, welfare receipt, and late or no prenatal care. Parents who screen positive are referred to the HFNY program, and a Family Assessment Worker (FAW) assesses parents for risk of engaging in child abuse and neglect using the Kempe Family Stress Checklist (Kempe, 1976). If parents score at or above 25 on the checklist they are eligible for the program.

Home Visitors. After the assessment process is complete, a home visitor, also called a Family Support Worker (FSW), is assigned to the family. FSWs are paraprofessionals who live in the target community and share the same language and cultural backgrounds as program participants. Home visitors are selected primarily based on personal attributes such as warmth, fondness for children, non-judgmental attitude, and belief in non-physical methods of disciplining children. Home visitors often are able to reach families who might not go to an office-based setting to receive services. Although home visitors are not required to have any post-secondary education, about 40% have taken courses at the post-secondary level and approximately one-third of HFNY home visitors are college graduates. These figures are slightly higher than the averages for other HFA programs across the country (Harding, Reid, Oshana, & Holton, 2004).

Training, quality assurance, and supervision. All new HFNY staff members attend a one-week core training that is facilitated by a team of approved HFA trainers from Prevent Child Abuse New York (PCANY). The goal of the core training is to teach the basic skills needed to perform home visits and assessments, including training on parent-child interaction, child development, and strength-based service delivery for FSWs; training in administering and scoring the Kempe for FAWs; and training for supervisors on their role in promoting quality services. Staff also receives intensive local "wraparound" training on a variety of topics such as

domestic violence, abuse and neglect, well-baby care, and communication skills. Prior to visiting families, FSWs shadow an experienced home visitor. Once in the field, home visitors meet with their supervisors for at least 1.5 hours each week and are observed on one home visit per quarter. Additional quality assurance measures include site visits, monitoring of quarterly performance targets, field observations, and attendance at state-sponsored bi-monthly meetings for program managers.

Home visits. Home visits are scheduled biweekly during pregnancy and increase to once a week after the mother gives birth (Level 1), usually remaining at this level until the child is at least six months old. As families progress through the service levels, home visits occur on a diminishing schedule, from biweekly (Level 2), to monthly (Level 3), and then quarterly (Level 4). The program continues until the target child is five years old, or enrolls in kindergarten or Head Start. Home visitors typically carry a caseload of 15 when the home visitor is seeing families weekly and up to 25 cases when the families are visited less frequently. The content of the visits is intended to be individualized and culturally appropriate. During the prenatal period, home visits focus on promoting healthy behaviors, discouraging risky behaviors, coping with stress, and encouraging compliance with prenatal care. During subsequent visits, activities focus on supporting parents, improving the parent/child relationship, helping parents understand child development and age-appropriate behaviors, encouraging optimal growth, providing assistance with access to health care, working with parents to address family challenges, and developing Individual Family Support Plans to improve self-sufficiency and family functioning. FSWs utilize curricula approved by HFA such as "Partners for a Healthy Baby" and "Parents as Teachers" as well as standardized instruments to assess children for developmental delays. Referrals to local early intervention programs or other community services are made as needed.

Chapter 2: Review of the Literature

We reviewed several literatures to develop a framework for our analysis of the program's effect on children's social, behavioral and cognitive adjustment immediately following the transition to school and to inform the analysis plan for investigating effects related to program content, duration and intensity. In addition, we considered empirical and theoretical articles discussing the conditions under which home visiting is particularly effective at promoting gains in child development amidst challenging home and neighborhood conditions. A summary of our review is presented below.

Home Visiting and the Transition to School

There is a growing body of evidence suggesting that involving families in home visiting services early on promotes positive experiences within the home during the initial years of life. Home visiting presents a unique opportunity to forge enduring relationships with families at a time when parents are vulnerable and the developmental path of the newborn is particularly malleable. Home visits provide a forum for encouraging healthy prenatal behaviors and parenting attitudes, engaging infants in play, modeling a positive adult-child bond, promoting self-sufficiency skills, and facilitating linkages to supportive services. Indeed, studies have documented the ability of home-based services to effect positive changes in parenting behaviors such as the ability to set appropriate limits (Mitchell-Herzfeld, DuMont, Lee, & Spera, 2005) and engage in responsive and cognitively engaging parenting strategies (Rodriguez, DuMont, Mitchell-Herzfeld, Walden, & Greene, 2010). Positive outcomes have also been identified for children, including lowering rates of low birth weight babies (Lee et al., 2009), producing gains in intellectual functioning during the first two years of life for children (Caldera et al., 2007;

Landsverk et al., 2002; Olds, Robinson et al., 2004), and reducing problem behaviors through age two (Caldera et al., 2007; DuMont et al., 2005; Landsverk et al., 2002).

Grounded in Bronfenbrenner's (1979) ecological theory of human development, home visiting programs focus not just on the child and family, but on the community and societal contexts in which families are nested. The main focus is on reducing risk factors and promoting protective factors at the individual level (e.g., improving knowledge and promoting skills), the dyadic level (e.g., fostering healthy parent-child interactions) and the environmental level (e.g., facilitating linkages to community services). Because home visiting programs provide services as early as possible and last throughout infancy and even into early childhood, they have a substantial window of time in which to influence the development and adjustment of parenting behaviors and child development. During these early years, the home is the child's primary developmental context and the processes that occur within this setting are considered to be important influences on children's subsequent development (Bronfenbrenner & Morris, 1998).

While these early experiences may kindle skills that play a protective role later in the child's life (Englund, Luckner, Whaley, & Egeland, 2004; Reynolds, Ou, & Topitzes, 2004), results from the few studies that have examined home visiting's impacts on children's cognitive or academic functioning during the preschool, elementary, and adolescent years suggest that the long-term benefits of these early gains tell varying stories. For example, Landsverk and colleagues (2002) and Olds and colleagues (1994; 2004) found that home visiting's effects on cognitive functioning (regardless of the model implemented) attenuated by age three, while another study found that effects of nurse home visiting services on intellectual functioning emerged for the first time at age six (Olds, Kitzman et al., 2004) but dissipated by age nine (Olds, Sandler, & Kitzman, 2007).

Equally important to children's success at school are behaviors that promote learning such as their ability to follow rules, to listen, to organize their belongings, and to cooperate with peers (Alexander, Entwisle, & Dauber, 1993; Duncan, et al., 2007; McClelland, Morrison, & Holmes, 2000). However, the home visiting literature reviewed provided few assessments of and mixed results for these behaviors during and following the transition to school. The Nurse Family Partnership (NFP) home visiting program reported fewer behavior problems in the borderline or clinical range by age six (Olds, Kitzman et al., 2004), but other studies reported no early or lasting effects (McCarton et al. 1997; Olds et al. 2002). In the one study that has had the opportunity to conduct a longitudinal analysis, data revealed youth born to teen mothers in the treatment group were less likely to run away or have an arrest or conviction, and reported lower levels of alcohol use and fewer sexual partners than their counterparts in the control group at age 15 (Olds et al., 1998); however, by age 19, the effects on arrests and convictions were found to be limited to girls, with no overall program effects on rates of graduation from high school, number of sexual partners, teen pregnancy, or use of public benefits such as Medicaid, welfare or food stamps (Eckenrode et al., 2010).

Perhaps one of the most direct influences parents can exert on children's academic achievement is by supporting their attendance at school. However, competing demands of work, inadequate childcare, other siblings, limited financial resources, poor nutrition, illness, and non-responsive school policies (Durham & Plank, 2010) may overwhelm or undermine parent's efforts or skills and result in unacceptable levels of absenteeism. Chronic absenteeism, which is characterized by missing 18 days or more or about 10% of the school year (Romero & Lee, 2007) is often a symptom of neglect and has direct implications for a young child's potential to connect with peers, learn daily routines, benefit from direct instruction, promptly hand in or

receive feedback on homework, and participate in special activities. These factors in turn affect children's subsequent rates of absenteeism, adjustment to school, and academic achievement (Romero & Lee, 2007). As approximately 15% of low income children nationally (e.g., those typically targeted by home visiting programs) are absent 18 or more days during a school year compared to less than 5% of children living with families having incomes at or above three times the level of poverty (Romero & Lee, 2007), home visiting stands to play a substantial role in facilitating children's academic adjustment if the early positive changes it effects can be translated to this period of a child's life. We were unable to identify an evaluation of a home visiting program that evaluated or affected the program's role in reducing rates of chronic absenteeism.

Over the past 40 years, research has in the main identified grade retention as having little or no benefit, and even being harmful in the long run, to the academic and socio-emotional adjustment of children (Jimerson, 2001), however the numerous methodological limitations inherent in the literature have made it difficult to identify the true relationship between retention and academic achievement. Studies using more advanced methodological and statistical techniques suggest that any benefits of retention are short-term and appear to diminish over time (Alexander, Entwisle, & Dauber, 2003; Wu, West, & Hughes, 2010). Irrespective of the mechanisms, there are substantial financial costs associated with each additional year of education required. Few home visiting studies have had the longevity to examine the effects of home visits on children's retention in grade. Of those home visiting studies with the opportunity to examine grade retention, only the Memphis NFP trial has reported results for this outcome. They found no significant differences between the nurse-visited and control groups in the percentage of children who were ever retained in grades 1 to 3 (Olds, Kitzman, et al., 2007) or

through grade 6 (Kitzman et al., 2010). Thus the body of evidence regarding the ability of home visiting programs to impact children's functioning as they transition to school remains unclear; particularly for HFA-based programs that have had little opportunity to evaluate children's long-term functioning.

Results from the HFNY Randomized Controlled Trial Year 7 Follow-up. In the only study to date that has evaluated the effects of an HFA home visiting program on children's behavior following the preschool years, DuMont and colleagues (2011), using maternal reports of children's functioning at school around age seven, found that a significantly higher percentage of children from the HFNY home visiting program participated in gifted programs and fewer received special education services compared to children in the control group. In contrast, the researchers detected no significant differences in receipt of remedial services, receptive vocabulary, attention problems, problem behaviors, or socio-emotional difficulties as reported by mother or child. The authors do note, however, that the study's requirement that mothers must have custody of the child in order for the mother to report on the child's functioning and for the child to complete an interview may have minimized effects by removing some of the most traumatized children from the sample, such as those in foster care. Similarly, no significant differences were found between the HFNY and control groups for grade retention or skipping school as reported by mothers. However, an examination of the self-report information provided by the children showed significant differences in the percentage that reported skipping school often, with fewer children in the home visited group reporting skipping school often than in the control group (DuMont et al., 2011).

Conditions under which Home Visiting is Particularly Effective

One promising line of research focuses on the conditions under which home visiting may be particularly effective. For example, resources already present in the family, such as a parent's level of schooling or access to financial capital can strengthen the activities delivered during home visits, and help to develop the child's abilities, provide opportunities, and launch him or her on a path of consistent or escalating advantages (Reynolds et al., 2004). Conversely, when the child's immediate environment lacks resources, early, intensive, and enduring home visiting services may provide the stimulus or connection needed to induce advantages that otherwise would not be realized. The Nurse Family Partnership has realized considerable success with one particular subgroup of children, those born to women with compromised coping skills, intelligence, and mental health; the "low psychological resources" subgroup. Results from randomized trials consistently found significant differences on measures of verbal abilities (Kitzman et al., 1997; Olds, Robinson et al., 2004), math and reading achievement (Olds, Kitzman, et al., 2004; Olds, Kitzman et al., 2007), and regulation of emotions (Olds, et al., 2002; Olds, Robinson, et al., 2004) for the children of women in the low psychological resources subgroup who received NFP as compared to their counterparts in the control group.

Similarly, the availability of resources in the larger community may moderate the effectiveness of home visiting. Typically, home visiting services are targeted to families living in communities that are challenged by high rates of crime, poverty, school drop-out, and unemployment; however, there may be differences in the ability of families to access services depending on what is available in the area. Public benefits in particular are often concentrated in more heavily populated, urban environments. As a result, the availability of these services may limit the program's ability to effect change as families may already be connected to needed services (Azzi-Lessing, 2011). Findings from Rubin and colleagues (2011), using a sample of

NFP clients and propensity matched control families from the same areas identified a larger program effect on the reduction of subsequent births for women living in rural areas compared to women living in urban areas. The authors believed that this finding was, in part, attributable to the limited availability of services within rural communities that prevented non-participating controls from receiving similar services and thereby enhanced the effect of the program (Rubin et al., 2011).

Examinations of the differing effects of home visiting by gender were examined using families enrolled in the Memphis NFP study (Sidora-Arcoleo et al., 2010). While no significant overall effects were detected for children's verbal abilities at ages 2 or 6, significantly lower physical aggression scores were found for home visited children compared to children in the comparison group at age 2, but not at ages 6 or 12. Subsequent analyses by child gender revealed a significant effect for girls but not for boys, with lower aggression among 2 year old females. The researchers speculated that different factors may be important in predicting outcomes for girls and boys and that perhaps current intervention programs may need to be modified to address these gender differences (Sidora-Arcoleo et al., 2010). Recent findings from NFP's Elmira study also identified differences in outcomes by gender, with several of the program's long-term outcomes, such as self-reported arrests and convictions by age 19, found to be limited to girls (Eckenrode et al., 2010) although no explanations were provided for this pattern of findings. The identification and confirmation of factors such as these may assist home visiting programs in structuring the most efficient and effective service delivery model and target services to the families most likely to benefit.

Results from the HFNY Randomized Controlled Trial Year 7 Follow-up. HFNY has also identified a group for which home visiting services are particularly effective: women who at the

time of random assignment were under age 19, pregnant with their first child and in their 30th week of pregnancy, which we refer to as the High Prevention Opportunity (HPO) subgroup. Program impacts on children's cognitive and educational outcomes at age seven were more pronounced for the HPO subgroup than for the rest of the sample. Home visited target children in the HPO subgroup were significantly less likely to score below average on the PPVT-IV for receptive vocabulary or repeat a grade, and more likely to participate in a gifted program by age seven than were their counterparts in the control group (DuMont et al., 2011).

Home Visit Duration, Intensity and Content

Existing research reveals little about the relationship of service duration, intensity, and content to children's social, academic and behavioral outcomes (Olds, Sandler, & Kitzman, 2007). The few studies that have performed systematic investigations of associations between services received and children's adjustment were limited to the preschool years (Caldera et al., 2007; William, Stern, & Associates, 2005), and generally reported a link between high service receipt and positive outcomes. However, these studies do not statistically correct for the possibility that qualities of the parent accounted for both the level of service received and the outcomes achieved. For example, Lyons-Ruth and Melnick (2004) examined dose-response effects of home visiting on children's aggressive behavior as rated by their kindergarten teachers and parents. Although limited to a small sample (n=63), the authors reported months spent in the program was marginally and inversely related to problem behaviors, such that the longer families participated in the program the fewer problem and hostile behaviors the kindergarten student's teachers reported. Parents' reports of child problem behaviors did not corroborate these findings, but did show a positive relationship between service receipt and children's level of positive play. While results from this study are consistent with the intuitive suggestion that the more home

visiting services a family receives the better their adjustment at school, the study's methodology is problematic on several accounts. First, the sample's baseline characteristics were not equivalent on key psychosocial risk factors, which may have contributed to differential outcomes even after adjusting for statistical controls. Second, the authors devised three service duration variables that confounded timing of entry (i.e., being referred after 9 months of age, between 6-9 months, or prior to 6 months) with length of service (i.e., no services, less than 12 months of services, and more than 12 months of services). Third, the study did not statistically correct for the possibility that qualities of the parent accounted for both the level of service received and therefore the level of success achieved; a phenomena known as a selection bias. That is, families who received high levels of home visiting may differ in important ways from families who received low levels of home visiting, making it inappropriate to directly compare the two groups (Hill, Brooks-Gunn, Waldfogel, 2003).

Similarly, Nievar and colleagues (2010) recently published a meta-analysis describing the effectiveness of home visiting programs serving low-income families on maternal behaviors. The authors described specific characteristics of home visiting programs that relate to improvements in maternal behavior, including analyses of the number of visits per month and a comparison of effects from intensive services receipt, which they defined as at least three home visits per month, versus programs effects produced from less frequent visits, the non-intensive service group. Results of the meta-analysis suggested that within the United States, increases in the frequency of home visitation was related to greater improvement in maternal behavior, and that at least two visits per month are needed to achieve small but meaningful differences. Likewise, programs providing intensive home visiting services were more likely to have strong effects than non-intensive programs, with effects sizes for the intensive service group at nearly

twice the level of the non-intensive group of programs. While this work provides important suggestions about possible minimum and optimum number of visits required, the authors did not address the issue of selection described above, nor did they consider the timing or duration of service involvement. Additionally, the authors caution the readers that the accuracy of their counts of visit frequency is questionable given that some studies only described the studies' intention while other programs provided average accounts of actual visit receipt (Nievar et al., 2010).

Results from the HFNY Randomized Controlled Trial Year 7 Follow-up. The content, duration and intensity of services provided to families were assessed during HFNY's Year 7 follow-up. On average, families received approximately 33 visits while enrolled in the program, with the greatest number of visits occurring between birth and the child's first birthday. When examining the intensity of services received however, only 29% of the participants enrolled on Level 1 received at least 75% of their expected visits. Visit intensity generally increased as families transitioned to less intensive levels and the visit requirements decreased. Unfortunately, the study did not examine any relationships between service provision and children's outcomes (DuMont et al., 2011). Thus, many questions remain regarding the ingredients necessary for effective and efficient home visiting.

The current study will have the opportunity to greatly enhance the knowledge base in the field of home visiting by identifying whether, under what conditions and how a paraprofessional home visiting program can support the academic achievement of children upon their transition to school. Given the recent commitment in the field to ensuring that any future investments in home visiting are supported by evidence-based models backed by strong policies and practices,

the results of this study will further promote the field's goal of providing quality and effective services to families.

Chapter 3: Methodology

HFNY Randomized Controlled Trial and Year 7 Follow-up

In 2000, an RCT was initiated at three sites with home visiting programs that had been in operation since HFNY's inception. Families eligible for HFNY at each site were randomly assigned to either an intervention group that was offered HFNY services or to a control group that was given information on and referral to appropriate services other than home visiting. Within one month of random assignment, baseline interviews were conducted with 1173 (93.8%) of the eligible women (intervention, n=561; control, n=594). Follow-up interviews at Years 1 and 2 achieved high rates of retention (90% and 85% re-interviewed, respectively). In the third year, a reduced sample was invited to participate in both an interview and videotaped observations of parent-child interactions (n=522). Data on parenting attitudes, parenting practices, child behavior, access to health care, employment status, and mental health were gathered at the Years 1, 2, and 3 follow-up interviews. Information also was extracted and coded from Child Protective Services records regarding study participants' involvement in reports of child maltreatment. The first three years of the study were supported with funding from New York State, with a supplement from the Administration for Children and Families, Children's Bureau at Year 3.

In 2006, the research team received additional funding from the National Institute of Justice and the Doris Duke Charitable Foundation to extend the randomized trial to a seventh year. The Year 7 data collection effort repeated the key administrative and maternal self report assessments as well as the videotaped observations for the mother and child subsample. Field staff completed interviews with 942 of the original study participants, or approximately 84% of those still eligible for Year 7 assessment, and conducted 419 videotaped observations. We also

obtained administrative data on child protective services reports, foster care placements, preventive services, federal and state supported benefits, and program services and costs to support a cost-benefit analysis. For the first time, we conducted interviews with the target children. Field staff obtained interviews with 800 eligible target children. The target child interviews included measures of cognitive functioning, a delay of gratification task, self-reported deviance, and peer relations.

Obtaining the School Records

During the Year 7 informed consent process, we obtained a release form from study mothers authorizing us to request the target child's first grade school records from schools. Of the 942 mothers interviewed at Year 7, 779 provided releases. Releases were not provided for 163 children due to 117 mothers refusing, 45 mothers not having custody of the target child and being unable to provide a release, and one mother who homeschooled the target child and therefore did not have a first grade record. Five additional school record releases were provided by mothers who chose not to complete an interview at Year 7 or alternate caregivers of the target children, giving us a total of 784 releases.

Each of the school releases was reviewed to determine whether or not all of the information required to obtain the school record was present and correct. We identified 18 releases that were missing information essential to requesting the records, such as the name of the school the child was attending, which reduced our sample of complete releases to 766. We then sent the complete releases, with a letter explaining the study and the purpose of the request, to the appropriate schools. Releases were sent to over 175 different schools in 15 states.

We encountered several difficulties in securing the first grade records from the schools. One month after sending the releases, less than a third (31%) of the initial requests to schools had

resulted in a record being returned or a contact received to notify us that a record was unavailable. We soon learned that the public and charter schools in one school district, which accounted for approximately 41% of the school record sample, did not retain copies of children's report cards. After discussions with several schools, we were able to identify someone in the district office who could help us to obtain copies of the cumulative record, which included first grade academic progress. Although we were told that we would receive the records quickly, it required repeated follow-up calls and, in the end, the intervention of the county department of social services to finally obtain the available records over a period of time approximately 6 to 11 months following our initial request. Although it was not as difficult to obtain records from schools in other districts, at least two or three follow-up contacts were generally required. Data collection during the summer months was most problematic since few schools maintained the staff needed to locate and send the records. A substantial number of schools sent report cards for the wrong grade, generally the child's current or previous grade. These schools were contacted to clarify our request for first grade records and determine their availability.

Our efforts resulted in 577 useable first grade school records. An additional 14 records were received but did not include academic achievement grades. Schools refused to provide records for 11 children and were unable to locate first grade records for 164 children. The reason most often given for the inability to locate a record was that the child had moved to a different school with no records or forwarding information available.

School Record Sample Description

We used Student's *t*-tests and Chi-square tests to compare the baseline characteristics of cases for which we had a school record to those we did not. We also examined the equivalence of the intervention and control groups on a number of demographic and risk characteristics for

the sample of children for whom we received first grade school records and to assess the representativeness of the sample to the original baseline sample.

Table 1 presents the characteristics of both the baseline and the school record samples. As shown, the overall school record sample is generally representative of the baseline sample, showing similar percentages and means for the majority of the baseline characteristics. Respondents included in the school record sample were comparable to those who were not included on all but three of the baseline characteristics (results not shown). Compared to respondents not included in the school record sample, those in the school record sample were less likely to be Latina (15.6% versus 20.3%, p=.04), were less likely to have moved in the 12 months prior to baseline (52.2% versus 59.6%, p=.01), and averaged higher annual incomes at baseline ($5,172.48 versus $4,213.86, p=.03).

The characteristics of the control and HFNY groups for the baseline and school record samples are presented in Table 2. The remarkable consistency between the treatment arms in both the baseline and school record samples demonstrates the major strength of random assignment studies in obtaining groups that are equivalent across numerous characteristics. Our follow-up efforts to collect the school records largely maintained the integrity of this design. Both the baseline and school record samples differed in the count of Kempe items in the moderate to severe range, with mothers in the HFNY group in both samples exhibiting higher levels of risk than mothers in the control group. Despite the increased level of risk reported in the Kempe assessment by mothers in the HFNY group, no corresponding differences were found in their self-reported levels of depressive symptoms, mastery, or parenting attitudes. Interestingly, the significant difference identified at baseline, whereby there were more female target children in the control group than in the HFNY group, was not present in the school record

sample. This was good news for the current study since an overrepresentation of boys in the intervention group could have potentially influenced our outcomes due to boys consistently exhibiting higher levels of externalizing behaviors than girls (Broidy, et al., 2003).

Coding the School Records

We developed a rubric and coding sheet to code each of the useable school records. This task was especially challenging because most schools have their own systems for documenting students' progress. While studies often use standardized test scores or numeric achievement grades to assess educational outcomes, these measures are not often administered in first grade, nor are the same tests administered across schools. Thus after reviewing approximately 100 records, we were able to develop a rubric that capitalized on consistent descriptions of students' academic achievement (e.g., reading, writing, math, physical education, music, art, science, and social studies) and competence in behaviors that promote learning (e.g., working or playing cooperatively with others, following oral directions or classroom rules, listening attentively, organizing or managing personal belongings, working independently, and completing home or class work on time). In the early grades, teachers' ratings of these areas may be particularly informative regarding students' receptiveness or propensity to learn, as well as predictive of their later academic success (Masten et al., 1995). Children's social skills in particular provide the foundation for the first several years of academic achievement (Raver, 2002). The school record coding sheet is attached as Appendix A.

We reviewed the school records to extract data on the number of days absent and tardy, grade retention and summer school recommendations, special education, remedial and other academic intervention services receipt, and disciplinary actions. We also collected information on the best and worst grades awarded for academic subjects and behaviors that promote learning.

Possible scores for each subject/skill included above grade level (3), at grade level (2) or below grade level (1). We focused our efforts on obtaining indicators of the best grade awarded and the worst grade awarded in order to gain a better understanding of what children were capable of at both ends of the spectrum. This also allowed us to gain a better understanding of where children were excelling or doing particularly poorly, perhaps indicating a problem area or disability. When only one grade was provided for a given subject or skill, the resulting score was recorded under both the best and worst grade received.

Because our rubric and coding sheet were developed as the records began coming in, we were unaware of the differences between the report cards we received from schools and the cumulative records provided by the district office for the school district that did not maintain a copy of report cards. As a result, a number of the outcomes we thought we would be able to capture systematically were not useable in our analyses. The cumulative records did not systematically provide information on receipt of special education, remedial or other academic intervention services, disciplinary actions, or the behaviors that promote learning. We were only able to code four of the six behaviors that promote learning, including works or plays cooperatively with others, follows oral directions or classroom rules, organizes/manages personal belongings, and completes home or class work on time.

Another school district did not provide skill grades for organizes/manages personal belongings on their report cards, limiting the data available for this outcome. Thus we had fairly complete information for only three of the behaviors that promote learning: works or plays cooperatively with others, follows oral directions or classroom rules, and completes home or class work on time. Additionally, many report cards and cumulative records did not provide a separate grade for writing or combined both reading and writing into a single subject called

language arts. Report cards listing language arts were eventually recoded to be captured under reading. We were pleased to find that the school records provided remarkably complete information on retention in first grade and the number of days absent. Unfortunately, most school records did not discriminate between excused and unexcused absences so we could not corroborate the disparate self-reports by mothers and target children at Year 7 of the frequency with which the children skipped school.

To ensure ongoing reliability and the most accurate coding possible, each school record was coded by at least two coders who were blind to treatment arm assignment. Inter-rater agreement ranged between 89% and 99% across all items. Team meetings were held on a weekly basis to review, discuss and resolve discrepancies. Throughout the research process we have maintained approval by the Institutional Review Board of the University at Albany (IRB Approval #00-246).

Table 1: Characteristics of Baseline and School Record samples

Baseline Characteristic	Baseline Sample (n=1173)	School Record Sample (n=577)
	Percentage	
Mother's race/ethnicity		
White, non-Latina	34.4	36.2
African-American, non-Latina	45.4	45.8
Latina	18.0	15.6
Mother < 19 years old	31.0	30.3
First-time mother	55.4	56.3
At least high school diploma or equivalent	47.4	46.8
Had partner	67.5	67.4
Moved in past 12 months	55.9	52.2
Cash assistance at random assignment	29.2	27.7
Pregnant at random assignment	64.8	64.1
Target child female	46.1	47.7
	Mean (sd)	
Mean maternal age in years	22.45 (5.50)	22.64 (5.70)
Total number of other biological children	.84 (1.23)	.80 (1.15)
Count of depressive symptoms (CES-D)	15.64 (11.13)	15.40 (10.94)
Total mastery score	20.88 (2.89)	20.82 (2.84)
Total maternal parenting attitudes (AAPI)	134.85 (5.69)	135.36 (15.48)
Count of risk items (Kempe)	5.69 (1.36)	5.72 (1.38)
Estimated annual earnings ($)	4685.41 (7310.43)	5172.48 (7824.23)

Table 2: Characteristics of Baseline and School Record samples by treatment arm

	Baseline Sample (n=1173)			School Record Sample (n=577)		
	Control (n=594)	HFNY (n=579)		Control (n=289)	HFNY (n=288)	
	Percentage		p	Percentage		p
Mother's race/ethnicity						
White, non-Latina	34.3	34.4	.99	37.0	35.4	.68
African-American, non-Latina	46.5	44.4	.48	46.0	45.5	.90
Latina	17.7	18.3	.78	14.9	16.3	.63
Mother < 19 years old	29.8	32.3	.36	28.0	32.0	.23
First-time mother	54.4	56.5	.47	54.3	58.3	.33
At least high school diploma or equivalent	49.3	45.4	.18	49.5	44.1	.20
Had partner	65.8	69.2	.22	65.4	69.4	.30
Moved in past 12 months	56.2	55.6	.83	50.2	54.2	.34
Cash assistance at random assignment	27.4	31.1	.39	24.6	30.9	.24
Pregnant at random assignment	66.7	62.9	.17	64.4	63.9	.91
High Prevention Opportunity (HPO) subgroup	14.8	15.7	.67	15.2	14.6	.83
Recurrence Reduction Opportunity (RRO) subgroup	8.8	9.0	.89	7.3	8.0	.75
Target child female	50.0	42.1	.01**	48.8	46.5	.59
	Mean (sd)		p	Mean (sd)		p
Mean maternal age in years	22.53 (5.43)	22.37 (5.56)	.60	22.89 (5.65)	22.39 (5.75)	.30
Total number of other biological children	.83 (1.15)	.85 (1.31)	.77	.82 (1.11)	.79 (1.18)	.79
Count of depressive symptoms (CES-D)	15.61 (10.98)	15.68 (11.30)	.92	15.40 (10.63)	15.41 (11.26)	.99
Total mastery score	20.85 (2.92)	20.92 (2.86)	.70	20.79 (2.95)	20.86 (2.73)	.76
Total maternal parenting attitudes (AAPI)	134.45 (15.55)	135.26 (14.81)	.36	135.09 (16.22)	135.62 (14.72)	.68
Count of risk items (Kempe)	5.60 (1.37)	5.79 (1.34)	.02*	5.59 (1.38)	5.84 (1.37)	.03*
Estimated annual earnings ($)	4835.56 (7542.11)	4531.36 (7068.07)	.60	5547.24 (7971.62)	4796.41 (7660.56)	.25

*p≤.05, **p≤.01

Other Data Sources Used for the Current Study

Data for the current study also came from additional sources, including interviews with study respondents at baseline and the HFNY Management Information System (MIS).

Baseline Covariates. Information gathered at baseline during interviews with the study mothers was used to assess whether individual and family characteristics and resources differed across the treatment arms and to identify appropriate covariates. Potential covariates included dichotomous variables coded to represent the mother's race/ethnicity, the mother's age, the presence of a regular partner, at least one move in the year prior to baseline, being randomly assigned to the study prenatally or postnatally, and receipt of at least a GED or high school diploma at baseline. We also created another education variable that took into account the mother's age, as many of the study mothers were still in high school at baseline and had not yet had an opportunity to receive higher education. We combined information on the mother's age and her highest level of education received to generate a three-level variable indicating (1) under age 19 and therefore little or no opportunity for post-secondary education, (2) 19 or over and received no post-secondary education, and (3) 19 or over and received at least some post-secondary education. The target child's gender was also assessed at baseline or the next subsequent interview.

We used data collected on household composition and the number of prior pregnancies and births to create a variable that described the total number of other biological children (excluding the designated target child) the respondent reported as of the baseline interview. Values for this variable ranged from 0 to 10 other biological children, with an average of .84 other biological children. More than half (55.2%) of the 1173 respondents reported having no other biological children at baseline. We also used income and employment data from the

baseline interview to calculate an estimate of the study mother's earnings in the year prior to baseline.

In addition, we included a series of summarized measures to assess mothers' baseline level of depressive symptoms (Center for Epidemiologic Studies Depression Scale (CES-D), Radloff, 1977), sense of mastery (Mastery of Psychological Coping Resources Scale; Pearlin & Schooler, 1978), and total parenting attitudes, as assessed on the Adolescent and Adult Parenting Inventory (AAPI-II, Bavolek & Keene, 1999). We also created a count variable using items from the Kempe Family Stress Checklist (Kempe, 1976) to describe the level of moderate to severe risks present in families' lives at baseline. The Kempe taps a number of varied life domains and is a widely used tool for predicting parents' future risk of maltreating their children (Korfmacher, 1999). We excluded prior or current child protective services involvement since administrative maltreatment data were available to more accurately represent this risk category.

HFNY Management Information System. The HFNY MIS is a centralized system used to collect and maintain comprehensive information from each HFNY site on the screen and Kempe risk assessment, characteristics and needs of the families served, the frequency and content of home visits, the nature and outcome of service referrals, progress toward program objectives, and worker demographic and training information. These data are used to populate aggregate and individual program reports, which help to support the quality assurance and improvement efforts employed by the HFNY Central Administration team and individual program sites. We obtained MIS information for the families who were randomly assigned to the HFNY arm of the study to better understand how program components, such as visit frequency and content, relate to the outcomes experienced by children as they transition to school. We focused our efforts on the visit content that home visitors reported engaging in with families as listed on the home visit log.

Home visit activities addressed the following content areas: children development, parent-child interaction, health care, family functioning, and self-sufficiency. We then used the information on these activities and the total number of visits each family received to create a set of variables that reflected the proportion of visits received that included these activities. We also created an additional variable using the number of visits that took place within each service level: the percent of levels in which the family received at least 75% of their expected visits (excluding Level 1SS and Level X). This was based on HFNY's policy requiring that 75% of participants receive a minimum of 75% of the appropriate number of home visits for the level of service to which they are assigned (HFNY, 2012) and reflected the intensity of visits that families received.

Chapter 4: Analysis Plan and Results

Home Visiting and the Transition to School

Analysis Plan. We chose to examine children's first grade attendance and retention patterns separately from their academic achievement since these outcomes are very important indicators of academic adjustment in and of themselves. Fortunately, the school records provided remarkably complete information for these outcomes.

To maintain our original focus on identifying groups of children who were excelling or doing poorly academically, we thought carefully about the indicators that might most accurately describe each outcome. In the end, we created a series of variables that we thought best characterized the two groups of children based on the information available from their first grade school records. We defined excelling academically as scoring above grade level at their best on both reading and math or scoring above grade level at their best on all three behaviors that promote learning for which we had fairly complete information: working or playing cooperatively with others, following directions or classroom rules and completing home or class work on time. Approximately 24% of the school records sample fell into this category. Since this variable included both academic subjects and behaviors that promote learning, we also created a separate variable for just the academic subjects, accounting for 17% of the sample, and one for just the behaviors that promote learning, which accounted for 11% of the sample, to gain an understanding of where children were excelling, since it is possible for a child to excel in both academic subjects but not all three behaviors that promote learning (or vice versa), in addition to excelling in all areas. Very few children excelled in every area (4%).

We used a similar procedure to create the variables that defined a group of children who were doing poorly academically except, in this case, we were most interested in instances where

a child was performing poorly in any subject. Thus we defined doing poorly academically as at their best scoring below grade level on any of the following: reading, math, working or playing cooperatively with others, following directions or classroom rules, or completing home or class work on time. Thirty-two percent of the sample scored below grade level on at least one of the academic subjects or behaviors that promote learning. To be consistent with excelling, we also broke this category out into a group who scored below grade level on reading or math (24% of the sample) and a group who scored below grade level on any of the behaviors that promote learning (working or playing cooperatively with others, following directions or classroom rules, or completing home or class work on time), approximately 17% of the sample.

Our original intent was to use cluster analysis to identify groups of children who were functioning well or poorly across multiple settings to better understand how home visiting influenced children's adjustment as they transitioned to school. We planned to combine data from the school records with the mother and/or child interviews to inform our analyses. Unfortunately, we were unable to systematically obtain the information from the school records on children's disciplinary actions, receipt of special education, remedial services or other academic intervention services, skipping school, or gifted programs that would have corresponded with the academic information obtained through maternal and child self-reports. This lack of information ultimately influenced our ability to use cluster analysis to successfully generate clusters of children who were functioning exceptionally well or poorly. Given these limitations we focused our analyses solely on the outcomes extracted from the school records.

Descriptive analyses were conducted prior to the main analyses to examine the distributional properties of the dependent variables and determine the most appropriate distributions to apply. The dependent variables were then analyzed using generalized linear

models in SAS 9.2. We used binomial distributions with a logit function to estimate dichotomous outcomes and normal distributions with an identity link function to estimate outcomes that were normally distributed. For these analyses, the intervention condition (1) was the primary independent variable and the control condition (0) served as the reference category. The following covariates were included to maximize equivalence between the HFNY and control groups: respondent had at least a high school diploma or equivalent, welfare receipt at random assignment, Kempe count of moderate and severe items, annual earnings in the year prior to baseline, under age 19 at random assignment, and target child gender.

Results. Table 3 presents the results of the analyses examining HFNY's effects on children's academic achievement as they transition to school. Significant differences between the two groups were identified for the percentage of children who were retained in first grade, with children in the home visited group half as likely to repeat a grade (3.54%) as those in the control group (7.10%, p=.03). In addition, we found differences between the HFNY and control groups in the percentage of children excelling academically on all three behaviors that promote learning, with a greater percentage of children in the home visited group excelling on all three social skills (13.15% versus 7.74%, p=.03). No significant differences were identified between the HFNY and control groups on the number of days absent in first grade. Nor did we find significant differences between the groups for excelling academically overall or for reading and math alone, although the pattern of results favored the home visited group. Our examination of the children identified as doing poorly academically showed no significant differences between the control and home visited groups, either overall or within the academic subjects or behaviors that promote learning separately. As with excelling, the pattern of results generally favored the home visited group.

Table 3: School record indicators of 1st grade academic achievement

	Control (n=289)	HFNY (n=288)	
	Percentage/Mean (sd)[1]		p value
Retained in 1st Grade	7.10%	3.54%	.03*
Excelling Academically	20.31%	26.01%	.11
Reading and Math	15.66%	15.99%	.91
All 3 Behaviors that Promote Learning	7.74%	13.15%	.03*
Doing Poorly Academically	32.84%	30.31%	.52
Reading or Math	24.96%	20.85%	.25
Any of the 3 Behaviors that Promote Learning	15.98%	15.22%	.80
Days Absent	15.28 (0.79)	16.36 (0.79)	.33

[1] Means and percentages were adjusted for the following covariates: respondent had at least a high school diploma or equivalent, welfare receipt at random assignment, Kempe count of moderate and severe items, annual earnings in the year prior to baseline, under age 19 at random assignment, and target child gender.

*p≤.05, **p≤.01

Exploring Potential Mechanisms for HFNY's Impact on Children's Academic Achievement. Given the potential importance of these findings, we conducted a series of post-hoc analyses to examine factors that might explain at least some of the relationship between involvement in HFNY and reduced rates of retention and increased rates of excelling on all three behaviors that promote learning. After considering the literature that suggests home visiting programs have the largest and most consistent effects in the area of parenting outcomes (Gomby, 2003) and taking into account the findings from earlier examinations of HFNY, we focused our attention on three possible mechanisms: appropriate limit setting, frequency of neglect, and responsive and cognitively engaging parenting strategies.

HFNY has shown an early beneficial effect on each of the candidate mechanisms. These constructs are also conceptually meaningful, given our outcomes of interest. Looking at the items that make up each subscale or the skills that a specific task requires, it is apparent how each might influence the relationship between home visiting and children's academic achievement.

Limit setting was examined at Year 2 using maternal self-report data from the Parent-Child Relationship Inventory (PCRI) (Gerard, 1994). The limit setting subscale was designed to measure the effectiveness of the parent's discipline strategies and includes items such as: "I have trouble disciplining my child" or "My child is out of control much of the time". Mothers who were offered HFNY services were found to report more appropriate limit setting when their children were two years old than women in the control group ($p \leq .01$) (Mitchell-Herzfeld, DuMont, Lee, & Spera, 2005).

The revised Parent-Child Conflict Tactic Scale (CTS-PC) (Straus, Hamby, Finkelhor, Moore, & Runyan, 1998) was examined at Year 2 to assess self-reported parenting practices. The current analysis focused specifically on the neglect subscale since it included items that measured a failure on the part of the parent to engage in behavior that met the physical or emotional needs of the child. HFNY mothers reported a lower frequency of child neglect at Year 2 than mothers in the comparison group ($p \leq .10$) (DuMont, Mitchell-Herzfeld, Greene, Lee, Lowenfels, Rodriguez, &Dorabawila, 2008).

At Year 3, we conducted observations of mother-child interactions in a series of semi-structured tasks to examine the effectiveness of HFNY in promoting positive parenting competencies and preventing maladaptive parenting behaviors (see Rodriguez, et al., 2010 for more details on this aspect of the study). Each task presented a different kind of challenge for

the mother and her child. The current analysis focused on the role played by positive parenting strategies that were responsive and cognitively engaging. The Puzzle Problem Solving Task was designed to assess maternal behaviors during a cognitively challenging situation for the child. The child was given two puzzles to work on; one more challenging than the other and the mother was instructed to help when she thought it was necessary. Maternal competencies in this task included structuring the task while anticipating the child's possible failures, supporting the child's efforts, encouraging the child's autonomy, and reacting non-punitively to the child's missteps. The Delay of Gratification Task was designed to examine what happens when the mother is called on to engage in an activity of her own while simultaneously monitoring her child, who has been challenged to delay gratification by waiting for a snack. Maternal competencies for this task included proactively attending to and responding to the child's needs and promoting the use of self-regulatory strategies in the child, while simultaneously completing her own assigned task. Finally, the Cleanup Task assessed the mother's ability to remain positive and proactive in order to promote the child's compliance while having the child put away toys by him/herself. Analysis of these tasks showed that more HFNY mothers were found to engage in responsive and cognitively engaging parenting strategies than control mothers for all three of the tasks ($p \leq .05$) (Rodriguez, et al., 2010).

As the first step in this exploratory analysis, we examined correlations between retention and excelling on all three behaviors that promote learning and each of the possible mediating factors to see if there were any significant associations between them. Limit setting and neglect at age 2 and responsive and cognitively engaging parenting strategies on the delay task at age 3 were significantly correlated with retention. Limit setting at age 2 and responsive and

cognitively engaging parenting strategies on the delay task at age 3 were significantly correlated with excelling on all three behaviors that promote learning.

We then conducted a series of logistic regression analyses using the same covariates that were used in the original models determining the effect of HFNY on the two significant academic outcomes to evaluate the degree to which each of the potential mechanisms attenuated the treatment effect when entered into the model. Only those factors that were significantly correlated with retention and excelling on all three behaviors that promote learning were included in this step. Separate analyses were conducted for each academic outcome and potential mechanism. We expected that entry of the potential mediator into the model would result in a reduction in the effect of HFNY on the outcome of interest if the factor played some role in the relationship between the two variables. In every case, the addition of the potential mechanism to the model reduced the magnitude of the program's effect anywhere from 10 to 22 percent, depending on which variable was entered. These findings suggest the possibility that one or more of these factors might play a role in explaining how HFNY influences children's academic achievement. Although more sophisticated analytic techniques are necessary to formally test this hypothesis, this exploratory first step has laid the groundwork for future research in this area.

Conditions under which Home Visiting is Particularly Effective

Analysis Plan. To examine the conditions under which HFNY realized the greatest success, we used generalized linear models in SAS 9.2 with binomial distributions that included treatment by subgroup interactive terms. We focused on evaluating how varying levels of education (under 19 and little or no opportunity for post-secondary education, 19 or older and no post-secondary education, and 19 or older and received some post-secondary education), site of

origin (Site A, Site B, and Site C), and target child gender (girls versus boys) facilitated or hindered HFNY's effectiveness. Dummy variables were created for each condition with 19 or older and no post-secondary education, Site B, and boys serving as the reference groups in their respective analyses. The intervention condition (1) was the primary independent variable and the control condition (0) served as the reference category. Covariates were included as necessary to maximize equivalence between the HFNY and control groups and consisted of welfare receipt at random assignment, Kempe count of moderate and severe items, annual earnings in the year prior to baseline, at least a high school diploma or equivalent at baseline, and under age 19 at random assignment. Individual subgroups were examined only when the interaction with treatment arm was significant at $p \leq .10$. We were unable to examine interactions for the children in HPO sample that were previously assessed at Year 7 due to limitations in the size of the HPO group within the school record sample (n=86, with 44 in the control group and 42 in the HFNY group).

Results. Interactions were tested for age adjusted level of education, site of origin and target child gender. No significant interactions were detected for age adjusted level of education or site of origin. However, significant interactions were found for target child gender. The results of the significant interactions are presented in Table 4, with the percentages and significance values shown separately for boys and girls to gain a better understanding of how the interaction works. As depicted in the table, a greater percentage of girls in the HFNY group were excelling academically (32.62%) than girls in the control group (17.47%, $p<.01$). Similarly, far fewer girls in the home visited group were doing poorly academically (19.71%) compared to girls in the control group (32.17%, $p=.02$).

Table 4: Conditions under which home visiting is particularly effective

	Condition	Percentage		p value
Excelling Academically	boys	23.45%	19.70%	.44
gender*treatment arm (p=.02)	girls	17.47%	32.62%	<.01**
Doing Poorly Academically	boys	33.28%	39.86%	.24
gender*treatment arm (p=.02)	girls	32.17%	19.71%	.02*

[1] Means and percentages were adjusted for the following covariates: respondent had at least a high school diploma or equivalent, welfare receipt at random assignment, Kempe count of moderate and severe items, annual earnings in the year prior to baseline, under age 19 at random assignment, and target child gender.

*p≤.05, **p≤.01

Home Visit Duration, Intensity, and Content & Children's Academic Outcomes

Analysis Plan. To better understand how variations in service receipt related to child outcomes, we used data from HFNY's MIS system to predict membership in the groups that were excelling academically or doing poorly academically. It was our original intent to also conduct propensity analyses within the treatment arm of the study matching groups of children who were excelling (or doing poorly) to a group of children who were not excelling (or not doing poorly) on select baseline characteristics. This would have allowed us to more fairly compare outcomes for similar study respondents within the intervention condition, thereby isolating effects that are uniquely due to dose rather than to characteristics of the individual. Unfortunately, limitations in the number of children in each group (excelling or doing poorly) resulted in a sample that, when matched on specific baseline characteristics, was too small for meaningful analysis. Instead, we used generalized linear models with binomial distributions with a logit function in SAS 9.2 to evaluate how well visit content (proportion of visits in which child development, parent-child interaction, healthcare, family functioning, or self-sufficiency activities took place), duration or intensity predicted membership in each of the two groups. Separate analyses were conducted for each predictor. Covariates were included in each model to

maximize equivalence between the group that was excelling versus not excelling (e.g., Kempe count of moderate and severe items, annual earnings at baseline, site, and randomly assigned prenatally) and the group that was doing poorly versus not doing poorly (e.g., site, moved in the 12 months prior to baseline, welfare receipt at baseline, and target child gender).

Results. The results of our examination of the home visiting characteristics that predict children's academic achievement are presented in Table 5. As shown in the table, home visit intensity emerged as an important predictor of children's academic achievement. The percent of levels on which the family received at least 75% of their expected visits was a significant (p=.05) predictor of being in the group of children who were excelling academically. Children who had a higher percentage of levels where they received at least 75% of their expected visits were 2.28 times more likely to be in the group of children who excelled academically. Similarly, children who had a higher percentage of levels in which they received at least 75% of their expected visits were 47.4% less likely to be in the group of children doing poorly academically (p=.10). None of the home visits content areas, such as the proportion of visits in which child development activities or parent-child interaction activities occurred, were significant predictors of either excelling academically or doing poorly. Similarly, the number of visits and days enrolled in the program were not significant predictors of children's academic achievement.

Table 5: Characteristics of home visits predicting academic achievement

	B	SE	p value	Exp(B)
Excelling Academically[1]				
Percent of levels on which participants received at least 75% of expected visits	.822	.418	.05*	2.28
Days enrolled in home visiting program	.000	.000	.29	1.00
Total number of visits	-.002	.004	.73	1.00
Proportion of visits in which child development activities took place	-.545	.614	.38	.58
Proportion of visits in which parent child interactions took place	.276	.692	.69	1.32
Proportion of visits in which health care activities took place	.997	.681	.14	2.71
Proportion of visits in which family functioning activities took place	.169	.534	.75	1.18
Proportion of visits in which self-sufficiency activities took place	.285	.542	.60	1.33
Doing Poorly Academically[2]				
Percent of levels on which participants received at least 75% of expected visits	-.642	.387	.10†	.526
Days enrolled in home visiting program	.000	.000	.58	1.00
Total number of visits	.001	.004	.89	1.00
Proportion of visits in which child development activities took place	-.140	.535	.79	.869
Proportion of visits in which parent child interactions took place	-.127	.575	.83	.881
Proportion of visits in which health care activities took place	.469	.553	.40	1.598
Proportion of visits in which family functioning activities took place	-.161	.498	.75	.852
Proportion of visits in which self-sufficiency activities took place	-.356	.498	.48	.700

[1] Covariates for each model included site, moved in the 12 months prior to baseline, welfare receipt at baseline, and target child gender

[2] Covariates for each model included Kempe count of moderate and severe items, annual earnings at baseline, site, and randomly assigned prenatally,

†p≤.10, *p≤.05

Chapter 5: Discussion & Implications for Policy and Practice

The goals of the current study focused on addressing gaps in the home visiting literature with regard to children's adjustment following the transition to school. Given the limited information available from paraprofessional or even nurse home visiting programs, this study stands to provide additional details regarding whether, under what conditions, and how home visiting influences children's outcomes once they begin school.

Home visiting and the Transition to School. While our previous findings from the Year 7 analysis of HFNY revealed no significant differences overall and a trend for the HPO subgroup on the percentage of children repeating a grade, the current study demonstrated that children in the home visited group were about half as likely (3.54%) to be retained in the first grade as children in the control group (7.10%). The lack of findings in the Year 7 follow-up study was likely due to the nature of the data (self report versus official school records) and the timing of the data collection. Children were in different grades and were at different ages at the time of the Year 7 interview. In fact, mothers reported that 43% of target children had not yet completed first grade when they were interviewed and as a result were unlikely to have experienced first grade retention. Further obscuring the results, the Year 7 interview asked whether or not the child had <u>ever</u> repeated a grade. Grade retention could have taken place at any time between kindergarten and third grade depending on the age of the target child at the time of the Year 7 interview.

Examination of the first grade school records, on the other hand, provided a clearer picture of the program's effect on grade retention at a consistent point in time and when every child would have had the same opportunity to have experienced retention if it was warranted. This finding is of particular importance given the negative impact that grade retention has on

children's long-term success. Children who are retained are at risk for a variety of poor outcomes including lower academic achievement (Jimerson, 2001), increased symptoms of depression and anxiety (Wu et al., 2010), and dropping out of school (Alexander, Entwistle, & Dauber, 2003). These negative outcomes may in turn influence children's later employment and earnings, receipt of welfare and incarceration rates (Bowman, 2005).

Because the retention data from maternal reports at the Year 7 follow-up was unclear and since differences in receipt of special education were noted in the Year 7 follow-up study, we examined mothers' reports of their children's receipt of special education services to see if they were related to first grade retention. Examinations of these relationships revealed a pattern in which children whose mothers reported that they were receiving special education services were retained more often (10.9%) than children who were not receiving special educations services (6.6%), although the relationship was not significant (p=.14).

We also looked at retention rates for children who were doing poorly in reading and math, hoping they would give us a better understanding of the factors that generated this finding. Chi-square tests indicated that 28.3% of children who were performing below grade level on both reading and math were retained in first grade, compared to only 4.8% of children who were not performing below grade level on both academic subjects ($p \leq .001$). Similarly, 19.4% of children who were performing below grade level on all three behaviors that promote learning were retained in first grade, compared to just 6.5% of children who were not performing below grade level on all three behaviors (p=.004). Multivariate analyses suggested that fewer children in the home visited group were scoring below grade level on both reading and math compared to their counterparts in the control group, although the difference did not reach significance (7.82% versus 11.25%, p=.15). In combination, these relationships may explain why we found

significant differences in the percentage of children retained, but did not find corresponding differences in poor academic functioning for children in the HFNY group.

While we expected that the receipt of home visiting services would result in greater differences in children's reading and math achievement given our finding regarding grade retention that favored the intervention group, we were nevertheless pleased to see that a greater percentage of home visited children were excelling on all three behaviors that promote learning. Children's social skills have consistently been found to provide the foundation for the first several years of academic achievement (Raver, 2002). In addition to affecting levels of classroom participation and early literacy skills, children's aggressive and disruptive classroom behaviors also influence their likelihood of acceptance by teachers and peers. Over the long term, studies have shown that children who are rejected by peers are at increased risk for lower academic achievement, grade retention, dropping out of school, and engaging in delinquent and criminal activities (Raver, 2002).

Additional studies have shown that behaviors that promote learning such as attentiveness, organization and task persistence are significant predictors of children's early academic achievement, even taking into account early math and reading achievement (Alexander, Entwisle, & Dauber, 1993; Duncan et al., 2007). Given the previous findings from HFA-based programs that showed home visiting's ability to improve parenting outcomes (DuMont et al., 2008; Mitchell-Herzfeld et al, 2005; Rodriguez et al., 2010) and even reduce early problem behaviors in children (Caldera et al., 2007, DuMont et al., 2005, Landsverk et al., 2002), it seems likely that early intervention may have produced some lasting change in this domain. This hypothesis is particularly compelling given the findings from our exploratory analyses that suggest limit setting, frequency of neglect, and responsive and cognitively engaging parenting

strategies may mediate the relationship between home visiting and children's academic outcomes. The results are also consistent with Bronfenbrenner's (1979) theory that early experiences play a substantial role in later development. The transition to school is likely easier for children of mothers who were offered HFNY services since they set appropriate limits and proactively responded to their children's needs while promoting self-regulatory strategies, all factors that promote behaviors similar to those that are required in school settings. These parenting behaviors are remarkably similar to those of authoritative parents, who display high warmth and high limit setting in their interactions with their children (Baumrind, 1967). In fact, children whose parents utilize authoritative parenting strategies have been shown to have more positive outcomes in a variety of domains, including academic achievement (Maccoby & Martin, 1983; Steinberg, Elmen, & Mounts, 1989).

The lack of findings for reading and/or math achievement was consistent with the Year 7 follow-up study results for children's receptive vocabulary as indicated by scores on the PPVT-IV (DuMont et al., 2011). In general however, the percentages for each outcome favored the home visited group. Findings from NFP, in which larger program effects were detected for standardized assessments of children's reading and math skills than for academic grades (Kitzman et al., 2010) suggest that the measures used to assess academic achievement in the current study and the HFNY Year 7 follow-up study may not be reliable enough to detect results. The fact that almost half of our school records provided only a single grade for each subject is consistent with this view and may have substantially minimized our ability to detect areas in which children were doing exceptionally well or poorly. Our finding of no significant differences between the home visited and control groups in the number of days absent from school suggests that the program's ability to effect change in this area may have been

overwhelmed by the competing demands and disadvantages present in children's homes and communities, such as illness or disability, inflexible job schedules, inadequate child care, limited financial resources, and non-responsive school policies. Families may need additional support and assistance as children prepare to enter school. Home visiting programs and school systems will need to communicate with each other and collaborate to support families as they make the transition from home visiting services to the school system.

Conditions under which Home Visiting is Particularly Effective. Our findings of significant gender differences within the home visited group are supported by previous research conducted on the nurse home visiting program. Although no treatment by gender effects were reported by NFP for academic outcomes, results were found for physical aggression among girls at age two (Sidora-Arcoleo et al., 2010) and self-reported arrests and convictions for girls at age 19 (Eckenrode et al., 2010). The lack of significant findings for the boys in our sample was unforeseen, but consistent with the findings from NFP that were just referenced. It is possible that the intervention truly does not have an effect on boy's academic achievement. However, in light of the original gender differences at baseline in which a greater number of boys were present in the HFNY arm of the study that were not present in the school record sample, it is also possible that a disproportionate number of boys who were having problems were no longer in their mothers' care, resulting in an inability to obtain their school records. Because the original sample was not randomized by child gender, it is impossible to say with any conviction what the relationship really looked like. Future analyses will focus on examining potential mechanisms for the treatment by gender differences to better understand whether maternal or child characteristics or functions of the program influenced the outcomes.

Home Visit Content, Duration and Intensity. Consistent with the findings of the meta-analysis conducted by Nievar and colleagues (2010), increases in the frequency of services received (i.e., higher intensity services) predicted children's academic functioning, with higher intensity services predicting a greater likelihood of excelling academically and a lower chance of doing poorly academically. These findings have important implications for home visiting practice and policy, since they suggest that it is visit intensity, and not necessarily visit content or the total number of visits, that is important in the ability of home visiting to achieve its' intended results. Although HFNY policy requires that programs within the multi-site system provide at least 75% of their families with a minimum of 75% of expected visits congruent with the level of service they are on, few of the families in the study actually received this level of service on every level (DuMont et al., 2011). Home visiting programs may need to re-evaluate their policies and procedures to ensure that all families are receiving as close to the intended level of service possible, for however long the family is enrolled. Programs may find it helpful to regularly survey families and home visitors to identify the specific factors that prevent them from receiving or providing services with high intensity. Additional policies may need to be put in place to allow home visitors greater flexibility to meet the diverse needs of families.

Limitations. There are a number of limitations to these analyses. The school records account for just over half (51%) of the original sample that was eligible for the Year 7 interview (n=1128) and 61% of the Year 7 bio mom sample (n=942). Although the baseline characteristics of the school record sample were similar to the baseline characteristics of the original sample, it is possible that there were some differences between the two samples that were unobserved, making the current findings not generalize to the original sample. Additionally, the lack of school records for mothers who did not have custody of their children may have minimized our

ability to detect differences between the groups of children doing well or poorly academically by removing some of the most traumatized children from the sample. With regard to our analysis of the home visiting experience, sample size issues prevented us from generating groups of children who were otherwise similar on baseline characteristics within the intervention condition, limiting our ability to isolate effects that were uniquely due to dose rather than to characteristics of the individual. Although efforts were made to equalize the samples using covariates, there was still some room for error.

Conclusion. The current study has demonstrated that HFA-based programs can produce positive effects on children's academic outcomes following their transition to school, most likely through the program's impact on early parenting behaviors. The findings pertaining to retention in first grade and competence in behaviors that promote learning are especially important because negative outcomes in these domains can contribute to poor academic performance in later grades, which can in turn lead to school dropout. To achieve these outcomes, however, the results suggest that home visiting programs should develop strategies to make sure that families receive the intended intensity of service. Additional research is needed to confirm the possible mechanisms for how home visiting influences children's academic outcomes and to explain the differential effects of the intervention noted for boys and girls with regard to academic achievement. Home visitors may also need to provide families with additional support and assistance in making connections to appropriate services as children begin the transition to school. Policies should be put in place to enhance communication and collaboration between home visiting programs and school systems to better support families through this transition.

References

Alexander, K., Entwisle, D., & Dauber, S. (1993). First-grade classroom behavior: its short- and long-term consequences for school performance. *Child Development, 64*, 801-814.

Alexander, K., Entwisle, D., & Dauber, S. (2003). *On the success of failure: A reassessment of the effects of retention in the primary grades*. Cambridge, United Kingdom: Cambridge University Press.

Azzi-Lessing, L. (2011). Home visitation programs: Critical issues and future directions. *Early Childhood Research Quarterly*, *26*, 387-398.

Baumrind, D. (1967). Child care practices anteceding three patterns of preschool behavior. *Genetic Psychology Monographs, 75(1),* 43-88.

Bavolek, S. & Keene, R. (1999). *Adult-Adolescent Parenting Inventory (AAPI-2): Administration and development handbook*. Family Development Resources, Inc: Park City, UT.

Bowman, L. (2005). Grade retention: Is it a help or hindrance to student academic success? *Preventing School Failure*, *49*(3), 42-46.

Broidy, L., Nagin, D., Tremblay, R., Bates, J., Brame, B., Dodge, K., Fergusson, D., Horwood, J., Loeber, R., Laird, R., Lynam, D., Moffitt, T., Pettit, G., and Vitaro, F. (2003). Developmental trajectories of childhood disruptive behaviors and adolescent delinquency: A six site, cross-national study. *Developmental Psychology, 39*(2), 222-245.

Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.

Bronfenbrenner, U. & Morris, P. (1998).The ecology of developmental processes. In W. Damon (Series Ed.) & R. M. Lerner (Vol. Ed.), *Handbook of child psychology: Vol. 1: Theoretical models of human development* (pp. 993-1028).New York: Wiley.

Caldera, D., Burrell, L., Rodriguez, K., Crowne, S. S., Rohde, C., & Duggan, A. (2007). Impact of a statewide home visiting program on parenting and on child development. *Child Abuse & Neglect, 31*, 829-852.

DuMont, K., Kirkland, K., Mitchell-Herzfeld, S., Ehrhard-Dietzel, S., Rodriguez, M.L., Lee, E., Layne, C., Greene, R. (2011). A Randomized Trial of Healthy Families New York (HFNY): Does Home Visiting Prevent Child Maltreatment? Final Report to the *National Institute of Justice*. Available at http://www.ncjrs.gov/pdffiles1/nij/grants/232945.pdf.

DuMont, K., Mitchell-Herzfeld, S., Greene, R., Lee, E., Lowenfels, A., Rodriguez, M., & Dorabawila, V. (2008). Healthy Families New York (HFNY) Randomized Trial: Effects on early child abuse and neglect. *Child Abuse & Neglect, 32*, 295-315.

DuMont, K., Spera, C., Mitchell-Herzfeld, S., Lee, E., Greene, R., Lowenfels, A., & Baum, D. (2005). *Findings from a randomized control trial of the Healthy Families New York Program*. Presented at the Society for Prevention Research, Washington, D.C.

Duncan, G., et al. (2007). School readiness and later achievement. Developmental Psychology, 43, (6), 1428-1446.

Durham, R. & Plank, S. (2010). *Maintaining high achievement in Baltimore: An examination of the elementary grade trajectories of four recent city schools first grade cohorts [Full Technical Report]*. Available at http://www.baltimore-berc.org/pdfs/1A_Final%20Report_FINAL_WITH%20TABLES_06-14-10.pdf.

Eckenrode, J., Campa, M., Luckey, D., Henderson, C., Cole, R., Kitzman, H., Anson, E., Sidora-Arcoleo, K., Powers, J., & Olds, D. (2010). Long-term effects on prenatal and infancy nurse home visitation on the life course of youths: 19 year follow-up of a randomized trial. *Archives of Pediatric and Adolescent Medicine, 164*(1), 9-15.

Englund, M., Luckner, A., Whaley, G., & Egeland, B. (2004). Children's achievement in early elementary school: Longitudinal effects of parental involvement, expectations, and quality of assistance. *Journal of Educational Psychology, 96*(40, 723-730.

Gerard, A. (1994). *Parent-Child Relationship Inventory (PCRI) Manual*. Western psychological Services: Los Angeles, CA.

Gomby, D. (2003). Appendix A. *Building school readiness through home visitation: Detailed research findings*. Available at http://http://www.ccfc.ca.gov/pdf/help/AppendixAfinal.pdf.

Harding, K., Reid, R., Oshana, D., & Holton, J. (2004). *Initial results of the HFA implementation study*. Chicago, IL: Prevent Child Abuse America.

Healthy Families New York. (2012). *Healthy Families New York: Multi site policy and procedures manual*. Available at http://www.healthyfamiliesnewyork.org/Media/doc/Policy_docs/Policy_Manual_1-1-12.pdf.

Hill, J., Brooks-Gunn, J., & Waldfogel, J. (2003). Sustained effects of high participation in an early intervention for low-birth-weight premature infants. *Developmental Psychology, 39*(4), 730-744.

Jimerson, S.R. (2001). Meta-analysis of grade retention research: Implications for practice in the 21st century. *School Psychology Review, 30*(3), 420-437.

Kempe, H. (1976). *Child abuse and neglect: The family and the community*. Ballinger Publishing Company: Cambridge, MA.

Kitzman, H., Olds, D., Cole, R., Hanks, C., Anson, E., Arcoleo, K., Luckey, D., Knudtson, M., Henderson, C., & Holmberg, J. (2010). Enduring effects of prenatal and infance home visiting by nurses on children. *Archives of Pediatric and Adolescent Medicine*, *164*(5), 412-418.

Kitzman, H., Olds, D., Henderson, C., Hanks, C., Cole, R., Tatelbaum, R., McConnochie, K., Sidora, K., Luckey, D., Shaver, D., Engelhardt, K., James, D., Barnard, K. (1997). Effects of prenatal and infancy home visitation by nurses on pregnancy outcomes, childhood injuries, and repeated childbearing: A randomized controlled trial. *Journal of the American Medical Association, 278*, 644-652.

Korfmacher, J. (1999). The Kempe Family Stress Inventory: A review. *Child Abuse and Neglect, 24*, 129-140.

Landsverk, J., Carrilio, T., Connelly, C., Ganger, W., Slymen, D., Newton, R., Leslie, L., & Jones, C. (2002). *Healthy Families San Diego clinical trial: Technical report*. Child and Adolescent Services Research Center and San Diego Children's Hospital and Health Center: San Diego, CA:

Lee, E., Mitchell-Herzfeld, S., Lowenfels, A., Greene, R., Dorabawila, V., & DuMont, K. (2009). Reducing low birth weight through home visitation: A randomized controlled trial. *American Journal of Preventive Medicine, 36,* 154-160.

Lyons-Ruth, R. & Melnick, S. (2004). Dose-response effect of mother-infant clinical home visiting on aggressive behaviors problems in kindergarten. *Journal of the American Academy of Child and Adolescent Psychiatry*, *43*(6), 699-707.

Maccoby, E., & Martin, J. (1983). Socialization in the context of the family: Parent-child interaction. In E. M. Hetherington (Ed.), P. H. Mussen (Series Ed.), *Handbook of child psychology: Vol. 4. Socialization, personality, and social development* (pp. 1-101). Wiley: New York.

Masten, A., Coatsworth, J., Neemann, J., Gest, S., Tellegen, A., & Garmezy, N. (1995). The structure and coherence of competence from childhood through adolescence. *Child Development, 66,* 1635-1659.

McCarton, C., Brooks-Gunn, J., Wallace, I., Bauer, C., Bennett, F., Bernbaum, J., Broyles, S., Casey, P., McCormick, M., Scott, D., Tyson, J., Tonascia, J., and Meinert, C. (1997). Results at age 8 years of early intervention for low-birth-weight premature infants, *Journal of the American Medical Association, 277*(2), 126-132.

McClelland, M., Morrison, F., & Holmes, D. (2000). Children at risk for early academic problems: The role of learning-related social skills. *Early Childhood Research Quarterly, 15*(3), 307-329.

Mitchell-Herzfeld, S., DuMont, K., Lee, E., & Spera, C. (2005). *New York Healthy Families Program randomized trial: Findings from the 2 year follow-up.* Presented at the Prevent Child Abuse New York Conference, Albany, NY.

Nievar, M.A., van Egeren, L., & Pollard, S. (2010). A meta-analysis of home visiting programs: Moderators of improvements in maternal behavior. *Infant Mental Health Journal, 31*(5), 499-520.

Olds, D., Henderson, C.R., Cole, R., Eckenrode, J., Kitzman, H., Luckey, D., Pettitt, L., Sidora, K., Morris, P., & Powers, J. (1998). Long-term effects of nurse home visitation on

children's criminal and antisocial behavior: 15 year follow-up of a randomized controlled trial. *Journal of the American Medical Association, 280,* 1238-1244.

Olds, D., Henderson, C.R., & Kitzman, H. (1994). Does prenatal and infancy nurse home visitation have enduring effects on qualities of parental caregiving and child health at 25 to 50 months of life? *Pediatrics, 93,* 89-98.

Olds, D., Kitzman, H., Cole, R., Robinson, J., Sidora, K., Luckey, D.W., Henderson, C.R., Hanks, C., Bondy, J., & Holmberg, J. (2004). Effects of nurse home-visiting on maternal life course and child development: Age 6 follow-up results of a randomized trial. *Pediatrics, 114,* 550-559.

Olds, D., Kitzman, H., Hanks, C., Cole, R., Anson, E., Sidora-Arcoleo, K., Luckey, D.W., Henderson, C.R., Holmberg, J., Tutt, R.A., Stevenson, A.J., & Bondy, J. (2007). Effects of nurse home visiting on maternal and child functioning: Age 9 follow-up of a randomized trial. *Pediatrics, 120,* e832-e845.

Olds, D., Robinson, J., O'Brien, R., Luckey, D., Pettit, L., Henderson, C., Ng, R., Sheff, K., Korfmacher, J., Hiatte, S., & Talma, A. (2002). Home visiting by paraprofessionals and nurses: A randomized, controlled trial. *Pediatrics, 110,* 486-496.

Olds, D., Robinson, J., Pettit, L., Luckey, D., Holmberg, J., Ng, R., Isacks, K., Sheff, K., & Henderson, C.R. (2004). Effects of home visits by paraprofessionals and by nurses: Age 4 follow-up results of a randomized trial. *Pediatrics, 114,* 1560-1568.

Olds, D., Sandler, L., & Kitzman, H. (2007). Programs for parents of infants and toddlers: Recent evidence from randomized trials. *Journal of Child Psychology and Psychiatry, 48,* 355–391.

Pearlin, L. & Schooler, C. (1978). The structure of coping. *Journal of Health and Social Behavior, 19,* 2-21.

Radloff, L. (1977). The CES-D Scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement, 1*, 385-401.

Raver, C. (2002). Emotions matter: Making the case for the role of young children's development for early school readiness. *Social Policy Report, 16*(3). Society for Research in Child Development: Ann Arbor, MI.

Reynolds, A.J., Ou, S., & Topitzes, J.W. (2004). Paths of effects of early childhood intervention on education attainment and delinquency: A confirmatory analysis of the Chicago child-parent centers. *Child Development, 75,* 1299-1328.

Rodriguez, M., DuMont, K., Mitchell-Herzfeld, S., Walden, N., Greene, R. (2010). Effects of Healthy Families New York on the promotion of maternal parenting competencies and the prevention of harsh parenting. *Child Abuse & Neglect, 34*, 711-723.

Romero, M. & Lee, Y. (2007). *A national portrait of chronic absenteeism in the early grades*. New York, NY: National Center for Children in Poverty. Available at http://www.nccp.org/publications/pdf/text_771.pdf.

Rubin, D., O'Reilly, A., Luan, X., Dai, D., Localio, R., & Christian, C. (2011). Variations in pregnancy outcomes following statewide implementation of a prenatal home visitation program. *Archives of Pediatric and Adolescent Medicine, 165*(3), 198-204.

Sidora-Arcoleo, K., Anson, E., Lorber, M., Cole, R., Olds, D., & Kitzman, H. (2010). Differential effects of a nurse home visiting intervention on physically aggressive behavior in children. *Journal of Pediatric Nursing, 25*(1Sieinberg), 35-45.

Steinberg, L., Elmen, J. D., & Mounts, N. S. (1989). Authoritative parenting, psychosocial maturity, and academic success among adolescents. *Child Development, 60*, 1424-1436.

Straus, M., Hamby, S., Finkelhor, D., Moore, D., & Runyan, D. (1998). Identification of child maltreatment with Parent-Child Conflict Tactics Scales. Development and psychometric data for a national sample of American parents. *Child Abuse & Neglect, 22*, 249-270.

Williams, Stern & Associates. (2005). *Health Families Florida: Evaluation Report January 1999 – December 2003*. Miami, FL: Author. Available at http://www.healthyfamiliesamerica.org/research/index.shtml.

Wu, W., West, S., & Hughes, J. (2010). Effect of grade retention in first grade on psychosocial outcomes. *Journal of Educational Psychology, 102*(1), 135-152.

APPENDIX A

School Record Coding Sheet

CODER: _____ ENTERER: _____

DATE CODED: _____ DATE ENTERED: _____

School Record Coding Form

Case ID						
1st Grade Report	YES (1)	NO (0)	GRADE RANK NOT APPROPRIATE (-9)			
School Year (ex., 05-06, 06-07, 07-08)			NOT SURE (-9)			
School Name:	City:		State:			
This School is:	**PUBLIC (1)**	**PRIVATE (2)**	**PAROCHIAL (3)**	**SPECIAL NEEDS (4)**	**CHARTER (5)**	**NOT SURE (-9)**

Additional Grades Received	YES (1)	NO (0)	IF YES, Was an additional 1st grade record also received?	
			YES (1)	NO (0)

ATTENDANCE			
Total Number of Days Absent	Number of Days:	NOT AVAILABLE (-9)	
Total Number of Days Tardy	Number of Days:	NOT AVAILABLE (-9)	

ACADEMIC PROGRESS				
Recommendation Regarding Promotion to Grade 2	PROMOTE (1)	UNDECIDED (0)	RETAIN (-1)	NOT AVAILABLE (-9)
Summer School Recommended	**YES (1)**	**NOT NOTED (0)**	**NOT SURE (-9)**	
CORE SUBJECTS				
Reading				
Best Grade Awarded	ABOVE GRADE LEVEL (3)	AT GRADE LEVEL (2)	BELOW GRADE LEVEL (1)	NOT AVAILABLE (-9)
Worst Grade Awarded	ABOVE GRADE LEVEL (3)	AT GRADE LEVEL (2)	BELOW GRADE LEVEL (1)	NOT AVAILABLE (-9)

Writing (may be called language arts or communication)				
Best Grade Awarded	ABOVE GRADE LEVEL (3)	AT GRADE LEVEL (2)	BELOW GRADE LEVEL (1)	NOT AVAILABLE (-9)
Worst Grade Awarded	ABOVE GRADE LEVEL (3)	AT GRADE LEVEL (2)	BELOW GRADE LEVEL (1)	NOT AVAILABLE (-9)
Math				
Best Grade Awarded	ABOVE GRADE LEVEL (3)	AT GRADE LEVEL (2)	BELOW GRADE LEVEL (1)	NOT AVAILABLE (-9)
Worst Grade Awarded	ABOVE GRADE LEVEL (3)	AT GRADE LEVEL (2)	BELOW GRADE LEVEL (1)	NOT AVAILABLE (-9)
SPECIALS				
Physical Education				
Best Grade Awarded	ABOVE GRADE LEVEL (3)	AT GRADE LEVEL (2)	BELOW GRADE LEVEL (1)	NOT AVAILABLE (-9)
Worst Grade Awarded	ABOVE GRADE LEVEL (3)	AT GRADE LEVEL (2)	BELOW GRADE LEVEL (1)	NOT AVAILABLE (-9)
Music				
Best Grade Awarded	ABOVE GRADE LEVEL (3)	AT GRADE LEVEL (2)	BELOW GRADE LEVEL (1)	NOT AVAILABLE (-9)
Worst Grade Awarded	ABOVE GRADE LEVEL (3)	AT GRADE LEVEL (2)	BELOW GRADE LEVEL (1)	NOT AVAILABLE (-9)
Art				
Best Grade Awarded	ABOVE GRADE LEVEL (3)	AT GRADE LEVEL (2)	BELOW GRADE LEVEL (1)	NOT AVAILABLE (-9)
Worst Grade Awarded	ABOVE GRADE LEVEL (3)	AT GRADE LEVEL (2)	BELOW GRADE LEVEL (1)	NOT AVAILABLE (-9)
OTHER				
Science				
Best Grade Awarded	ABOVE GRADE LEVEL (3)	AT GRADE LEVEL (2)	BELOW GRADE LEVEL (1)	NOT AVAILABLE (-9)
Worst Grade Awarded	ABOVE GRADE LEVEL (3)	AT GRADE LEVEL (2)	BELOW GRADE LEVEL (1)	NOT AVAILABLE (-9)
Social Studies				
Best Grade Awarded	ABOVE GRADE LEVEL (3)	AT GRADE LEVEL (2)	BELOW GRADE LEVEL (1)	NOT AVAILABLE (-9)
Worst Grade Awarded	ABOVE GRADE LEVEL (3)	AT GRADE LEVEL (2)	BELOW GRADE LEVEL (1)	NOT AVAILABLE (-9)

BEHAVIORS THAT PROMOTE LEARNING				
Works/Plays Cooperatively / Cooperates with Others / Moral Focus / Effort & Conduct				
Best Grade/Effort Awarded	ABOVE GRADE LEVEL (3)	AT GRADE LEVEL (2)	BELOW GRADE LEVEL (1)	NOT AVAILABLE (-9)
Worst Grade/Effort Awarded	ABOVE GRADE LEVEL (3)	AT GRADE LEVEL (2)	BELOW GRADE LEVEL (1)	NOT AVAILABLE (-9)
Follows Oral Directions or Classroom Rules (do NOT include grades for "follows written directions")				
Best Grade/Effort Awarded	ABOVE GRADE LEVEL (3)	AT GRADE LEVEL (2)	BELOW GRADE LEVEL (1)	NOT AVAILABLE (-9)
Worst Grade/Effort Awarded	ABOVE GRADE LEVEL (3)	AT GRADE LEVEL (2)	BELOW GRADE LEVEL (1)	NOT AVAILABLE (-9)
Listens				
Best Grade/Effort Awarded	ABOVE GRADE LEVEL (3)	AT GRADE LEVEL (2)	BELOW GRADE LEVEL (1)	NOT AVAILABLE (-9)
Worst Grade/Effort Awarded	ABOVE GRADE LEVEL (3)	AT GRADE LEVEL (2)	BELOW GRADE LEVEL (1)	NOT AVAILABLE (-9)
Organized / Manages Personal Belongings				
Best Grade/Effort Awarded	ABOVE GRADE LEVEL (3)	AT GRADE LEVEL (2)	BELOW GRADE LEVEL (1)	NOT AVAILABLE (-9)
Worst Grade/Effort Awarded	ABOVE GRADE LEVEL (3)	AT GRADE LEVEL (2)	BELOW GRADE LEVEL (1)	NOT AVAILABLE (-9)
Works Independently				
Best Grade/Effort Awarded	ABOVE GRADE LEVEL (3)	AT GRADE LEVEL (2)	BELOW GRADE LEVEL (1)	NOT AVAILABLE (-9)
Worst Grade/Effort Awarded	ABOVE GRADE LEVEL (3)	AT GRADE LEVEL (2)	BELOW GRADE LEVEL (1)	NOT AVAILABLE (-9)
Completes Home or Class Work on Time (do NOT include grades for "uses time effectively")				
Best Grade/Effort Awarded	ABOVE GRADE LEVEL (3)	AT GRADE LEVEL (2)	BELOW GRADE LEVEL (1)	NOT AVAILABLE (-9)
Worst Grade/Effort Awarded	ABOVE GRADE LEVEL (3)	AT GRADE LEVEL (2)	BELOW GRADE LEVEL (1)	NOT AVAILABLE (-9)

ACADEMIC INTERVENTION SERVICES (AIS)					
Special Education	YES (1)		NOT NOTED (0)		
Gifted Program	YES (1)		NOT NOTED (0)		
Speech	YES (1)		NOT NOTED (0)		
Remedial Reading	YES (1)		NOT NOTED (0)		
Remedial Writing	YES (1)		NOT NOTED (0)		
Remedial Math	YES (1)		NOT NOTED (0)		
Occupational Therapy	YES (1)		NOT NOTED (0)		
English as Second Language (ESL)	YES (1)		NOT NOTED (0)		
Behavior	YES (1)		NOT NOTED (0)		
Social Worker	YES (1)		NOT NOTED (0)		
Physical Therapy	YES (1)		NOT NOTED (0)		
Were any other Supportive or Intervention Services noted? Specify: _____	YES (1)		NOT NOTED (0)		
Were any other Supportive or Intervention Services noted? Specify: _____	YES (1)		NOT NOTED (0)		
Did OCFS <u>RECEIVE</u> an Individualized Education Plan (IEP) for the child?	YES (1)	NO (0)	NOT SURE (-9)		
Did OCFS <u>RECEIVE</u> any 1st grade Assessments/Test Results?	YES (1)	NO (0)	NOT SURE (-9)		
Was a Peabody Picture Vocabulary (PPVT) Test administered?	YES (1)	NOT NOTED (0)	IF YES →	Raw Score:	NOT AVAILABLE (-9)
				Std Score:	NOT AVAILABLE (-9)

DISCIPLINARY ACTIONS				
# of Disciplinary Actions Noted for this Academic Year			(0 to 100):	
Date	Behavior/Cause		Disciplinary Response	
	1. Aggressive Behavior with Peer 2. Aggressive Behavior toward Teacher 3. Inappropriate Verbal Behavior 4. Destruction of Property 5. Self Injury 6. Other: _____		1. Parent Notified 2. In-school Detention 3. In-School Suspension 4. Out-of-School Suspension 5. Expulsion 6. Transfer to Specialized School 7. Other: _____	
	1. Aggressive Behavior with Peer 2. Aggressive Behavior toward Teacher 3. Inappropriate Verbal Behavior 4. Destruction of Property 5. Self Injury 6. Other: _____		1. Parent Notified 2. In-school Detention 3. In-School Suspension 4. Out-of-School Suspension 5. Expulsion 6. Transfer to Specialized School 7. Other: _____	
	1. Aggressive Behavior with Peer 2. Aggressive Behavior toward Teacher 3. Inappropriate Verbal Behavior 4. Destruction of Property 5. Self Injury 6. Other: _____		1. Parent Notified 2. In-school Detention 3. In-School Suspension 4. Out-of-School Suspension 5. Expulsion 6. Transfer to Specialized School 7. Other: _____	
	1. Aggressive Behavior with Peer 2. Aggressive Behavior toward Teacher 3. Inappropriate Verbal Behavior 4. Destruction of Property 5. Self Injury 6. Other: _____		1. Parent Notified 2. In-school Detention 3. In-School Suspension 4. Out-of-School Suspension 5. Expulsion 6. Transfer to Specialized School 7. Other: _____	
	1. Aggressive Behavior with Peer 2. Aggressive Behavior toward Teacher 3. Inappropriate Verbal Behavior 4. Destruction of Property 5. Self Injury 6. Other: _____		1. Parent Notified 2. In-school Detention 3. In-School Suspension 4. Out-of-School Suspension 5. Expulsion 6. Transfer to Specialized School 7. Other: _____	
	1. Aggressive Behavior with Peer 2. Aggressive Behavior toward Teacher 3. Inappropriate Verbal Behavior 4. Destruction of Property 5. Self Injury 6. Other: _____		1. Parent Notified 2. In-school Detention 3. In-School Suspension 4. Out-of-School Suspension 5. Expulsion 6. Transfer to Specialized School 7. Other: _____	
	1. Aggressive Behavior with Peer 2. Aggressive Behavior toward Teacher 3. Inappropriate Verbal Behavior 4. Destruction of Property 5. Self Injury 6. Other: _____		1. Parent Notified 2. In-school Detention 3. In-School Suspension 4. Out-of-School Suspension 5. Expulsion 6. Transfer to Specialized School 7. Other: _____	