Early Education & Development

Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/heed20

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To cite this article: Ursula Y. Johnson, Veronica Martinez-Cantu, Arminta L. Jacobson & Carla-Marie Weir (2012): The Home Instruction for Parents of Preschool Youngsters Program's Relationship with Mother and School Outcomes, Early Education & Development, 23:5, 713-727

To link to this article: http://dx.doi.org/10.1080/10409289.2011.596002

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The Home Instruction for Parents of Preschool Youngsters Program’s Relationship with Mother and School Outcomes

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Research Findings: This study investigated the relationship of the Home Instruction for Parents of Preschool Youngsters (HIPPY) program to mothers’ involvement in education at home and school, student school readiness in kindergarten, and student academic outcomes at 3rd grade. HIPPY serves a mostly minority, low-income family population and employs home visitors that are mostly female and Spanish speaking. Using a within-group analysis, we found that HIPPY mothers increased educational activities in their home with their children after 1 year of home-based intervention. The majority (84.8%) of HIPPY kindergartners were rated as “ready for school” by their kindergarten teachers according to a within-group analysis. In addition, between-group analyses showed that HIPPY kindergartners had higher attendance rates, higher prekindergarten enrollment, and higher promotion to 1st grade compared to other kindergartners in the school district. HIPPY 3rd graders scored significantly higher on a state-mandated math achievement test than their matched peers.

Practice or Policy: The results suggest that HIPPY had a positive relationship with families and schools through improved parent involvement and student school outcomes.

Home visitation programs provide services that span physical, emotional, developmental, social, and health care–related domains to nearly a half million children and families in the United States (Astuto & LaRue, 2009). Home visitation as a mechanism of service delivery began as a means to reach disadvantaged and at-risk families in Europe (Halpern, 1999) and continues to accomplish the same goals in the United States with first-time mothers, low-income families, families at risk for abuse and neglect, immigrants, parents with limited formal education, families who speak English as a second language, teen parents, homeless families, and children who have developmental delays or are at risk for developmental delays (Astuto & LaRue, 2009). Although the effectiveness of home visiting programs is mixed, legislators have proposed legislation to provide...
funds for home visitation services to low-income pregnant women and low-income families with young children (‘‘S. 1267—111th Congress: Evidence-Based Home Visitation Act of 2009,’’ 2009); early childhood programs and families with English-language learners (‘‘S. 244—111th Congress: Education Begins at Home Act,’’ 2009); and families expecting a child, families who have children in prekindergarten, or low-income families (‘‘H.R. 2205—111th Congress: Education Begins at Home Act of 2009,’’ 2009). Furthermore, President Obama’s fiscal year 2010 budget proposed $8.5 billion over 10 years for evidence-based home visitation programs for low-income families.

Home Instruction for Parents of Preschool Youngsters (HIPPY) is a nationally recognized home visitation program that helps parents prepare their 3-, 4-, and 5-year-old children for school by fostering parents’ involvement in the home and school. Most parents are recruited when their child is 3 years old, although 4-year-olds are also recruited and then transitioned into the age 5 curriculum. HIPPY empowers parents who are low income and who have limited formal education to become their child’s first teacher and to form relationships with the school and community. Previous research has studied the school performance of HIPPY students (Baker, Piotrkowski, & Brooks-Gunn, 2003; Bradley & Gilkey, 2002) and changes in parent involvement (Barhava-Monteith, Harre, & Field, 2003a). However, HIPPY school outcomes are inconsistent, and HIPPY parent outcomes have not been fully explored. The present study examined the association between the HIPPY program and parents’ educational support in the home and in school, as well as students’ school readiness and later academic achievement. First, we describe the HIPPY home visitation model. Second, we discuss Epstein’s (2001) overlapping spheres of influence model to establish a theoretical framework. Third, we review prior research that has been conducted in this area to create a point of reference for this study. Fourth, we outline the methodology and illustrate how this study measured HIPPY’s relationship with parent and student outcomes. Finally, we present the results of this study and discuss the implications of the outcomes.

HIPPY

Avima D. Lombard, PhD, and colleagues at the School of Education, The Hebrew University of Jerusalem, Israel, in collaboration with the National Council of Jewish Women’s Research Institute for Innovation in Education, developed the HIPPY program in Israel in 1969 for mostly immigrant families based on the underlying principle that success begins at home. In the 2006–2007 program year, more than 16,000 children and families were being served in 23 U.S. states and the District of Columbia (‘‘About Us,’’ n.d.). The HIPPY program is also widely implemented in Australia, Austria, Canada, Germany, Italy, New Zealand, and South Africa and has pilot projects in Argentina, Denmark, the Philippines, and Switzerland the 2010–2011 program year. This international program serves thousands of families across the globe in 13 languages using the HIPPY model. The staffing, service delivery method, method of instruction, and learning activities are the four core components of the model.

The HIPPY staff at a local site consist of a coordinator and home visitors. The coordinator is usually a professional in the education field or a related field who is responsible for the implementation of the HIPPY program at a particular site. The coordinator’s responsibilities include selecting and training home visitors, recruiting parents, monitoring fidelity of implementation, and organizing parent group meetings and enrichment activities. The home visitors
deliver the HIPPY curriculum to parents in their homes weekly and instruct the parents on the use of the materials and activities through role play. The paraprofessional home visitors are recruited from the pool of former participating parents and are the linchpin of the program's model because of their prior experience as HIPPY parents, knowledge about the community, and similarity to HIPPY parents in terms of demographics and cultural experiences. Home visitors meet weekly with their coordinator to review the curriculum, discuss families, and identify resources for families when they require extra assistance outside their scope of knowledge. Home visitors are generally part-time employees, working no more than 20 hr a week, and are responsible for a caseload of 10 to 12 families.

The program is delivered to families in their home through home visits planned around the parents' schedules. At each visit, the home visitor delivers curriculum materials, role-plays developmentally appropriate uses of the curriculum materials, and shares child development knowledge with the HIPPY parent. Home visitors conduct the sessions in the language preferred by the parents. To support the skills and knowledge gained during the home visit, group meetings are scheduled a minimum of once a month. The group meeting is planned by home visitors and the coordinator and is a time for parents to share their experiences, for parents to socialize with parents who are similar to them socioeconomically and culturally, and for children to interact in a school-like setting. In addition, this time is used to connect parents with resources, such as speakers or HIPPY staff–led workshops in parenting, social service, volunteerism, and personal growth.

Role playing is the method of instruction in the HIPPY curriculum. This method lessens the didactic style of teaching to allow active learning to occur. Role playing is an adult learning method that can increase retention of concepts and skills and accelerate the learning process (Trivette, Dunst, Hamby, & O’Herin, 2009). Role play is used in the weekly meetings between the coordinator and home visitors, in which home visitors take turns playing parent and child to practice the curriculum learning activities and to simulate the experience of working with HIPPY parents. When home visitors role-play with parents during the weekly home visits, the parents have the chance to experience and learn the curriculum activities and understand the activities from the child’s point of view. Role play also allows the home visitor to assess the parent’s level of understanding of the curriculum.

The HIPPY curriculum has 30 weekly packets of developmentally appropriate learning activities, a set of 20 manipulative shapes, and nine books for each curriculum year for ages 3, 4, and 5. The weekly activity packets are in a structured format, similar to a classroom teacher’s lesson plan, to guide the parent–child interaction into a successful and positive play and learning experience. The learning activities are to be delivered daily by a parent to his or her child for a minimum of 15 min in the family’s preferred language, usually English or Spanish. The activities are sequential, meaning that skills and concepts are introduced using first the physical body, then concrete objects, and lastly symbolic representation. It is a curriculum of exposure, not mastery, and there are varied opportunities for practice so continued learning can take place.

The curriculum’s focus is on language, problem solving, sensory and visual discrimination, and fine and gross motor skills. Primarily, language skills are developed through interaction with the storybooks, such as through listening, talking, and picture reading. When using the HIPPY curriculum, parents help their children with phonological and phonemic skills, letter recognition, and book knowledge. For example, parents and children read books together; play word games; and make letters with concrete objects such as toothpicks, beans, or pasta. Problem-solving
skills are developed through pre-math games and activities that involve categorizing, matrices, quantities, sequencing, and spatial relationships. For example, a matrix might have a variety of animals engaged in different activities, with the horizontal lines the same animals and the vertical lines animals engaged in the same activity. Sequencing activities are played with concrete objects in the beginning and finally with complex geometric pictures. Discrimination skills are developed by means of games that require children to use their senses to find similarities and differences in objects and pictures, such as a guessing game in which children are asked to feel for an object in a paper bag and guess the identity of the object. In this activity, children use expressive language to describe the object, parents provide additional descriptions, and finally the object is revealed to the children. Parents interact with their children to develop their physical skills by writing, drawing, coloring, and moving their bodies in games and activities.

A typical HIPPY home visit takes 1 hr to complete in the parent’s home. At the beginning of the home visit, the home visitor and parent converse informally about the previous week’s activities, and then the home visitor introduces the current week’s set of learning activities. The home visitor and parent review the new curriculum information by role-playing the entire set of activities together. The role play includes reading a storybook, asking engaging questions about the storybook, playing games, and conducting the experiments that the parent will be doing with the child. This ensures that the parent has hands-on, concrete experience with the learning materials before using them with the child. The home visit concludes with the home visitor answering any parent questions, reminding the parent of any activities occurring in the community, and confirming the next home visit.

Texas HIPPY

In 1988, the National Council of Jewish Women’s Greater Dallas Chapter partnered with the Dallas Independent School District (the public education system in Dallas, Texas) to pilot the HIPPY program, serving 14 migrant families in West Dallas. Ten years later, Texas HIPPY was established as a state office for HIPPY USA. As of 2008, more than 19,000 Texas children have participated in the HIPPY program with their families. Currently, seven communities across Texas are serving as HIPPY sites. The Texas HIPPY program model includes weekly home visits over the course of 30 weeks to deliver the curriculum and monthly parent group meetings over the school year. Texas HIPPY’s goals are threefold: (a) to empower parents with limited formal education to be their child’s first teacher, (b) to increase the school readiness skills of HIPPY preschoolers, and (c) to increase parents’ involvement in their child’s education. The program’s mission is to bring families, schools, and communities together by removing educational barriers to the success of families, and children in particular.

THEORETICAL FRAMEWORK: THE OVERLAPPING SPHERES OF INFLUENCE MODEL

The present investigation is based on Epstein’s (2001) overlapping spheres of influence model, which states that the relationship among school, family, and community partnerships is instrumental for student learning and growth. According to the framework, the contexts that influence children and are influenced by children are their family, school, and community, which
is represented by a sphere in a pictorial representation of the model. The amount of overlap of the spheres is based on the time, age, and/or grade level of the child; experiences in the child’s family; and experiences in the child’s school (Epstein, 2001). For example, there may be little overlap of the three spheres for a 3-year-old child who is not in school but is instead cared for at home by her mother. The small degree of overlap may be from the mother’s use of school readiness knowledge from her experiences with an older child, the media, and a parenting class at a local school. A year later the child could be in prekindergarten, and a larger degree of overlap of the spheres would be expected because the school and the family may partner to help the child succeed academically and socially. This model is dynamic, adjusting in the overlap or separation of the family and school spheres based on the level of communication and support they provide each other (Epstein, 2001).

Epstein (2001) delineated six types of family, school, and community involvement that are important to student success: (a) parenting, (b) communicating, (c) volunteering (and supporting school programs), (d) learning at home, (e) decision making, and (f) collaborating with the community. Although previous researchers studied the school (Sanders, 2008, 2009; Sheldon, 2003, 2007) and/or family (Sanders, 2008; Sheldon, 2002, 2005) taking the lead to bring about the level of involvement necessary for sustained student success, we presumed that a community- and home-based organization partner such as HIPPY could increase involvement and student achievement. HIPPY encourages all six of the aforementioned involvement types. The HIPPY curriculum helps parents establish home environments that support school learning. In addition, the HIPPY curriculum learning activities teach parents to work with their children on cognitive tasks, thereby providing a base for growth as their children enter school and have to complete homework and other related school work. In HIPPY group meetings, volunteerism and communication with teachers and school personnel in the parents’ local schools are targeted to increase parent school involvement. Parents are also encouraged to join the parent–teacher association at their local schools to have a voice in the decision-making process. The group meetings expose the parents to wide-ranging community resources, which increases parents’ community collaboration. Based on Epstein’s overlapping spheres of influence model, we hypothesized that HIPPY students would enter school ready to learn and would have increased math and reading achievement scores compared to children who did not participate in HIPPY. Furthermore, we hypothesized that parents would increase their involvement at home and at school by increasing their involvement in literacy and numeracy with their children in the home and by increasing their school involvement (communication and volunteerism) from the beginning of the HIPPY program to the end of the program.

**PREVIOUS LITERATURE**

**Parent Involvement**

The majority of research, evaluation studies, and unpublished reports of the HIPPY program have been centered on child outcomes, with limited scholarship on the program’s impact on parents. Roundtree’s (2003) multiple case study design found that three African American HIPPY parent–child dyads of low socioeconomic status used a wide range of scaffolding
behavior, such as verbal encouragement and modeling, before the introduction of the HIPPY program and that one dyad increased the behavior post-HIPPY. This parent–child dyad was rated higher on scaffolding behavior in their everyday interactions after the program. We did not examine specific parent–child interactions like Roundtree did; our study was concerned with how often and in what capacity parents are involved with their children in the home. We believe our findings will provide further insight into HIPPY’s relationship with parents’ home involvement.

International studies of HIPPY parent involvement are more positive, finding that HIPPY parents spend more quality time with their children (Westheimer, 2003) and that HIPPY parents and HIPPY home visitors are more involved in the educational activities of their children (Barhava-Monteith et al., 2003a) compared to non-HIPPY parents. In an evaluation of the South African HIPPY program, HIPPY parents and non-HIPPY parents in focus groups discussed the time spent with their children. HIPPY parents revealed more effortful activities with their children, for example reading together and teaching reading and writing (Westheimer, 2003). BarHava-Monteith et al. (2003a) used a self-report measure and focused on HIPPY participants’ involvement in school-related activities, such as borrowing a book from the library, attending an event at the school, and so on. They found a significantly higher proportion of HIPPY participants involved in the local school compared to non-HIPPY participants. The present study sought to further examine parents’ involvement in the home through educational activities and in the school through participation and communication with school staff.

Child Outcomes

A variety of studies have shown that HIPPY children have better cognitive skills (Baker, Piotrkowski, & Brooks-Gunn, 1998, 1999; Barhava-Monteith, Havre, & Field, 2003b), perform better on classroom adaptation measures (Baker et al., 1998, 1999), and have more positive long-term school outcomes (Bradley & Gilkey, 2002). Baker et al. (1998) found that compared to non-HIPPY participants, children who participated in the HIPPY program scored significantly higher on a standardized measure of cognitive skills and had teacher reports of better classroom adaptation. At the follow-up evaluation 1 year later, HIPPY children scored significantly higher on a standardized measure of reading and had a higher rating of classroom adaptation in comparison to the control group. With a second cohort of HIPPY children these results were not replicated. Similar mixed findings resulted when two sites measured program effectiveness using two cohorts (Baker et al., 1999). Overall, Cohort 1 had higher cognitive skills scores, better classroom adaptation, increased standardized reading scores, and increased promotion to the next grade compared to the comparison group. Unfortunately, these results were not replicated in Cohort 2, possibly because of varied parental involvement in HIPPY, which was found in the qualitative analysis of the program sites.

Bradley and Gilkey (2002) examined the long-term benefits of the HIPPY program on school outcomes using a large sample of students in Arkansas who had a HIPPY home-based preschool experience, a classroom-based preschool experience, or neither HIPPY nor the classroom preschool experience. Students were measured on school attendance, school suspension, special education services, classroom grades, standardized achievement scores, and classroom behavior at third and sixth grades. Results indicated that at both grade levels HIPPY students differed
significantly from the two other groups by having a lower number of school suspensions, better grades, better classroom behavior ratings, and higher achievement test scores.

Three studies conducted in BarHava-Monteith et al.’s (2003b) research assessed the reading ability, school readiness, and school behavior of HIPPY children compared to a comparison group. On three out of six reading subtests, 6-year-old HIPPY children had significantly higher mean scores than their counterparts. There were no statistically significant differences between HIPPY and non-HIPPY 5-year-olds on a standardized test that measured school readiness skills (prereading and pre-mathematics skills). A behavioral evaluation scale measured academic self-esteem by teacher observation. Again, the HIPPY children did not score significantly different than the control group. In summary, further research is needed to provide support that the HIPPY program is related to improvements in school readiness and academic achievement, a major goal of the program.

The current investigation aimed to strengthen understanding of how the HIPPY intervention relates to parents’ home and school involvement and students’ academic achievement. We hypothesized that first-year HIPPY parents would have increased involvement with their children at home and with teachers and/or administrators at school from the beginning of the program to the end of the program. Within-group analysis was used to test this hypothesis. In addition, we hypothesized that kindergarten teachers would rate a high percentage of HIPPY parents and HIPPY students as being involved in their child’s academic life and being ready for school. Within-group analyses were used to test these hypotheses. The following hypotheses were tested using between-group analyses: Compared to non-HIPPY students, HIPPY 5-year-olds would have (a) higher enrollment rates in prekindergarten, (b) higher attendance rates in kindergarten, and (c) lower kindergarten retention. Lastly, we hypothesized that former HIPPY participants in third grade would score higher than non-former HIPPY students on state math and reading achievement tests.

METHODS

The present study was conducted in two of the seven Texas HIPPY sites, which are located in north Texas. These Texas HIPPY sites were chosen for participation because the public school district’s partnership with HIPPY eased the collection of school data. In addition, the family demographics in the two chosen sites were similar to those in other Texas HIPPY sites. Site A was in a large metropolitan area that had a public school district encompassing all or portions of 13 municipalities and covering 384 square miles of land. This public school district had 225 public schools serving a student body of more than 158,000 students of predominantly minority ethnicity (65.3% Latino, 28.7% African American, 4.8% Caucasian, 1.0% Asian, and 0.2% American Indian). Site B was located in a city that had a population of more than 200,000 people, with the local participating public school district enrolling 33,189 students in prekindergarten to 12th grade during the year of data collection. The ethnic distribution was 67.3% Latino, 16.0% Caucasian, 12.3% African American, 4.2% Asian, and 0.3% American Indian. Both HIPPY sites served families in communities that had a combination of the following risk characteristics: low student standardized test scores, high poverty levels, low literacy levels of parents, lack of parental involvement, and lack of English proficiency. Sites A and B had a majority of minority families (Latino and African American), but HIPPY worked disproportionately with Latinos at both sites.
Sample and Research Design

The current analyses used a within- and between-group design to estimate associations between the HIPPY intervention and parent involvement and student academic achievement. The within-group analyses consisted of parent involvement and school readiness outcomes, whereas the between-group design compared HIPPY 5-year-olds to non-HIPPY 5-year-olds on kindergarten outcomes and former HIPPY students who were in third grade to non-HIPPY third graders on reading and math achievement tests.

**Parent involvement.** In the 2007–2008 program year, 87 HIPPY mothers (79% Latina and 76% Spanish speaking) of 3- and 4-year-old children participating in their first year of the HIPPY program were recruited at both sites to measure first-year parent home and school involvement. In the fall of 2007, HIPPY home visitors surveyed the first-year mothers on their home and school involvement prior to Week 2 of the 30 weeks of the HIPPY curriculum. The same survey was administered again at the completion of the 9-month program year. One-tailed, paired samples t tests were used to analyze this pre/post design without a comparison group.

In the spring of 2008, kindergarten teachers at both sites were surveyed to measure the school involvement of parents (n = 92) of HIPPY kindergartners who had been participants in the HIPPY program for a minimum of 1 year. Teachers were unaware of the HIPPY intervention and were asked to rate the school involvement of the HIPPY child’s parent by comparing it to the school involvement of other parents in the classroom. The frequencies of the teachers’ ratings of school involvement for the HIPPY parents were used to analyze the results. There was no comparison group for this analysis.

**School outcomes.** The school readiness of kindergartners enrolled in the 2007–2008 school year was measured in Sites A and B by a survey completed by the kindergarten teachers of HIPPY students (n = 92) in the spring of 2008. The kindergarten teachers were not aware of the student’s involvement in HIPPY; the HIPPY students were referred to as “target students” in the survey instructions. The teachers were instructed to rate the students as below average, average, or above average compared to other children in their class in classroom adaptation and verbal behavior domains. The kindergarten teachers rated the students’ classroom verbal behavior based on the students’ ability to function in the classroom in English or English and Spanish if the student was enrolled in a monolingual or bilingual classroom, respectively. This within-group analysis used frequencies of the teachers’ ratings to determine HIPPY students’ school readiness.

School outcomes at the kindergarten level, specifically prior enrollment in prekindergarten, kindergarten attendance rates, and kindergarten retention, were collected from school records from Site A. The school records included the population of kindergarten students (N = 6,857) enrolled for the 2007–2008 school year. A total of 279 HIPPY kindergartners were identified from that population of students in the school district’s student database. Characteristics of the HIPPY students (gender, race/ethnicity, school membership, and free lunch eligibility) were identified and used to match non-HIPPY kindergartners. The 279 non-HIPPY students were randomly selected proportionally based on the demographic characteristics from the kindergarten population. For example, if there was a HIPPY student who was female, was African American, attended a certain school, and qualified for free lunch, then a student with these same characteristics was randomly selected from among the students who did not participate in HIPPY. A post hoc within-school
matching design was used to match on gender (50.18% female), grade (kindergarten), ethnicity (90.13% Latino, 8.98% African American, 0.90% Caucasian), school membership, and economic status (94.80% qualified for free lunch and 5.20% qualified for reduced lunch). This between-group analysis used the t test for attendance rate and chi-square tests of independence for prekindergarten attendance and kindergarten retention.

Third-grade math and reading standardized assessment scores were collected through the public school districts’ evaluation departments. Prior HIPPY students (n = 108) enrolled in third grade in 2007–2008 were compared to non-HIPPY third graders (n = 108). Students who were not prior HIPPY participants were randomly selected from among a population of third graders (N = 4,361 at Site A and N = 3,890 at Site B) and matched on the following variables: gender (54.63% female), grade (third), ethnicity (85.19% Latino, 12.04% African American, 2.78% Caucasian), school membership, and economic status (60.18% qualified for free lunch and 2.78% qualified for reduced lunch). Data were analyzed using one-way analyses of variance.

There were missing data for the parent involvement variable (1.3%) and school readiness variable (5.4%), as measured by the teacher survey. Listwise deletion was applied to the data set, which did not affect sample size significantly; therefore, the power of the design was not reduced. There were no missing data in the kindergarten and third-grade samples collected from the public school districts.

Measures

**Parent involvement interview.** First-year mothers completed a 14-item, 4-point Likert-type questionnaire administered by their home visitor prior to Week 2 and after Week 30 of the HIPPY curriculum. The Parent Involvement Interview was adapted from Britto and Brooks-Gunn’s (2003) HIPPY Parent Interview instrument and is divided into three sections: (a) in-home literacy, (b) parent’s interactions with school staff, and (c) parent’s school involvement. A sample question from Section 1, in-home literacy, is “In a typical week, how often do you spend time telling stories, reading books, or singing songs to your child at home?” A sample question in Section 2, parent’s interactions with school staff, is “How often have you had a face-to-face, phone conversation or conference with your child’s teacher?” Lastly, Section 3, parent’s school involvement, asks questions similar to “How often have you volunteered at your child’s school in the classroom?” The scale had a Cronbach’s alpha of .65. Response categories ranged from 1 (never/seldom) to 4 (daily). For the parent’s interactions with school staff section of the survey the items on the scale were averaged for a mean score per section.

**Kindergarten Teacher Survey (KTS).** The KTS is a 20-item questionnaire that measures children’s classroom adaptation and verbal behavior and parent involvement. The kindergarten teachers assessed target (HIPPY) children and parents by observing their school behavior. This measure was adapted from Britto and Brooks-Gunn’s (2003) Kindergarten Teacher Survey instrument previously used to evaluate the school readiness of HIPPY children. Two of the three sections are classroom adaptability and classroom verbal behavior, in which teachers rate the students as below average (score of 1), average (score of 2), or above average (score of 3) compared to other children in their class. Section A of the KTS measures a child’s ability to adapt to classroom situations, such as “Child is able to carry out the teacher’s directions well; listens carefully when the teacher is giving instructions to the class.” According to a sample of Texas
teachers, a score of 5 out of 8 questions is the benchmark for students being ready for school. Section B of the KTS measures a child’s classroom verbal behavior, such as “Recalls and communicates the essence of a story or other sequential material which he/she has heard or read in school.” According to a sample of Texas teachers, a score of 3 out of 5 questions is the benchmark for students being ready for school.

The last section of the KTS is a measure of parents’ involvement at the school as observed by the teacher. For six items in the section, the parent is rated on a 3-point scale (never, 1–2 times, and 3 or more times) on his or her frequency of contact with school personnel and involvement in the child’s classroom and school. The last item in the section compares target mothers to other parents in the classroom on overall involvement in their child’s education; it has three response categories: more involved, equally involved, and less involved. The KTS had a Cronbach’s alpha of .91. Frequencies in each response category were reported.

School outcomes. At the kindergarten level at Site A, three categories of outcomes were assessed: enrollment in prekindergarten, attendance rates, and kindergarten retention. Enrollment in prekindergarten and kindergarten retention were dichotomously scored, 1 for student attended prekindergarten and 1 for student retained in kindergarten. Attendance rate was a percentage of how many days the student was present in the 2007–2008 school year.

At Sites A and B, scores on a state-mandated standardized achievement test were used to assess the math and reading achievement of HIPPY and non-HIPPY students at third grade. The Texas Assessment of Knowledge and Skills (TAKS) is a comprehensive testing program that assesses the Texas Essential Knowledge and Skills, which are statewide instructional goals set at each grade level for educators. The math and reading subtests of the TAKS are administered to all third graders in Texas. The third-grade math TAKS has 40 items that measure six objectives: (a) numbers, operations, and quantitative reasoning; (b) patterns, relationships, and algebraic reasoning; (c) geometry and spatial reasoning; (d) measurement; (e) probability and statistics; and (f) mathematical processes and tools. The subtest for the 2008 administration was found to have an alpha of .89 (“Technical Digest 2007–2008,” 2009). The third-grade reading TAKS has 36 test items that assess students’ knowledge on four objectives: (a) basic understanding, (b) literary elements, (c) analysis using reading strategies, and (d) analysis using critical-thinking skills. The subtest for the 2008 administration was found to have an alpha of .88 (“Technical Digest 2007–2008,” 2009). The TAKS results are presented using scale scores; a score of 2100 means the student met the minimum standards, and a score of 2400 signifies a ‘‘commended performance’’ on the measure.

RESULTS

The purpose of the study was to examine the relationship between the HIPPY program and the following outcome variables: (a) first-year parent school and home involvement, (b) second- or third-year parent school involvement, (c) kindergarten school readiness and other school outcomes, and (d) third-grade math and reading achievement.

Parent Involvement

HIPPY mothers \( n = 87 \) increased their parental involvement in their home from the beginning to the end of the intervention program. Table 1 displays the means, standard deviations, \( t \)-test
results, and effect sizes. Mothers new to the HIPPY program significantly increased their participation in home literacy activities across their first year of involvement in HIPPY. On average, the HIPPY mothers increased their home involvement at the posttest by about one third of a standard deviation (Cohen’s $d = .36$) over the pretest. Moreover, 52 of the 87 new mothers had school-age children and completed the second and third sections of the Parent Involvement Interview. They did not statistically significantly increase contact with school personnel from pre- to posttest or become more involved in school meetings and activities after the HIPPY program, in contrast to before the HIPPY program. The results were most likely attenuated because of the low reliability of this measure.

Teachers observed the school involvement of parents ($n = 92$) of 5-year-old HIPPY students. These parents had participated in the HIPPY program for a minimum of 1 year. As a whole, the teachers reported that 54.4% of the HIPPY parents were more involved in their child’s education in comparison to other parents in the teachers’ classrooms. Following are the percentages of HIPPY parents rated as having frequent contact with the school (rated as three or more times in the school year): attending a conference (96.7%), attending an open house or other program (92.2%), observing the classroom (41.6%), volunteering for field trips (52.9%), volunteering in the classroom (61.8%), and having personal contact with the teacher (97.8%).

### School Outcomes

Kindergarten teachers were instructed to compare target students’ behavior to that of other students in their classroom. According to the benchmark for students to be considered ready for school (as explained in “Kindergarten Teacher Survey [KTS]”), 93.5% of HIPPY kindergartners were rated by their teachers as school ready in classroom adaptability. With regard to verbal classroom behavior, 89.1% of HIPPY kindergartners were rated as ready for school. The majority (84.8%) of HIPPY kindergartners were rated by their teachers as school ready in both classroom adaptability and verbal behavior.

Table 2 displays the one-way analysis of variance summary table with effect sizes. Although HIPPY kindergarten students had significantly higher attendance rates ($M = 97.03, SD = 3.09$), than non-HIPPY kindergartners ($M = 95.88, SD = 4.33$), $F(1, 556) = 12.90, p < .001$, attendance rates were close, at 97% and 96% attendance for the school year, respectively. In addition, the relation between HIPPY participation and prekindergarten attendance was significant, $\chi^2(1, N = 558) = 84.97, p < .01$. HIPPY kindergartners were more likely to attend prekindergarten the prior year (94% attended prekindergarten in 2006–2007) than non-HIPPY kindergartners (62% attended prekindergarten in 2006–2007). The association between HIPPY participation

### Table 1

<table>
<thead>
<tr>
<th></th>
<th>Pre Mean</th>
<th>Post Mean</th>
<th>t test</th>
<th>df</th>
<th>Cohen’s d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home Involvement</td>
<td>2.82 (0.63)</td>
<td>3.03 (0.53)</td>
<td>2.57*</td>
<td>86</td>
<td>0.36</td>
</tr>
<tr>
<td>School Contact</td>
<td>2.11 (0.75)</td>
<td>2.15 (0.64)</td>
<td>0.32</td>
<td>51</td>
<td>–</td>
</tr>
<tr>
<td>School Involvement</td>
<td>1.44 (0.57)</td>
<td>1.38 (0.53)</td>
<td>0.55</td>
<td>51</td>
<td>–</td>
</tr>
</tbody>
</table>

*Note. *$p < 0.05$; standard deviations appear in parentheses beside means.
and kindergarten retention was also significant, \( \chi^2(1, N = 558) = 4.35, p < .05 \). HIPPY kindergartners were less likely to be retained (3\% retained in the 2007–2008 school year) than non-HIPPY kindergartners (6\% retained in the 2007–2008 school year). Although the results were statistically significant, the small difference in group mean attendance rates (1.15) and small effect size (\( \eta^2 = .02 \)) suggest a negligible HIPPY relationship with student attendance rate. Similarly, the relationship between HIPPY participation and kindergarten retention had a small effect size (\( r^2 = .01 \)). HIPPY participation had a stronger relationship with prekindergarten attendance, accounting for 15\% of the variance in the outcome variable.

HIPPY third graders scored significantly higher on the math TAKS subtest (\( M = 2241.31, SD = 184.02 \)) compared to their non-HIPPY peers (\( M = 2186.50, SD = 208.31 \)), \( F(1, 214) = 4.20, p = .042 \). The observed effect was small (\( \eta^2 = .02 \)), indicating that HIPPY participation accounted for about 2\% of the variance in the math TAKS subtest scores. On the reading TAKS subtest, HIPPY third graders scored lower (\( M = 2203.05, SD = 196.33 \)) than their counterparts (\( M = 2221.45, SD = 199.04 \)), \( F(1, 182) = 0.42, p = .518 \). Table 2 displays the results of the one-way analysis of variance with effect sizes.

### CONCLUSIONS

Research continues to grow regarding the effectiveness of home visiting programs in general (Astuto & Allen, 2009; Korfmacher et al., 2008) and the HIPPY program specifically (Westheimer, 2003). The present study illustrates the relationships the HIPPY program has with its adult and child participants through the measurement of parent behavioral change and child academic achievement. Texas HIPPY’s goal for student achievement through the dynamic relationship among the school, family, and community is supported by Epstein’s (2001) overlapping spheres of influence model.
The home visitation program targeted parental behaviors that support school readiness skills, such as literacy and numeracy activities from the HIPPY curriculum and volunteerism in the school. HIPPY mothers reported increased involvement in academic-related activities in the home with their children after the first year of HIPPY intervention. Although the magnitude of the effect was modest ($d = .36$), it is encouraging because this is HIPPY’s strength—parent involvement after only 1 year of a 2- to 3-year program. First-year HIPPY mothers did not report statistically significant increased involvement at the school level. Prior research has found that Latino parents may perceive parent involvement differently than teachers and school administrators and therefore are perceived by educators and other stakeholders to not be involved in their children’s academic life (Zarate, 2007). For example, Latinos may believe that parent involvement pertains to monitoring their children and ensuring school attendance, whereas educators believe that checking homework and attending parent–teacher conferences are examples of being involved. This difference in cultural orientation may be related to the lack of significant findings in parent involvement.

A high percentage of more experienced HIPPY parents (2–3 years of HIPPY participation) did a better job of being involved in their child’s classroom and school compared to other parents of children in the classroom, as reported by their child’s teacher. These results replicate Barhava-Monteith et al.’s (2003a) findings that HIPPY parents are involved in educational activities. This school involvement may be related to the site coordinators’ and home visitors’ targeted programs to encourage parents to volunteer in the school and contact teachers and administrators. Also, parent group meetings are held in a local public school, thereby granting parents exposure to the school culture and familiarity with school personnel.

The HIPPY program was positively related to school outcomes. The majority of HIPPY students are considered at risk for starting school behind their peers because most are English-language learners, are ethnic minorities, and are of a low socioeconomic status. Yet kindergarten teachers of HIPPY students report that almost 85% of the children enter kindergarten ready to learn in the classroom adaptability and classroom verbal behavior domains. Also, at the kindergarten level, HIPPY students attend school more regularly, are not retained as often, and attend prekindergarten at a much higher rate than their non-HIPPY peers. These three school behaviors may reflect HIPPY kindergartners’ school connectedness (or bond), which is defined as students’ perception that their school cares about them as students and as individuals (Blum, 2005). School connectedness is related to a decrease in negative school behaviors, for instance fighting and bullying, and an increase in academic performance and classroom engagement. The kindergarten school outcomes provide an overall picture of a HIPPY student who is better prepared to enter school than a child who has not received the home visitation intervention.

Third-grade results showed that HIPPY students outscored non-HIPPY students on the math achievement test. The positive relationship between former HIPPY participation and later math achievement is supported by previous HIPPY research (Baker et al., 1998; Bradley & Gilkey, 2002; Nievar, Jacobson, Chen, Johnson, & Dier, 2011) and Duncan et al.’s (2007) meta-analysis that early math learning is a strong predictor of later academic achievement. The HIPPY curriculum includes math activities and games that introduce and support math concept knowledge, such as number knowledge and ordinality. The early math skills that the HIPPY preschool children learned may be associated with later math skills and abilities. HIPPY participation did not have a statistically significant association with standardized third-grade reading scores, which may be because the majority of the HIPPY sample spoke Spanish in the home as preschoolers in comparison to their peers.
The research design presents some limitations for the study; therefore, caution is urged in interpreting the findings. None of the analyses used a random experimental design because of a lack of financial resources and the political and ethical considerations for choosing some families to participate and denying others the privilege. Because this was a concern, as it is for most social science research, we used a post hoc matching design to control for demographic variables in the kindergarten and third-grade school outcomes. Furthermore, only the kindergarten attendance, prekindergarten enrollment, and attendance outcomes and the third-grade math and reading achievement analyses used a comparison group. The other analyses did not, which makes it difficult to determine whether the effect present is due to the intervention or possibly history or maturation. Although the change in HIPPY parents’ behavior could be due to other factors, such as a high motivation for their child’s academic success or an increased desire for personal growth, it is more likely that the effect was due to the home visiting intervention. The intervention explicitly teaches parents how to dialogue with school personnel and become advocates in the school for their children through discussion in HIPPY parent group meetings. Therefore, it is not surprising that HIPPY parents increased their positive behaviors from the beginning of the program year to the end. Overall, parents reported more involvement outside of the school in academic-related activities with their preschool children, such as reading together and visiting the library. Moreover, in the short term kindergarten teachers reported a majority of HIPPY children as school ready, and in the long term former HIPPY students had benefits in mathematical reasoning skills approximately 5 years after the family’s participation in the program.

Future research should focus on the number of home visits families receive and the effectiveness of the program on child and parent outcomes. Because HIPPY can be utilized as a 2-year program (with 3- and 4-year-old children) or a 3-year program (with 3-, 4-, and 5-year-old children), it would be informative to measure the impact of the home visitation program based on the quantity of home visits. In addition, research on the impact of HIPPY according to levels of involvement and engagement by parents would provide more depth about the effectiveness of the program. Although not the focus of the present study, additional investigation into fidelity of implementation, dosage, and different types of populations served is suggested because of their possible influence on parent and child outcomes.

Although many of the benefits of the HIPPY home visitation program are known, research to date has primarily examined broad outcome measures. Research related to the processes involved in the HIPPY program is needed to examine how and why HIPPY can lead to successful learning and development in children and their families and under what circumstances. A better understanding of how HIPPY works can lead to improvements in training and implementation of the program and positive development of HIPPY as a resource for improving the lives of low-income children and their families.

REFERENCES


