Plan Overview for the Baby TALK Home-Visiting Pilot Efficacy Study

AIR has considerable expertise related to understanding, evaluating, and supporting the education of children from birth through college. AIR's Education program focuses on improving teaching and learning to ensure that all students—particularly those facing historical disadvantages—have access to a high-quality, effective education. Our reputation is built on a solid foundation of providing research, analysis, technical assistance, assessment, and strategic planning to school districts, states, the federal government, industry, organizations, and foundations. AIR has conducted dozens of research, evaluation, consulting, and technical assistance projects related to infants, toddlers, and preschoolers, and their families in home, school, and/or in community settings. One distinguishing characteristic of AIR is our multidisciplinary problem-solving capability. We select from the full range of social science methods and use the approaches best suited to the particular problems we are called on to address. We have more than 1,500 research, technical, administrative, and clerical personnel. Nearly 60 percent of our U.S.–based program staff hold advanced degrees, and 39 percent of these hold doctorates or equivalent terminal degrees. We have numerous staff with extensive expertise in early childhood learning and development.

AIR's Early Childhood Education practice area in our Education program offers expertise on a range of topics: program quality improvement and accountability; child development and school readiness assessment; family engagement; learning and program standards; early literacy and mathematics instruction; prevention services; school transitions; and teacher professional development, leadership, and mentoring. We provide early childhood research, evaluation, consultation, and technical assistance services using rigorous multiple-methods strategies. We design and conduct formative evaluations, descriptive studies, development of measures, and qualitative and quantitative data collection and analyses. AIR is a leader in the design and implementation of randomized controlled trial (RCT) efficacy studies, including ones focused on early childhood and family engagement. In addition, we guide strategic planning and logic model development processes; inform policy and program decisions by analyzing needs, costs, and benefits in an array of implementation strategies; and improve early childhood practice by developing and disseminating evidence-based resources, training, and tools.

Our clients include schools, school districts, nonprofit organizations, foundations, associations, and government agencies. Illinois clients and/or partners include the Action for Illinois Children; Chapin Hall Center for Children; Chicago Public Schools (CPS); Collaborative for Academic, Social, and Emotional Learning; the Illinois Early Learning Council; Illinois State Board of Education; and the University of Chicago Consortium on Chicago School Research (Chicago Consortium).

Study Plan

A rich theoretical, clinical, and research base supports the focus on investing in supportive early childhood experiences to enhance positive child development, particularly for low-income, minority, and other at-risk populations (Barnett & Bocock, 1998; Brooks-Gunn, 2003; Shonkoff & Phillips,

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2000). As such, under the current federal administration, more attention has been paid to legislation and funding opportunities for increasing home-based services to new families with infants and toddlers. The proposed research will include an independent and rigorous evaluation of the Baby TALK home-visitation program. Baby TALK, Inc. is a nationally recognized organization known for its intervention model for supporting young children and their families. Developed in 1986, this model currently has been replicated across 36 states and Canada. The primary goal of Baby TALK is to positively impact child development and nurture healthy parent-child relationships during the critical early years of life. The organization conducting Baby TALK activities are focused on: (1) building a system of care for young families in their community, (2) screening families to learn about potential risk factors, (3) identifying the needs of families, and (4) delivering appropriate services to the family through home-visitation services and other community supports.

AIR will execute the study, which was designed by consultants working with Baby TALK, Inc., to evaluate the efficacy of Baby TALK's home-visitation program and set the stage for a large-scale randomized effectiveness study in order to provide evidence of Baby TALK as a viable, effective home-visiting intervention. The pilot study will use an RTC to test the impacts of Baby TALK on child and parent, specifically maternal, outcomes. The central aim of the proposed research is to test the efficacy of Baby TALK on a small number of infant and maternal outcomes. To do so, AIR will conduct a RCT with 120 English or Spanish-speaking mothers in six selected Baby TALK centers in Chicago and Champaign, Illinois. The mothers will be recruited into the study, and after recruitment, 60 will be randomly assigned to receive Baby TALK home-visitation-services treatment condition, and 60 mothers will be randomly assigned to the business-as-usual (BAU) control condition. Mothers assigned to the treatment will receive the full Baby TALK home-visitation services, which includes at least two home visits each month (each visit is about one hour in duration, but can be more often in response to family need). Mothers will also experience a monthly group activity with other mothers and infants at the Baby TALK program site. Baby TALK will be referring them to other social services throughout their work with them as appropriate.

According to Baby TALK's founding executive director, (personal communications, November 11, 2013), Baby TALK's home-visitation services follow a strength-based approach that is relational-based and focused on parent-child interaction. Rather than approaching families with a set "cookie cutter" approach, home visitors listen to what is going on with the family, address parents' concerns, pull together resources in a case management approach, and respond as appropriate with a full complement of curriculum resources our practitioners have at their disposal. Baby TALK home visits observe and affirm the interactions between parent and child, supporting mastery and competence of both parent and child. This parent-child interaction is the primary goal for Baby TALK home visitation services. Mothers assigned to the control condition will receive delayed Baby TALK services after the end of the study.

The key research questions (RQs) of the study are as follows:

- RQ1: After nine months, do mothers receiving Baby TALK home-visiting services have lower levels of stress compared with mothers in the control group who do not receive these services?

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- RQ2: After nine months, do mothers receiving Baby TALK home-visiting services exhibit better parenting skills and child-engagement outcomes compared with mothers in the control group who do not receive these services?
- RQ3: After nine months, do the infants of the mothers receiving Baby TALK home-visiting services exhibit better language developmental outcomes compared with infants in the control group whose mothers do not receive these services?
- RQ4: To what extent are Baby TALK home-visiting services implemented with fidelity for nine months from their inception?

For RQ1, we hypothesize that mothers receiving Baby TALK home-visiting services will have lower levels of stress after nine months as measured by the Parenting Stress Index (PSI) compared with mothers in the control group who do not receive these services (control condition).

For RQ2, we hypothesize that mothers receiving Baby TALK home-visiting services will exhibit higher levels of parenting skills and child-engagement outcomes after nine months as measured by the *Preschool Language Scale–5th Edition (PLS-5): Home Communication Questionnaire* compared with mothers in the control group who do not receive these services (control condition).

For RQ3, we hypothesize that infants of the mothers receiving Baby TALK home-visiting services will exhibit higher scores on language developmental outcomes after nine months as measured by the *PLS-5* compared with mothers in the control group who do not receive these services (control condition).

For RQ4, we hypothesize that there will be variation in the level of fidelity across program sites and/or home visitors. By fidelity, we mean the execution of the Baby TALK program is done as designed in a clear and comprehensible manner (Howard, Agnamba, Wessel, & Rankin, 2013). We plan to document fidelity (congruity and variation) in the treatment group as well as the degree to which mothers in the control group are involved in other home-visitation community programs to capture the BAU conditions. This approach will allow us to provide detailed information about dosage and duration, fidelity and adherence to the model, and program differentiation (whether a difference in practices exists between Baby TALK and the BAU condition).

The mothers will be recruited with the help of the Baby TALK programs. From a list of new mothers who sign-up for the program, will select 120 mothers for our study, randomly assigning 60 to receive Baby TALK home-visiting services and 60 to the control group, who will receive services after the end of data collection. We will collect data on mothers and their infants at three time points: (1) baseline data on recruited mothers, prior to randomization; (2) pretest data from infants and mothers, after randomization but before services have been provided in the experimental group; (3) posttest data from infants and mothers, nine months after services have been provided in the experimental condition. Table 1 summarizes the data measures and data collection methods of the proposed project.

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Table 1. Proposed Measures and Data Collection Methods of Proposed Project

Research Questions	Constructs	Measures/ Indicators	Data Collection Method	Data Sources	Data Collection Schedule*
RQ1	• Maternal stress	• Parenting Stress Index (PSI)	• Questionnaire	• Mothers	• Baseline (April 2014) • Pretest (April 2014) • Posttest (January 2015)
RQ2	• Parenting skills • Child engagement	• Preschool Language Scale–5th Edition (PLS-5): Home Communication Questionnaire • Family Resource Scale	• Questionnaire	• Mothers	• Pretest (April 2014) • Posttest (January 2015)
RQ3	• Language development	• Preschool Language Scale–5th Edition (PLS-5)	• Direct Assessment	• Infants	• Pretest (April 2014) • Posttest (January 2015)
RQ4	• Implementation fidelity	• Number of visits • Type of services • Sequencing of services • Types of non-Baby TALK services	• Program extant data • Questionnaire	• Home visitors or program administrators • Mothers	• Posttest (January 2015)

*Estimated schedule

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