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## Participant Engagement in Home Visits: A Missing Piece in the Puzzle of Evidence Based Programs and Implementation Science?

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LOYOLA UNIVERSITY CHICAGO

PARTICIPANT ENGAGEMENT IN HOME VISITS:  
A MISSING PIECE IN THE PUZZLE OF EVIDENCE BASED PROGRAMS AND  
IMPLEMENTATION SCIENCE?

A DISSERTATION SUBMITTED TO  
THE FACULTY OF THE GRADUATE SCHOOL  
IN CANDIDACY FOR THE DEGREE OF  
DOCTOR OF PHILOSOPHY  
PROGRAM IN CHILD DEVELOPMENT

BY

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## CHAPTER ONE

### INTRODUCTION

Attention to ‘evidence based’ program models, among researchers, policy makers, and practitioners, is on the rise (Haskins & Baron, 2011; McCall & Green, 2004). The current trend in identifying and implementing evidence based program models stems from a variety of factors, both contemporary and historical. For example, historical sentiments embedded within American policy and social services on the need for clear rationales and monetary benefits for investing in social services combined with current demands for accountability in a troubled economy fuels the focus on implementing evidence based social service programs (Halpern, 1999). Advances in social science research for more rigorous, quantitative, and causal evaluations also contribute to the current focus on evidence based programs. Results of rigorous, causal evaluations are used to establish programs as evidenced based and ultimately justify allocating funds to support programs “that work”. The current focus on evidence based program models spans many sectors in the social services and education fields, ranging from welfare reform to early childhood education programs.

Most recently, efforts to prioritize and reserve funding for programs ‘that work’ are reflected in the Obama administration’s evidence based social policy initiatives, which support six primary content areas of social service programs (Haskins & Baron, 2011). This includes the department of Health and Human Services’ (DHHS) Maternal, Infant, and Early Childhood Home Visiting (MIECHV) program initiative, allocating \$1.5 billion over five years to states and agencies to expand home visiting programs; the bulk of funding

(75%) is reserved for implementing evidence based home visiting program models (Haskins & Baron, 2011). Specifically, MIECHV focuses on implementing program models that have demonstrated significant outcomes in one of six legislatively mandated child and family benchmark areas. Like previous evidence based policy initiatives, the Department of Health and Human Services (HHS) provided guidelines on how to identify and select evidence based home visiting program models (Gruner Gandhi et al., 2007; Mathematica Policy Research, 2011). These guidelines came mostly in the form of work completed by Mathematica Policy Research to review existing home visiting program models and their respective research and evaluation bases to select particular home visiting programs as ‘evidence based’ according to DHHS evidence based guidelines (Avellar, Paulsell, Sama-Miller, & Del Grosso, 2013).

Despite the good intentions and benefits of the MIECHV program initiative, a singular focus on program outcomes to determine program efficacy—as outlined in DHHS guidelines—continues a troubled tradition within the field of home visiting of limited and vague understandings of how home visiting programs are actually implemented. While the review completed by Mathematica Policy Research included reviews of ‘implementation studies’, this was mostly to provide general summaries of program characteristics (e.g. participants served, number of sessions, theoretical model) and doesn’t detail the actual process of how various program models are implemented. The growing field of implementation science offers a useful framework to address this gap and begin to more fully understand how home visiting programs are implemented.

Implementation science refers to the study of the process of how programs and services are implemented (Duggan, 2012). Generally, five dimensions of implementation are

outlined, including: quality, adherence, dosage, participant responsiveness, and program differentiation (Durlak, 1998). While researchers and practitioners are paying increased attention to particular dimensions of implementation (e.g. adherence, quality), others—like participant responsiveness—continue to be overlooked (Durlak, 1998). This is unfortunate considering that boosting other dimensions of implementation without also bolstering participant responsiveness is unlikely to improve program outcomes. This is especially true in the field of home visiting, which has historically struggled to obtain sufficient levels of participant responsiveness and has demonstrated uneven and tenuous program outcomes.

Currently, the field of home visiting lacks a coherent and standard conceptualization of participant responsiveness and—as expected—standard measures of participant responsiveness. Existing research on participant responsiveness in home visiting is sparse and when present, tends to provide findings of limited applicability and utility for improving program practices and bolstering participant responsiveness. For example, research findings simply list static parent characteristics associated with completing fewer home visits and offer only speculative conclusions behind identified relationships.

The current study is designed to address gaps in existing research by offering a comprehensive conceptualization of participant responsiveness in home visiting—which includes the following five dimensions: (1) Participation, (2) Receptivity, (3) Engagement, (4) Satisfaction, and (5) Utility. Each of the five dimensions are discussed in greater detail in the literature review provided in Chapter 2. While research on all of the aforementioned dimensions of participant responsiveness is sparse, the dimension of participant engagement is an especially important starting point for beginning to understand not only participant responsiveness but also understand how participant responsiveness impacts other

dimensions of program implementation. Participant engagement in home visiting, as conceptualized in the current study, refers to the amount and quality of participant's active interest, involvement, and participation *during* home visits. It is hypothesized that active participant engagement in individual home visits, and sustained across home visits, is critical to changing participant behaviors and obtaining robust program outcomes.

Existing measures of participant engagement in home visits are limited to global measures of engagement that tend to be positively biased and offer only broad impressions of engagement . As designed, these measures don't capture time-sensitive, specific instances of participant engagement. This limits the ability to explore causal relationships between levels of participant engagement and strategies used by the home visitor. Additionally, existing measures focus more on signs of participant engagement and do not specifically address signs of participant disengagement.

In addition to lacking research and measurement limitations, the field hasn't addressed the issue of whether home visitors are prepared to engage parents during home visits. There is currently no documentation of whether home visitors receive training or support on strategies to engage parents during home visits or whether home visitors find training and/or support helpful. To adequately address the longstanding issue of lower than expected levels of participant engagement, it is necessary to first understand home visitor training needs and perspectives on participant engagement. Considering home visitors represent the main source of contact with participants, they are an important stakeholder to include in research efforts.

## **The Current Study**

The primary goal of this study is to explore participant engagement in home visiting. Specifically, the study was designed to: 1) provide insight on how home visiting programs approach issues of participant engagement, 2) document home visitor perspectives on participant engagement and how engagement impacts their work with families, and 3) offer new approaches for measuring participant engagement/disengagement that permits more rigorous conclusions behind identified relationships between home visitor strategies and participant engagement/disengagement.

### **Research Questions**

The current study is guided by the following research questions:

- 1) Do home visitors feel participant engagement in home visits impacts their work? If so, how?
- 2) Do home visiting programs monitor participant engagement during home visits? If so, what methods are they commonly using and how do they use gathered information?
- 3) Do home visitors receive training on engaging participants? Do home visitors feel a need for additional training and/or preparation on participant engagement?
- 4) Are there notable differences between global measures of engagement and frequency counts of specific indicators of engagement and disengagement?
- 5) Do home visitor strategies relate to participant engagement? Likewise, do home visitor strategies relate to participant disengagement?

Exploring how home visiting programs monitor and train on participant engagement can identify gaps in home visitor preparation. Additionally, time-sensitive and specific

observational measures of engagement provides more rigorous conclusions of relationships between home visitor strategies and participant engagement/disengagement. It may also provide more specific guidance on how best to promote participant engagement.—as opposed to offering general guidance on being ‘friendly’ or ‘empathetic’. The inclusion of disengagement, in particular, allows insight on specific strategies home visitors should refrain from using. Coding of videotaped home visits also allows for the use of select video segments for use in home visitor professional development. This study ultimately aims to provide meaningful, applicable, and usable information to researchers and practitioners to inform program improvement efforts and bolster program outcomes. The proceeding chapter provides an extensive literature review on topics related to home visiting and participant responsiveness. A literature review is provided in Chapter 2, details of study methods and procedures are provided in Chapter 3. Study results are summarized in Chapter 4 followed by discussion and interpretation of study results in Chapter 5.

## CHAPTER TWO

### LITERATURE REVIEW

After providing a brief historical overview of home visiting, subsequent sections are organized around four primary literature reviews. The first literature review focuses on the MIECHV initiative with the purpose of providing a more nuanced understanding of the process of selecting evidence based home visiting models through the interagency review. The second literature review summarizes the results of the interagency review and outlines select studies cited by the review in support of the efficacy of select program models. While an awareness of mixed and inconclusive program outcomes is not new to the field of home visiting (see Gomby, 1999; Sweet & Applebaum, 2004), it is important to not lose sight of the reality of spurious research and evaluation findings in the midst of a focus on implementing “evidence based” program models—which are often accompanied by inconclusive program outcomes. The third literature review focuses on implementation science, summarizing its basic tenets and the benefits of attention to program implementation. The fourth and final literature review focuses on an often overlooked dimension of program implementation, especially in home visiting; namely, participant responsiveness. Ultimately, the four literature reviews highlight the need for the field of home visiting to re-focus on issues of program implementation, especially participant responsiveness, to accomplish outlined program goals.

## **The History and Evolution of Home Visiting Programs**

Several federal initiatives to expand home visiting services have resulted in the growth of home visiting as a primary service delivery strategy for serving families with young children (Boller Strong, & Daro, 2010). This includes the aforementioned initiative by HHS to support the scale up and implementation of evidence based home visiting programs, titled Maternal, Infant, and Early Childhood Home Visiting (MIECHV) programs (Boller et al., 2010). As context for discussing the current focus on evidence based home visiting, a brief overview of the history of home visiting services—from the 19<sup>th</sup> through the 21<sup>st</sup> century—is provided below. This overview focuses on the overarching purpose of home visiting programs across the centuries as well as underlying socio-historical concerns and events.

### **19<sup>th</sup> Century**

During the 19th century, increased industrialization of the U.S. economy and an influx of immigrants contributed to early forms of home visiting programs. Individuals were working outside of the home and away from what were often previously family centered work places—such as family farms or family run businesses. This shift had implications on the changing role of children within society and subsequent societal interests in preparing young children for success within the new economic system. With the advent of the industrial revolution and child labor laws, children's roles within society changed and interests turned to how best to prepare children for society given the changing economy.

Increased immigration and social inequalities also led to the presence of 'slums' in urban areas. These social issues influenced the nature of some of the earliest forms of home visiting programs and a transition away from more informal individual family and/or community childrearing advice towards a more common, public sphere of childrearing advice (Bhavnagri & Krolikowski, 2000; Halpern, 1993). During this time, more formal



parenting advice came from outside the family and/or community unit, often in the form of early family support programs (Bhavnagri & Krolkowski, 2000; Halpern, 1993). Interest in more formal parenting advice is also a function of the emergence of child development as a professional field of study, which was sparked with G. Stanley Hall developing the first psychology laboratory and journal of psychology (Hulbert, 2004). Early family support programs were typically religiously oriented, charity based organizations that provided home visits from female parish and/or well-to-do women (called friendly visitors) to educate mothers (often poor and/or immigrant) on a variety of household responsibilities; from ‘appropriate’ childrearing practices to serving as role models of cleanliness and thrift (Bhavnagri & Krolkowski, 2000; Halpern, 1999). These programs were primarily privately funded, informal, and community based (Boller et al., 2010; Halpern, 1999).

Early family support programs were not only influenced by concerns over the consequences of social inequality and the negative impact of poverty, but were also predicated on several overlapping assumptions (often religiously and historically rooted), including: (1) An emphasis on personal responsibility for life circumstances, (2) The malleability of life circumstances, and (3) The need to change individual behaviors (including child rearing) to deter the negative impacts of poverty on young children and increase children’s chances for general life success and prosperity (Bhavnagri & Krolkowski, 2000; Halpern, 1999). These changing U.S. contexts and prevalent beliefs surrounding issues of poverty, inequality, and personal responsibility influenced ideas of how programs *should* serve and support families (Halpern, 1999). For example, programs increasingly steered away from providing concrete assistance in the form of material goods or financial help or focusing on community building to a greater emphasis on educating, instructing, and modifying families’ behaviors and environments. This emphasis included educating and

instructing marginal groups—such as immigrant families or families living in poverty—on childrearing practices and beliefs (Halpern, 1999).

## **20<sup>th</sup> Century**

An example of family support programs during the early part of the 20<sup>th</sup> century includes settlements, which were intended to provide the type of social cohesion and support found in rural communities within newly developed urban settings (Halpern, 1999). Settlement houses were typically situated in poor urban areas where middle class volunteer settlement workers would live and share their knowledge and cultural practices with neighborhood residents with the aim of alleviating poverty. Settlement houses provided a wide array of supports for immigrant families, from organizing neighborhood events and socialization opportunities to providing models of instruction on domestic issues for individual families. According to Halpern (1999), this modeling reflected attempts to ‘Americanize’ immigrants’ childrearing practices and beliefs, in an effort to bridge immigrant childrearing practices with dominant American childrearing practices.

During the latter half of the 20<sup>th</sup> century, a trend towards professionalizing family support programs began. Developmental research and theory influenced this trend. As Halpern (1999) notes, as opposed to the volunteer or charity work common during 19<sup>th</sup> century, supporting families through home visiting was increasingly viewed as a professional occupation. Developmental research offered new understandings on the contextual nature of early development; increasing programs’ attention towards the nature of children’s early relationships and environments—with specific attention to the role of parents in making environmental changes and structuring home environments to best support child development. This included program services targeting the health and safety aspects of early environments to promote positive birth outcomes and prevent child abuse and neglect (e.g.,

Nurse Family Partnership and Healthy Families America). Additionally, many programs attended to the cognitive and emotional support provided to young children through early relationships, interactions, and environments (e.g., Early Head Start, Parents as Teachers, and Home Instruction for Parents of Preschool Youngsters). Although programs often focused on different content areas or targeted different child or family outcomes, parental behaviors were often a common and major focal point across programs.

In addition to reliance on emerging developmental research, inconsistencies in program outcomes forced programs to identify clearer conceptual frameworks or theories to inform and guide their work with families. Psychodynamic theory was one influential framework, which often directed case workers' attention towards the internal psychology of families and away from the more apparent, observable contexts of families' everyday lives. Reliance on psychological theories sustained the earlier movement in the 19<sup>th</sup> century of not providing concrete assistance and targeting more fundamental 'internal' changes in family beliefs, behaviors, and environments (Halpern, 1999).

A new found reliance on academic research and theory supported the development of new family support programs. The protocols for many of these programs eventually formed several national program models that are currently implemented across a variety of family contexts and communities (Boller et al., 2010). In 1977, David Olds began a home visiting program model—the Nurse Family Partnership—which became a research based national program model in 2003 (Boller et al., 2010; Nurse Family Partnership, 2014). In 1981, Parents as Teachers—designed to increase children's school readiness through parent involvement—began as a small pilot program in Missouri. In 1985, Parents as Teachers expanded to all 50 states (Parents as Teachers, 2014). Henry Kempe's work focused on positive parent-child relationships to prevent child maltreatment, with a strong foundation in

attachment theory, served as the foundation for Healthy Families America (Boller et al., 2010). In 1992, Healthy Families America was developed by Prevent Child Abuse America as an initiative primarily designed to prevent child abuse and neglect (Healthy Families America, 2014). In 1994, Early Head Start (EHS) started offering home visiting as a primary service strategy for supporting parenting behaviors that promote children's school readiness (Boller et al., 2010). These models represent only the most widely implemented home visiting program models, among a host of other program models (e.g. Safe Care, Healthy Steps, Home Instruction for Parents of Preschool Youngsters (HIPPY), etc.).

## **21<sup>st</sup> Century**

In many ways, current trends in national home visiting program models—especially in the context of MIECHV—mirror the historical threads of early family support programs and settlement houses. For example, while some national program models (e.g. Parents as Teachers) were initially conceived of as universal access programs for all parents, program models implemented through MIECHV funding are now prioritizing services for at-risk families and/or families living in at-risk communities (Michalopoulos et al., 2013). Table 1 provides a summary of MIECHV priority service populations. Although families are viewed as at risk for a variety of reasons, at-risk determination is largely driven by families' economic status or the presence of risk factors accompanying poverty—whether or not factors necessarily stem from economics (e.g. teen parent, single parent, mental health issues). Just as the early family support programs and settlement houses worked with families to deter the negative consequences of poverty, MIECHV home visiting programs are largely driven by the goal of buffering young children from the negative impact of poverty—something that is largely driven by supporting and/or altering parent behaviors.

Table 1. MIECHV Priority Service Populations

- Families in at risk communities
- Low income families
- Pregnant women under 21
- Families with a history of child abuse
- Families with potential substance abuse
- Families with smokers in the home
- Families with children demonstrating low achievement
- Families with children who have developmental delays
- Families who have served or serve in the armed forces

The current field of home visiting has experienced major advances in program services and implementation. Due in part to persistently modest and inconsistent program outcomes, national models—as well as home visiting research—have made some attempts to standardize program services and program implementation. This is often seen as a major departure from earlier programs, which had indistinct guidance on services to be offered and how they should be offered (Halpern, 1999). Currently, a majority of national models are research informed, meaning they rely on developmental research and evaluation to guide program services. For example, some models have developed program curriculum that guides the specific content and activities of home visits. Alternately, some programs adhere to essential elements of programming set forth by national model developers. For example, Healthy Families America (HFA) lists 12 critical program elements (Healthy Families America, 2014). Unfortunately, program curriculum or critical elements still vary in specificity, their implementation is often not documented or measured, and they have yet to be empirically tested in relation to their impact on program outcomes.

### **Current Context: MIECHV and Focus on Evidence Based Program Models**

As discussed, the current focus on evidence based programming and demonstrating ‘what works’ is a function of many different factors. Demonstrating program model efficacy

often takes a decidedly quantitative approach which is favored over a more holistic view of home visiting as an overall service strategy—including recognition of the history and origins of home visiting programs. Rather, a drive for identifying evidence based programming has engineered a more quantitative, empirical, and piecemeal view of the field. This view is more apt to ask simple questions of efficacy without looking inside the ‘black box’ of implementation or clearly conceptualizing essential components of home visiting and critically considering, given the history and evolution of the field and lingering socio-historical views of disadvantaged populations, how best to move home visiting forward in the 21<sup>st</sup> century.

The federal Maternal Infant and Early Childhood Home Visiting (MIECHV) initiative is a prime example of a focus on outcome based program evaluations to identify evidence based program models. Prior to detailing MIECHV’s process of identifying evidence based home visiting models, however, a review of dominant definitions of evidence based programming and associated research designs is warranted.

### **Qualifications of Evidence Based: The Need for Causal Inference**

Program evaluation can loosely be defined as an attempt to determine the worth (or impact) of a specific program within a given context (Hogan, 2007). While program evaluations can serve a variety of purposes (i.e. focused on understanding program context, program implementation, process quality, or for program improvement); outcome based evaluations are often the preferred method used for demonstrating program efficacy. McCall & Green (2004) noted 10 years ago that policy makers tend to rely specifically on outcome based evaluations using experimental or quasi-experimental research methods, often legislatively mandating them within evidence based policy initiatives. This is still true today, as demonstrated by the Obama administrations’ MIECHV initiative (and initiatives in

several other social programs), which Haskins & Baron (2011) describe as the “most sweeping emphasis on rigorous program evaluation ever pursued by the federal government.” The policy arena’s focus on program outcomes demonstrated through experimental or quasi-experimental methods is due to aspects of these research designs that lend themselves to permitting causal inference.

Shadish, Cook, & Campbell (2002) list three necessary conditions for making causal inferences: (1) The cause precedes the effect, (2) The cause is related to the effect, and (3) There is no other plausible alternative explanations for the effect other than the cause. Experimental and/or quasi-experimental research designs are typically the only research designs to satisfy all three of these conditions. Experimental research designs randomly assign participants to treatment and control conditions, which randomly and evenly distributes various participant characteristics (e.g. demographics, education, motivation, etc.) that potentially relate to program outcomes; enhancing (but not guaranteeing) the ability to infer that outcomes are due to something other than participant characteristics. In quasi-experimental methods, without random assignment, various methods of demonstrating equivalent treatment and control groups prior to the delivery of program services (the cause) are used. For example, quasi-experiments might demonstrate baseline group similarities on a variety of participant characteristics, control for baseline measures of program outcomes in future analyses, use an alternate variable to randomly assign participants to conditions (regression discontinuity), or use multiple data collection time points (Shadish, Cook, & Campbell, 2002; McCall & Green, 2004).

The use of quantitative measurement and analysis in experimental and quasi-experimental research largely satisfy condition number three by ruling out plausible alternative explanations for program outcomes. For example, standardized quantitative

measures protect against the possibility that differences in instrumentation or measurement error explain an identified cause and effect relationship (Shadish, Cook, & Campbell, 2002).

In addition, the use of quantitative analysis and reliance on statistically significant effects guards against the possibility that the observed cause and effect relationship is not due to chance alone and that observed outcomes can be safely attributed to the program. Unlike qualitative measurement, which is geared towards more subjective understandings, complexities, and context—quantitative measures are designed to be more objective, standardized, and context free.

As outlined, the preference for experimental and quasi-experimental research designs to demonstrate program outcomes and efficacy is not without merit. Within traditional research, these research designs are best suited for inferring a valid causal relationship between program services and program outcomes. Given the investment in time and money associated with implementing social programs, it is understandable that policy makers and funders look to research methods known for offering sound causal inferences for answers about whether a program works or is a worthy investment (McCall & Green, 2004).

The following section details the MIECHV legislation and the ensuing actions, including the Department of Health and Human Services (HHS) establishment of criteria for evidence based programs and an interagency evaluation of evidence for existing home visiting programs. After summarizing the overarching review process involved in MIECHV, a summary of the program evaluations cited in the interagency review to demonstrate evidence of efficacy for two of the identified evidence based program models is provided.

### **MIECHV and HHS' Conception of Evidence Based**

The definition and identification of evidence based models by the Department of Health and Human Services MIECHV initiative coincides with the earlier discussion on



policy maker's preference for experimental and quasi-experimental research methods. The Patient Protection and Affordable Care Act of 2010, Section 2951, outlines the requirements for entities receiving MIECHV grants (Mathematica Policy Research, 2011). Under this legislation, entities must use 75% of their yearly MIECHV funds to implement evidence based models that have demonstrated significant program outcomes in eight identified benchmark areas, using rigorous experimental or quasi-experimental research designs with published evaluation results (Mathematica Policy Research, 2011). The remaining 25% can be allocated to 'promising practices' but also must rely on rigorous evaluations of promising practices/models in order to utilize MIECHV funding. Beyond this, the legislation mandates that the Secretary will establish criteria for evidence of effectiveness (Mathematica Policy Research, 2011). The Department of Health and Human Services (HHS) established these criteria, which aligned with MIECHV legislation, and led an interagency evaluation of evidence for existing home visiting program models. The purpose of the interagency evaluation, the Home Visiting Evidence of Effectiveness (HomVee), was to review evaluations of existing program models and identify program models meeting the criteria established by HHS (Mathematica Policy Research, 2011). A contract was awarded to Mathematical Policy Research (MPR) to conduct this review.

In their review of 300 home visiting program models, the HomVee initiative initially accepted a total of nine program models as evidence based. The preliminary review of programs ranked existing home visiting models based on the number of impact studies using specific research (randomized control trial or matched comparison design, regression discontinuity design, or single case design) and sample sizes (Mathematica Policy Research, 2011). From the preliminary ranking process, 35 programs were prioritized for further review. Further review of impact studies for the 35 program models consisted of a two-step

process: (1) assigning a quality rating (of low, moderate, or high) to available impact studies according to the rigor of research design and participant attrition rates, and (2) evaluating the number of and duration of statistically significant program outcomes in eight outcome domains. HomVee focused on the following legislatively mandated eight outcome domains: child health, child development and school readiness, family economic self-sufficiency, linkages & referrals, maternal health, positive parenting practices, reductions in child maltreatment, and reductions in juvenile delinquency, family violence, and crime. The review of programs was limited to programs demonstrating outcomes in at least one of these domains as outlined in the legislation. Programs receiving funding from MIECHV are required to benchmark indicators/outcomes within each of the eight outcome domains. The aforementioned steps of the review process are described in detail below.

**Ranking impact and implementation studies.** Program impact studies were assigned a quality rating (in the categories of high, moderate, and low) according to type of research design used, the rigor of the research design in implementation, and participant attrition rates. A total of 174 impact and 179 implementation studies (to provide descriptions of reviewed program models) were reviewed. The quality rating categories for the review of the impact studies are summarized below.

***High ratings.*** Study used randomized assignment of participants to control and treatment groups with low participant attrition rates. Single case or regression discontinuity design also acceptable as long as the implementation of either design adhered to standards set by What Works Clearinghouse (WWC).

***Moderate ratings.*** Study used randomized assignment of participants to control and treatment groups but reassigned participants or had unacceptable rates of participant attrition; however, study used selected baseline measures to establish group equivalence.

Studies may also use either single case or regression discontinuity design as long as the implementation of either design adhered to *some* of the WWC design standards. Lastly, studies may use matched group design with established baseline equivalence on selected measures and no systematic differences in data collection between control and treatment groups.

***Low ratings.*** Study did not meet the requirements for a high or moderate rating.

**Consideration of significant program outcomes for high and moderate rating studies.** After assigning a quality rating of low, moderate, or high to the reviewed impact studies, studies with high or moderate ratings were used to evaluate program models for evidence of significant and sustained outcomes in the eight domains, as mandated in the legislation. Twenty one of the 35 models prioritized for this phase of review did not have impact studies rated as high or moderate quality and were subsequently removed from further review; leaving a total of 14 program models for the second stage of the review process. The high or moderate quality impact studies for these 14 models were evaluated to see if the impacts meet HHS' evidence based criteria. In order to qualify as evidence based, according the Department of Health and Human Services' criteria, at least one of two conditions had to be demonstrated in high or moderate quality impact studies: (1) One study finds favorable, statistically significant (at probability less than 5%) impacts in two or more of the eight outcome domains, and/or (2) Two studies using different samples finds one or more favorable, statistically significant impacts in the same domain (Mathematica Policy Research, 2011). Additionally, according to the MIECHV legislation, if the model meets the conditions based on two favorable results from a randomized control trial alone; then one or more of the favorable outcomes must be sustained for one year after program enrollment

and results must be reported in a peer-reviewed journal (Mathematica Policy Research, 2011).

After the secondary review of high and/or moderate quality impact studies, nine program models were initially identified as meeting the criteria for evidence based. This initial list was subsequently expanded to 14 models through a secondary review (see Table 2). This review did not consider the ratio of statistically significant, favorable program impacts to non-significant or unfavorable program outcomes. Using Early Head Start as an example, a program model could show—across impact studies—a total of 28 statistically significant favorable program outcomes, two unfavorable program outcomes, and 121 non-significant, no effect program outcomes and still qualify as evidence based according to HHS criteria (<http://homvee.acf.hhs.gov/>). This translates as a program with roughly four times more non-significant findings relative to significant findings labeled as evidenced based. Table 3, borrowed from the Mother and Infant Home Visiting Program Evaluation (MIHOPE), summarizes the range of effects for various program outcomes in the HomVEE review (Michalopolos et al., 2013). As seen in Table 3, effects for the primary outcomes reviewed by HomVEE widely vary across the reviewed studies—from negative effects to positive effects. When considering the average effects, almost all are close to zero with the exception of an average effect of 0.14 for referrals and coordination. While large effects are present, all told, average effects provide a picture of uneven and inconsistent program efficacy. It is possible that rather than paying attention to isolated instances of statistically significant positive outcomes—the entirety of findings for program models should be considered and statements surrounding efficacy made accordingly.

Table 2. Home Visiting Programs Meeting HHS Evidence Based Criteria		
Program Model Name	Number of High or Moderate Quality Impact Studies with Significant Outcome	Number of Domains with Significant Outcome (8 Possible)
Child First	1	4
Early Head Start Home Visiting	5	4
Early Intervention for Adolescent Mothers	4	2
Early Start (New Zealand)	1	4
Family Check Up	4	3
Healthy Families America	19	8
Healthy Steps	7	2
Home Instruction for Parents of Preschool Youngsters (HIPPO)	2	2
Nurse Family Partnership	21	7
Oklahoma Community Based Family Resource and Support Program	2	2
Parents as Teachers	7	4
Play and Learning Strategies (PALS)	3	1
Project 12 Ways/Safe Care	4	5

Table 3. Summary of Results from HomVEE Review			
Outcome	Range of Effects	Average Effect	Number of Effects
Positive parenting practices	-2.43 to 3.00	0.03	50
Child maltreatment	-0.45 to 0.34	-0.02	25
Child health	-0.45 to 0.50	-0.01	13
Child development and school readiness	-0.45 to 0.35	-0.01	68
Maternal health	-0.40 to 4.32	0.03	25
Referrals and coordination	-0.62 to 0.67	0.14	18

\*Taken From Michalopolos et al., 2013

**Selected evidence based models.** The fourteen models identified as evidence based generally serve families with children ages birth to five years old (one program targets preschool age children). Many programs target families deemed at risk (i.e., parents at risk for child abuse or neglect, adolescent mothers, low income families, children have identified developmental or behavioral issues) for a variety of reasons. Within the fourteen program

models, four offer a more comprehensive range of program services (i.e., program address a wide range of child and family issues) and serve a wider range of participants (in terms of age range and type of family). Additionally, these same four models are currently being implemented in at least 10 states with MIECHV funds (Michalopolos et al., 2013). These four program models are summarized below.

***Early head start.*** Early Head Start (EHS) is a program funded by the Department of Health and Human Services: Administration for Children and Families. EHS provides both center-based (child care) and home-based (home visiting) options, and families may participate in one or both of these options. EHS targets low income women and families with children prenatally through three years and/or families whose children are eligible for Part C services under the Individuals with Disabilities Education Act (IDEA) of 2004. The home based, home visiting, option of EHS is delivered in 90 minute weekly home visits and families also have the opportunity to participate in bi-monthly (two) socialization groups with program staff and family participants. The primary purpose of EHS, in broad strokes, is to assist parents in supporting their child's early development and engaging in learning activities—with particular attention to supporting early development that relates to children's school readiness and academic success. While EHS does not require grantees to use a specified curriculum, they do require programs to adhere to 24 program performance standards. In 2007-2008, EHS provided home based services to approximately 50,000 children and families (National Head Start Association, 2012). EHS slots for home based services have since been expanded under the Obama administration.

***Parents as teachers.*** Parents as Teachers (PAT) began as a pilot program in the 1970's—based in Missouri—which was eventually expanded to all Missouri public schools as well as other states as a national program model. The overarching goals of PAT are: to

provide early detection of developmental delays, prevent child abuse and neglect, encourage parents to serve as their child's first teacher, and promote children's early development and school readiness skills. Specific recruitment guidelines for PAT is determined by program affiliates (might include children with special needs, low income families, first time parents, etc.) and programs serve children prenatally through age five. Program components consist of a minimum of monthly (depending on family needs) home visits, monthly group meetings, and access to community resource networks. Since its inception, PAT utilized a specific curriculum—Born to Learn—to deliver services to families. However, beginning in summer 2011, PAT introduced a new curriculum entitled Foundational Curriculum. It is estimated that PAT currently serves around 330,000 families within the U.S. (Parents as Teachers, 2013).

***Healthy families America.*** Healthy Families America (HFA) was started in 1992 by Prevent Child Abuse America with the intent of providing a home visiting program designed to prevent child maltreatment and outcomes associated with child maltreatment (Healthy Families America, 2013). In 2002, regional centers were developed to manage the expansion of HFA (Healthy Families America, 2013). The target population for HFA is families with children birth to age five who are at-risk for adverse childhood experiences or child maltreatment. Frequency of home visits for HFA is determined by families' needs, with a minimum of at least weekly home visits for 6 months after the birth of a baby. Program goals include: promotion of community partnerships to support overburdened families, promote positive parent-child relationships and early development, and bolster family functioning by reducing risk and promoting protective factors (Healthy Families America, 2013). Currently, 400 affiliated HFA programs operate across 40 states (Healthy Families America, 2013).

***Nurse family partnership.*** The Nurse Family Partnership (NFP) originated with the work of David Olds, a researcher at the University of Colorado, and was piloted across three states from 1977-1994. In 1996, NFP began national dissemination—with the eventual creation of national NFP centers in 2003 to guide the implementation of NFP across multiple states. The program targets first time low income mothers; requiring participants to enroll in program services prenatally. Program services include home visits (frequency of visits are tapered according to child age) delivered by registered nurse practitioners. The primary goals of NFP include: improving pregnancy outcomes through access to adequate prenatal care, improving child health and development by helping parents provide necessary child care, and improving families' economic self-sufficiency (Nurse Family Partnership, 2013). NFP currently operates across 40 states. In addition to 18 specified model elements, NFP nurses use the Partners in Parenting Education (PIPE) instructional model and curriculum as site visit guides (Nurse Family Partnership, 2013).

### **Summary**

While HomVee's evaluation of the evidence for various home visiting programs is viewed as an objective review of the evidence, a closer look at the impact studies indicates that the evidence for the reviewed home visiting programs is open to interpretation. This is apparent if one considers the sheer number of significant favorable outcomes from impact studies relative to the number of insignificant null effects or significant unfavorable outcomes. For example, from the reviewed impact studies for EHS and PAT, an average of 8% of the total assessed differences between treatment and control groups were significant differences favoring the treatment group. For the PAT impact studies, the number of significant unfavorable outcomes (favoring the control versus the treatment group) is greater than the number of significant favorable outcomes (5 versus 7). In the case of insignificant



null effects, the sheer number of significant positive effects relative to the number of total effects tested questions whether significant outcomes were found by chance alone. This seems to offer what Smyth & Schorr (2009) describe as a misleading identification of what works in response to research findings that offer little beyond uncertainty and a need for further research and understanding of programs.

While experimental and quasi-experimental methods permit valid causal inferences, causal inferences lose their salience when the cause is not well understood or easily manipulated—despite the use of rigorous research designs. As discussed by Shorr (2009), some of the key benefits of rigorous experimental research don't align with the complexity of implementing comprehensive social programs. While Shorr (2009) outlines a variety of noteworthy differences between experimental methods and complex program implementation, one important and often overlooked difference is the manipulation of a specific and well known cause. Unlike experimental methods within the medical field, for instance, where a specific pill (cause) with known active ingredients is easily manipulated and uniformly delivered; social programs are inherently complex and provide a variety of services that are adapted across multiple contexts. Experimental methods alone tend to obscure these more complex questions and answers about program implementation and fail to consider whether uniform implementation is achievable or equally efficacious across contexts and participants (Shorr, 2009).

Within the multi-faceted implementation of home visiting, there are several limitations to a heavy reliance on internal validity to decide 'what works'. First, the studies often fail to adequately measure, describe, or assess the messy details of program implementation. Likewise, Fixen et al (2005) found that 68% of impact studies reviewed for their literature review described a program too broadly for it be effectively replicated in

settings outside of the impact study. Second, studies assume that if the program is ineffective then zero effects will be observed. However, it is possible that poorly implemented programs or programs implemented without fidelity to program outcomes actually benefit participants in other unknown ways and demonstrate significant effects (Shorr, 2003). For example, participants may benefit from the general peer social support provided by a poorly implemented model and subsequently demonstrate significantly decreased rate of stress. In this example, the outcome is not related to indicators of program fidelity or the program itself but to the inadvertent social support system participants received from program participation. Last, the review completed by Mathematica did not consider the practical implications of the significant findings. A review by the Coalition for Evidence-Based Policy (2011) completed a secondary review of 8 of the home visiting programs deemed evidence-based with an eye towards the practical implications of HomVee's findings. This review considered the level of confidence that a state could replicate the program model and produce significant participant outcomes. They found only 1 (Nurse Family Partnership) of the 8 reviewed programs had a 'strong' confidence level, 2 had a 'medium' confidence level, and 4 had a 'low' confidence rating (this includes 3 of the more commonly implemented program models). Clearly, the desire to establish clear categories of evidence based programs ignores these realities in favor of making seemingly definitive statements about program efficacy.

As previously mentioned, the proclivity to draw conclusions of program efficacy from inconclusive research findings is likely a function of a desire to sustain program funding and allocate funding to programs 'that work'. Despite good intentions, there are consequences to implementing such sweeping policy changes in the face of inconclusive information. In the field of measurement validity, consequential validity refers to the

intended and unintended consequences of test interpretation and use—such as ‘teaching to the test’ or inappropriately labeling students (Messick, 1989). The field of home visiting may benefit from careful consideration of the consequential validity of the HomVee review. The unintended consequences of identifying, labeling, and endorsing home visiting programs as ‘evidence based’ is largely overlooked. A consequence that is already well underway is the impact of MIECHV in driving research and practice agendas. This is seen in the increased focus on program fidelity to the ‘evidence-based models’, and measurement of common outcomes as mandated through MIECHV. While these are important areas of research, such a singular focus on fidelity, in the context of increasing funds for home visiting—overshadows the ongoing and pressing need to more fully understand program implementation and outline exactly what fidelity to these program models means.

### **Implementation Science**

Actual home visiting program service delivery and issues of program quality are not well understood or studied empirically (Duggan et al., 2000; Michalopolos et al., 2013). For example, as seen in the evaluations reviewed by HomVee, efficacy evaluations tend to focus on program outcomes and provide minimal data on implementation processes (Korfmacher et al., 2008). The national evaluation of the MIECHV initiative, MIHOPE, points out the oversights of the HomVee review, noting: inconsistent effects for different samples, lack of information on program implementation, and failure to consider how program models have changed over the course of the reviewed studies (Michalopolos et al., 2013). Additionally, in a review of randomized control trials of home visiting to prevent child abuse, Duggan et al. (2000) found that only 8 out of 20 evaluations described how program services were actually delivered. Likewise, there is limited empirical research on elements of home visiting programs that relate to either higher quality programming or participant outcomes.

Even basic structural aspects of programming, such as home visitor educational and professional backgrounds, have demonstrated mixed and inconclusive impacts in research findings. For example, Olds' (2002) evaluation of the Nurse-Family Partnership found that mothers visited by nurses tend to demonstrate greater positive outcomes relative to mothers visited by paraprofessionals. However, Sweet & Appelbaum's (2004) meta-analysis indicated that the impact of staff education and professional experiences depends on the outcomes under consideration. For example, children with professional home visitors tended to demonstrate greater cognitive outcomes, whereas children with paraprofessional home visitors tended to exhibit fewer signs of child abuse and neglect (Sweet & Appelbaum, 2004). Another basic structural aspect of programming, dosage, tends to demonstrate more consistent impacts on program outcomes. Research consistently suggests that families who complete more home visits demonstrate greater outcomes (Sweet & Appelbaum, 2004). Programs classified as "high-intensity" are more likely to have positive impacts on child and family outcomes (Kahn & Moore, 2010). Evaluations show a significant positive relationship between the frequency and length of program services and positive child cognitive outcomes, higher immunization rates, fewer child injuries, and positive changes in maternal behavior (Nievar, VanEgeren, & Pollard, 2010; Wagner, Spiker, Hernandez, Song, & Gerlach-Downie, 2001). As one might expect, less is known about the impact and role of more dynamic, process orientated aspects of home visiting programs beyond dosage estimates.

Outside of broad descriptions of program purposes and intended dosage and delivery of program services, the process of how home visiting programs are implemented remains a mystery. Considering that the dynamic interactional processes occurring at the level of home visits represent family's primary, and often only contact with programs, it

should take priority as the most studied, evaluated, and well understood aspect of home visiting (Korfmacher et al., 2008). However, despite nearly decade old recognitions of a need to better understand the process of home visiting, few evaluations document and study the interactional processes that occur in the context of home visits. The emerging field and movement of implementation science provide the field with yet another opportunity to address this gap.

Implementation science refers to the study of the process of how programs and services, often evidence based, are implemented (Duggan, 2012). According to five-tiers of evaluation outlined by Jacobs (2003), the study of implementation processes should precede the study of program impact. Likewise, implementation researchers suggest that summative, outcome based program evaluations are premature without first measuring and documenting program implementation. Premature summative program evaluations, without attention to implementation processes, threaten the validity of conclusions drawn from summative program evaluations (Duggan et al., 2000; Durlak, 2010).

For example, if a summative program evaluation fails to demonstrate significant outcomes, absence of information on program implementation (e.g. frequency of services received, content and quality of services received) seriously limits the ability to claim a program is ineffective. The program itself may be effective whereas the implementation was poor or ineffective. Durlak (2010) provides an example of this from a review of evaluations for drug prevention programs, which found that roughly half of the evaluations demonstrated significant negative outcomes, with participants engaging in higher rates of drug abuse. However, when statistical controls for poor program implementation processes were considered, the program was considerably more effective (Durlak, 2010). Conversely, if a summative program evaluation demonstrates significant outcomes—without

documentation of program implementation—the validity of conclusions regarding program efficacy is limited. It may be the case that core components of the program are not the effective component and spurious program components drive outcomes. For example, the social support and capital a teacher gains from participation in professional development may be a driver of program outcomes, rather than the content and quality of professional development.

While implementation science has existed for some time, attention towards implementation processes has grown due to consistent research findings demonstrating the importance of implementation processes on program outcomes. Durlak (2010) cites several reviews of human services demonstrating the significant impact of implementation processes on not only program outcomes but also the interpretation of evaluation findings. For example, the impact of interventions can be two to three times more effective when implementation is consistently monitored and documented (Durlak, 2010). Inclusion of implementation processes in evaluations and research were somewhat rare across a variety of fields up until the early 1990s, something the National Association for the Education of Young Children (NAEYC) and the Society for Research in Child Development (SRCD) tried to rectify within early childhood. NAEYC and SRCD issued a joint statement prioritizing research and evaluation on implementation processes within early childhood education (Durlak, 2010; National Association for the Education of Young Children, 2003). A 2003 position statement by NAEYC prioritizes evaluations that focus on the processes and implementation of programs in addition to outcomes, with sufficient documentation and detail to contextualize interpretation of program outcomes. The field of early childhood research and evaluation is slowly beginning to embrace NAEYC and SRCD recommendations; however, substantial work remains to understand implementation

processes. This may be especially true in the field of home visiting, compared to more traditional center based early childhood education, which has a greater body of research to draw from. In the current atmosphere of pressure to demonstrate program efficacy and secure funding, the importance of documenting implementation processes should not be overshadowed. This is particularly true for a service model like home visiting which has many moving parts and levels of program service.

### **Dimensions of Program Implementation**

Dimensions of program implementation are often broadly categorized as either structural or more dynamic and process orientated (Daro, 2010; Mowbray, Holter, Teague & Bybee, 2003). Daro (2010) discusses program implementation from the perspective of including both structural aspects (program materials, resources, staff qualifications) and more dynamic aspects (supervision content and quality, the quality of interactions and relationships between home visitors and families). Better understandings of both structural and dynamic aspects of program implementation—and interactions between the two—offer a more thorough understanding of program impacts, essential program components, and avenues for program improvement.

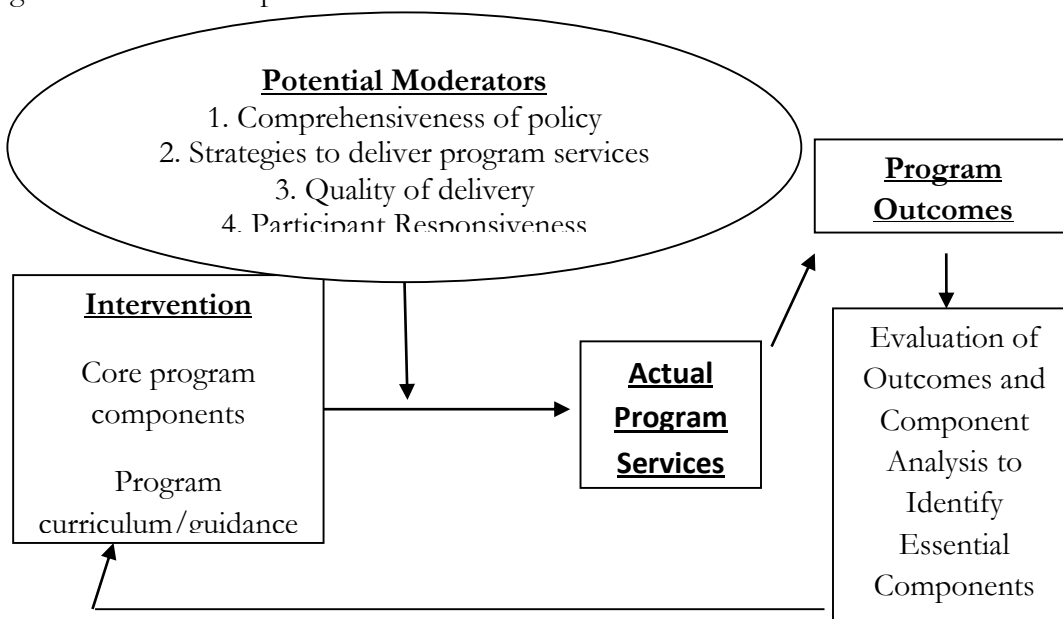
In general, implementation refers to how a program is actually delivered within a particular intervention setting or settings (Dane & Schneider, 1998; Durlak & DuPre, 2008). More specifically, implementation is commonly defined and measured along the following five dimensions:

- **Fidelity:** Level of adherence to the original program model or intervention,
- **Dosage:** How much of the program/intervention was delivered,
- **Quality:** How well different program components are implemented,

- **Participant Responsiveness:** The degree to which the program/intervention engages and interests participants, and
- **Program Differentiation:** The extent to which a program/intervention theory of change can be distinguished from other program models.

Conceptual models have also been developed to better understand and study program implementation processes (see Carroll, Patterson, Wood, Booth, & Rick, 2007). Because these models are typically developed to measure the implementation of established program models, they are often mislabeled or confused as models of fidelity (Carroll et al, 2007; Durlak, 2010). However, fidelity assesses whether programs are implemented as intended by program developers/designers—which is more accurately described as an underlying dimension of implementation (Durlak & DuPre, 2008). Figure 1 provides a conceptualization of implementation. Carroll et al. (2007) developed this model to provide a general framework to understand and guide the concept of measuring implementation processes. As can be seen, it overlaps in several areas with Durlak’s dimensions of implementation.

Figure 1. Model of Implementation





In the model illustrated in Figure 1, the intervention and its core components are listed on the left. These core components interact with potential program moderators to influence actual program services and ultimately impact program outcomes. In this model, the evaluation then identifies essential components of an intervention—which can inform the intervention itself by improving core program components, guidance, or curriculum. As shown in Figure 1, participant responsiveness is listed as a moderator between expected service delivery and actual service delivery. Participant responsiveness is important to consider due to its impact on: (1) the actual implementation of programs, (2) the likelihood of achieving program impacts, and (3) the external validity of programs (Carroll et al., 2007; Durlak, 1998). Low levels of participant responsiveness can impact actual program delivery; both in the content and dosage of services participants receive, ultimately impacting program outcomes (Durlak, 1998). Participant responsiveness may also impact the external validity of a program, whereby programs that achieve high levels of participant responsiveness only in certain subpopulations may not be efficacious across alternate populations and/or contexts. While research in implementation science is gaining traction, major evaluations for MIECHV focus largely on fidelity, dosage, and program quality (Michalopoulos, 2013). One could argue, however, that understanding and/or improving these factors is of little value without first understanding and achieving sufficient levels participant responsiveness (Durlak, 1998).

As noted earlier, Durlak (1998) identifies participant responsiveness as one of the five major dimensions of program implementation, stating that “part of good implementation involves ensuring that eligible members from the target population participate at a reasonably high rate and intensity” (Page 13). Ensuring that target populations participate in and are responsive to interventions is not only a sign of good

implementation but is also an indicator of good program design, one that is well matched and responsive to participant needs (Nation et al., 2003). Likewise, Duggan et al. (2000) suggest that hopes for obtaining outcomes from scaling up home visiting programs are misleading without ongoing program evaluations to ensure that home visiting programs are attracting and retaining families most likely to benefit from home visiting. Accordingly, the following section more thoroughly explores the concept of participant responsiveness and existing research within home visiting related to participant responsiveness.

## **Participant Responsiveness**

### **Defining and Redefining Participant Responsiveness**

Participant responsiveness can be conceptualized in many ways and thus defined and measured accordingly. Existing home visiting research does not have a unified framework or definition of participant responsiveness. Within home visiting research, participant responsiveness is most commonly referred to as engagement—which is also conceptualized differently across research. For example, home visiting research often discusses dosage, quality of home visitor parent relationships, and involvement separately yet considers all aspects of ‘engagement’. These conceptualizations are often varied and sometimes overlap with other dimensions of program implementation. For example, measuring responsiveness solely as dosage overlaps with the implementation dimension of dosage. Likewise, measuring responsiveness as the quality of the relationship between home visitors and parents overlaps with the implementation dimension of quality. Given the necessity of participant responsiveness to achieve and sustain program outcomes—it should be given attention in its own right and distinguished from other dimensions of implementation as much as possible.

For the sake of clarity, the conceptualization of participant responsiveness offered here uses the terminology participant responsiveness as an umbrella term under which

engagement falls. Use of the term participant responsiveness as a broad domain (with engagement as one dimension of responsiveness) aligns with the dimensions of implementation noted previously and provides a fuller, more specified picture of participant responsiveness in home visiting. Additionally, it is meant to incorporate both readily observable indicators of responsiveness (e.g. number of home visits received, ratings of behavioral engagement during home visits) as well as more affective, less observable indicators (e.g. participant openness to program information, participant perceptions of program services).

This conceptualization of participant responsiveness is summarized in Table 4. Five components of participant responsiveness are outlined, including: participation, receptivity, engagement, satisfaction, and utility. These components include both behavioral and subjective measures of participant responsiveness. Behavioral responsiveness includes participants' actions or reactions to programming/intervention, such as: rates of participation, engagement during intervention sessions, and application/use of program services or content. On the other hand, subjective responsiveness includes participants' perception of the utility of program services, their satisfaction with program services, or their sense of alignment and agreement with program services and content.

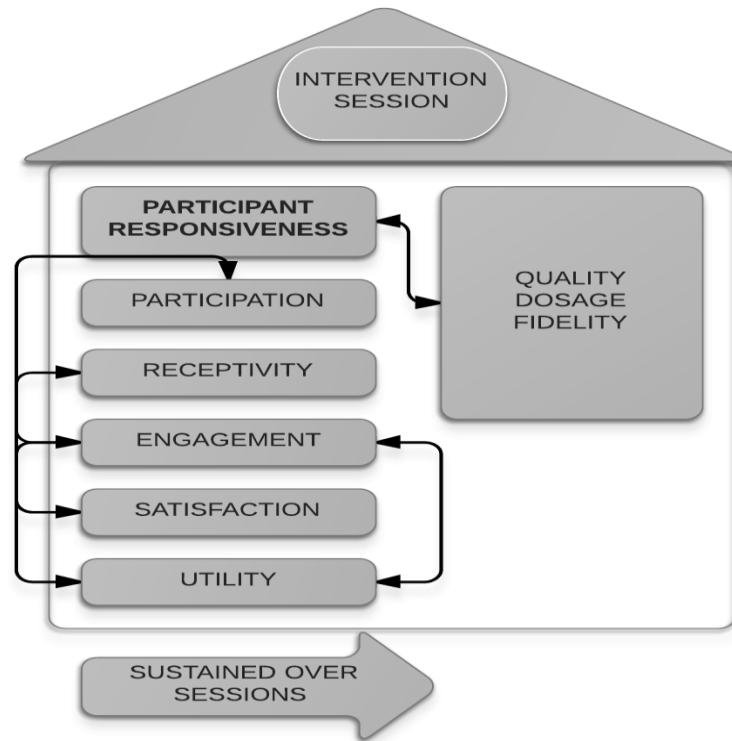
The outlined components of participant responsiveness are hypothesized to support participant outcomes. It is theorized that to achieve positive program outcomes, each component should be maximized and sustained over multiple program sessions. The components are also likely to influence one another as well as influence and be influenced by other dimensions of program implementation, as illustrated in Figure 2. For example, the level of engagement a participant exhibits during an intervention session and over time is likely to influence and be influenced by levels of quality. Likewise, participant's receptivity is

likely to impact levels of participation, engagement, satisfaction, and utility. This conceptualization adds new knowledge to the field by providing an initial framework for beginning to more fully investigate how these interactions unfold over time and impact program outcomes. Additionally, it introduces a more specific time dimension and setting for participant responsiveness, whereby responsiveness occurs within a single intervention session or across multiple intervention settings. Each of five components of participant responsiveness is discussed more thoroughly in the following section, along with a summary of existing home visiting research on the respective component.

Table 4. Conceptualization of Participant Responsiveness			
Component	Definition	Dimensions	Measures
Participation (Behavioral) *	Rate of participation in program/intervention.	-Agreement to enroll -Consistent attendance -Sustained attendance -Amount of Intended Services Received	-Enrollment -Rate of attendance -Retention -Ratio of intended services received
Receptivity (Subjective)	Degree of participant openness to, acceptance of, and desire to fully engage with program content and activities.	-Perception of utility of program services in meeting needs - Agreement or alignment with program services and content -Interest in program services and content	-Participant ratings and surveys -Participant interviews -Home visitor ratings and surveys -External ratings and observation
Engagement (Behavioral)	Amount and quality of participant's interest, involvement, and participation during program sessions.	-Active involvement during programming -Sustained interest in programming	-Home visitor retrospective ratings -External ratings/observations -Participant surveys
Satisfaction (Subjective)	Degree to which program meets participant needs, expectations, and hopes.	-Satisfaction with structural program components (amount of services offered, content covered, type of services offered) -Satisfaction with process program components (home visitor, way services are delivered)	-Participant interviews -Participant surveys
Utility: Immediate, Intermediate and Long-Term (Behavioral and Subjective)	Participant use of program services/support/content during visits (immediate), between visits (intermediate), and across visits (long term).	- Enactment or use of program information/services/guidance into existing attitudes, beliefs, and behaviors	-Observational measures of parenting behavior -Rating scales of parenting behavior -Participant surveys or ratings

*\*Note: The concept 'participation' overlaps with previously-noted 'dosage' dimension of implementation. To distinguish the two, the current conceptualization sees participant dosage as falling under participant responsiveness and program dosage as falling under the traditional dosage definition.*

Figure 2. Participant Responsiveness: Interactions and Sustainment over Time



### Existing Research on Components of Participant Responsiveness

**Participation.** Within home visiting research, terms like parent involvement, participation, engagement, or dosage are often used synonymously to reference the quantity of services participants receive (Korfmacher et al., 2008; Wen, Korfmacher, Hans, & Henson, 2010). For the present conceptualization, participation does include elements commonly thought of as ‘dosage’; however, one can distinguish between levels of participation by the participant (what might be seen as participant dosage) versus the amount of programming delivered to a participant (program dosage)—which can be seen as an element of implementation more generally. For example, participation refers to the participants’ agreement to enroll, their agreement to be present for home visits, the number of home visits they receive, etc. While dosage refers to the amount of program support,

services, and content participants received through their participation (e.g. number of referrals received and accessed, whether covered full curriculum, etc.). Korfmacher et al. (2008) couch the amount of services received as ‘quantity of participation’ while others (see Wagner, Spiker, Inman Linn, Gerlach-Downie, & Hernandez, 2003) discuss the quantity of services received as types of engagement. Participation is measured through various metrics, including: the frequency or number of home visits received, the length of individual home visits, the total duration or length of program enrollment, and the amount of services received relative to the intended amount of services (Korfmacher et al., 2008). The two most commonly discussed aspects of participation in home visiting include percentage of expected visits completed and duration (length of program enrollment) of home visits.

***Percentage of expected visits completed.*** Meta-analysis and evaluations of home visiting programs consistently find that families rarely receive the frequency of visits prescribed and offered by program models (see Gomby, Culross, & Berhman, 1999; Sweet & Appelbaum, 2004). In their summary of home visiting program evaluations for six program models, Gomby et al. (1999) indicate that 25% of families who were invited to enroll in Hawaii Healthy Start programming or Nurse Home Visiting Programs declined to enroll in program services. Additionally, on average, families received about 50% of the home visits offered by their program model (completing an average of 38-56% of intended visits) (Gomby et al., 1999). Wagner, Spiker, Inman, & Hernandez’s (2003) investigation of parental involvement in home visiting found similarly low levels of home visit frequencies. In their study, 22% of families enrolled in program services but never completed a single home visit and of the families that remained in the program past their child’s 1<sup>st</sup> birthday, only 54% received the prescribed minimum monthly visits offered by the program model (Wagner et al., 2003). For families that dropped out of program services prior to their

child's first birthday, only 3% received the intended number of monthly home visits they are offered (Wagner et al., 2003).

***Duration of home visits (enrollment length or retention).*** In general, one would expect low frequency home visits to go hand in hand with shorter enrollment lengths. It is the case, however, that families sometimes remain enrolled in program services for extended periods of time while receiving low frequency home visits (Wagner et al., 2003). Duration of program enrollment, or retention, in home visiting programs is typically lower than expected. On average, studies have found that roughly 50% of families (range of 20-80%) leave prior to the intended program length (Gomby et al., 1999; Gomby, 2005; Roggman, Cook, Peterson, & Raikes, 2008). With regard to the timing of when families drop out of program services, Gutterman's (2001) review indicates that 8-51% of families leave programming within the first 12 months. Duggan et al. (2005) also found that only about half of participants were still active after 12 months of program services. In some cases, families leave programming much earlier. For example, Wagner et al. (2003) found that 26% of families received a total of only 1 or 2 home visits. Clearly, participants are not participating in home visiting at the level intended by the program models. This may point to a need to either explore why participants choose to participate less than expected or to reconsider whether program expectations of amount of participation are realistic.

**Receptivity.** Participant receptivity to programming includes measures of participants' openness to, interest in, and alignment with program content and services. Receptivity as a standalone component of participant responsiveness is generally missing from existing home visiting research. It is typically only addressed through proxy variables or as a correlate or cause of other components of participant responsiveness.



For example, agreement to enroll in program services may be viewed as a proxy for receptivity. There is, unfortunately, limited research summarizing the percentage of participants—to whom home visiting services are offered—that choose not to enroll in program services. At the other end of the spectrum, participant receptivity is often addressed when exploring reasons for participants dropping out of home visiting early. In their study of families who dropped out of EHS home visiting programs, Brookes et al. (2006) found that a mismatch between participants' interests and home visit content influenced dropout rates. Wagner & Spiker (2001) drew a similar conclusion in their study of Parents as Teachers (PAT) programs, with roughly a quarter of families indicating that they dropped out because they were no longer interested in program services or content. Ammerman (2006) also found relationships between the alignment of program content to family contexts and participant drop out. Seventy-nine percent of un-retained participants indicated that their home visitors didn't help them with things they needed and 45% indicated that friends or families gave them advice that conflicted with the information provided by the home visitor (Ammerman, 2006). Similarly, Wagner and colleagues (2000) found that participants were more likely to be actively engaged, as rated by the home visitor, in home visiting if program content aligned with their families' cultural beliefs and traditions.

**Engagement.** Engagement, as defined in the proposed conceptualization of participant responsiveness, is constrained to the ways participants engage in programming in the context of individual program sessions. This includes passive (listening, observing) and active (asking questions, initiating conversation) engagement that is displayed through both verbal and non-verbal participant behaviors.

Participant engagement during home visit sessions is commonly assessed either through home visitor ratings of parent engagement or through observational measures

(completed by home visitors or external raters) (Korfmacher et al., 2008). In home visiting evaluations that include measures of engagement, home visitors generally rate participant engagement in home visits relatively high—although one study did find ratings for passive engagement to be higher than ratings of active engagement (Wagner et al., 2003). Other studies haven't separated engagement out by passive versus active engagement. Raikes et al. (2006) found similarly high ratings of engagement in home visits rated by home visitors, averaging scores of 4.6 on a 5-point scale. Both of the aforementioned studies used retrospective home visitor ratings, asking home visitors to rate participants' engagement across multiple program sessions. A more time sensitive approach used by Brand & Jungmann (2014)—asking home visitors to rate engagement after each session—produced similarly high rating with average ratings of 3.4 for engagement on a 4-point scale.

In addition to home visitor ratings, there are observational measures of home visits that include ratings of engagement. The Home Visit Rating Scales-Adapted (HOVRS-A) (Roggman, Boyce, & Innocenti, 2008) is one observational tool that was used in a pilot evaluation of home visiting programs. From this pilot evaluation, Hallgren, Boller, & Paulsell (2010) found that on average, participant engagement scores on the HOVRS-A were in the adequate-to-good quality range (mean score of 4.3 out of 5). Participant engagement scores on the HOVRS-A are a combination of 3 scales, including: parent-child interaction, parent engagement, and child engagement. Hallgren et al. (2010) found average lower scores on the scale for parent engagement ( $M = 4.0$ ) relative to scales for parent-child interaction ( $M = 4.5$ ) and child engagement ( $M = 4.5$ ). In the 2008 report of the federal evaluation of Early Head Start programs (Baby Faces), Vogel et al. (2011) found slightly lower overall scores for participant engagement on the HOVRS-A ( $M = 3.56$ ) with the lowest scores on the subscale for parent engagement ( $M = 3.0$ ) relative to the subscales for parent-child

interaction ( $M = 3.3$ ) and child engagement ( $M = 4.3$ ). The evaluation by Hallgren et al. includes a much smaller sample size than the federal evaluation efforts by Vogel et al. (2011) (sample sizes are 31-34 families and 360-366 families respectively), which may explain the slight differences in findings. Overall, in the larger sample size, participant engagement scores fell between the adequate-to-good quality range with parent engagement scores falling in the adequate quality range (Vogel et al., 2011). HOVRS-A scores typically represent an individual program session for participants, which are averaged across participants, rather than representing program sessions over time for individual participants.

In addition to HOVRS-A, the Home Visit Observation Form (HVOF) (Peterson, 2007) observationally assesses home visits and includes a rating for participant engagement. Unlike the HOVRS-A, which provides a measure of engagement across the entire home visit, the HVOF assesses engagement within 10 minute intervals of an individual home visit. Roggman et al. (2001) used a modified version of HVOF and found average engagement ratings, by researchers, of 3.17 on a 5-point scale.

**Satisfaction.** There are a variety of ways to assess participant satisfaction; however, it is most commonly assessed through participant satisfaction surveys. For example, participants may be asked to rate their overall satisfaction with the amount and quality of services received and the overall quality of their relationship with home visitors (Summers et al., 2005).

In the field of home visiting, participant satisfaction with program services—as measured through surveys or rating scales—tends to be consistently high and positively biased (Armstrong, Fraser, Dadds, & Morris, 1999; Roggman, Boyce, Cook, & Jump, 2001). In a collaborative research study by Roggman et al (2001), parent ratings of satisfaction with their home visits and their home visitors were consistently high—although parent

satisfaction ratings for actual home visits were slightly lower than satisfaction ratings of their individual home visitors ( $M = 4.67$  and  $4.78$  on a 5-point scale, respectively). Roggman et al. (2001) suggest that the limited variability in parent ratings might stem from the phrasing of questions or the inadequacy of surveys to provide an in-depth picture of parents' expectations of and satisfaction with home visiting program services. Despite consistent positive bias, at least one study has found significant relationships between parent reports of the quality of the relationship with their home visitor and the number of home visits families received (Korfmacher et al., 1997). Satisfaction ratings are typically provided retrospectively and ask participants to rate their overall satisfaction over the course of program services as opposed to their satisfaction with individual program sessions. Due to the limited variability and global level of parent satisfaction ratings, there is potentially a gap in research on participant satisfaction with home visiting program services, as assessed through traditional surveys methods.

**Utility.** Carroll et al. (2007) describe utility as an element of participant responsiveness due to the picture it provides of whether participants understand program services and enact the knowledge, skills, and strategies related to program services. This creates some overlap with program outcomes, measuring the impact of the program on child or family functioning. As conceptualized here, however, it is important to consider the dimension of time. Participants can use support, recommendations, and content during home visits (immediate utility), between home visits (intermediate utility), across home visits or at the conclusion of an intervention (long term utility). Home visiting research typically addresses utility by measuring changes in parenting knowledge, attitudes, behaviors, and skills at pre-specified time points as outcomes after the intervention period is completed (typically regardless of whether participants have fully 'completed' the program). While an

extensive summary on this topic is beyond the scope of the present discussion, a brief summary of findings is provided below and is instructive for considering the concept of utility as it pertains to responsiveness.

In a review of experimental and quasi-experimental evaluations of home visiting, Kendrick et al. (2012) found that home visiting significantly impacts positive parenting changes, including: significant changes in parent facilitation of a positive home learning environment; significantly improved parent-child interaction patterns, and significant impacts on parent's use of strategies to cognitively stimulate children. Evaluations of Parents as Teachers found similar program impacts on observational measures of the home environment, with small, significant impacts on parent's language and literacy promotion, acceptance of child's behavior, organization of the home, provision of appropriate play materials, and opportunities for children's daily cognitive stimulation (Wagner & Spiker, 2001). Additionally, in an evaluation of Early Head Start, Roggman, Boyce, & Cook (2009) found that EHS significantly impacted maternal reports of attachment security. Impacts of home visiting on more health related parent behaviors include reduced smoking during pregnancy, improved prenatal diets, and reduced child maltreatment and injuries (Olds, Henderson, Chamberlin, & Tatelbaum, 1986).

Despite these examples of positive impacts on participant behavior, several home visiting evaluations produce more mixed and inconclusive impacts on parenting, including some small negative impacts of program participation (Wagner & Spiker, 2001). For example, as noted earlier (see Table 2), the HomVEE review of home visiting programs found program effects for positive parenting practices ranging in standard deviations from -2.43 to 3.00 across the reviewed studies—which included a total of 50 effects (Mathematica Policy Research, 2011). When these effects are averaged and weighted for the sample sizes

of the reviewed studies, the average effect for positive parenting practices is nearly zero at 0.03 (Michalopolos et al., 2013). Given these relatively modest findings, it is in the best interests of programs to track utility early on and measure responsiveness by how well participants “get” what is expected of them, specifically through their demonstration of newly acquired skills, abilities, or knowledge that are otherwise formally assessed as outcomes after the intervention window has closed.

Of course, in the actual implementation of home visiting, the aforementioned components of participant responsiveness do not operate in isolation of other factors. The components can interact with and influence one another and also vary according to family and home visitor characteristics as well as contextual considerations.

### **Interactions and Variations in Participant Responsiveness**

**Interactions among components of participant responsiveness.** As already noted, participant receptivity influences rate of participation—specifically, the duration of program enrollment (Ammerman, 2006; Brookes et al., 2006; Wagner & Spiker, 2001; Wagner et al., 2000). Engagement during program sessions is also significantly related to duration of program enrollment and participant ratings of program satisfaction (Brand & Jungman, 2014). Brand & Jungman (2014) found that a 1-point increase in ratings of participant engagement during home visit sessions decreased likelihood of dropping out by 68%. Likewise, Roggman et al. (2008) found that ratings for participant engagement were lower among participants that dropped out of programming compared to retained participants, a one point increase in ratings of participant engagement decreased probability of dropping out by 51%. However, there are instances where sustained participation doesn’t necessarily equate to higher engagement in home visits. Different patterns or combinations of participant responsiveness often emerge (Wagner, 2003). Participants may participate in

visits but do so in a disengaged or unenthusiastic manner (Baker, 1999; Korfmacher et al., 2008; Robinson, Korfmacher, Green, Snoden, & Emde, 2002). For example, Wagner et al. (2003) discussed combinations of participant responsiveness in home visiting, with some participants being receptive to enrolling and not participating while others participate in programming but are not engaged during home visits. The latter pattern was found in a study by Robinson et al. (2008)—with some mothers participating at a high frequency but doing so in a less engaged manner. Likewise, Powell (2008) suggests that ratings of participant engagement don't always relate to participant's use of program guidance or suggestions between home visit sessions. While one would ideally hope for all the components of responsiveness to be maximized and positively related to one another—it is likely that more complex patterns develop during implementation and differentially relate to program outcomes.

### **Variations in responsiveness by family and home visitor characteristics.**

Participant responsiveness in home visiting varies by several family characteristics, including basic demographic characteristics, mental health, family stresses, and interpersonal factors (Ammerman, Stevens, & Putnam, 2006; Brookes, Summers, Thornburg, Ispa, & Lane, 2006; Raikes et al., 2006; Wagner & Spiker, 2001). In regards to family race/ethnicity, evaluations for Parents as Teachers found that minority participants typically receive fewer home visits and have shorter enrollment lengths than Caucasian participants (Wagner & Spiker, 2001; Wagner, Gerlach-Downie, & McElroy, 1999; Wagner et al., 2003). Similar findings occurred in studies of Early Head Start programs, where Caucasian families received more home visits than families in minority populations (Raikes et al., 2006). Ammerman and colleagues (2006) also found longer enrollment lengths for Caucasian families relative to minority families participating in Healthy Families America home visiting programs. On the contrary,

Daro (2003) found that African Americans and Hispanics are more likely to remain enrolled in programming as compared to Caucasian participants. Additional investigations found positive correlations between higher retention rates and participants who come from dual parent households, are older, more educated, and have higher house hold incomes (Daro, 2003; Hicks, Larson, Nelson, Olds, & Johnston, 2008; Wagner, Spiker, Gerlach-Downie, & Hernandez, 2000). Lastly, studies have found that families of children with identified disabilities tend to have more frequent home visits and longer enrollment lengths (Olds & Kitzman, 1993; Raikes et al., 2006). Wagner et al. (2003) found that participant utility of home visiting, by ‘doing the homework’, was higher for Caucasian mothers and parents with higher education and income. Qualitative studies asking home visitors to identify barriers to engagement found home visitors felt several characteristics inferred with consistent engagement, including more children in the home and lack of families’ English language proficiency (Brookes et al., 2006).

With regard to more dynamic family characteristics, studies have found that families with poor mental health and families experiencing frequent mini crises typically participate less in services by receiving fewer home visits, relative to families with more stable mental health and home lives (Brookes et al., 2006; Wagner & Spiker, 2001). However, families experiencing major life crises/issues have also shown a tendency to experience periods of more intensive participation through increased home visit frequencies (Brookes et al., 2006). Brookes et al. (2006) also found that families with higher levels of family stress had lower attrition rates. Additionally, at least one other study found that mothers with greater psychosocial adversity (mental health/substance abuse, low levels of social support, increases stress) were more engaged in home visits during the first year of services as compared to mothers with greater psychosocial resources. It appears as though families with isolated risk



factors or needs participate in home visiting more whereas families with multiple, compounded risk factors participate less unless they are experiencing an isolated family crisis. As expected, families with higher rates of residential mobility also tend to participate less in services (Brookes et al., 2006; Raikes et al., 2006).

Interpersonal characteristics also influence a participant's responsiveness to programming (Brookes et al., 2006). An example of this is the parents' relationship histories and approach to relationship formation, parents with positive relationship histories are often more receptive to developing collaborative relationships with home visitors while parents with challenging relationship histories can be resistant to developing relationships with and seeking help from home visitors (Brookes et al., 2006). For example, Robinson et al. (2002) found that mothers with lower sense of mastery, difficult attitudes towards relationships, and more stressful life events participated in home visiting with a high frequency but were rated by their home visitors as less engaged. Roggman et al. (2001) also found that researcher's ratings of participant engagement were higher for families that home visitors had rated as higher functioning with regard to self-sufficiency and positive family relationships. Korfmacher, Adam, Ogawa, & Egeland (1997) also found that mothers with more secure attachment representations who were involved in a support intervention (that included home visits) were more involved in the intervention and accepted more forms of treatment compared to mothers with insecure attachment representations. McFarlane et al. (2007) also found that families received more intensive services if either the mother or home visitor was high on attachment anxiety. Participant approaches to relationship formation and help seeking ultimately influence the frequency and depth of received program services.

In addition to family characteristics, home visitor characteristics impact participant responsiveness. For example, Daro (2003) found that more experienced home visitors

tended to have families with higher rates of participation. Qualitative interviews with home visitors indicated that home visitors felt they could overcome barriers to engagement by being persistent, following through on promises, and being available and accessible to families during times of crisis (Brookes et al., 2006). Additional qualitative research points to the benefit of home visitors sharing similar backgrounds and experiences with participants for higher participation and engagement (Brookes et al., 2006; McCurdy & Daro, 2003). Other studies emphasize the importance of home visitor ability to empathize with families, develop sincere friendships, and demonstrate care for families to support engagement (Korfmacher et al., 2008; Korfmacher & Marchi, 2002; Pharis & Leven, 1991).

**Variations by context, content, and quality.** In addition to family and home visitor characteristics, context considerations and the content and quality of program services relate to levels of participant responsiveness. With regard to context considerations, family context can influence participant responsiveness. For example, when other family members are involved in, agree with, and are supportive of participation in program services, participation in program services is typically greater (Brand & Jungman, 2014; Perrino, Coalsworth, Briones, Pantin, & Szapocznik, 2001; Wasik & Bryant, 2001). Additionally, community contexts can influence participant responsiveness. Tandon et al. (2008) investigated the impact of community violence and disorganization on participation rates and found that families living in communities characterized by high rates of violence and disorganization were more likely to drop out of home visiting. Additional family and community contexts are likely to influence participant responsiveness, however, research on this topic is somewhat lacking.

Program content, strategies, and quality also relate to participant responsiveness. Greater rates of participation and longer enrollment lengths are associated with more time

during home visits focused on child development relative to a focus on staff-parent or family issues (Peterson et al., 2007; Roggman et al., 2008). More specifically, when home visitors discussed child development using strategies that involved participants in direct interactions rather than through conversation alone—participants were rated as more engaged by external researchers (Peterson et al., 2007). Additionally, overall positive correlations were found between use of specific intervention strategies and external ratings of engagement during program sessions. Examples of such strategies include: focusing attention on child strengths; sharing observations of child; discussing developmental expectations; making suggestions; brainstorming with participants; affirming participant competence; asking participants for thoughts/reflections; drawing attention to how participant behavior positively impacts child(ren) (Knoche et al., 2012). However, somewhat contrary findings were reported by Peterson et al. (2007), with a negative relationship between the strategies of providing positive affirmation and asking for information and engagement, meaning that higher use of these strategies was associated with decreased engagement. Other strategies associated with decreased engagement included providing information, listening, and home visitor self-disclosure (Peterson et al., 2007). These contrary findings could be associated with what is occurring within participant-home visitor interactions. For example, home visitors may be using these strategies in reaction to decreased signs of participant engagement as an attempt to re-engage participants. The related, yet separate construct of *quality* is also likely to impact participant responsiveness. For example, home visitor ratings of the quality of the home visits delivered to participants and the quality of their relationship with participants are higher for participants rated as highly engaged in program sessions by external raters (Roggman et al., 2001). However, at least one other study failed to demonstrate significant relationships between the quality of home visitors' delivery of

program sessions and participant engagement—both rated by external raters (Knoche, Sheridan, Edwards, & Osborn, 2010).

## Summary

Conclusions regarding participant responsiveness in home visiting depend on which component is under consideration. With regard to receptivity, research on this component is generally lacking. Most existing research addressing participant receptivity only relates it to other components of participant responsiveness, for example, using it to understand why participants drop out of services early or receive fewer home visits. For participation, low frequency visits (relative to intended visits) and high attrition rates indicate that programs continue to struggle with recruiting and retaining target service populations. Research on participant engagement and satisfaction generally finds adequate to high levels of engagement and satisfaction. Ratings of participant engagement from home visitors and trained observers generally show adequate to high levels of engagement—although ratings are higher for passive engagement compared to active engagement (Hallgren et al., 2010). Likewise, home visiting participants provide consistently high satisfaction, with generally higher satisfaction ratings for their home visitors as compared to satisfaction ratings for actual home visits. Lastly, participant utility in the form of the proxy variable of parent outcomes demonstrates some significant findings. However, as the HomVEE review suggests, these findings are often inconsistent and uneven.

As discussed, components of participant responsiveness interact with one another and participant responsiveness often varies according to family and home visitor characteristics as well as considerations of context, program content, and program quality. These findings are summarized in Table 5. While the research reviewed here provides an initial understanding of participant responsiveness in home visiting, the studies are not

without their limitations. These limitations come in the form of measurement and methodological issues, issues of applicability, and inconsistent findings.

Table 5. Variations in Participant Responsiveness					
Factor	Participation	Receptivity	Engagement	Sat.	Utility
<b>Interactions Among Components</b>					
Higher Receptivity	H				
Higher Satisfaction			H		
Higher Engagement	H			H	
Higher Participation		H			
Higher Utility					
<b>Participant Characteristics</b>					
Caucasian	H				H
Dual Parent Household	H				
Older Age	H				
Higher Education Level	H				H
Higher Family Income	H				H
Identified Child Disabilities	H				
Isolated Family Crisis	H				
Higher Family Stress	H				
Minority	L				
Mental Health Problems	L				
Multiple Family Crises	L				
Residential Mobility	L				
Lower Sense of Mastery			L		
Difficult Relationship			L		
Interest in Other Topics			L		
More Children in Home			L		
Low English Language			L		
<b>Home Visitor Characteristics</b>					
Professional Experience	H				
Persistence			H		
Follow Through			H		
Availability During Crisis			H		
Empathy			H		
Develop Friendships			H		
Demonstrates Care			H		
Specific - Strategies**			L		
Quality of Home Visit			H		
Relationship Quality			H		

Table 5. Variations in Participant Responsiveness, Cont.					
Factor	Participation	Receptivity	Engagement	Sat.	Utility
<b>Context Considerations</b>					
Additional Family Members			H		
Community Violence	L		L		
<b>Content and Quality</b>					
Child Development Focus	H		H		
Specific + Strategies*			H		
Specific - Strategies**			L		
Quality of Home Visit			H		
Relationship Quality			H		

*Note: H = Higher, positive relationships. L = Lower, negative relationships*

*\*Strategies related to higher engagement: bringing attention to child strengths, sharing observations, discussing developmental expectations, making suggestions, brainstorming, asking for thoughts/reflections, bringing attention to positive impact of parent behavior on child. \*\*Strategies related to lower engagement: providing information, listening, and home visitor self-disclosure, providing affirmation, asking for information.*

An overarching measurement limitation is a lack of consistent terminology, operational definitions, and measures of participant responsiveness. Depending on the study under consideration, terms for ‘engagement’ may refer to levels of participation or it may refer to actual engagement during program sessions. Even within studies using similar terminology, operational definitions and measurements of participant responsiveness are varied. Additionally, many existing measures produce consistently high ratings with limited variability. This is especially true for participant ratings of satisfaction, which are consistently positively biased and offer little in the way of understanding home visit processes (Korfmacher et al., 2008; Roggman et al., 2001). Such limited variability limits the usability and application of research findings, for both research and practice. Home visitors and external raters also tend to produce ratings of engagement with limited variability, generally in the ‘average to good’ range (standard deviations for external raters range from .50-1.00 SD) (Brand & Jungmann, 2014; Hallgren, Boller, and Paulsell, 2010; Roggman et al., 2001). Additionally, due to time constraints of observing individual home visit sessions, many ratings of engagement rely on home visitors’ retrospective rating of levels of parent

engagement (Roggman et al., 2008). These retrospective ratings, which are also true of participant retrospective ratings for satisfaction and utility of services, potentially reduce accuracy by asking raters to consider multiple program sessions rather than providing more precise and timely ratings of individual program sessions. Last, these global ratings fail to uncover different patterns or types of participant responsiveness—patterns that are important to monitor for program improvement purposes and to use in exploring relationships to program outcomes.

Another limitation of the existing research is a reliance on correlational analysis and qualitative research to explore relationships among the components of participant responsiveness and variations in responsiveness. Use of concurrent measures of strategies utilized during home visits, the quality of relationships between home visitors and participants, and the content and quality of home visit sessions provides only correlations and limits the ability to infer causality or directionality of identified relationships. This is true even in studies that utilize analysis techniques beyond correlation; a key requirement of inferring causality is that the cause precedes the effect (Shadish et al., 2010). While many studies assume that identified factors or characteristics are unidirectional in influencing participant responsiveness, the possibility of a more dynamic process and other confounded variables is generally not addressed. For example, it is often assumed that quality home visits drive participant responsiveness or ultimately bolster participant responsiveness. As demonstrated by other fields of research; however, many patterns of quality in relation to engagement are possible. Researchers in the field of afterschool research have examined different combinations of quality and engagement, including: high quality/high engagement; high quality/low engagement; low quality/low engagement; and low quality/high engagement (Smith, 2012). Each combination most likely demonstrates different impacts on



program outcomes—with the hypothesis of most robust outcomes achieved through high quality/high engagement. Lastly, the findings for variations in participant responsiveness across studies are somewhat inconsistent. For example, some studies find Caucasian participants participate longer while other studies find the opposite. Additionally, some studies find specific strategies (affirmation, asking for information) relate to higher engagement while others find the same strategy relates to lower engagement.

Another limitation of this research is a primary focus on identifying factors that relate to lower levels of participant responsiveness rather than focusing on the processes that underlie low levels of participant responsiveness (Stevens, Ammerman, Putnam, Gannon, & VanGinkel, 2012). As seen in Table 5, a majority of identified participant characteristics include basic background or demographic characteristics. This offers little in the way of understanding how participants engage during program sessions or how programs might better engage participants with certain background characteristics. Additionally, many factors—outside of those falling within the realm of the program itself and home visitor—are not easily modified and some are quite static (e.g. race/ethnicity, family structure). Lastly, factors that are more malleable and fall within the program realm are linked to program quality by correlational analysis and provide limited specificity (e.g. show more empathy, demonstrate care) on how to best implement home visiting services. Again, this limits the applicability and usability of findings.

As discussed by Roggman et al. (2008), promoting participant responsiveness in home visiting is widely advocated and recognized as a research priority. Despite this, home visit practitioners rarely receive timely monitoring or specific guidance on how to best promote participant responsiveness (Roggman et al., 2008). Existing research to inform promotion of participant responsiveness is limited with regard to: clarity and consistency of

terminology and operational definitions, limited variability of existing measures, inability to infer causal relationships, and lack of timely, useful, and applicable information. Research on participant responsiveness should ideally provide information that can be used by both researchers and practitioners to improve participant responsiveness and programming, thereby also increasing the likelihood of positive program outcomes.

Smith, Yohalem, & McGovern (2013) lists characteristics that make data more applicable to program improvement purposes, including : (1) Timely: Provided in real time or shortly after events occur or shortly after completion, (2) Objective: Readily Observable, (3) Reliable: Standardized, (4) Sensitive: Captures behaviors that are likely to change in response to intervention and captures change, (5) Valid: Describes behaviors thought to be a link in a causal chain of events, (6) Feasible: Reasonable to complete given existing resources and time, (7) Multi-Purpose: Process of collecting data and data interpretation promotes learning for multiple stakeholders, and (8) Multi-Level: Can be aggregated across individual units to assess collective performance. Current data on variations in participant responsiveness are largely lacking the characteristics of being timely, sensitive to change, and multi-purpose. A majority of data is retrospective in nature and is collected long after individual home visit sessions occur. And, as discussed, most data produces limited variability and isn't sensitive to change. Lastly, existing data isn't multi-purpose and the process of collecting and interpreting the data doesn't lend itself to learning about the actual process of participant responsiveness and how best to promote it.

In summary, there are gaps and limitations in existing research on participant responsiveness. Research on participant receptivity to home visiting and home visiting content, for example, is historically and currently missing. The components of engagement and satisfaction are occasionally measured but limited to a small number of studies with

smaller sample sizes. The components of participation and utility receive more coverage in the literature in comparison to the other three components of receptivity, engagement, and satisfaction. Additionally, several components of participant responsiveness are in need of research and data that reflects the aforementioned characteristics of useful data. This is especially important to accomplish the goal of research informing practice. More timely data on participation, receptivity, engagement, satisfaction, and utility can be used not only for more sensitive and valid research ratings but also for ongoing program improvement purposes. For example, asking participants to rate their receptivity, satisfaction, or utility of program services shortly after a home visit provides more specific guidance to programs and—when aggregated over multiple sessions—likely provides a more sensitive and valid measure of participant responsiveness. This not only provides more valuable information to practitioners but also provides data to more closely test theories of change for program models.

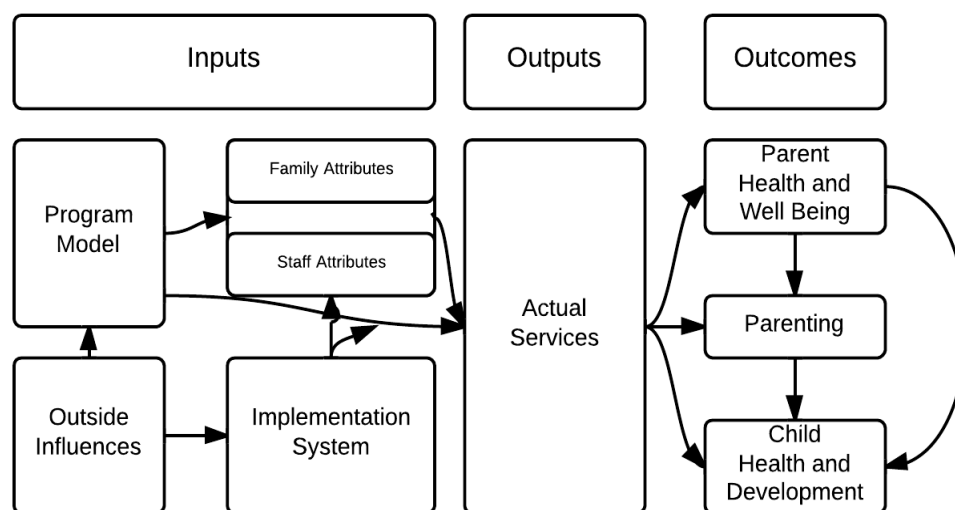
### **Engagement: A Start for Understanding Participant Responsiveness**

#### **Conceptualization of Home Visiting Services**

While there are many areas for improvement with regard to unpacking participant responsiveness in home visiting, an ideal context for beginning to take a closer look at the process of participant responsiveness is within individual home visit sessions. A broad conceptualization of home visiting services by Duggan (2012) is illustrated in Figure 3. This conceptualization focuses on the many levels and layers of home visiting programs and factors at each level that influence programming, implementation, and ultimately program outcomes. As shown in this conceptualization, there are many important factors at each level to more thoroughly understand and ‘unpack’. However, given that participants experience home visiting within the context of individual home visit sessions and home

visitors do a majority of their work within the context of individual home visit sessions—it seems especially important to unpack what is happening with regard to participant responsiveness in ‘actual services’ as listed under the ‘outputs’ column.

Figure 3. Conceptualization of Home Visiting Services



### Participant Responsiveness at the Level of Home Visits: Engagement

A theory of change provided by the field of afterschool research (see Figure 4) provides a framework for beginning to look at participant responsiveness within the context of ‘actual services’. In this theory of change, student’s skills/beliefs improve through repeated engagement in after school sessions delivered with high quality—which ultimately supports the transfer and application of improved skills/beliefs to settings outside of afterschool programming (Smith, 2012). For home visiting, parents’ skills/beliefs regarding child development are hypothesized to be supported by participant’s engagement in home visit sessions delivered with high quality. Figure 5 provides an overlay of this basic theory of change with existing research on participant responsiveness in home visiting. As illustrated,

a majority of existing research falls outside of the context of individual home visit sessions. Most addresses responsiveness by looking at participation over time, or assessing how participants incorporate and apply program guidance into existing skills/beliefs or behaviors after intervention implementation. While these concepts are helpful in understanding how participants respond after multiple home visit sessions, they fail to provide timely data on participant responsiveness during individual home visit sessions.

Figure 4. Theory of Change for Afterschool Settings

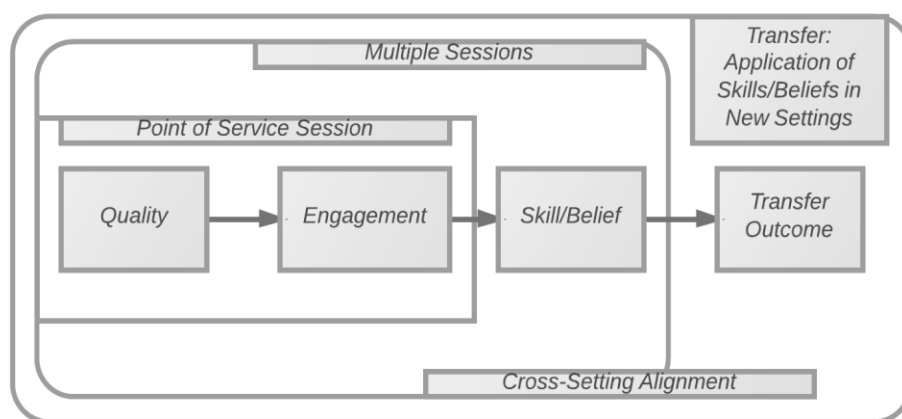
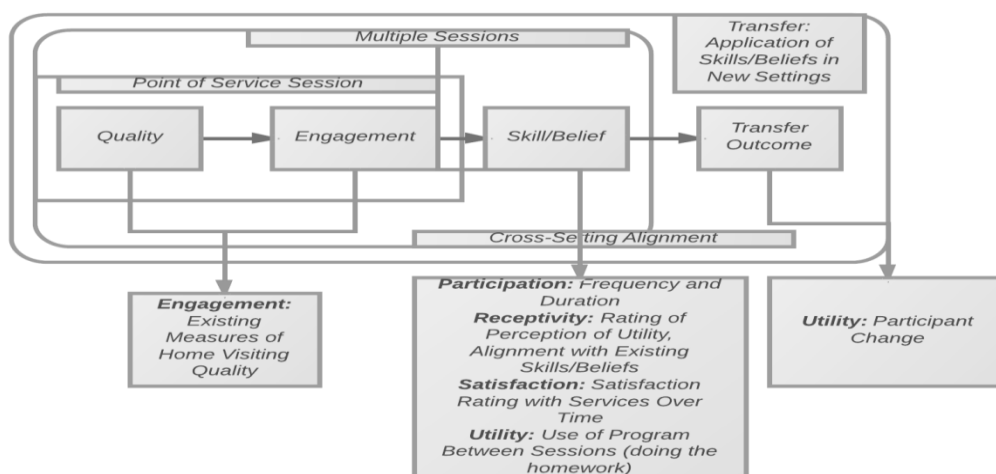


Figure 5. Overlay of Existing Research with Theory of Change



One component of participant responsiveness at the level of individual home visits that may lend itself to uncovering a process and producing multi-purpose data is the component of engagement. As previously discussed, engagement is conceptualized here as the amount and quality of participant's interest, involvement, and participation during program sessions through both verbal and non-verbal behaviors. Understanding how and if participants engage with program content and home visitors during home visit sessions provides unique insights. Such an understanding offers more valuable information for program improvement efforts, relative to listing demographic variables that relate to low levels of participation (Stevens et al., 2012).

Engagement is also a key component to start with due to its influence on other components of responsiveness. Theoretically, one would expect that engagement during individual sessions and sustained over time increases participation and utility—although this has yet to be studied empirically. Brand & Jungman (2014) did find that the quality of the relationship between home visitors and participants and participant satisfaction had no significant effect on attrition independent of participant engagement during home visits. This provides some evidence that engagement during individual home visits is critical for retaining participants and duration of participation is associated with larger program effects (Korfmacher, Kitzman, & Olds, 1998; Lyons-Ruths & Melnick; 2004; Raikes et al., 2006). It is also possible that if more specific strategies for actively engaging participants can be identified and implemented by focusing on the process of engagement during home visits, then the components of receptivity and satisfaction may also be bolstered. As shown in Figure 5, currently, the primary means of assessing engagement as it occurs in individual sessions is through existing measures of home visiting program quality at the level of

individual home visits. The following section summarizes the conceptualization and measurement of engagement within these existing measures.

**Summary of existing measures of home visits: engagement.** Measures summarized in this section are limited to those assessing home visiting at the level of individual home visits. A summary of these measures and respective methods of assessing parent engagement during home visits is provided in Table 6. Of the four measures, two of the measures include an assessment of participant engagement during home visits. The HOVRS-A+ (Roggman et al., 2012) includes one scale assessing parent engagement. The scale is rated on a 7-point scale ranging from inadequate to excellent with anchors at the odd points. The HVOF (McBride & Peterson, 1996) assesses engagement every 10 minutes during an observation, rating engagement on a six-point likert scale ranging from low to high.

Table 6. Summary of Existing Measures of Home Visiting Quality	
Measure	Assessment: Parent Engagement
Home Visiting Rating Scales, Adapted and Expanded (HOVRS-A+); Roggman et al. 2012	Parent Engagement Scales provide a global rating of parent engagement during home visits on a 7-point scale.  Aspects of engagement include: -Degree of parent interest, participation, initiative, and physical proximity to home visitor and child during home visit session
Home Visiting Assessment Instrument (HVAI) Wasik, 1995	No assessment of parent engagement during home visit
Home Visit Observation Form (HVOF) McBride & Peterson, 1996	Engagement is coded every 10 minutes of observation, engagement rated on a 6- point scale ranging from low to high.
Home Visit Characteristics and Content Form, Boller, Vogel, Cohen, Aikens, Hallgren, 2009	Not assessed

Studies utilizing these measure or adapted versions have reported associations between certain strategies and/or content and engagement. For example, Peterson et al. (2007) observed home visits using the HVOF to document specific strategies used and explore relations between maternal engagement and specific strategies. In this study, use of specific strategies and discussion of content were coded every 30 seconds while maternal engagement was rated every 10 minutes on a global six point scale. A lower score (1-2) on the global engagement scale indicated that the mother seemed uninterested, didn't initiate topics or activities, displayed flat affect, appeared distracted, was physically distant, or was involved in another activity. A higher score (5-6) indicated that mothers displayed interest, initiated topics or activities, elaborated on discussions, asked questions, or provided



information. Peterson and colleagues reported that levels of high maternal engagement varied according to the content and specific intervention strategies utilized during home visit intervals. Specifically, mothers were highly engaged for a greater percentage of the time during intervals when home visitors addressed child development content using strategies that involved mothers in direct interactions rather than providing child development content through conversation. Specific intervention strategies associated with lower levels of maternal engagement included: positive affirmation, providing information, listening, asking for information, and home visitor self-disclosure.

Knoche, Sheridan, Edwards, & Osborn (2010) used an adapted version of the HVOF to assess fidelity of implementation for a professional development intervention. Coding videotaped home visits, Knoche and colleagues utilized a similar coding process—coding every one minute interval for home visitor’s use of intervention strategies and interactions among home visit participants and providing a global rating at the end of each 10 minute segment assessing general levels of quality and participant engagement. Their study found no significant relationships between ratings of general quality and participant engagement; however, they did find positive correlations between intervention strategy use and participant engagement. Examples of intervention strategies include: establishing/re-establishing relationship with parent, asking parent to share observations or ideas, affirming parents’ competence, establishing dyadic context, helping parents discuss and prioritize concerns/needs, focusing parent’s attention to child strengths, providing developmental information, and brainstorming with parents.

One limitation of these studies and the associations found between strategies/content and engagement is lacking documentation of the sequence of events occurring during home visits. In the aforementioned studies, there is no documentation of

whether strategies preceded high levels of parent engagement or if they happened to co-occur. It is therefore not possible to infer causality or directionality in associations between strategies and engagement. Additionally, the existing measures provide only global ratings of general engagement over a 10-minute interval. Likewise, the HOVRS-A+ assesses general parent engagement over the course of an entire observation (which may vary from 20-60 minutes). Capturing only general engagement and not taking into account sequential or interactive effects limits the ability to explore the specific strategies and/or content that precedes engagement or disengagement. Such sequential documentation is multi-purpose in providing home visitors specific sequences of engagement to reflect on and consider strategies that worked or didn't work. As Roggman et al. (2008) suggest, dropout rates in home visiting would decrease if home visitors were trained in specific strategies to engage parents. Sequential analysis is also beneficial in enabling more robust inferences of causality between specific strategies, content, and engagement.

Although not an examination of home visiting, Bensing, Verheul, Jansen, & Langewitz (2010) focused on physician office visits, and this study provides an example of the added benefits of sequential analysis rather than cross-sectional analysis. Their study of patient expression of cues or concerns found different results using sequential analysis rather than cross-sequential analysis. The cross-sequential analysis looked at associations between total counts of physician strategy use and patient expression of cues or concerns while the sequential analysis looked at which physician strategies were immediately followed by patient cues or concerns. An example of the different findings between the two approaches is the relationship between physicians providing biomedical information and patient expression of cues or concerns. In the cross-sectional study, a positive relationship was found between provision of biomedical information and patient expression of cues or concerns while the

sequential study found the opposite—with provision of biomedical information significantly less likely to be followed by patient expression of cues or concerns. The authors later found that the positive relationship from the cross-sectional study was due to the confounded variable of the length of the office visit.

Another limitation of the reviewed home visiting studies is confounded conceptualizations of engagement and strategies. For example, Peterson et al. (2007) report higher engagement when home visitors deliver child development content using direct parent-child interactions rather than delivering content through conversation. This is seemingly confounded with their measure of engagement including whether the parent is engaged in interactions with the child during the home visit session. It seems expected that a participant is more likely to engage in an interaction if prompted and instructed to do so by a home visitor. Details on the quality and nature of that engagement/interaction, however, are not addressed. A participant could passively engage in an interaction with their child to appease a home visitor's guidance. On the other hand, a participant could actively engage in an interaction in a present and attentive manner. These two types of engagement reflect different participant dispositions to engagement during home visits that are most likely influenced by and influence other components of participant responsiveness, including utility.

## **Summary**

Outcome evaluations and claims of evidence based programming should not be attempted until dimensions of implementation have been maximized and documented (Fixen et al., 2005). Participant responsiveness and the component of engagement is a key dimension of implementation that is often overlooked (Durlak & DuPre, 2008). While home visiting struggles to document other dimensions of implementation (e.g. quality,

fidelity), emerging research within the field is at least beginning to bring more focus to them (Michalopolos et al., 2013). However, the dimension of participant responsiveness continues to receive less focus, and existing research is spotty and of limited utility. Addressing gaps in research on participant responsiveness is necessary in light of the often inconsistent and modest outcomes of home visiting programs. Bolstering other dimensions of implementation without also documenting and maximizing the dimension of participant responsiveness is not likely to make sustained inroads on improving outcomes.

To address these gaps, the component of engagement during individual home visits seems especially ripe for beginning to more fully address participant responsiveness and provide meaningful and actionable data to researchers and practitioners. A greater understanding of how participants engage during home visits is a fruitful endeavor in many respects. First, it is likely to provide insight on the process of engagement rather than merely listing participant characteristics associated with engagement. Second, more time sensitive and sequential measures of engagement provide greater rigor and confidence for inferring causal relationships between strategies and engagement—which is important for making program improvements. Last, it assures that the large scale home visiting efforts currently underway truly accomplish the goals of supporting families with young children by ensuring participants are responsive to said program services.

## CHAPTER THREE

### CURRENT STUDY

The current study uses a mixed-methods approach to more fully explore the issue of participant engagement in home visiting. The study includes two overarching components and draws from multiple data sources. The first component includes surveys and semi-structured phone interviews with home visitors. The surveys and structured phone interviews are designed to better understand: (1) home visitor training needs related to participant engagement, (2) how and if programs monitor participant engagement, (3) home visitor perspectives on participant engagement, and (4) how participant engagement impacts program implementation. The second component of the study includes coding videotaped home visits collected as part of a statewide evaluation of Prevention Initiative Programs for the Illinois State Board of Education (ISBE) completed by Herr Research Center at Erikson Institute in 2012 (Korfmacher, Sparr, Chawla, Fulford, 2012). Coding of the archived videotaped home visits is intended to assess the benefits of a more specific measure of participant engagement as compared to a global measure and to identify specific home visitor strategies that relate to participant engagement and/or disengagement during home visit sessions.

#### **Research Questions**

The current study addresses the following research questions:

- 1) Do home visitors receive training on engaging participants? Do home visitors feel a need for additional training and/or preparation on participant engagement?

- 2) Do home visiting programs monitor participant engagement during home visits? If so, what methods are they commonly using and how do they use gathered information?
- 3) Do home visitors feel engagement in home visits impacts their work? If so, how?
- 4) Are there notable differences between global measures of engagement and frequency counts of specific indicators of engagement and disengagement?
- 5) Do home visitor strategies relate to participant engagement? Likewise, do home visitor strategies relate to participant disengagement?

Table 7 provides a summary of the study with each research question, the methodology used, and the sample size. Additional details about the methodology for each study component are detailed in the Methods section below.

Table 7. Summary of Study		
Research Question(s)	Method	Sample Size
<p>1) Do home visitors receive training on engaging participants? Do home visitors feel a need for additional training and/or preparation on participant engagement?</p> <p>2) Do home visiting programs monitor participant engagement during home visits? If so, what methods are they commonly using and how do they use gathered information?</p> <p>3) Do home visitors feel participant engagement in home visits impacts their work? If so, how?</p>	Study Component 1: Home Visitor Survey and Structured Phone Interviews	120 Home Visitor Surveys 16 Home Visitor Semi-Structured Phone Interviews
4) Are there notable differences between global measures of engagement and frequency counts of specific indicators of engagement and disengagement?	Study Component 2: Comparison of Coding Data from Videotaped Home Visits to Previous Coding Data using Home Visit Rating Scale-Adapted & Expanded (HOVRS-A+) Roggman et al., 2012	Coding Data from 30 Videotaped Home Visits
5) Do home visitor strategies relate to signs of participant engagement and disengagement?	Study Component 2: Sequential Analysis of Coding Data from Videotaped Home Visits using Conditional Probabilities and Logistic Regression	Coding Data from 30 Videotaped Home Visits

## Methods

As outlined in Table 7, the study consists of two major study components. Each study component uses a different methodology and draws from different samples. Therefore, the following methods section is presented according to each study component, with subsections for participants, measures, procedures, and analysis.

### Study Component 1: Home Visitor Surveys and Semi-Structured Interviews

**Participants.** For the first component of the study, liaisons for home visiting programs participating in the Home Visiting Applied Research Collaborative (HARC) completed a short survey to nominate up to six home visitors to participate in the study and complete a survey. HARC is an initiative of the Home Visiting Research Network (HVRN), funded in 2012 by the Health Resources Service Administration (HRSA) to promote rigorous home visiting research and the translation of research into practice (Duggan et al., 2013). HARC is a national, collaborative, practice-based research network that is designed to develop collaborative relationships among home visiting stakeholders—especially home visitor practitioners and researchers. A total of 222 liaisons, typically a supervisor or member of the administrative team, representing 260 home visiting programs were invited to complete a short survey and nominate home visitors for study participation. Of the 222 liaisons, 55 (25%) completed the survey and nominated home visitors. Participating liaisons nominated a total of 217 home visitors for study participation, an average of 3.59 home visitors nominated per liaison (range of 1 to 6). Emails detailing study participation with a link to the survey were subsequently sent directly to nominated home visitors. For confidentiality reasons, liaisons were not notified of home visitors' participation or non-participation. Nominated home visitors' participation was entirely voluntary; a total of 123



home visitors (56% of nominated home visitor pool) from 47 home visiting sites (average of 2.5 home visitors per site, range of 1 to 6 home visitors per site) agreed to participate in the study and completed the survey. Participants received a \$5.00 gift certificate for completing the survey. Characteristics of participating home visitors and their programs are summarized in Tables 8 and 9. Participating home visitors represent 47 different home visiting programs from a total of 17 different states.

Overall, survey respondents were fairly experienced (an average of almost 8 years of experience providing home visits) and well educated (59.2% have a Bachelor's degree or higher). A majority of respondents (68.3%) were White, not of Hispanic origin and 16.7% were of Hispanic origin. Respondents' average age was 42 years, with a range of 24-72 years old. On average, respondents had 15 families on their current caseloads with a range of 0-50 families. A large portion of respondents worked with either a Healthy Families America or Parents as Teachers program model, 33% and 45% respectively. Respondents were fairly evenly split with regard to program size (range of 1 to more than 12 home visitors), although a majority (63%) worked in programs with 1 supervisor. The most common source of funding reported by respondents was state funding (65% of respondents indicated their program was funded at the state level), with roughly a quarter (26.7%) reporting MIECHV funding.

Table 8. Summary of Home Visitor Survey Respondents			
	Mean (SD)	Minimum	Maximum
Years providing home visits	7.73 (6.8)	0	51
Families on current caseload	15.19 (8.4)	0	50
Age	42.29 (11.08)	24	72
<b>Education</b>		<b>N (%)</b>	
High school or GED		17 (14.2%)	
Associates Degree		19 (15.8%)	
Working on Bachelors		7 (5.8%)	
Bachelors		47 (39.2%)	
Beyond Bachelors		24 (20%)	
<b>Concentration for Associates degree or higher</b>		<b>N (%)</b>	
Public Health or Nursing		7 (5.8%)	
Education		11 (9.2%)	
Early Education/Early Childhood Special Education		15 (12.5%)	
Child or Human Development/Family Studies		10 (8.3%)	
Psychology		14 (11.7%)	
Social Work		22 (18.3%)	
Other		20 (16.7%)	
<b>Race/Ethnicity</b>		<b>N (%)</b>	
White, not of Hispanic origin		82 (68.3%)	
Black, not of Hispanic origin		6 (5.0%)	
Hispanic		20 (16.7%)	
Asian or Pacific Islander		3 (2.5%)	
American Indian or Alaskan Native		0 (0%)	
Other		4 (3.3%)	
(N = 113-117)			

Table 9. Summary of Home Visitor Survey Respondents	
<b>Program Model*</b>	<b>N (%)</b>
Child First	2 (1.7%)
Early Head Start	11 (9.2%)
Healthy Families America	40 (33.3%)
Healthy Steps	1 (0.8%)
Parents as Teachers	54 (45%)
Play and Learning Strategies	2 (1.7%)
Other	28 (23.3%)
<b>Program size by number of home visitors</b>	<b>N (%)</b>
1 home visitor	1 (0.8%)
2-4 home visitors	37 (30.8%)
5-7 home visitors	27 (22.5%)
8-11 home visitors	29 (24.2%)
12 or more home visitors	21 (17.5%)
<b>Program size by number of supervisors</b>	<b>N (%)</b>
1 supervisor	76 (63.3%)
2 supervisors	20 (16.7%)
3 supervisors	10 (8.3%)
More than 3 supervisors	10 (8.3%)
<b>Source of program funding</b>	<b>N (%)</b>
MIECHV	32 (26.7%)
State funding	79 (65.8%)
Community funding	31 (25.8%)
Federal funding	9 (7.2%)
Other	22 (17.8%)
(N = 113-117)	

*\*Note that home visitors could select more than one program model, doesn't total 100%.*

In addition to completing an online survey, participants were asked if they were willing to be contacted in the future to participate in a semi-structured phone interview on topics related to participant engagement. Selection of home visitors for the semi-structured phone interviews followed pre-established criteria based on results from the online survey (see details in Procedures sections). A total of 25 participants were selected for participation, with a total of 16 (64%) participants agreeing to and completing a phone interview. Participants for the phone interviews received a \$25.00 gift certificate for their participation. Characteristics of home visitors participating in a phone interview are summarized in Table

10. Phone interview participants were also, on average, experienced home visitors (average of 7.69 years of experience with a range of under 1 year (0) experience to 25 years of experience delivering home visits. Like survey respondents, phone interview participants were well educated (81.3% with Bachelor's degree or higher). Phone interview participants utilized multiple program models (see Table 10), with many using more than one program model.

Table 10. Summary of Home Visitor Phone Interview Participants			
	Mean (SD)	Minimum	Maximum
Years providing home visits	7.69 (6.22)	0	25
Families on current caseload	16.94 (9.66)	8	48
Age	40.38 (9.88)	25	57
	<b>Education</b>		<b>N (%)</b>
	High school or GED		1 (6.3%)
	Associates Degree		1 (6.3%)
	Working on Bachelors		1 (6.3%)
	Bachelors		9 (56.3%)
	Beyond Bachelors		4 (25%)
	<b>Program Model*</b>		<b>N (%)</b>
	Child Parent Psychotherapy		1 (6.3%)
	Early Head Start		3 (18.8%)
	Healthy Families America		4 (25%)
	Parents as Teachers		6 (37.5%)
	Parent Child Interaction Therapy, ABC, and Safe Care		3 (18.8%)
	MIHOW		1 (6.3%)
	Safe Care		1 (6.3%)
	(N = 16)		

*\*Note: Participants often use more than one model, will not 16 or 100%.*

**Measures. Home visitor survey.** The home visitor survey (See Appendix A) includes 6 major sections. The first addresses home visitor training needs by asking home visitors to rate the importance of specific job skills and their current level of confidence in performing the job skills. Larger differences in the two reports (i.e. job skill reported as highly important and confidence reported low) indicate specific training needs. The second

section asks home visitors to report on the training they have received on engaging participants during home visits. The third section asks home visitors about their training needs and preferences as it pertains to engaging participants during home visits. The fourth section asks home visitors to report how and if their program has a process for monitoring parent engagement during home visits. The fifth section asks home visitors to share their experiences and perspectives on engaging participants during home visits, including identifying various ways that low participant engagement impacts program implementation. The final section asks home visitors about basic background and program information. The survey consists of both closed and open ended questions, which is designed to permit standardized quantitative analysis across all survey responses and also allow for qualitative analysis of individual home visitor responses.

Survey questions for each section were developed by referencing relevant literature to identify content as well as formatting of questions. For example, literature on methods for assessing specific training needs (as well as example surveys) was referenced to arrive at the methodology and formatting used in section one of the survey addressing home visitor training needs (see Hennessy & Hicks, 1998). Additionally, existing large scale surveys used in home visiting research and existing home visiting and implementation research were referenced to consider potential formatting options and survey content. For example, survey content in section one attempts to cover content related to more “structural” aspects of participant engagement (e.g. completing visits, remaining enrolled in programming) and more “dynamic” aspects of participant engagement (e.g. asking questions, volunteering information during home visit sessions). Additionally, section five references literature on dimensions of implementation (see Dane & Schneider, 1998; Durlak & DuPre, 2008).

***Phone interview.*** The semi-structured phone interview protocol was developed after the surveys were completed. Questions to guide structured phone interviews were developed by identifying gaps in information gathered from the surveys and emergent or remaining/unaddressed questions. The phone interview protocol is provided in Appendix B. Data from the semi-structured phone interviews is intended to supplement and add depth to data gathered from surveys.

***Procedures. Home visitor survey and phone interviews procedure.*** To address research questions 1 through 3, nominated home visitors who agreed to participate in the survey were sent a survey link via Survey Monkey. Prior to survey administration, the survey was piloted and revised with a home visiting researcher affiliated with HARC, who is knowledgeable about program implementation across program models and has previously worked with various home visiting program models throughout WI to agree on common approaches and methods to measuring program outcomes. The survey was also piloted with home visitors (total of 5) working in 3 different home visiting programs. Feedback was incorporated to clarify questions and revise wording of questions they felt were difficult to answer. The survey and survey procedures were approved by the Institutional Review Board at Loyola University-Chicago, and submitted for IRB review and Johns Hopkins University and deemed exempt. Survey participants were consented for possible follow-up recruitment to complete a semi-structured phone interview.

Survey results were used to identify home visitor participants, from those agreeing to participate in future research, for the semi-structured phone interviews. Home visitors were selected based on survey responses to: (1) provide a range of perspectives on engagement, (2) select home visitors most likely to provide insightful information, and (3) select home

visitors with varying lengths of experience from different program models. Specifically, selection of home visitors for the semi-structured interviews proceeded in the following order:

- (1) Home visitors who provided especially detailed comments in their open-ended responses to the online survey were prioritized for selection. This represented a total of 10 home visitors.
- (2) Means were calculated to provide a global measure for each home visitor's: (1) rating of their confidence in using strategies to actively engage participants; and (2) their rating of the importance of active participant engagement. These means created four blocks of participants with four different combinations of confidence and importance. These include: **Block 1:** High Confidence and Low Importance; **Block 2:** High Confidence and High Importance; **Block 3:** Low Confidence and Low Importance; and **Block 4:** Low Confidence and High Importance. Note that this didn't classify all potential participants, just participants with especially high and/or low means, this created the pool of home visitors to select from in Step 3.
- (3) Within each block discussed above, home visitors with fewer than 3 years of experience and home visitors with more than 7 years of experience were prioritized for selection. Additionally, participants representing different home visiting program models were prioritized.

Details of this selection process are provided in Table 11. This selection process identified 16 home visitors to recruit for phone interviews. The identified home visitors were invited to participate via email, of the 16 initially selected home visitors, 11 (68%)

agreed to participate. An additional 9 home visitors, who met criteria for a particular selection block and represented under-represented programs and years of experience in the sample of 11 recruited home visitors were then recruited for participation via email. Of the additional 9 home visitors, 5 (56%) agreed to participate. The semi-structured phone interview protocol was developed on the basis of the survey results, analyzed when approximately 50% of survey data was collected, to address remaining and/or unaddressed questions and provide more in-depth information on emerging issues and questions of interest. The semi-structured interview protocol is provided in Appendix B. This interview protocol was altered and revised during the course of phone interviews to clarify questions and prompt more detailed responses from home visitors. Phone interviews lasted an average of 36 minutes (range of 29-45).

Table 11. Summary of Selection Process for Semi-Structured Phone Interviews	
Selection Step	Number of HV Selected
1: Review of Open-Ended Survey Responses	10 HVs prioritized for selection.
2: Create Index Score of Home Visitor Confidence Level and Importance Rating; Assign to Selection Block	5 HVs selected in Step 1 fit into a particular selection block (1 in Block 1, 1 in Block 2, and 3 in Block 4). 5 HVs didn't qualify for particular block. Required selecting 6 more participants to fill remaining selection blocks (1 in Block 1, 1 in Block 2, and 3 in Block 3).
3: Years of Experience as a Home Visitor and Program Model Referenced to Fill Remaining Selection Blocks	6 HVs within each remaining block selected to provide a range of experience and program models within each selection block.

Data from the home visitor survey was imported into SPSS from the online survey for analysis purposes. Phone interviews were recorded using a recording application available



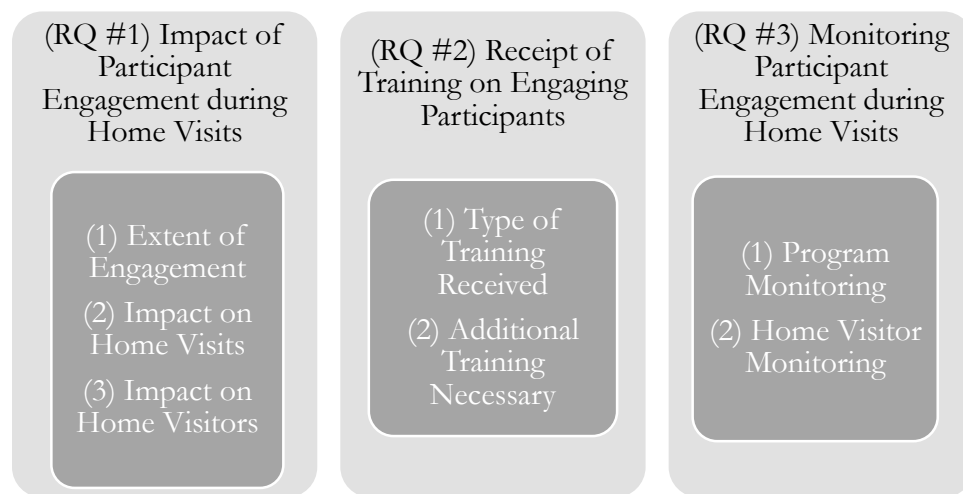
for iPhone, at the consent of interview participants. Audio recordings of phone interviews were transferred to NVivo, coding was made directly from audio files in NVivo.

**Analysis.** Survey data was analyzed in SPSS, using mainly descriptive analysis (means, standard deviations, range, and frequency distributions) to summarize results as well as correlation analysis and independent sample t-tests for tests of association. In some instances, new variables were created to more effectively summarize survey results.

Phone interview audio files were coded directly in NVivo using a Stage Model of content analysis (Berg, 2003). In stage one, a set of pre-determined categories were identified according to Research questions 1-3 and data was coded using a directed approach, as described by Hsieh & Shannon (2005). With a directed approach, analysis starts with theory or research findings to guide initial coding categories, which are then broken into themes and sub codes derived directly from data. For the current study, research questions 1-3 for Study Component 1 created the initial pre-determined codes which were then further broken into a series of themes and sub themes (where appropriate) on the basis of repetition and patterns derived directly from data. Figure 6 provides an illustration of the coding process. Specifically, all audio was first reviewed to identify any content relevant to the three research questions, identified content was then coded in a second stage using conventional content analysis to identify themes through repetition and patterns in the data. There are no set rules in qualitative analysis for determining themes or thresholds for when enough repetition or pattern constitutes a theme (Braun & Clark, 2008). Instead, themes are identified when they provide insight on a research question or help classify discrete concepts (Ryan & Bernard, 2003). Stage two analysis of the telephone interviews occurred at the level of relevant references identified in the first stage of analysis.

Therefore, the reported themes and frequencies represent references extracted for their relevance from the entire data set across all interviews and respondents. Therefore, the analysis does not represent an exhaustive analysis of the telephone interviews. Additionally, the themes and frequencies do not represent individual respondents or the prevalence of themes across respondents. Themes were identified through repetitions and patterns in the data, without reference to the number of respondents who discussed a particular theme or the number of times a particular respondent provided references related to a particular theme.

Figure 6. Coding Process for Semi-Structured Interviews



## **Study Component 2: Observational Coding of Video-Recorded Home Visits**

**Participants.** Participants for the second component of the study included a selection of home visitors and families who provided video recordings of home visits as a part of a statewide evaluation of the Prevention Initiative (PI) of the Illinois State Board of Education (ISBE, which provides child development and family support services for families with children ages 0-3. There were two main components to the evaluation: 1) site visits to a sample of 30 programs across the state to assess program quality, and 2) case studies with 25 of the 30 programs to assess how home visitors work with families. Home visitors from 25 of the 30 home visiting programs participating in the statewide evaluation agreed to provide video recordings of home visits for the case study portion of the evaluation. A total of 85 home visits were video-recorded by home visitors and sent to Erikson Institute via a secure server platform, Egnyte. These home visits represent a total of 45 home visitors. For the current study, a total of 28 of the 85 video-recorded visits were used. Characteristics of the programs, home visitors, and families represented in the 28 video-recordings are provided in Tables 12-14.

The video-recorded home visits represent a total of 19 programs implementing three home visiting program models, with a majority (73.7%) of programs using Parents as Teachers as their program model. On average, programs had delivered home visits for nearly 9 years (range of 3-23 years) and served an average of 82 families (range of 23-250 families). A majority (78.9%) of programs were small, employing less than 5 home visitors. Videos lasted an average of 35 minutes (range of 20 to 59 minutes), generally included 1 adult other than the home visitor (96.7% of visits included one adult, 3.3% included 2

adults), and included an average of 1.33 kids (range of 0 to 5 children). Children in the videos ranged in age from prenatal to five years.

Ninety three percent of the 28 home visitors for video-recorded visits were full time, 60% were Caucasian, 36% African-American, 4% Latino, and 4% American Indian/Alaskan. On average, home visitors were 44years old (range of 25-62 years old). Home visitors had worked with the families represented in video-recorded home visits for an average of 65 weeks, well over a year on average with a range of 3-192 weeks working with the family. On average, home visitors had completed a home visit with a family one week prior to completing the video-recording, indicating video-recordings were made with families who were still completing regular home visits.

A total of 28 caregivers are represented in the video-recorded home visits, with an average age of 28 years (range of 18-37). The racial/ethnic composition was 50% Caucasian, 13% Latino, and 30% African-American. Caregivers had completed an average of 30 home visits (range of 2-75) since enrolling in the program, had an average of two children, and were on an intended visit frequency of two times a month (70% of caregivers on bimonthly visit schedule).

Table 12. Summary of Programs for Video-Recorded Visits			
	Mean (SD)	Minimum	Maximum
Years program in existence	9.00 (7.00)	3	23
Total number of families served	82.18 (63.30)	14	250
<b>Program models</b>	<b>N (%)</b>		
Baby talk	4 (21%)		
Healthy Families America	1 (5.3%)		
Parents as Teachers	14 (73.7%)		
<b>Total number of home visitors</b>	<b>N (%)</b>		
Less than 5 home visitors	15 (78.9%)		
6-15 home visitors	4 (21.1%)		
(N = 19)			

Table 13. Summary of Home Visitors for Video-Recorded Visits			
	Mean (SD)	Minimum	Maximum
Age	44.07 (12.30)	25	62
Weeks since last visited family	1.18 (0.56)	0	2
Weeks working with family	65.35 (55.00)	3	192
Race	N (%)		
White	17 (60.7%)		
Hispanic	1 (3.6%)		
Black/African American	10 (35.7%)		
Other	1 (3.6%)		
Work Status	N (%)		
Part time	2 (7.1%)		
Full time	26 (92.9%)		
(N = 28)			

Table 14. Summary of Caregivers for Video-Recorded Visits			
	Mean (SD)	Minimum	Maximum
Age	28.16 (5.97)	18	37
Number of children	2.36 (1.67)	1	8
Number of home visits completed	29.58 (21.92)	2	75
Weeks enrolled in program	66.38 (49.73)	8	180
<b>Race</b>	<b>N (%)</b>		
White	15 (50%)		
Hispanic	4 (13.3%)		
Black/African American	9 (30%)		
Other	2 (6.67%)		
<b>Education</b>	<b>N (%)</b>		
Less than high school	4 (16.7%)		
High school or GED	11 (45.8%)		
Some college, no degree	4 (16.7%)		
Associate's degree	2 (8.3%)		
Bachelor's degree	1 (4.2%)		
Master's degree	1 (4.2%)		
<b>Intended Visit Frequency</b>	<b>N (%)</b>		
Monthly	3 (10.7%)		
Bimonthly	19 (67.9%)		
Weekly	5 (17.9%)		
(N = 24-28)*			

\*Some information about caregiver participation in program reported by home visitors.  
Reports missing for some caregivers.

**Measures.** *Adapted home visit observation form (HVOF).* The original HVOF (McBride & Peterson, 1997) was developed to capture several aspects of home visits,

including: individuals present, interaction partners, content of the interaction, role of home visitor, and participant engagement. The adapted HVOF focuses on only one of these aspects, namely, role of the home visitor. The adapted HVOF focuses solely on coding home visitor behaviors and actions during an observation session. Role of the home visitor addresses specific strategies used by the home visitor in the course of the home visit (e.g. listening, asking information). The current HVOF adaptation incorporates several of the strategies included in the original HVOF as well as strategies included in a previous adaptation of the HVOF by Knoche et al. (2010). Knoche et al. (2010) adapted the HVOF to assess fidelity to their intervention by including codes that reflect collaborative, family-centered strategies. Additional adaptations to the HVOF were made by the author to include codes that reflect non-collaborative, non-family centered strategies that are hypothesized to relate to participant disengagement. Some of these codes were borrowed and adapted from the HOVRS-A+ (Roggman et al., 2012) scales on the quality of home visitor strategies (behavioral descriptions at lower ends of the 7-point quality score). Additionally, research on motivation and models of motivation were referenced to identify strategies most likely to bolster motivation and engagement, as well as strategies hypothesized to decrease motivation and engagement (Skinner & Belmont, 1993; Skinner, Kindermann, & Furrer, 2009). See Table 15 for a list of codes and operational definitions for the adapted HVOF. The original and adapted version of HVOF used by Knoche et al. (2010) demonstrated acceptable interobserver agreement ranging from 85% to 99.6%

Table 15. Codes and Operational Definitions for Adapted HVOF	
<b>Collaborative Strategies</b>	
Asks Parent Open Ended Question (Sub code for Child, Parent, Parent Behaviors)	Home visitor asks an open ended question that prompts parent to describe, explain, or elaborate on a feeling, process, activity, etc.
Asks Parent Closed Ended Question (Sub code for Child, Parent, Parent Behaviors)	Asks parent for information through closed ended question. Question doesn't prompt parent reflection, description, or elaboration. Could be answered with minimal response. Code as closed ended regardless of parent response.
Provides Relevant or Reinforcing Information, Affirms Parent's Competence	Recognizes and expands on developmentally appropriate and supportive parenting behaviors, parent-child interactions, structuring of the home environment, or parent efforts. Either through positive comments/observations or by providing reinforcing information and helpful feedback. Doesn't include reinforcing developmentally inappropriate behaviors or behaviors parent indicates a concern over, must be helpful and relevant—not simply meant to facilitate positive interaction or appease parent. Includes providing relevant information surrounding home visit activities or discussion.
Establishes Dyadic Context	Sets up or rearranges environment to encourage parent-child interactions. Attempts to provide activities that support parent-child interactions either directly through parent or indirectly through child. Can include physical establishment of dyadic context or verbal establishment of dyadic context. Code regardless of success in initiating a dyadic interaction.
Responds to Parent Cues	Responds in timely and respectful manner to parent cues about concerns, parenting issues, or sensitive topics. Scaffolds parent in reflecting on behaviors, expanding on their concerns, provides new and related information, or helps consider alternatives.
Friendly/Warm Demeanor, Familiarity with Family	May exchange personal information or engage in "small talk". Willing to engage in small talk outside of realm of home visit as appropriate to connect with, engage parent, and demonstrate care. Includes attempts to join in "we" statements with parents to relay a shared experience/perspective.

Table 15. Codes and Operational Definitions for Adapted HVOF, Cont.	
<b>Non-Collaborative Strategies</b>	
Ignores Parent/Non-Responsiveness	Ignores a parent comment/observation/question or is non-responsive to parent interest and inquiry. Includes communicating with parent through child or displaying sarcasm or disagreement about parent activity, behavior, or choice.
Controls Interactions/Content	Controls interactions, activities, and content of home visits. Demonstrates little flexibility to adapt to parent interest or response, may demonstrate rigid focus on pre-determined activities and/or content. Includes intruding on parent-child interaction to the extent that it causes a disruption in ongoing parent-child interaction or stops parent-child interaction.
Fails to Establish Dyadic Context	Fails to establish dyadic context during activities. Holds materials for child or hands materials directly to child. Doesn't make attempt to include parent during introduction or change in activity
Didactic Information Sharing or Instruction	Provides information (intent of knowledge sharing must be clear) in instructive, rote, didactic, and unconnected manner. May include reading or summarizing information from handouts, failing to ask parent questions or connecting information to family context.
Fails to Provide Structure or Intentional Activities/Content of Home Visit	Fails to maintain a sense of order and purpose during home visit by providing minimal structure and/or activities to facilitate meaningful and intentional home visit.
Misses Opportunity to Provide Scaffolding or Expand on Topic	Misses an opportunity to scaffold parent reflection or knowledge by expanding on topic and providing additional relevant information or asking probing questions. Includes missed opportunity to capitalize on moments when parents are more expressive and open. Includes minimizing parent cues and concerns.

***Engagement and disengagement observational protocol (EDOP).*** The Engagement and Disengagement Observational Protocol (EDOP) also uses a motivational framework (Skinner, Kindermman, & Furrer, 2009) to measure participant engagement and disengagement during home visits. Unlike the adapted HVOF, the EDOP focuses solely on the behavior and actions of participants (as opposed to the home visitor) during an observation session. A motivational conceptualization has two notable features: (1)



engagement includes both behavioral and emotional engagement and (2) engagement is assessed by also measuring its opposite, disengagement (Skinner et al., 2009). Behavioral engagement reflects observable participant behaviors reflective of interest, motivation, and involvement. For example, participants may demonstrate interest by asking follow-up questions or extending on a topic by providing related examples of a learning topic. Emotional engagement reflects participants' emotional presence, feelings, and emotional tone of interactions. For example, participants may engage behaviorally in an enthusiastic and joyous manner or they may engage behaviorally in a despondent and flat manner. Similar operational definitions have been used in classroom settings, with the idea that students cannot fully benefit from instruction without exhibiting sufficient and sustained engagement with classroom content and activities (Skinner et al., 2009). Disengagement is measured due to its hypothesized interference with learning. The conceptualization provided here and summarized in Table 16 includes behavioral and emotional engagement and disengagement definitions. As discussed by DeVellis (2012) a first step in scale development is to clearly define the construct to be measured. Overarching definitions of participant engagement and disengagement, as guided by a motivational framework, for the proposed observational protocol are provided in Table 16. These definitions are further defined in the codes summarized in Table 17.

Table 16. Definition of Constructs to be Measured: Engagement and Disengagement		
Construct	Definition	Dimensions
Engagement	Extent of participant interest, motivation, enjoyment, and active and meaningful involvement in home visit. Displayed through observable behaviors, emotional presence, and emotional tone of interactions.	Behavioral Engagement Emotional Engagement
Disengagement	Extent of participant lack of: interest, motivation, enjoyment, and active and meaningful involvement in home visit. Displayed through observable behaviors, emotional presence, and emotional tone of interactions.	Behavioral Disengagement Emotional Disengagement

DeVellis (2012) also suggests creating a large pool of items to measure the defined construct and using this larger item pool to create overarching codes to reflect the underlying construct. To create a pool of items related to the definitions provided above, a total of 10 video-recorded home visits were viewed and all participant behaviors with any relation to the constructs of engagement or disengagement were noted. These videos were randomly pulled from the pool of existing 85 video-recordings gathered during the ISBE statewide evaluation and excluded from the selection of final videos coded in the study. Notes from viewing videos, along with guidance from motivational conceptualizations, were then reviewed and like items were grouped into the codes listed in Table 17. The results of this process were also used in training on the EDOP. Example codes from this process formed the basis for the initial and final EDOP training manual (See Appendix C). Clips from reviewed videotapes were selected as best representatives of the indicators and used for training purposes.

It is important to note that there are no existing similar measures of participant engagement in home visiting and the proposed observational protocol is exploratory in nature. For the current study, appropriate steps were taken to refine the coding protocol

and ensure inter-rater reliability. However, the protocol was piloted for the purposes of the present study.

Table 17. Codes for Indicators of Engagement and Disengagement	
<b>Engagement</b>	
Initiates Activity or Discussion with Child	Participant initiates activity or discussion with child. Includes participant play with child, asking child question, praising child, etc. Intention to enter into interactive discussion or activity must be clear.
Active Involvement	Participant appears fully absorbed in activity, providing full attention to activity and/or interactions. Enthusiastic about activities, clearly enjoys activity. Active and consistent participation.
Volunteers Information	Participant volunteers information to home visitor with or without direct home visitor prompt. Includes expanding on a sufficient response to a home visitor question by providing new information with additional details, stories, or explanations.
Asks Questions or Requests Information	Participant requests information from home visitor without prompt in the form of questions or asking about additional information, parenting strategies, etc.
<b>Disengagement</b>	
Observes Child or Observes Child and Home Visitor	Participant passively observes child or child and home visitor during play, activities, conversations, or interactions. May provide minimal comments on child behavior or interaction (incomplete sentences or 4-5 words).
Passive Involvement	Participant is involved in discussions or activities in a passive manner. Listening passively to discussion or participating in activities in rote, uninvolved, or repetitive manner. May provide minimal eye contact with home visitor. Provides curt or non-verbal responses to home visitor.
Active Non-Participation	Participant focuses on other activities (cell phone, television, etc.) or physically distances themselves from home visitor or child. Avoids eye contact. Leaves the room or camera view for unrelated reason. Talks to another individual.
Non-Responsive to Home Visitor	Participant ignores home visitor prompt or question either directly by not responding or indirectly by focusing on unrelated or different activity and/or topic. Participant communicates to home visitor through child or through the exchange of materials with no home visitor-participant discussion.
Appears Worried, Anxious, or Tense/Displays Frustration, Anger, or Disagreement	Participant appears worried, tense, distracted, anxious, or nervous. May seem unsure of parenting behavior or express uncertainty about parenting strategy. Can be verbal (expressed concern, worry) or non-verbal (hands in face, furrowed brows, etc.). Participant initially engages in activities but withdrawals either verbally or nonverbally in response to home visitor behavior.

**Procedures. *Video-recorded home visit procedures.*** Prior to coding existing video-recordings, IRB was submitted and approved by Loyola University Chicago. A selection of 30 video-recorded home visits were initially selected for inclusion in the present study, 2 were not used due to poor video quality. Video-recorded home visits were selected according to the following criteria: (1) visit must be completed in English, (2) visit includes only one adult participant (in addition to the home visitor), and (3) visit lasts at least 20 minutes in length. The language criteria permitted coding by the author and another coder, who both speak English as their primary language. The criteria for one adult participant and length of visit enhances ease of coding by providing a target participant and home visitor for coding and assuring that the visit is of sufficient length for coding purposes.

The video-recorded home visits were previously coded, as part of the ISBE statewide evaluation of home visiting programs, using the Home Visit Rating Scales-Adapted & Extended (HOVRS-A+) (Roggman et al., 2012). The HOVRS-A+ is an observational measure of home visits designed for practitioner use to monitor and guide home visit program quality. HOVRS-A+ includes 6 scales rated on a 7-point likert scale, including: (1) Home Visitor Responsiveness to Family, (2) Home Visitor-Family Relationship, (3) Home Visitor Facilitation of Parent-Child Interaction, (4) Home Visitor Non-Intrusiveness/Collaboration with Family, (5) Parent-Child Interaction During Home Visit, (6) Parent Engagement During Home Visit, and (7) Child Engagement During Home Visit. The first four scales are designed to measure the quality of the home visit practices and the last four are designed to measure the extent of family engagement during visits. The selection of video-recorded home visits also referenced scores for the HOVRS-A+ 'parent engagement' scale to ensure selected video recordings have variability on the dimension of parent engagement (i.e. selected videos with low and high parent engagement according to

HOVRS-A+ parent engagement scale score). Last, home visitors had completed a survey about each family in the video-recorded home visit shortly after the video was taken. This survey included questions on how long the home visitor had been working with the family. This question was also referenced to ensure that a majority of video-recordings (28) were cases where the home visitor had been working with the family for at least 2 months. This selection criterion was meant to prevent selection of videos where a home visitor may have only been working with a family for a short period of time and to focus attention on engagement after the initial enrollment and relationship building period.

Selected video-recordings were coded in two phases. The first coding phase used the adapted version of the HVOF (McBride & Peterson, 1997) to code the strategies used by the home visitor. The adapted HVOF uses a partial interval recording system. Coders watched videos in one-minute intervals and indicated whether a strategy code had occurred and time stamped when the strategy had occurred. The second coding phase used the EDOP to code all videos for the presence of behavioral codes included in the protocol. This protocol was developed by the author for the purposes of the current study (see measures section above). Interval coding using one-minute intervals was again used along with time stamping when a code occurred.

Prior to using the adapted HVOF and the EDOP to observe the selected videotapes, a second coder was trained by the author on the observational protocols. Training included discussion of codes, their operational definitions, and examples (both written and video clips) gathered from the pre-pilot process. After initial training, each coder individually coded a small set of video-recorded visits (not included in the data set for the present study) to ensure reliability. After one video was individually coded by both coders, inter-rater reliability was assessed as percentage exact agreement. After the first reliability video, which

was below acceptable 80% agreement, the coding protocols were refined and clarified with the aim of increasing inter-rater reliability. Major changes included: (1) reducing the total number of codes on the adapted HVOF from 18 to 12, (2) reducing the total number of codes on the EDOP from 16 to 10, (3) creating coding decision rules for similar codes on both the HVOF and the EDOP, and (4) developing a more detailed coding manual describing the codes and providing examples and non-examples of codes. The decision to reduce the number of codes on each protocol was guided by research suggesting that between 5-6 codes for each dimension is ideal (Yoder & Symons, 2010). This number of codes is ideal for not only achieving inter-rater reliability but also assures that data isn't spread too thinly across multiple codes, thereby limiting data analysis (Yoder & Symons, 2010). To reduce the number of codes, results from the first reliability video were analyzed and both coders discussed codes that were sometimes difficult to interpret due to their similarity. In many instances, codes were combined rather than eliminated from the coding protocol.

In order to maintain consistency during the remaining reliability videos and coding process, no major changes—outside of clarifying coding decision rules and providing additional examples and non-examples—were made to the observational protocols. Four additional videos were coded independently by both coders before acceptable inter-rater reliability was achieved. When inter-rater reliability for a given video was below 80% agreement, the author reviewed disagreements and created detailed reliability notes for each video—which were discussed by both coders while watching video clips of areas of disagreement to calibrate coder understandings of individual codes. Reliability results were also analyzed to identify specific codes with lower levels of agreement. Clear coding

decision rules were then made for identified codes and discussed in detail among both coders. On the 5th reliability video, acceptable inter-rater reliability was achieved with 87% agreement on the adapted HVOF and 85% agreement on the EDOP. Kappa values were also sizable, at .81 for the adapted HVOF, and .85 for the EDOP, with kappa values above .60 generally considered substantial (Landis & Koch, 1977).

Once acceptable inter-rater reliability was achieved in the reliability videos, 25% of the selected video-recordings (a total of 7) were double-coded at every fourth video by both coders and assessed for ongoing reliability to minimize coder drift. Disagreements in codes were discussed among coders until 80% consensus was reached. For the adapted HVOF, average inter-rater reliability was 85% (range of 81% to 92%) with an average kappa value of .81 (range of .70 to .91). For the EDOP, average inter-rater reliability was 89% (range of 84% to 94%) with an average kappa value of .85 (range of .66 to .96). Coder scores from dual coded video-recordings were randomly selected for use in analysis (i.e. use only one coder score instead of averaging scores). The remaining videos were coded by one coder, the author. The second coder has extensive experience in the use of observational measures and holds a master's degree in the field of early childhood.

**Analysis.** Analysis for Study Component 2 included descriptive summaries of the frequencies and rates of codes observed in the 28 video-recorded home visits, as well as bivariate correlations and independent t-tests for tests of association. Additional analysis included factor analysis and creation of new variables to display sequential relationships and conditional probabilities between home visitor strategies and participant engagement or disengagement. Last, linear regressions were run to test relationships between specific home visitor strategies and participant engagement or disengagement.

## CHAPTER FOUR

### RESULTS

The results of the study are presented in two parts, one section for each major study component and corresponding subsections for research questions within each study component. The implications and interpretation of study results are provided in the discussion section in Chapter 5.

#### **Study Component 1: Home Visitor Surveys and Telephone Interviews**

This study component addresses research questions 1 through 3, relying on home visitor surveys and telephone interviews to better understand home visitor perspectives on and experiences with participant engagement during home visits. Results for each research question, both quantitative and qualitative, are summarized below.

##### **Research Question 1**

Do home visitors feel engagement in home visits impacts their work and their home visiting program? If so, how?

**Quantitative results.** The online home visitor survey asked home visitors their level of agreement with statements regarding how low-engaged families influence their work. The statements include various topic areas relevant to home visiting, including: (1) home visitor relationships with parents, (2) program dosage, (3) program fidelity, (4) home visitor job satisfaction, and (5) extent of home visitor-parent collaboration. Home visitor survey responses are summarized in Table 18. Responses range from strongly disagree (1) to strongly agree (5), with higher means indicating stronger home visitor agreement with a



given statement. The average mean across home visitor responses was 2.80 for each question, indicating that when responses are considered in aggregate—they tend to fall in the neutral range of “neither disagree nor agree”. However, when looking at the frequency distributions, home visitor responses are spread out across the available response options. To identify ways home visitors more commonly agree that home visits are impacted by low participant engagement, frequencies of responses for the “agree” and “strongly agree” response option were collapsed. As seen in Figure 7, there were several statements that home visitors were more likely to either agree or strongly agree with. Statements that at least 40% of home visitors either agreed or strongly agreed with included: (S1) struggle to build positive relationships with parents, (S2) parents typically receive fewer home visits, (S4) home visitors experience decreased feelings of job satisfaction, (S9) home visitors feel like they aren’t helping a family very much, (S14) home visitors tend to take greater control of home visit agendas, (S15) home visits feel more routine with fewer moments of spontaneous enjoyment, and (S16) home visitors struggle to understand what parents want out of home visits. Home visitors were least likely to agree that when participant engagement is low during home visits, they—as home visitors—are less engaged during home visits or they focus more on reading and/or discussing handouts.

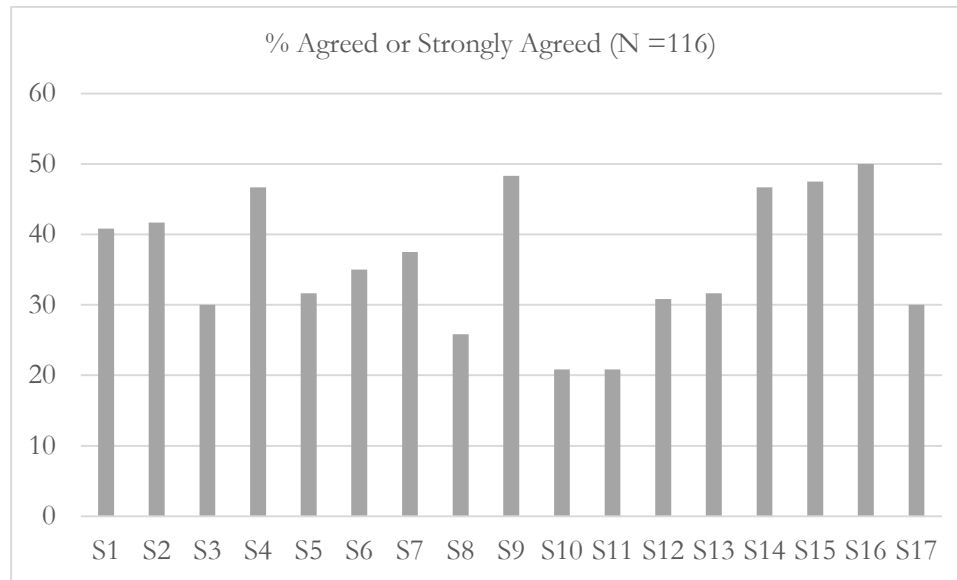
Bivariate correlation analysis and t-test (two-tailed) were conducted to explore relationships between extent of home visitor agreement with ways that home visits are impacted by low participant engagement and home visitor/program characteristics.

Bivariate correlations were run between average home visitors’ agreement scores and: (1) home visitors’ years of experience conducting home visits, (2) number of families on

home visitors' caseloads, (3) home visitor ratings for the quality of informal and formal training they received related to participant engagement, and (4) home visitor report of the extent to which their individual supervision focuses on participant engagement. Bivariate correlations are provided in Table 19. A negative significant correlation was found for beliefs that home visits are impacted by low parent engagement and reports of how often individual supervision focuses on parent engagement ( $r(108) = -.22, p < .05$ ), suggesting that home visitors believe low parent engagement impacts their work more when supervision is less focused on parent engagement issues. An independent samples *t*-test analysis was also conducted to assess differences in extent of agreement among home visitors with and without a Bachelor's degree (see Table 20). The *t*-test revealed no significant differences on extent of home visitor agreement between home visitors with and without a Bachelor's degree ( $t(112) = 1.39, p = .16$ ).



Figure 7. Percentage of Home Visitors Agreed or Strongly Agreed with Statements



	Years Providing Home Visits	Rating of Informal Training	Number of Families on Caseload	Rating of Formal Training	Individual Supervision Focus on Parent Engagement
Mean Agreement (N = 114)	0.01	-0.01	0.08	-0.05	-0.22*

\*p<.05

	Without Bachelor's Degree (N = 43)	Bachelor's Degree or Higher (N = 71)				
	M (SD)	M (SD)	t-Test	df	p-value	Effect Size
Mean Agreement	2.86 (0.75)	2.65 (0.85)	1.39	112	.168	0.26

**Qualitative results.** In addition to quantitative survey responses, home visitors had the opportunity to provide additional comments about participant engagement through an open-ended survey question. A total of 86 (72%) home visitors provided an open-ended

response. These responses were analyzed to first identify responses that are relevant to the impact of participant engagement, as the question only prompted home visitors to provide any additional comments they may have. Of the 86 responses, 19 (22%) included relevant comments. The other open-ended responses included home visitor comments about a variety of topics (e.g. strategies they use to engage parents, family barriers to engagement, the success and benefits of home visiting programs, etc.). A summary of relevant responses, themes, and example responses are provided in Table 21. Although relevant responses were somewhat limited, they do provide additional insight on home visitor perspectives. The relevant responses were further broken down into three main categories or themes, including: (1) benefits of participant engagement, (2) drawbacks of low participant engagement, and (3) expectations for participant engagement.

Responses under the first theme of benefits of participant engagement discussed how participant engagement allows for more enjoyable home visits, more natural conversations and the ability to individualize services to family needs. This theme also included responses about the benefit of participant engagement to receipt of more program services and more substantial family outcomes. Responses under the second theme of drawbacks of participant engagement discussed how low participant engagement can make home visits awkward and tense and can negatively impact home visitors' sense of job satisfaction and fulfillment. Responses under the third theme of expectations for participant engagement primarily deal with questions of how participant should be engaged and the role of home visitors in promoting active participant engagement.

Table 21. Summary of Home Visitor Open Ended Responses, Parent Engagement		
Theme	Example Responses	Frequency
Benefits of High Parent Engagement	<ul style="list-style-type: none"> <li>• If parents are involved in the visit, the outcome is much more fulfilling for both them and the home visitor.</li> <li>• I can identify the signs of engaged parents and the results are more enjoyable visits, longer enrollment lengths, and greater parent retention and use of program information.</li> </ul>	9 (47%)
Drawbacks of Low Parent Engagement	<ul style="list-style-type: none"> <li>• Working with parents who can't engage, for whatever reasons, I find deflating to my ego and job satisfaction. I don't enjoy thinking about going back.</li> <li>• No engagement is like trying to pour water into a full glass, we never know if some of the water gets in or if it overflows.</li> </ul>	6 (31%)
Expectations for Parent Engagement	<ul style="list-style-type: none"> <li>• It is great to have a family that is involved, but we hope to make a difference even when they are not fully engaged.</li> <li>• I can model appropriate interaction and encourage parent involvement, but if the parent will not engage it is out of my hands.</li> </ul>	4 (21%)
(N = 19)		

In addition to the open-ended survey responses, 16 home visitors participated in semi-structured phone interviews, with a portion of the interviews focused on the impact or parent engagement. Interviews were analyzed qualitatively using content analysis (see details in methods section) to identify themes. Table 22 provides a summary of overarching themes and subthemes related to Research Question 1.

In addition to the identified themes, the semi-structured phone interviews asked home visitors to estimate how often parent disengagement is an issue during their home visits. Overall, a majority of home visitors indicated that lack of parent engagement is an issue between 10-35% of the time, although a few home visitors did state that lack of parent engagement during home visits is an issue “sometimes to most of the time”. Additionally, as summarized in Table 22, most home visitors indicated that parents who do not engage

during home visits typically do not keep their scheduled home visits and drop out of programming or are not “actively” on their current caseloads (i.e. receive sporadic home visits)—indicating that home visitors do not work with disengaged parents with the same frequency as engaged parents and are possibly underreporting extent of disengagement during home visits as a result.

***Patterns of disengagement.*** The first theme relates to patterns of parent disengagement. Home visitors discussed two overarching patterns of disengagement, 1) sporadic disengagement and 2) more consistent, pervasive disengagement.

*Sporadic disengagement.* A consistent theme among home visitors was the idea that disengagement is a very sporadic and often unpredictable phenomenon, which depends on what is going on with a particular family (e.g. crisis situation, illness, presence of other individuals in the home) or on the extent of parents’ interest in the specific content and activities for a given home visit session. When asked to provide an estimate of the extent of parent disengagement, home visitors responded:

It would be pretty low. I have usually around 20 families, maybe two would have difficulty engaging and not even all of the time just some of the time. R#6

I would say maybe 20% at given times. There are times when they are really into the activities and times when they aren’t, and that is when I try to engage. R#11

This variability in parent engagement appeared to make it difficult for home visitors to participate in an overall discussion on parent engagement. Home visitors consistently qualified their responses with statements like “it depends on the particular family” and struggled to discuss universal engagement strategies, stating that “one set of rules won’t apply to all situations”.

Table 22. Summary of Themes from Home Visitor Interviews, Parent Engagement	
Theme	Sub Themes
Patterns of Disengagement (13 references)	<p>Sporadic Disengagement (4 references)</p> <ul style="list-style-type: none"> <li>◦ <i>Parents are engaged during particular sessions and disengaged in the next, exhibit sporadic and unpredictable disengagement.</i></li> </ul> <p>Disengaged from the Beginning (9 references)</p> <ul style="list-style-type: none"> <li>◦ <i>Parents are disengaged from the beginning. Disengaged during sessions, receive fewer visits, and eventually drop out of the program.</i></li> </ul>
Impact of Disengagement on Home Visits (23 references)	<p>Change in Home Visitor Approach (8 references)</p> <ul style="list-style-type: none"> <li>◦ <i>Home visitors provide extra commenting, prompting, questions or model for parent or engage in direct play with child.</i></li> </ul> <p>Change in Program Delivery (9 references)</p> <ul style="list-style-type: none"> <li>◦ <i>Need for attending to engagement piece during home visits. Have to refocus visit to engage parents.</i></li> </ul> <p>Truncated Services (6 references)</p> <ul style="list-style-type: none"> <li>◦ <i>Disengaged parents don't receive full benefit of services or take advantage of full range of services.</i></li> </ul>
Impact of Disengagement on Home Visitors (25 references)	<p>Exhausting and Frustrating (9 references)</p> <ul style="list-style-type: none"> <li>◦ <i>Home visitors find visits with disengagement exhausting and frustrating.</i></li> </ul> <p>Change in Home Visitor Perspective (9 references)</p> <ul style="list-style-type: none"> <li>◦ <i>Home visitor expectations for parent behavior change and expectations for home visits change.</i></li> </ul> <p>Discouraged (7 references)</p> <ul style="list-style-type: none"> <li>◦ <i>Home visitor feelings of discouragement due to home visits with parent disengagement.</i></li> </ul>
(61 references total)	

*Pervasive, consistent disengagement.* An alternate pattern of disengagement home visitors discussed was one of more pervasive, consistent disengagement. When asked to provide an estimate of the extent of parent disengagement, home visitors indicated that parents who are



consistently disengaged typically don't keep their home visits and either drop out of programming or are dropped due to not adhering to the expected frequency of home visits:

I would say it is only just a few on each of our caseloads (families that are disengaged). I would say those families aren't keeping visits as well, so they just aren't on the program as long. That usually goes hand in hand. *R#5*

The parents that consistently disengage usually drop from the program or have to be dropped because of our guidelines. *R#2*

In many instances, home visitors described these parents as "disengaged from the beginning" and indicated that it was sometimes related to how parents are referred for programming or misaligned parent expectations:

We have that type of disengagement (drop out). It is actually a serious problem. One of our issues is where our referrals come from. I feel like they are kind of being forced from the beginning. They are at WIC and WIC calls and schedules an appointment they are like "WIC says I have to do this so I'll do it" but they don't really do it, but then they don't ever follow through. They're disengaged from the beginning. *R#12*

Yeah, I would say so (parents that are disengaged during sessions drop out). I guess it just depends on their introduction to the program and if they expect home visitors to just come in and do the activity with the child and then just leaving or thinking it is okay for them to clean while they are there. So, maybe their expectations are different and they are disengaged and then they do drop. *R#13*

Home visitors typically discussed that parents who exhibit more pervasive disengagement or are resistant from the beginning don't "typically turn around". Another pattern of engagement, which did not emerge as a subtheme due only a few references, was parents going through the motions but not really "buying in" to the program:

I had a client who finished the program but she said that she didn't really care for it she just wanted to see things through, she wasn't the most engaged. *R#10*

I can tell there are some clients even though they are doing it for that moment they just might revert back. They say, that is your way and I understand why you are

doing it but I have been doing it my way for a long time—with my other kids—and it is just easier to do it the way I am used to doing it. R#14

Last, there were some references to engagement during sessions but failure to engage in expected activities in between sessions:

In terms of doing the homework, my current caseload. More than 50% of them aren't doing the homework. That is ongoing, that seems to be the biggest issue. R#1

***The impact of disengagement on home visits.*** The second theme relates to the impact of parent disengagement on home visits. This theme includes several subthemes: 1) change in home visitor approach, 2) change in program delivery, and 3) truncated services.

*Change in home visitor approach.* When discussing the impact of parent disengagement during home visits, home visitors often discussed how their role and interactions during home visits with disengaged parents differed from their role and interactions during home visits with more engaged parents:

When the parent is less engaged, I feel like I am doing a lot of reminders, I am asking more questions to bring them back on track rather than the parent and I working together. I feel like it is more interview style, I am asking more questions to draw out the parents. R#7

If they aren't as engaged in the home visits, we do a little bit of modeling or change how we are trying to engage them to be more involved. For example, just reading a book. Showing them how they could read and how reading words aren't necessarily important. R#16

When I feel like a parent is kind of disengaging and I am losing them, I throw in more of what we would call higher order statements, like really tying what they are doing to a specific behavior change that they want to see. If they have a child with ADHD and focus is difficult really coming back to "what you are doing right now really helps them focus" so they get oh, this is why I am doing what I am doing. R#3

Home visitors generally discussed that major changes in their approach during home visits with disengaged parents included more extensive commenting, questioning, and talking on their part. There was also discussion of working harder to directly connect home visit

content and activities to the parents' goals and their lives as a reengagement strategy. Last, while there were some references related to engaging directly with the child or doing more modelling for parents during home visits with parent disengagement, only a few references discussed home visits with disengaged parents as this respondent did "Those are the ones (home visits) where I still go every week and I play with their children. It is more important that the child has somebody than nobody". R#12.

*Change in program delivery.* In addition to changing their interactions during home visits with parent disengagement, home visitors discussed more overarching changes in the structure and content of home visits with parent disengagement. This included changing the time allocated to various topics and the content focus of home visits:

I had a client who finished the program but she said that she didn't really care for it, she wasn't the most engaged. So, I had to develop a strategy of just spending the first 15 minutes getting her to open up. R#6

We have an outline of what we are supposed to do during a session and when clients aren't engaged we have to change it and take breaks and have other conversations and it can take away from the content and the reason I am there. R#2

In general, home visitors discussed engaged parents as "ready to go", which didn't require their continued attention to engaging parents. On the other hand, disengaged parents required ongoing attention to engagement and relationship building, often in the form of requiring home visitors to restructure visits and focus on other topics outside of the purpose or focus of given home visit sessions. Some references also indicated that parent disengagement translated to longer home visits:

So, typically I find most of the time it is longer because I have to work around them a lot more. R#6.

In some instances, home visitors indicated that disengagement was associated with parents' relationship histories and initial resistance to opening up and trusting home visitors, which

meant it often took a little longer for home visitors to establish rapport—delaying the introduction of actual program content into home visits:

It takes several home visits to get them to finally open up and build that relationship with you. That mom has just been through a lot, so for her to open up and trust people, it is harder than for other people. So, it can cause a bump. R#10

*Truncated services.* Home visitors also indicated that parent disengagement results in families not receiving the full benefit of program services and not accessing the full range of available services. In some instances this included families not benefiting from services in the form of child or family outcomes:

I just know for a fact that they're (families) not getting everything out of the program that is available to them when they don't engage. That makes me feel bad. Because I put a lot of effort into planning the visit and taking it there. So, I have high hopes for what they can learn, or accomplish, or teach their child. And when they don't engage, it is just very deflating. And I feel like the child is the one, who, you know isn't getting the interaction from the mom. Of course, I feel that when the parent isn't engaged the child just isn't getting the full robust big picture that she could be getting. R#7

In other instances, this included families not participating in additional program services or taking full advantage of available services:

I noticed that the parents that are wholly engaged during the week when we have special events or speakers, they are the ones that tend to make sure that they follow up and stay active with all of it versus the ones where you don't get the engagement during the week either. R#4

If they aren't engaged and they don't have that trust, they aren't going to ask for the other things they need and the help you might be able to give them otherwise. R#10

***The impact of disengagement on home visitors.*** The final theme related to the impact of disengagement on home visitors, which included three subthemes: 1) feelings of frustration and exhaustion, 2) changes in perspective, and 3) feelings of discouragement.

*Frustrating and exhausting.* Home visitors often expressed that they find home visits with parent disengagement to be both frustrating and exhausting:

When I first started I would get really frustrated with clients that didn't want to change and I would just take the stance of trying to convince them why this is so good for them to do. R#1

More exhausting, it takes a lot of energy out of you. R#8.

While home visitors expressed experiencing frustration and exhaustion, they typically indicated that they just need to “vent” with their coworkers or their supervisor and then they can move on, often driven by a “love” for what they do and a commitment to the families they work with.

*Changes in home visitor perspective.* Some home visitors discussed how parent disengagement can change their perspectives, in terms of their expectations for parent engagement, their perspectives of parents, and expectations for what they can accomplish during home visits:

When you plan the next visit and are doing your preparation. You'll be like well we did this last time and they didn't like it so let's not do that, let's do something basic where I am just playing with the kid. So, it does change your expectations. I try to pick something that allows me to do more because they aren't going to do it and I know this. R#12

I am more likely to be judgmental of the parent, like they just don't even care about their kid. There is a point where we just give up a little bit. Did you do the home work this week, no, okay lets practice. You feel like you are beating a dead horse I guess. R#1

I think they do (expectations change). I maybe, still, what I did before we already had this conversation so then I expect to have made a decision or to move forward and they haven't. They have a new stress come up or a new reason they can't meet. At first, my expectation is that we already had that conversation we already covered this and then I realize this is a client that just needs a lot of help focusing on what I am here to do and so I can't always address those other issues. So, in that way they (expectations) change. R#3

I just feel, reminding myself to just be more patient. Because those visits don't tend to be. I don't feel as productive I guess. R#11

Many home visitors discussed that they tend to define a successful visit for disengaged parents differently, that they don't typically feel as productive during visits with parent disengagement and begin to redefine a successful home visit through smaller successes. For example, if they were able to get a resistant parent to engage for only a brief period of time, this is considered a success for that particular family.

*Discouraged.* Finally, home visitors expressed feeling discouraged when parents were disengaged during home visits. The feelings of discouragement included home visitors questioning how helpful they are to families, their own abilities as a home visitor, and the impact they make on families:

You just leave kind of going, you know. I don't know if they got anything out of that. I don't know, you just feel less useful. R#4

It's major, it's huge. It impacts me personally. It makes me feel. Umm. Like I am not doing my job well. It makes me feel like, I am somehow failing to get this family engaged. And, so, you know, what is it? So yeah, it makes me feel less effective as a home visitor. It is an icky feeling, I don't like it at all. These families that don't engage are often topics of conversation at supervision. That's how important parent engagement is to work. So, yeah, it is an icky feeling. It makes me feel ineffective in my work and I don't like that. R#8

Those are those days where you come and you think I don't really make a difference in anyone's life, why do I bother? Especially since you don't get paid anything doing home visits. R#1

## **Research Question 2**

Are home visitors receiving training or supervision on engaging participants? Do home visitors feel a need for additional training and/or preparation on participant engagement?

**Quantitative results.** As with research question 1, data from the online home visitor survey was analyzed to address research question 2. Home visitor respondents to the online survey were asked whether they received formal or informal training on engaging participants during home visits. A majority of respondents (93.3% and 91.7%) indicated they had received formal and informal training, respectively. When asked to rate the quality of the training they received, approximately a quarter of respondents (25.8%) rated their formal training as excellent and just under a quarter (22.5%) rated their informal training as excellent. While the training respondents received typically included observations of others' home visits (86.7% of respondents indicated training included watching others' home visits), only 31.7% of respondents indicated that training included observations and feedback of their own home visits.

To assess home visitors training needs, especially as it relates to engaging participants during home visits, home visitors were asked to rate both the importance of and their confidence in several specific abilities hypothesized as beneficial in promoting active participant engagement (see Table 23). These abilities are grouped into several relevant content areas, including: 1) increasing program dosage, 2) understanding parent interest and motivations, 3) adjusting and overcoming engagement struggles, and 4) prompting active parent engagement during visits. There was a significant positive correlation between home visitor importance and confidence ratings ( $r(108) = .43, p < .01$ ), indicating that confidence ratings increase as importance ratings increase. A common method for identifying specific training needs is to compute the difference between ratings for importance and confidence, with higher differences indicating a greater training need in a specific ability (Hennessy &

Hicks, 1998). If ability is rated as extremely important and confidence is rated low—this would indicate a greater training need.

The largest differences between home visitor importance and confidence ratings (greater than .40) were for the following abilities: (1) keeping parents enrolled in the program, (2) understanding what parents hope to gain from participating in home visits, (3) recognizing when they (home visitors) have done something to cause a parent to withdrawal during a home visit, (4) engaging parents in active discussion and conversation during home visits, (5) helping reluctant parents volunteer information and concerns during visits, (6) maintaining parents' interest in information provided during home visits, (7) making sure parents actively and consistently interact with their child during home visits. Home visitors were the least confident in redirecting parents preoccupied with multiple stresses to focus on home visit activities ( $M = 2.87$ ), however, they also rated this ability as lowest in importance ( $M = 3.06$ ). Home visitor importance ratings were highest for: 1) keeping parents enrolled in the program, 2) understanding what parents hope to gain from participating in home visits, and 3) engaging parents in active discussion and conversation during home visits.

Due to the variability in responses, differences between importance and confidence ratings were also explored at the individual home visitor level. Table 6 summarizes the percentage of home visitors whose confidence ratings for the various abilities were lower than their ratings for importance. As seen in Table 24, more than half of home visitors had higher importance than confidence ratings for several specific abilities, including: 1) keeping parents enrolled in the program, 2) recognizing when you have done something to cause a parent to withdraw from actively participating during a home visit, 3) helping reluctant parents volunteer information and concerns during home visits, 4) making sure parents





Table 24. Percentage of Home Visitors, Confidence Lower Than Importance		
Ability	N (%) Confidence Lower Than Importance	N (%) Confidence Higher Than Importance
<b>Dosage</b>		
A1: Assuring parents receive the expected number of home visits.	36 (29.8%)	8 (6.6%)
A2: Keeping parents enrolled in the program.	61 (50.4%)	3 (2.5%)
<b>Understanding Parent Interest and Motivations</b>		
A3: Figuring out what parents are interested in.	36 (29.8%)	7 (5.8%)
A4: Understanding what parents hope to gain from participating in home visits.	48 (39.7%)	4 (3.3%)
<b>Adjusting and Overcoming Engagement Struggles</b>		
A5: Recognizing when you have done something to cause a parent to withdraw from actively participating during a home visit.	66 (54.5%)	2 (1.7%)
A6: Helping reluctant parents volunteer information and concerns during home visits.	55 (45.5%)	9 (7.4%)
A7: Redirecting parents preoccupied with multiple stresses to focus on home visit activities.	47 (38.8%)	26 (21.5%)
A8: Adapting home visits "on the fly" when parents are nonresponsive during home visits.	45 (37.2%)	10 (8.3%)
<b>Prompting Active Parent Engagement during Home Visits</b>		
A9: Making sure parents actively and consistently interact with their child during home visits.	55 (45.5%)	8 (6.6%)
A10: Encouraging parents to ask questions during home visits.	36 (29.8%)	14 (1.6%)
A11: Maintaining parents' interest in information provided during home visits.	59 (48.8%)	8 (6.6%)
A12: Engaging parents in active discussion and conversation during home visits.	38 (31.4%)	8 (6.6%)
(N = 120)		

To explore relationships among background characteristics and importance and confidence ratings for the listed abilities, t-test (two-tailed) and bivariate correlation analysis were conducted. Bivariate correlations are provided in Table 25. Positive significant correlations were indicated for: confidence ratings and ratings of the quality of informal training ( $r(108) = .28, p < .01$ ) and formal training ( $r(108) = .24, p < .05$ ) and confidence

ratings and home visitor report of the extent that their individual supervision focuses on parent engagement ( $r(108) = .28, p < .01$ ). An independent samples  $t$ -test analysis was also conducted to assess differences in ratings of importance and confidence between home visitors with and without a Bachelor's degree (see Table 26). The  $t$ -test indicated home visitors with a Bachelor's degree had significantly lower importance ratings ( $t(112) = 3.21, p < .01$ ) than home visitors without a Bachelor's degree. Similarly, home visitors with a Bachelor's degree had significantly lower confidence ratings ( $t(112) = 2.65, p < .01$ ) than home visitors without a Bachelor's degree.

Table 25. Bivariate Correlations for Home Visitor Rating of Importance and Confidence					
	Years Providing Home Visits	Number of Families on Caseload	Rating of Informal Training	Rating of Formal Training	Individual Supervision Focus on Parent Engagement
Importance Rating	0.03	-0.09	0.14	0.09	0.08
Confidence Rating	0.05	-0.14	0.28**	0.24*	0.28**

(N = 110)

*Note: Fewer home visitors completed later sections of the survey addressing background characteristics, training, and supervision. \* $p < .05$  \*\* $p < .01$*

Table 26. Importance and Quality Ratings by Home Visitor Education						
	Without Bachelor's Degree (N = 43)	Bachelor's Degree or Higher (N = 71)				
	M (SD)	M (SD)	$t$ -Test	df	$p$ -value	Effect Size
Importance Rating	3.74 (0.26)	3.55 (0.30)	3.21**	112	.002	0.60
Confidence Rating	3.37 (0.44)	3.15 (0.40)	2.65**	112	.009	0.50

\*\* $p < .01$

Home visitors were also asked to mark their top two priorities from pre-determined categories on the type of training they would like to receive on engaging parents during

home visits and the content they would prefer covered during training (see Tables 27 & 28). A majority of home visitors indicated that they would prefer to have additional formal training, either in-person (42.5% of respondents endorsed this preference) or online (28.3% of respondents endorsed this preference). Home visitors were less likely to report a preference for additional informal training (range of 17.5-20% of respondents endorsed this preference). They were also less likely to report a preference for formal training that includes observations of their home visits (10% of respondents endorsed this preference). Most home visitors do recognize the need for more support on this topic, as less than 20% of home visitors reported that they didn't need any additional training on engaging parents during home visits. As far as the content of training, home visitors reported a greater need for training that highlights specific strategies to engage parents (50.8% of respondents endorsed this preference) and training that includes examples of successful strategies through videotapes (32.5% of respondents endorsed this preference).

Table 27. Home Visitor Responses, Top Two Training Needs, Type	
Type of Training	% Endorsed
In-Person Formal training	51 (43.9%)
On-line formal training	34 (29.3%)
Informal training with supervisor	21 (18.1%)
Informal training through shadowing home visitors	21 (18.1%)
Informal training that includes observations of my home visits	24 (20.6%)
Formal training that includes observations of my home visits	12 (10.3%)
Training not needed	23 (19.8%)
(N = 116)	

Table 28. Home Visitor Responses, Top Two Training Needs, Content	
Content	% Endorsed
Interactive training with time to practice skills	29 (31.1%)
Training that highlights strategies to engage parents	61 (65.5%)
Training that includes examples of successful strategies though videotapes	39 (41.9%)
Training that provides time for self-reflection through observation or videotapes of my home visits	18 (19.3%)
Training on theories of engagement	15 (16.1%)
Training on research related to engagement	14 (15.1%)
Training on the importance of engagement to program success	14 (15.1%)
(N = 93)*	

*\*Note: Home visitors indicating no need for additional training did not respond.*

Home visitors were also asked to report on how often they receive both individual and group supervision and how often the supervision they receive focuses specifically on issues of parent engagement (see Tables 29 & 30). Most home visitors (85.2%) receive at least monthly individual supervision. Only 10.2% of home visitors indicated receiving less than monthly individual supervision. Home visitor responses of how often their individual supervision focuses specifically on parent engagement were varied. Only 13.1% indicated that their individual supervision always focuses on parent engagement, while just over half of home visitors (57%) indicated that their individual supervision rarely or only sometimes focuses on parent engagement. There was a significant positive correlation between the amount of individual supervision received and the extent that supervision focuses on parent engagement,  $(r(108) = .31, p < .01)$ . Just under half of home visitors (49%) indicated receiving group supervision less than monthly with just over 20% indicating they receive group supervision more than monthly. A majority of home visitors (63%) reported that their group supervision rarely or sometimes focuses on parent engagement. There was not a

significant correlation between amount of group supervision and extent that group supervision focuses on parent engagement.

Table 29. Summary of Home Visitor Responses, Individual Supervision					
Frequency					
Never	Less than monthly	Monthly	2-3 times a month	Weekly	More than weekly
3 (2.5%)	12 (10.2%)	35 (29.9%)	15 (12.8%)	51 (42.5%)	1 (0.08%)
Focus on Parent Engagement					
Rarely	Sometimes	Often	Always	Rarely	
29 (25.4%)	37 (32.4%)	33 (28.9%)	15 (13.1%)	29 (25.4%)	
(N = 114-117)					

Table 30. Summary of Home Visitor Responses, Group Supervision					
Frequency					
Never	Less than monthly	Monthly	2-3 times a month	Weekly	More than weekly
28 (24.1%)	29 (25%)	33 (28.4%)	12 (10.3%)	13 (11.2%)	1 (0.08%)
Focus on Parent Engagement					
Rarely	Sometimes	Often	Always	Rarely	
29 (32.9%)	27 (30.6%)	19 (21.5%)	13 (14.7%)	29 (32.9%)	
(N = 88-116)					

**Qualitative results.** In addition to quantitative survey responses, home visitors had the opportunity to provide additional comments about training they found helpful and would recommend to other home visitors. A total of 102 home visitors provided an open-ended response. These responses were analyzed to first identify responses with sufficient detail and relevance to training. Of the 102 responses, 69 (67%) included comments of sufficient detail and relevance. A summary of relevant responses, themes, and example responses are provided in Table 31. Although relevant responses were somewhat limited,

they do provide additional insight on home visitor perspectives. Content analysis to identify emerging themes through repetition in the data indicated three major themes, including: (1) importance of training that is applicable and contextualized, (2) benefits of motivational interviewing, and (3) and benefits of problem solving and trouble shooting.

Responses under the first theme of importance of applicable and contextualized training discussed how the most beneficial training: 1) reflects the kinds of challenges home visitors face, 2) mirrors the types of families and situations that commonly present challenges to engagement, and 3) provides an authentic experience of an actual home visit. This theme commonly included responses about the benefits of role play, shadowing other home visits, or watching videos of home visits. Only a few home visitors discussed the benefit of having their own home visits observed and/or videotaped. Additionally, many home visitors mentioned that training they did not find helpful was either removed from the reality of home visits (e.g. lectures or webinars) or didn't authentically reflect difficult cases or challenges (e.g. families in role play or videos weren't high risk and were already actively engaged, scenarios on paper, etc.). Responses under the second theme of benefits of motivational interviewing specifically discussed how motivational interviewing training and strategies were extremely beneficial for learning how to successfully engage parents, by learning to focus on parents' goals and their motivations to either change or not change their behaviors. Responses under the third theme of problem solving and troubleshooting discussed the benefits of being able to troubleshoot difficult cases and problem solve with colleagues and supervisors. Last, while this did not emerge as a theme, it is worth noting that some home visitors discussed the drawbacks of inconsistent trainings and messages—

indicating that it is difficult to benefit from inconsistent trainings which promote different models or approaches to home visits.

Table 31. Summary of Home Visitor Open Ended Responses, Parent Engagement		
Theme	Example Responses	Frequency
Importance of Applicable and Contextualized Training	<ul style="list-style-type: none"> <li>• Seeing (video of) a re-enactment of real life situations that arise are the most helpful! And seeing another home visitor deal with the situation “on the fly” is a great tool. Makes it more tangible to remember and use in the future.</li> <li>• At times we have some very challenging parents to engage and work with. I appreciate it when the trainer understands that aspect of the visit.</li> </ul>	48 (69%)
Benefits of Motivational Interviewing	<ul style="list-style-type: none"> <li>• Motivational interviewing training. Helps to identify where a family is in terms of changes that need to be made and how ready they are to make those changes.</li> <li>• Motivational interviewing training. Improved communication and provided realistic techniques to place responsibility for success on parent and minimize home visitor’s personal agenda.</li> </ul>	11 (15%)
Benefits of Problem Solving and Trouble Shooting	<ul style="list-style-type: none"> <li>• Brainstorming and doing problem solving with other home visitors and coordinators is very helpful.</li> <li>• We have a monthly collaborative in which we can bring difficult cases and role play. That is probably the most helpful training on engagement that I continue to receive.</li> </ul>	10 (14%)
(N =69)		

As noted earlier, 16 home visitors also participated in semi-structured phone interviews. Two overarching themes and six subthemes, related to Research Question 2, were identified through content analysis. Tables 32 provides a summary of these themes and subthemes.

***Nature of training received.*** During the semi-structured interviews, home visitors were asked to discuss the training they received that helped them learn how to engage



parents during home visits. Content analysis of relevant responses indicated that home visitors received different types of training on engaging parents during home visits. Types of training that emerged from responses included: 1) formal and specific, 2) informal and specific, 3) formal and vague, 4) informal and vague, and 5) reactionary or as needed.

*Formal and specific.* Of the types of training home visitors received, this was not a very common type. Only three home visitors discussed formal training, and when prompted, were able to discuss at least one specific strategy for engaging parents during home visits they learned from the formal training. Sometimes these specific strategies were very limited in breadth and only included one strategy:

As far as the formal training, the open ended questions, that is the one thing that comes to mind. I can't really think of anything else. R#8

Overall, most home visitors struggled to provide detailed responses about formal training and struggled to identify specific strategies they learned from formal training that helped them learn how to engage parents during home visits. Instead many home visitors discussed learning how to engage parents “along the way”.

*Informal and specific.* This theme mirrors the theme of formal and specific training, with the exception that it includes training that is informal and provides specific strategies for engaging parents during home visits. There were very few references to this type of training, however, themes are often identified by paying attention to what is *not* mentioned as well as what is mentioned (Ryan & Bernard, 2003), so analysis of this theme is included here.

Only one home visitor discussed this type of training:

My supervisor is a trainer of motivational interviewing so she has brought to us the things she finds most helpful and I agree. One of them is when a client is giving you lots of reasons not to do something that you think would be beneficial for them. Like completing the homework, is to roll with that resistance and to kind of align with them because when you aren't being persuasive but you are understanding

where they are coming from then people usually can come up with the positives and negatives of doing something on their own. When they feel like you are just pushing all the reasons why they should do something on them they are more likely to take the stance of why they shouldn't do something. R#1

Table 32. Summary of Themes from Home Visitor Interviews, Parent Engagement	
Theme	Sub Themes
Nature of Training Received (20 references)	<p>Formal and Specific (3)</p> <ul style="list-style-type: none"> <li>◦ <i>Training that was formal and provided specific strategies for engaging parents during home visits.</i></li> </ul> <p>Informal and Specific (1)</p> <ul style="list-style-type: none"> <li>◦ <i>Training that was formal and provided specific strategies for engaging parents during home visits.</i></li> </ul> <p>Formal and Vague (6)</p> <ul style="list-style-type: none"> <li>◦ <i>Training that was formal and provided only vague strategies or strategies indirectly related to engaging parents during home visits.</i></li> </ul> <p>Informal and Vague (6)</p> <ul style="list-style-type: none"> <li>◦ <i>Training that was informal and provided only vague strategies or strategies indirectly related to engaging parents during home visits.</i></li> </ul> <p>Reactionary, As Needed (4)</p> <ul style="list-style-type: none"> <li>◦ <i>Training that is reactionary in nature and focused on problem solving specific engagement challenges as they arise.</i></li> </ul>
Type of Additional Training that Would be Helpful (7 references) (27 References)	<p>How to Motivate Parents to Engage and/or Change Behaviors (4)</p> <ul style="list-style-type: none"> <li>◦ <i>Strategies to motivate parents to actively engage during home visits and ways to motivate parents to want to change particular behaviors.</i></li> </ul>

*Formal and vague.* This was the most common type of training home visitors discussed, a total of six references discussed this type of training. This theme included training that was formal in nature; however, when prompted, home visitors were only able to discuss general or vague strategies they learned from the formal training. In many instances,

the formal training did not include any strategies or content directly related to engaging parents during home visits:

We have continued quality assurance training. We have a training at least once a month on some kind of aspect of the program and our interaction with the families we serve. We do culture diversity training at least once a year. We do multiple trainings. We have, um, let's see attended the professional boundaries for home visitors, growing great kids is our curriculum so I have done the prenatal to 36 months Tier 1 certification seminar. District county diversity and health disparity summit. Mental health first aid. Foundational training with parents as teachers to certify parent educators. R#7

Other times, home visitors indicated that they did receive formal training but weren't capable of providing any details about the training or why they found it helpful for engaging parents during home visits:

I mean I have been to so many different things. But, truly, it's kind of... It just depends so much on the family more than anything. R#11

*Informal and vague.* This type of training, referenced 6 times, included training that was informal in nature; however, when prompted, home visitors were only able to discuss how the training was implemented, or general strategies they learned from the informal training. This included home visitors discussing "on the job" training that primarily consisted of observing other home visitors or engaging in role play. Most of the time, home visitors discussed this type of training as beneficial for seeing how an actual home visit is implemented and understanding how home visits are structured—not necessarily directly related to engaging parents during home visits:

What I did find beneficial was just shadowing other home visitors. Learning the routine they have established during their visits and knowing being explicit with the kind of questions that they ask. R#14

A few home visitors also discussed the benefits of role playing and discussing with other home visitors or home visiting programs:

Some of the role play situations we have had have been helpful. We had a training recently where we got into groups and we talked about examples of good strategies to draw out parents and examples of strategies that don't work so well in different strategies. As a group, we got together and wrote all those down and then discussed the pros and cons for engaging parents and just ways to make parents comfortable and build rapport and help parents stay engaged and remain in the program. R#9

*Reactionary, as needed.* The final type of training included training that was reactionary in nature and designed to problem solve specific challenges home visitors faced in regards to engaging parents during home visits. This mainly consisted of "case consultation" to deal with specific situations with other home visitors and/or their supervisor:

The second one (home visiting job) I didn't get formal training but my supervisor was available and it mainly involved problem solving situations that come up. And, now my current job is similar. I have a clinical supervisor. We have a peer supervision group. At this point, I would say it is mostly about problem solving specific situations. R#3

This type of training also included discussing strategies with other programs at conferences or quarterly meetings and essentially "as you go along, just pick up strategies".

***Types of additional training that would be helpful.*** During semi-structured interviews, home visitors were asked if there is any additional training and/or content on engaging parents during home visits they would find helpful or would have found helpful when they first starting working as a home visitor. Of the seven references to this question, four included a discussion of wanting additional training on how to motivate parents to actively engage during home visits or how to motivate parents to want to change:

Kind of like, I wish a training on how to get people to want to change. Because a lot of times when I first started, like 7 years ago, I would get really frustrated clients that they didn't want to change and I would just take the stance of trying to convince them of why it was so good for them to do. And I just wouldn't have results and have these long conversations with lots of energy put into it and I would kind of be meeting with them all the time to try to get them engage and I felt like I was putting in a lot more energy and they wouldn't and it was because it was my own agenda. I would say that and also boundaries. Knowing how to set boundaries has helped me

get clients to work and recognize that they want a change. When I did everything for clients, they didn't have any reason to work harder or change what they were doing.  
R#1

One reference discussed an interest in wanting to learn strategies to “break a cycle” of disengagement or a pattern of parent behaviors:

We are always looking for something to help us engage. Especially because depending on the people that you deal with on a daily basis, a lot of ours are low income inner city families and I have the worst time engaging them because they just don't engage. I think it was because they weren't engaged as children, weren't engaged as students, and aren't engaged as parents. And as a result it is harder to engage. It is a pattern. If there is a training out there that teaches us how to break that pattern that would be wonderful. R#12

### Research Question 3

Do home visiting programs currently monitor participant engagement during home visits? If so, what methods are they commonly using?

**Quantitative results.** As with research questions 1 and 2, data from the online home visitor survey was analyzed to address research question 3. Home visitors reported how often their home visits were observed to assess parent engagement and how results of observations were used. A majority of home visitors (52.9%) reported that their home visits are observed once or twice a year to assess parent engagement. Only 12.8% of home visitors reported that their home visits are never observed, 10% reported their home visits are observed less than once a year, while 23.9% reported their home visits are observed three times a year. For home visitors that reported their home visits are observed (N= 102), 73% reported that a formal observation tool or checklist is used and 26% reported that observations aren't guided by a formal observation tool or checklist. A majority of home visitors (73.3%) reported that the results of observations are discussed during individual supervision. Approximately a quarter of home visitors (24.2%) receive summary reports of

the results of observations and 15% indicated that results are either kept in a family or supervision file or that they are unsure of how results are used.

Table 33. Summary of Home Visitor Responses, Monitoring of Parent Engagement					
Frequency of Observation of Home Visits				Formal Tool Used?	
% Never	% Less than once a year	% 1 or 2 times a year	% More than 3 times a year	Yes	No
15 (12.8%)	12 (10.2%)	62 (52.9%)	28 (23.9%)	74 (73.2%)	27 (26.7%)
(N = 101-117)					

**Qualitative results.** In addition to quantitative survey responses, 16 home visitors participated in semi-structured phone interviews, a portion of the interviews focused on how programs and home visitors monitor parent engagement during home visits. Phone interviews were audio recorded and qualitatively coded for content analysis. Two overarching themes and eight subthemes, related to Research Question 3, were identified through content analysis. Tables 34 provides a summary of these themes and subthemes.

***Program monitoring of parent engagement during home visits.*** Overall, home visitors struggled to describe methods their programs use to monitor parent engagement during home visits. Several home visitors simply stated that their program has no method of monitoring parent engagement during home visits. The remaining home visitors provided responses; however, they tended to describe methods of monitoring that did not directly relate to engagement or monitoring engagement *during* home visits. For example, home visitors discussed monitoring: 1) family goals and goal progress, 2) structural engagement, 3) home visit content and activities, and 4) participant satisfaction surveys.

***Monitoring family goals and goal progress.*** Home visitors discussed program monitoring of family goals and progress toward goals as a method for tracking parent engagement

during home visits. These discussions rarely directly referenced parent engagement during home visits but more often brought up monitoring parent-child interactions and progress towards established goals. This included completing initial family needs assessments and ongoing monitoring of parent progress towards identified goals:

The family partnership area has a place where we create family goals and we work with the parents in achieving that goal as far as their actions and how we can support them. *R#8*

This also included programs using checklists and forms (such as formal observational measures to observe positive parenting behaviors and in-house forms) to document positive changes in parenting behaviors and parent-child relationships:

Then there is the parent child interaction and our method for that is “when the child cried, the parent responded this way”. It is sort of a when, then method. When the child cried, the parent responded this way. When the child did this, the parent did that. *R#9*

Table 34. Themes from Home Visitor Interviews, Monitoring Parent Engagement	
Theme	Sub Themes
How Programs Monitor Parent Engagement during Home Visits (20 references)	<p>Monitor Family Goals and Progress (7)</p> <ul style="list-style-type: none"> <li>◦ <i>Program monitors engagement by documenting family goals, progress toward goals, and positive changes.</i></li> </ul> <p>Structural Engagement (3)</p> <ul style="list-style-type: none"> <li>◦ <i>Program monitors structural engagement, such as: number of visits completed, cancellations, attendance at socialization events, etc.</i></li> </ul> <p>Home Visit Content and Activities (4)</p> <ul style="list-style-type: none"> <li>◦ <i>Program documents the specific content and activities of home visits.</i></li> </ul> <p>Satisfaction Surveys (2)</p> <ul style="list-style-type: none"> <li>◦ <i>Track engagement through participant satisfaction surveys.</i></li> </ul> <p>No Program Level Method (4)</p> <ul style="list-style-type: none"> <li>◦ <i>No required or program wide method for monitoring parent engagement during home visits.</i></li> </ul>
How Home Visitors Monitor Parent Engagement during Home Visits (16 references)	<p>Parent Awareness/Observation of Child Development (6)</p> <ul style="list-style-type: none"> <li>◦ <i>Home visitors monitor extent of engagement by parents increased awareness of, commenting on, and observation of their child's developmental progress.</i></li> </ul> <p>Physical Indicators of Engagement, Not Distracted (4)</p> <ul style="list-style-type: none"> <li>◦ <i>Home visitors monitor physical indicators of engagement through eye contact and parents getting on the ground to do activities</i></li> </ul> <p>Elaboration and Volunteer Information (6)</p> <ul style="list-style-type: none"> <li>◦ <i>Home visitors monitor extent of engagement by parents' willingness to volunteer information and elaborate on information/ responses.</i></li> </ul>
(36 References)	

*Structural engagement.* This method of monitoring parent engagement largely consisted of monitoring extent of parent engagement outside of home visits. For example, home visitors discussed tracking drop out numbers, whether home visitors were achieving frequency of intended visits prescribed by their program models, how often parents cancelled home visits, and parent attendance at supplemental socialization events.



*Home visit content and activities.* While not a method for monitoring parent engagement during home visits, in response to prompts about how their program monitors parent engagement during home visits, many home visitors discussed general program documentation of what happens during individual home visits. This included documenting whether a variety of topic areas were addressed, which parent-child activities were completed, and referrals or assessments completed:

We have a home visit log we have to complete. We have a narrative that explains what we did on our visit. We have multiple things to check off. What did we talk about, child development, employment, education, family function, family outreach, health safety. R#16

We use visit tracker and we have a program on visit tracker where we enter all the information. We enter who was on the visit, we talk about what was discussed, and we talk about what handouts they received, if we had any referrals. R#15

*Satisfaction surveys.* Last, a few references discussed program monitoring of parent engagement during home visits through participant satisfaction surveys. However, in some instances, it was not clear if these surveys directly addressed issues of parent engagement. One home visitor did discuss the content of the satisfaction survey, which was not directly related to parent engagement during home visits:

On the satisfaction survey, they ask on a rating scale about “when was your last visit, does your home visit provide positive feedback and support”. R#2

***Home visitors’ monitoring of parent engagement during home visits.*** In addition to discussing program-wide methods of monitoring parent engagement during home visits, home visitors were asked whether and how they informally monitor extent of parent engagement during home visits. Most home visitors (13) were able to discuss methods they use or parent behaviors they observe to track extent of parent engagement and interest during home visits. Responses fell into three major sub-themes, including: 1) parent

awareness/observation of child development, 2) physical indicators of engagement, and 3) parent elaboration and volunteering of information.

*Parent awareness/observation of child development.* Home visitors discussed informally monitoring parent engagement during home visits by observing whether parents shared new observations and knowledge of their child and their child's developmental progress. This also included parents sharing information with home visitors about new parenting strategies they have used or home visitors observing ways parents have incorporated program information or resources into their parenting behaviors or parent-child activities:

If they're able to give you an example (of child milestone or development). The parents that are really engaged will us "You know, they really couldn't do it before, but I saw them doing it this many times, or saw it last week". So, it makes the conscious of it, the ones that are really engaged. R#11

*Physical indicators of engagement.* Home visitors discussed informally monitoring physical indicators of parent engagement, including eye contact and physical presence (i.e. not texting, leaving the room, or engaging in interactions with other individuals in the home). Home visitors tended to discuss this theme in conjunction with the idea that parents aren't distracted without providing details of what constitutes "not being distracted".

*Elaboration & volunteer information.* Home visitors also discussed monitoring parent engagement by observing whether parents volunteer information or elaborate on their responses to home visitor prompts, as opposed to providing curt or minimal responses:

I look to see if they provide more elaborate answers, if they're talking more, not just one word closed-ended answers, they're asking questions. Mainly those things. R#13

Some home visitors discussed that it was easier to monitor these less quantifiable measures of engagement when they have smaller caseloads, which they described as an advantage.

Additionally, a few home visitors discussed only using these monitoring methods if they had

cause for concern—meaning that they were concerned about the home environment or the parent-child relationship due to parents’ affect.

### **Study Component 2: Coding Video-Recorded Home Visits**

This portion of the study addresses research questions 4 and 5, relying on observational data from 28 video-recorded home visits—which were coded for home visitor strategies using an adapted version of the HVOF and participant engagement using the EDOP. Results for each research question are summarized below.

#### **Research Question 4**

What are the differences between global measures of engagement and frequency counts of specific indicators of engagement and disengagement?

To address this research question, results from coding the 28 video-recorded home visits with the EDOP were compared with results of coding the same video-recordings using the Home Visit Rating Scales-Adapted and Expanded (HOVRS-A+, Roggman et al., 2012). Descriptive results for the EDOP and relevant HOVRS-A+ scores are presented in Tables 35 and 36. Rates for individual participant engagement and disengagement codes were calculated. Individual rates were calculated by summing the total occurrence of an individual code and dividing it by the length of the video-recording in minutes. Total engagement and disengagement rates were also calculated for each video-recording by summing individual code occurrences for codes reflecting participant engagement or disengagement and dividing totals by the length of the video-recording in minutes. Because codes could occur multiple times within a one-minute interval and were not mutually exhaustive (e.g. a parent could volunteer new information multiple times within one minute), rates do not total 100%.

Overall, EDOP engagement codes were observed in 64% of intervals. The least commonly observed code was participants asking questions or requesting information (1% rate overall), active participant involvement (3% rate overall), and participants initiating activities or discussions with child as prompted by the home visitor (3% rate overall). The most commonly observed engagement codes included participants volunteering information (35% rate) and participants self-initiating an activity or discussion with their child (13% rate). These results show some similarities with the row scores on the HOVRS-A+ parent engagement scale, whereby the lowest mean row score is for parents initiating activities. Although EDOP scores for participants initiating activities as prompted by the home visitor or child were low (6% and 3% of intervals, respectively), participant's self-initiating activities was somewhat more commonly observed (13% of intervals). Although there are differences between EDOP engagement codes and HOVRS-A+ row scores with regard to participants sharing information and participating in discussions, this is likely due to the EDOP separating general participant information sharing and discussion from participants asking questions or requesting information—which the HOVRS-A+ combines into a single row score. While participants more readily volunteer information (35% of intervals) they rarely ask home visitors questions or request information (1% of intervals).

Overall, EDOP disengagement codes were observed in 48% of intervals. The least commonly observed disengagement code was active non-participation (2% rate overall), active non-participation due to a distraction in the home, and participants appearing worried, anxious, or tense (both 3% rates overall). The most commonly observed disengagement codes included participants observing the child or observing the child and the home visitor (19% rate overall), passive involvement (11% rate overall), and participants' non-response to

home visitors (10% rate overall). This indicates that participant disengagement is more passive than overt in nature, although non-responses to home visitor questions and prompts could be viewed as an overt act of disengagement.

Looking at the overall EDOP code rates for engagement and disengagement indicates a mix of both participant engagement and disengagement in the observed video-recordings. While engagement codes were observed in 15% more of the intervals, disengagement codes were observed in almost half of the intervals (rate of 48%). In contrast, the overall HOVRS-A+ parent engagement scale score was 4.54, leaning towards the “good” quality category on the HOVRS-A+. While the HOVRS-A+ parent engagement scale score might indicate sufficient parent engagement, the addition of the disengagement codes in the EDOP more clearly indicate continued room for improvement for maximizing and sustaining participant engagement across the duration of home visits.

Table 35. Rate of Individual and Summed Codes, EDOP					
(N = 28)	Total Occurrence	Mean (SD)	Range	Rate (SD)	Range
Engagement Codes					
E1_1: Initiates Activity or Discussion with Child, Self-Initiated	125	4.46 (3.89)	0-13	0.13 (0.12)	0.00-0.44
E1_2: Initiates Activity or Discussion with Child, Prompted by Home Visitor	58	2.07 (3.28)	0-15	0.06 (0.09)	0.00-0.46
E1_3: Initiates Activity or Discussion with Child, Prompted by Child	40	1.43 (2.83)	0-14	0.03 (0.06)	0.00-0.24
E2: Active Involvement	33	1.18 (1.85)	0-6	0.03 (0.05)	0.00-0.24
E3: Volunteers Information	331	11.82 (7.23)	0-26	0.35 (0.22)	0.00-0.74
E4: Asks Questions or Requests Information	16	0.57 (0.88)	0-3	0.01 (0.03)	0.00-0.08
Total Engagement	603	21.53 (8.72)	5-39	0.64 (0.22)	0.14-0.96
Disengagement Codes					
D1: Observes Child or Observes Child and Home Visitor	175	6.25 (7.06)	0-24	0.19 (0.25)	0.00-1.14
D2: Passive Involvement	96	3.43 (6.19)	0-26	0.11 (0.20)	0.00-0.74
D3_1: Non-Participation due to Distraction	35	1.25 (2.60)	0-12	0.03 (0.06)	0.00-0.25
D3: Non-Participation	17	0.61 (1.34)	0-6	0.02 (0.04)	0.00-0.19
D4: Non-Responsive to Home Visitor	90	3.21 (4.35)	0-18	0.10 (0.15)	0.00-0.56
D5: Appears Worried, Anxious, or Tense	25	0.89 (1.57)	0-6	0.03 (0.05)	0.00-0.23
Total Disengagement	438	15.64 (10.07)	0-37	0.48 (0.36)	0.00-1.48

Table 36. HOVRS-A+ Parent Engagement Scale Score 1 to 7 rating scale, higher scores correspond to higher quality		
(N = 28)	Mean (SD)	Range
Row 1: Parent Interest	4.43 (1.20)	1.00-7.00
Row 2: Participation	5.21 (1.75)	1.00-7.00
Row 3: Active Involvement	4.86 (1.80)	1.00-7.00
Row 4: Initiates Activities	3.29 (1.78)	1.00-7.00
Row 5: Discussion and Questions	3.93 (1.40)	1.00-5.00
Row 6: Physical Proximity to HV and Child	5.00 (1.80)	1.00-7.00
Total Parent Engagement Scale	4.54 (1.30)	2.00-7.00

Bivariate correlations were run between individual code rates on the EDOP and the overall HOVRS-A+ parent engagement scale scores along with individual row scores for parent engagement scale scores. Bivariate correlations are presented in Table 37. A total of seven significant correlations were found between individual EDOP code rates and individual row scores on the HOVRS-A+ parent engagement scale. Several correlations were in the expected direction of association while other correlations demonstrated correlations in an unexpected direction. There was a significant positive correlation between active involvement on the EDOP and row scores for parent interest in home visit activities on the HOVRS-A+ ( $r(26) = .52, p < .01$ ). There was also a significant negative correlation between codes for passive involvement on the EDOP and row scores for parent discussion and information sharing on the HOVRS-A+ ( $r(26) = -.38, p < .05$ ). There were also significant negative correlations between codes for appearing worried, anxious, or tense on the EDOP and row scores for parent interest ( $r(26) = -.40, p < .05$ ) and active parent involvement on the HOVRS-A+ ( $r(26) = -.48, p < .01$ ). Last, there was a significant negative correlation between overall, total disengagement codes on the EDOP and row scores for parent discussion and information sharing on the HOVRS-A+ ( $r(26) = -.47, p < .05$ ). Unexpected directions of association include a negative correlation between active

participant involvement on the EDOP and row scores for parent discussion and information sharing on the HOVRS-A+ ( $r(26) = -.49, p < .01$ ) as well as a significant negative correlation between participant volunteering information on the EDOP and row scores for active parent involvement on the HOVRS-A+ ( $r(26) = -.40, p < .01$ ). No significant correlations were found between HOVRS-A+ total parent engagement scale score and total engagement and disengagement code rates on the EDOP.



Table 37. Correlations of EDOP Codes and HOVRS-A+ Parent Engagement Scale

	EDOP Engagement					EDOP Disengagement					
	E1:	E2:	E3:	E4:	Total	D1:	D2:	D3:	D4:	D5:	Total
HOVRS-A+ Parent Engagement Scale Score	0.09	0.28	-0.28	0.14	-0.12	-0.15	-0.12	-0.18	0.28	-0.30	-0.14
Row 1: Parent Interest	0.17	0.15	-0.40*	-0.02	-0.23	-0.07	-0.18	-0.14	0.07	-0.40*	-0.21
Row 2: Participation	0.11	0.22	-0.37	0.00	-0.22	-0.09	-0.05	-0.35	0.30	-0.26	-0.08
Row 3: Active Involvement	-0.27	0.19	-0.34	0.15	-0.25	-0.04	-0.09	-0.27	0.28	-0.48*	-0.09
Row 4: Initiates Activities	0.25	0.52**	-0.19	-0.01	0.14	-0.18	-0.03	0.25	0.26	-0.08	0.00
Row 5: Discussion and Questions	0.08	-0.49**	0.21	0.35	-0.14	-0.34	-0.38*	0.08	-0.12	0.05	-0.47*
Row 6: Physical Proximity to HV and Child	-0.05	0.12	-0.16	0.06	-0.15	-0.20	0.01	-0.27	-0.00	-0.14	-0.22
(N = 28)											

\*p&lt;.05, \*\*p&lt;.01

Table 38. Correlations of Individual EDOP Codes									
	EDOP Engagement				EDOP Disengagement				
	E1:	E2:	E3:	E4:	Total	D1:	D2:	D3:	D4:
E1: Initiates Activity	1	0.45*	-0.38*	-0.28	0.12	0.05	-0.14	0.31	0.01
E2: Active Involvement	0.45*	1	-0.30	-0.07	-0.08	0.30	-0.05	0.35	-0.08
E3: Volunteers Information	-0.38*	-0.30	1	0.21	-0.26	-0.41*	0.22	-0.32	0.14
E4: Asks Questions or Requests Information	-0.28	-0.07	0.21	1	-0.20	-0.17	-0.00	-0.27	-0.29
Total Engage	0.42*	0.29	0.63**	0.09	-0.21	-0.30	0.10	-0.02	0.09
D1: Observing	0.12	-0.08	-0.26	-0.20	1	-0.04	-0.06	-0.11	-0.05
D2: Passive Involvement	0.05	0.30	-0.41*	-0.17	-0.04	1	-0.27	0.29	0.22
D3: Non-Participation	-0.14	-0.05	0.22	-0.00	-0.06	-0.27	1	-0.24	0.20
D4: Non-Responsive	0.31	0.35	-0.32	-0.27	-0.11	0.29	-0.24	1	0.18
D5: Appears Worried or Anxious	0.01	-0.08	0.14	-0.29	-0.05	0.22	0.20	0.18	1
Total Disengage	0.22	0.23	-0.48**	-0.39*	0.60**	0.62**	-0.05	0.47*	0.35
(N = 28)									

\*p<.05, \*\*p<.01

Table 39. Correlations of Row Scores for HOVRS-A+ Parent Engagement Scale							
	Parent Engagement Scale Score	Row 1: Parent Interest	Row 2: Participation	Row 3: Active Involvement	Row 4: Initiates Activities	Row 5: Discussion and Questions	Row 6: Physical Proximity to HV and Child
Parent Engagement Scale Score	1	0.73**	0.83**	0.83**	0.60**	0.33	0.73**
Row 1: Parent Interest	0.73**	1	0.76**	0.71**	0.28	0.15	0.61**
Row 2: Participation	0.83**	0.76**	1	0.85**	0.31	0.03	0.60**
Row 3: Active Involvement	0.83**	0.71**	0.85**	1	0.38*	0.05	0.54**
Row 4: Initiates Activities	0.60**	0.28	0.31	0.38*	1	0.06	0.27
Row 5: Discussion and Questions	0.33	0.15	0.03	0.05	0.06	1	0.29
Row 6: Physical Proximity to HV and Child	0.73**	0.61**	0.60**	0.54**	0.27	0.29	1
(N = 28)							

\*p<.05, \*\*p<.01

The unexpected direction of associations might suggest that participants display different profiles or patterns of engagement and more readily engage in home visits using select engagement strategies rather than a variety of engagement strategies. While the HOVRS-A+ parent engagement scale demonstrates a high Cronbach's alpha of .80 for the 28 video-recorded home visits, this seems to be driven by especially high correlations among particular row scores. Specifically, row scores for initiating activities (Row 4) and parent discussion or information sharing (Row 5), within the present sample, demonstrate fewer significant correlations with other row scores on the HOVRS-A+ parent engagement scale (See Table 39). As seen in the descriptive HOVRS-A+ results presented in Table 36, these row scores also had the lowest means—indicating they are a less commonly observed engagement strategy. These results differ slightly from the codes on the EDOP, where parent volunteering information was the most commonly observed engagement strategy (rate of 35%). However, this difference is likely due to the separation between parents volunteering information and parents asking the home visitor questions or requesting information on the EDOP—which HOVRS-A+ combines into a single row score. This indicates that the EDOP has the potential to more specifically highlight ways that parents do and do not engage during home visits. Unlike the HOVRS-A+, individual codes for engagement on the EDOP do not yield a significant Cronbach's alpha ( $\alpha = -.68$ ) due to a negative average covariance among the engagement codes (See Table 38). This again suggests that the EDOP measures distinct engagement strategies and captures different dimensions or profiles of parent engagement in home visits across participants. This is in contrast to the HOVRS-A+ whose descriptors across row scores tend to be redundant and measure similar attributes of engagement.

To explore this possibility, correlations between individual EDOP codes were run along with a factor analysis. Correlations among individual EDOP engagement codes are presented in Table 40. There was a significant positive correlation between codes of initiating an activity and active involvement ( $r(26) = .45, p < .05$ ). There was also a significant negative correlation between codes of initiating an activity and volunteering information ( $r(26) = -.38, p < .05$ ). A factor analysis using Principal Component Analysis was conducted on the four EDOP engagement codes. Two primary components were identified, factor one accounting for 40% of the variance and factor two accounting for 28% of variance. Loadings for the individual engagement codes on the two components are presented in Table 41. Two codes loaded onto Component 1. It is clear from Table 41 that these codes relate to parent's engagement with home visit activities, while the remaining two codes loading onto Component 2 relate to parent's engagement and interactions with the home visitor. As seen in Table 17, codes related to parent's engagement and interactions with the home visitor load negatively onto the component related to parent's engagement with home visit activities. To further explore possible profiles of engagement, combined rates for participant engagement in home visit activities (initiates activity and active involvement) and participant engagement with home visitors (asks questions or volunteers information) were calculated for individual home visits. There was a significant negative correlation between rates for participant engagement in home visit activities and participant engagement with home visitors ( $r(26) = -.42, p < .05$ ), indicating that the two profiles of engagement do not tend to co-occur. Figure 8 illustrates, across the coded home visits, the tendency for participant engagement with home visit activities to decrease as engagement with home visitors increases and vice versa.

Table 40. Correlations of Individual EDOP Engagement Codes

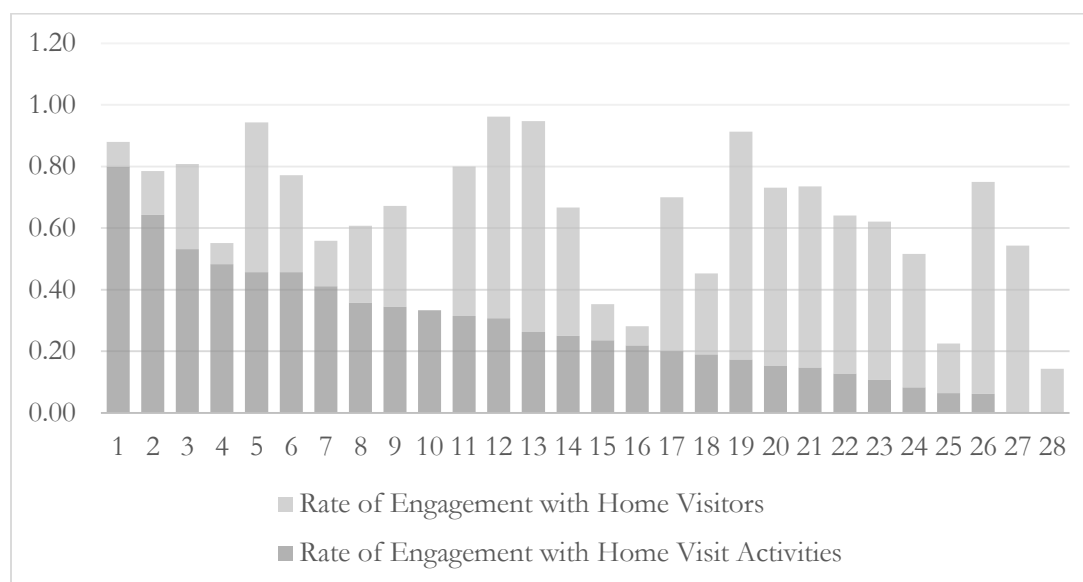
	E1: Initiates Activity	E2: Active Involvement	E3: Volunteers Information	E4: Asks Questions or Volunteers Information
E1: Initiates Activity	1	0.45*	-0.38*	-0.28
E2: Active Involvement	0.45*	1	-0.30	-0.07
E3: Volunteers Information	-0.38	-0.30	1	0.21
E4: Asks Questions or Volunteers Information	-0.28	-0.07	0.21	1
(N = 28)				

\*p&lt;.05

Table 41. Loadings of EDOP Engagement Codes, Factor Analysis

	Component 1	Component 2
E1: Initiates Activity	0.69	0.31
E2: Active Involvement	0.81	0.20
E3: Volunteers Information	-0.68	0.41
E4: Asks Questions or Requests Information	-0.11	0.89
(N = 28)		

Figure 8. Engagement with Home Visit Activities and Engagement with Home Visitors



A similar analysis was run on the EDOP disengagement codes, bivariate correlations among the individual EDOP disengagement codes are presented in Table 42. No significant correlations were found among the individual codes. Principal Component Analysis was also conducted on the 5 disengagement codes on the EDOP. A total of three primary components were identified, factor one accounting for 32% of the variance, factor two accounting for 22% of variance, and factor three accounting for 21% of the variance. Loadings for the individual disengagement codes on the three components are presented in Table 43. Two codes loaded more heavily onto Component 1. Table 43 shows that these codes potentially relate to parents disengaging from direct interactions or conversations with the home visitor. Two codes load more heavily onto Component 2 and appear to reflect a disengagement style characterized by anxiety or uncertainty about their role during home visits as participants more readily observe than elect to participate in at least a passive or rote manner. Only one item, active non-participation, loads onto Component 3—which reflects

overt non-participation (e.g. leaving the room, talking on the phone, watching TV) on the part of participants.

To further explore possible profiles of engagement, combined rates for participant disengagement with home visitor (passive involvement and non-response to home visitor) and participant uncertainty about engagement expectations (participant observation and worry/anxiety/tension) were calculated for individual home visits. There wasn't a significant correlation between rates for participant disengagement with home visitors and participant uncertainty about engagement expectations ( $r(26) = .04, p > .05$ ), indicating the two profiles don't co-vary in a significant way. Figure 9 illustrates, across the coded home visits, rates of participant disengagement with home visitors and participant uncertainty about engagement expectations.



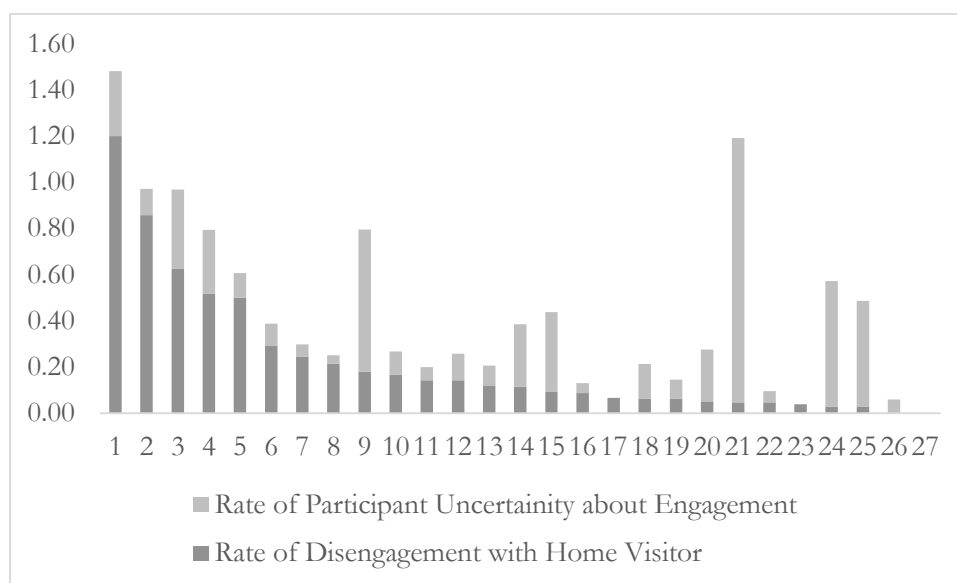
Table 42. Bivariate Correlations of Individual EDOP Disengagement Codes

	D1: Observes Child or Child and Home Visitor	D2: Passive Involvement	D3: Active Non- Participation	D4: Non- Responsive to Home Visitor	D5: Appears Worried, Anxious, or Tense
D1: Observes Child or Child and Home Visitor	1	-0.04	-0.06	-0.11	-0.05
D2: Passive Involvement	-0.04	1	-0.27	0.29	0.22
D3: Active Non- Participation	-0.06	-0.27	1	-0.24	0.20
D4: Non- Responsive to Home Visitor	-0.11	0.29	-0.24	1	0.18
D5: Appears Worried, Anxious, or Tense	-0.05	0.22	0.20	0.18	1
(N = 28)					

Table 43. Loadings of EDOP Disengagement Codes, Factor Analysis

	Component 1	Component 2	Component 3
D1: Observes Child or Child and Home Visitor	-0.29	0.58	-0.65
D2: Passive Involvement	0.74	0.27	-0.09
D3: Active Non-Participation	-0.51	0.33	0.71
D4: Non-Responsive to Home Visitor	0.65	-0.34	0.13
D5: Appears Worried, Anxious, or Tense	0.52	0.68	0.32
(N = 28)			

Figure 9. Disengagement with Home Visitor and Uncertainty about Engagement



The remaining analysis for this research question explores differences between the EDOP and HOVRS-A+ in distinguishing between low and high levels of parent engagement. HOVRS-A+ parent engagement scale scores (ranging from 1 to 7 in whole numbers) were recoded into ordinal variables reflecting the quality categories on the HOVRS-A+. Specifically, scores of 1 through 3 were recoded as “inadequate to adequate”, scores of 3 through 5 were recoded as “adequate to good”, and scores of 5 and 6 were recoded as “good to excellent”. Means for total EDOP engagement and disengagement codes as well as rates for EDOP engagement and disengagement codes were then compared across the range of recoded HOVRS-A + quality categories. Table 44 summarizes descriptive results for EDOP engagement and disengagement total codes and rates across the range of HOVRS-A+ parent engagement quality categories. Figures 10 and 11 also illustrate EDOP engagement and disengagement total codes and code rates according to HOVRS-A+ parent engagement quality categories. As illustrated in Figures 10 and 11, total

engagement and disengagement codes and total engagement and disengagement rates on the EDOP do not vary across the quality categories on the HOVRS-A+ parent engagement scale. While the HOVRS-A+ parent engagement scale scores make distinctions between high and low levels of parent engagement (from inadequate to excellent), EDOP results present a different story of similar levels of engagement and disengagement across the HOVRS-A+ quality categories. A one way ANOVA revealed no significant differences between total engagement and disengagement rates according to HOVRS-A+ quality categories;  $[F(2, 25) = .597, p = 0.56]$  for engagement rates and  $[F(2, 25) = .597, p = 0.56]$  for disengagement rates. The EDOP frequency counts and rates suggests that, overall, participants typically display a mix of both engagement and disengagement during home visits (as defined by the EDOP) while the HOVRS-A+ global scale suggests the opposite—that participants are either not adequately engaged, semi-engaged, or fully engaged at the excellent category.

Table 44. EDOP Codes by HOVRS-A+ Parent Engagement Scale Scores

	Inadequate to Adequate (N = 6)		Adequate to Good (N = 15)		Good to Excellent (N = 7)	
	M (SD)	Range	M (SD)	Range	M (SD)	Range
Total Engagement Codes	20.17 (9.54)	5-33	22.93 (8.55)	7-39	19.71 (9.27)	9-38
Total Disengagement Codes	18.83 (11.16)	0-34	13.89 (8.25)	3-33	16.71 (13.20)	1-37
Engagement Rate	0.72 (0.32)	0.14-0.96	0.64 (0.18)	0.23-0.91	0.58 (0.23)	0.28-0.88
Disengagement Rate	0.59 (0.33)	0.00-0.97	0.42 (0.30)	0.08-1.19	0.54 (0.52)	0.04-1.48
(N = 28)						

Figure 10. EDOP Total Occurrence Codes by HOVRS-A+ Quality Categories

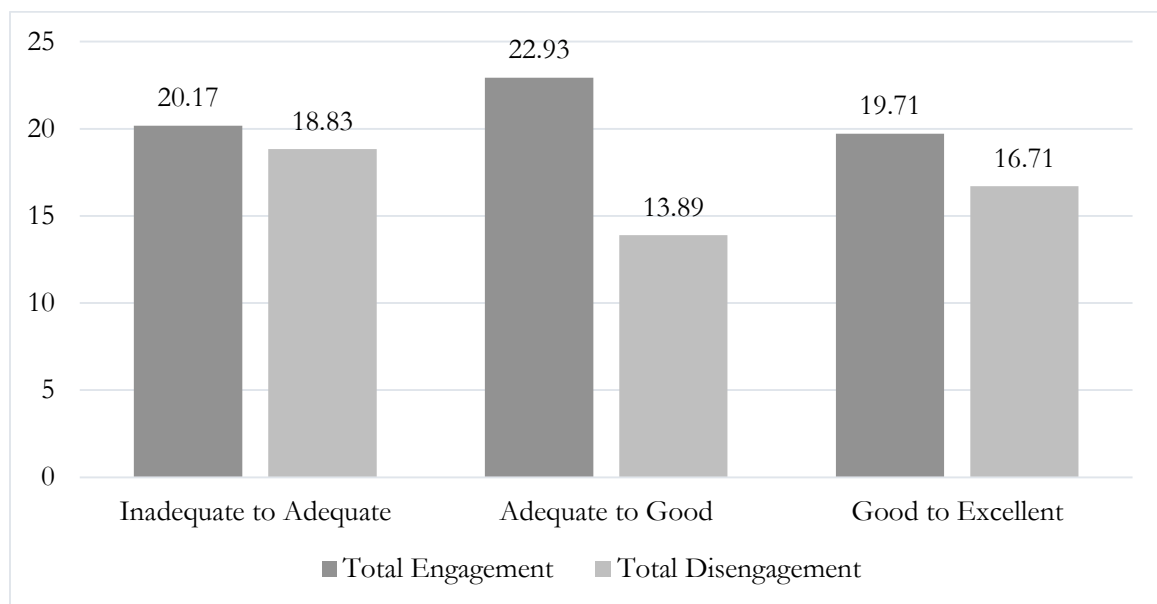
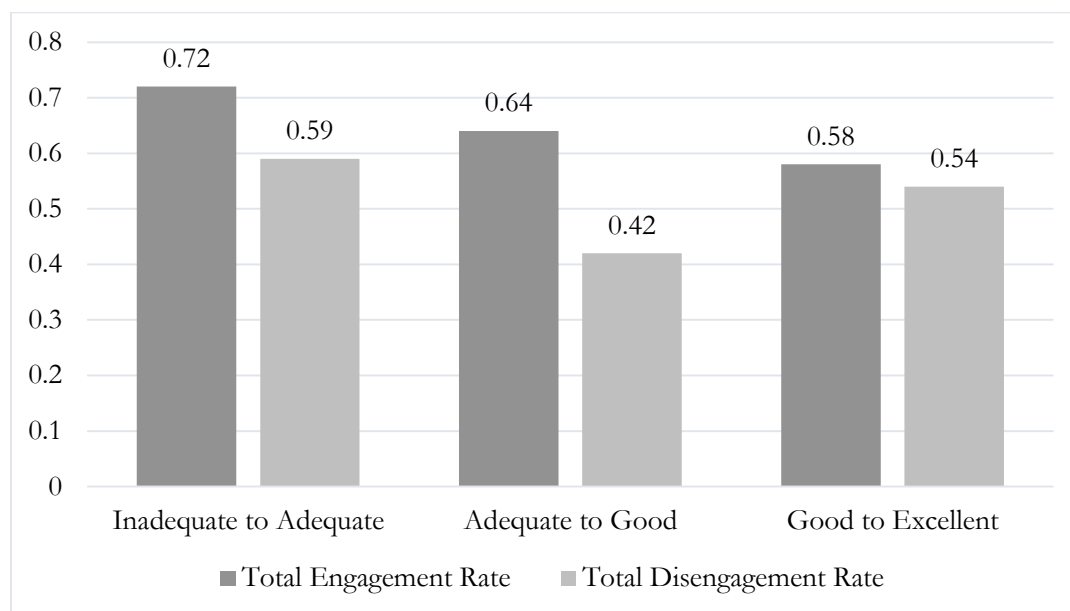


Figure 11. EDOP Total Code Rates by HOVRS-A+ Quality Categories



### Research Question 5

Do home visitor strategies relate to participant engagement? Likewise, do home visitor strategies relate to participant disengagement?

To address this research question, the coding process for the adapted HVOF and the EDOP included time stamping when specific codes occurred. This permitted calculation of new variables indicating the number of times a code for a home visitor strategy on the adapted HVOF was followed by a code for either participant engagement or disengagement on the EDOP. To be considered followed by, the EDOP engagement or disengagement code had to occur within 60 seconds after a code for a home visitor strategy.

First, as with the EDOP engagement and disengagement codes presented in the previous section, a descriptive summary of results for the adapted HVOF are presented in Table 45. Overall, home visitor collaborative codes were observed in 73% of intervals. The

least commonly observed collaborative codes included asking open ended questions about parenting behaviors (<1% rate overall), asking closed ended questions about parenting behaviors (1% rate overall), and responding to parent cues (3% rate overall). The most commonly observed collaborative codes included asking closed ended questions about children (23% rate overall), asking closed ended questions about parent well-being (15% rate overall), and providing relevant or reinforcing information (11% overall). Overall, home visitor non-collaborative codes were observed in 49% of intervals. The least commonly observed non-collaborative codes were home visitor controlling the interaction (2% rate overall) and home visitor non-response to participant (7% rate overall). The most commonly observed non-collaborative codes included didactic information sharing (11% rate overall), failing to establish the dyadic context, and missed opportunity for scaffolding (both 10% rates overall).

To explore non-sequential relationships between home visitor strategies and participant engagement or disengagement, bivariate correlations were run between EDOP codes and adapted HVOF codes (See Table 46). Several significant correlations were found between home visitor collaborative and non-collaborative strategies.

Table 45. Rate of Individual and Summed Codes Across Videos, HVOF					
	Total Occurrence	Mean (SD)	Range	Rate (SD)	Range
Collaborative Codes					
C1_1: Open Ended Question, Child Focused	49	1.75 (2.43)	0-11	0.05 (0.07)	0.00-0.32
C1_2: Open Ended Question, Parent Well Being Focused	49	1.75 (2.17)	0-8	0.05 (0.07)	0.00-0.23
C1_3: Open Ended Question, Parenting Behavior Focused	3	0.11 (0.32)	0-1	0.00 (0.01)	0.00-0.03
C2_1: Closed Ended Question, Child Focused	211	7.54 (5.97)	0-23	0.23 (0.20)	0.00-0.70
C2_2: Closed Ended Question, Parent Well-Being Focused	150	5.36 (6.73)	0-28	0.15 (0.19)	0.00-0.80
C2_3: Closed Ended Question, Parenting Behavior Focused	8	0.29 (0.60)	0-2	0.01 (0.02)	0.00-0.06
C3: Provides Relevant or Reinforcing Information	97	3.46 (3.76)	0-13	0.11 (0.11)	0.00-0.34
C4: Establishes Dyadic Context	55	1.96 (2.19)	0-9	0.06 (0.06)	0.00-0.18
C5: Responds to Parent Cues	38	1.36 (2.28)	0-9	0.04 (0.06)	0.00-0.19
C6: Friendly/Warm Demeanor	27	0.96 (1.42)	0-6	0.03 (0.05)	0.00-0.24
Total Collaborative	687	24.54 (12.94)	2-58	0.73 (0.37)	0.10-1.71
Non-Collaborative Codes					
NC1: Non-Responsive to Parent	68	2.43 (2.27)	0-9	0.07 (0.07)	0.00-0.30
NC2: Controls Interaction	19	0.68 (1.56)	0-7	0.02 (0.06)	0.00-0.28
NC3: Fails to Establish Dyadic Context	93	3.32 (4.85)	0-15	0.10 (0.17)	0.00-0.71
NC4: Didactic Information Sharing	103	3.68 (6.71)	0-33	0.11 (0.21)	0.00-0.94
NC5: Fails to Provide Structure	76	2.71 (2.97)	0-10	0.08 (0.08)	0.00-0.24
NC6: Missed Opportunity for Scaffolding	99	3.54 (2.80)	0-10	0.10 (0.09)	0.00-0.32
Total Non-Collaborative	458	16.36 (8.95)	4-42	0.49 (0.27)	0.14-1.20
(N = 28)					

Table 46. Bivariate Correlations of EDOP Engagement and HVOF Collaborative Codes (n =28)											
	EDOP Engagement					EDOP Disengagement					
	E1:	E2:	E3:	E4::	Total	D1:	D2:	D3:	D4:	D5:	E1:
C1: Open Ended Questions	-0.15	-0.16	0.32	0.36	0.20	-0.31	0.08	-0.01	0.04	0.10	-0.14
C2: Closed Ended Questions	-0.52**	-0.44*	0.47*	0.42*	0.01	-0.31	0.09	0.07	-0.24	0.03	-0.24
C3: Provides Relevant Info	0.40*	0.19	-0.05	0.05	0.30	-0.32	-0.22	-0.31	0.11	0.08	-0.35
C4: Establishes Dyadic Context	0.25	0.39*	-0.22	-0.25	0.04	-0.34	0.11	-0.20	0.37*	-0.21	-0.10
C5: Responds to Parent Cues	0.19	0.06	0.05	0.20	0.22	-0.22	0.02	0.10	-0.06	-0.23	-0.19
C6: Friendly/ Warm Demeanor	0.29	0.56**	-0.03	0.06	0.34	0.02	0.27	0.01	0.43*	0.05	0.35
Total Collaborative	-0.20	-0.17	0.40*	0.44*	0.25	-0.51**	0.09	-0.06	-0.02	0.01	-0.33
NC1: Non-Responsive to Parent	-0.01	-0.19	0.43*	-0.18	0.33	0.11	-0.07	-0.19	-0.05	0.14	0.00
NC2: Controls Interaction	0.43*	0.65**	-0.36	-0.24	0.10	-0.01	0.55**	-0.21	0.59* *	-0.01	0.50**



Table 46. Bivariate Correlations of EDOP Engagement and HVOF Collaborative Codes, Cont.											
NC3: Fails to Establish Dyadic Context	0.09	-0.02	-0.18	-0.19	-0.14	0.96**	-0.09	0.05	-0.20	-0.01	0.55**
NC4: Didactic Information Sharing	0.05	0.29	-0.29	-0.22	-0.20	-0.20	0.87**	-0.29	0.25	0.29	0.43*
NC5: Fails to Provide Structure	0.02	-0.35	0.09	-0.09	0.00	0.39*	-0.29	0.32	-0.27	-0.02	0.07
NC6: Missed Opportunity for Scaffolding	-0.43*	-0.23	0.51**	0.39*	0.17	-0.38*	-0.12	0.10	-0.34	0.32	-0.40*
Total Non-Collaborative	0.04	0.10	-0.10	-0.28	-0.07	0.47*	0.57**	-0.15	-0.02	0.35	0.65**
*p<.05, **p<.01											

**Collaborative strategies.** For closed ended questions, there was a significant negative correlation with participants initiating an activity ( $r(26) = -0.52, p < .01$ ) and active involvement ( $r(26) = -0.44, p < .05$ ). However, there was a significant positive correlation with participants volunteering information ( $r(26) = 0.47, p < .01$ ) and asking questions or requesting information ( $r(26) = 0.42, p < .05$ ). The collaborative strategy of providing relevant or reinforcing information demonstrated a significant positive correlation with participants initiating an activity, ( $r(26) = 0.40, p < .05$ ). Establishing dyadic context positively correlated with active participant involvement ( $r(26) = 0.39, p < .05$ ), however, it was also positively correlated with participants non-response ( $r(26) = 0.37, p < .05$ ). Last, friendly/warm demeanor was positively correlated with active participant involvement ( $r(26) = 0.56, p < .01$ ) and participants non-response ( $r(26) = 0.43, p < .05$ ). The total rate of collaborative strategies positively correlated with participants volunteering information ( $r(26) = 0.40, p < .05$ ) and participants asking questions or requesting information ( $r(26) = 0.44, p < .01$ ). Total rate of collaborative strategies negatively correlated with participants' observation ( $r(26) = -0.51, p < .01$ ).

**Non-collaborative strategies.** For non-response to parents, there was a positive correlation with participants volunteering information ( $r(26) = 0.43, p < .05$ ). Controlling interactions positively correlated with initiating activities ( $r(26) = 0.43, p < .05$ ), active involvement ( $r(26) = 0.65, p < .01$ ), passive involvement ( $r(26) = 0.55, p < .01$ ), participant non-response ( $r(26) = 0.59, p < .01$ ), and total disengagement rates ( $r(26) = 0.50, p < .01$ ). Failing to establish dyadic context positively correlated with participant observation ( $r(26) = 0.96, p < .01$ ) and total disengagement rates ( $r(26) = 0.55, p < .01$ ). Didactic information

sharing positively correlated with passive involvement ( $r(26) = 0.87, p < .01$ ) and total disengagement rates ( $r(26) = 0.43, p < .05$ ). Failing to provide structure positively correlated with participant observation ( $r(26) = 0.39, p < .05$ ). Missed opportunities for scaffolding negatively correlated with initiating activities ( $r(26) = -0.43, p < .05$ ), participant observation ( $r(26) = -0.38, p < .05$ ), and total disengagement rates ( $r(26) = -0.40, p < .05$ ). However, missed opportunities for scaffolding positively correlated with participants volunteering information ( $r(26) = 0.51, p < .01$ ) and asking questions/requesting information ( $r(26) = 0.39, p < .05$ ). Total non-collaborative strategies positively correlated with participant observation ( $r(26) = 0.47, p < .05$ ), passive involvement ( $r(26) = 0.57, p < .01$ ), and total disengagement rates ( $r(26) = 0.65, p < .01$ ).

To explore sequential relationships, variables were computed to indicate the total number of times individual codes on the adapted HVOF occurred and the total number of times codes were followed by (within one minute) a code of engagement or a code of disengagement. These variables were then used to calculate conditional probabilities between collaborative and non-collaborative codes and engagement or disengagement. Conditional probabilities were calculated by dividing the number of times a code was followed by an engagement or disengagement code by the number of times a code occurred overall. Results are presented in Table 47 and 48.

Overall, across the coded videos, the conditional probability of a code for collaborative strategies being followed by a code for engagement was 54%. This indicates that of the intervals where a collaborative code was observed, 54% were followed by a code for engagement. However, 33% of the intervals coded as collaborative were also followed

by a code for disengagement. Largest conditional probabilities for individual collaborative codes followed by engagement included asking open-ended questions, which were followed by a code for engagement in 70% of the intervals where open-ended questions were observed and followed by a code for disengagement in 29% of the intervals. Establishing the dyadic context was also followed by a code for engagement in 58% of the intervals where a code for establishing dyadic context was observed and followed by a code for disengagement in 16% of observed intervals. A lower conditional probability was observed for responding to parent cues, which was followed by a code for engagement in 37% of the intervals where a code for responding to parent cues was observed and followed by a code for disengagement in 23% of observed intervals.

Table 47. HVOF Collaborative Codes Followed by Engagement or Disengagement					
Code	Total Occurrence	Followed by Engagement Code			Conditional Probability
		Total	Mean (SD)	Range	
C1: Open Ended Questions	101	71	2.53 (2.48)	0-9	0.70
C2: Closed Ended Questions	369	192	6.86 (5.06)	0-21	0.52
C3: Provides Relevant or Reinforcing Information	97	48	1.71 (2.57)	0-11	0.49
C4: Establishes Dyadic Context	55	32	1.14 (1.32)	0-4	0.58
C5: Responds to Parent Cues	38	14	0.50 (1.10)	0-5	0.37
C6: Friendly/Warm Demeanor	27	14	0.50 (1.00)	0-5	0.52
Total Collaborative	687	371	13.25 (7.51)	0-26	0.54
Code	Total Occurrence	Followed by Disengagement Code			Conditional Probability
		Total	Mean (SD)	Range	
C1: Open Ended Questions	101	30	1.07 (1.84)	0-7	0.29
C2: Closed Ended Questions	369	138	4.92 (6.01)	0-23	0.37
C3: Provides Relevant or Reinforcing Information	97	31	1.10 (1.68)	0-7	0.32
C4: Establishes Dyadic Context	55	9	0.32 (0.61)	0-2	0.16
C5: Responds to Parent Cues	38	9	0.32 (0.77)	0-3	0.23
C6: Friendly/Warm Demeanor	27	10	0.35 (0.73)	0-3	0.37
Total Collaborative	687	227	8.10 (7.23)	0-31	0.33
(N =28)					

The overall conditional probability of a code for a non-collaborative strategy being followed by a code for disengagement was 44%, again indicating that of the intervals where a non-collaborative strategy was observed, 44% were followed by a disengagement code.

However, 41% of the intervals coded for non-collaborative strategies were followed by a code for engagement. Largest conditional probabilities for individual non-collaborative strategies were found for controlling interactions, which were followed by a code for disengagement in 84% of the intervals and followed by a code for engagement in 57% of the intervals coded for controlling interactions. Failing to establish the dyadic context and didactic information sharing were also related to disengagement: each of these non-collaborative codes were followed by a code for disengagement in 52% of the intervals with either code. They were followed by a code for engagement in 38% and 21% of intervals, respectively.

Table 48. HVOF Non-Collaborative Codes Followed by Engagement or Disengagement					
Code	Total Occurrence	Followed by Disengagement Code			Conditional Probability
		Total	Mean (SD)	Range	
NC1: Non-Responsive to Parent	68	31	1.10 (1.25)	0-4	0.46
NC2: Controls Interaction	19	16	0.57 (1.64)	0-7	0.84
NC3: Fails to Establish Dyadic Context	93	48	1.71 (2.46)	0-7	0.52
NC4: Didactic Information Sharing	103	54	1.93 (4.60)	0-23	0.52
NC5: Fails to Provide Structure	76	29	1.03 (1.29)	0-4	0.38
NC6: Missed Opportunity for Scaffolding	99	30	1.07 (1.48)	0-5	0.30
Total Non-Collaborative	458	208	7.42 (6.80)	0-29	0.44
Code	Total Occurrence	Followed by Engagement Code			Conditional Probability
		Total	Mean (SD)	Range	
NC1: Non-Responsive to Parent	68	33	1.17 (1.38)	0-4	0.48
NC2: Controls Interaction	19	11	0.39 (0.99)	0-4	0.57
NC3: Fails to Establish Dyadic Context	93	36	1.28 (2.25)	0-8	0.38
NC4: Didactic Information Sharing	103	22	0.78 (0.99)	0-4	0.21
NC5: Fails to Provide Structure	76	32	1.14 (1.67)	0-5	0.42
NC6: Missed Opportunity for Scaffolding	99	54	1.92 (2.20)	0-8	0.54
Total Non-Collaborative	458	188	6.71 (4.09)	1-16	0.41
(N =28)					

To provide additional inferential statistics, regressions were run to calculate engagement and disengagement rates from collaborative and non-collaborative strategies.

Specifically, rates for individual collaborative strategies were regressed on engagement rates and rates for individual non-collaborative strategies were regressed on disengagement rates. Tables 49 and 50 present the results for predicting overall engagement and disengagement rates. The regression for engagement rates produced significant results ( $p < .05$ ) with an  $R^2$  of 0.63 suggesting that the model accounts for 63% of the variance in engagement rates. Significant predictors of total engagement in the regression included asking child focused closed ended questions and providing relevant for reinforcing information. Holding other collaborative strategies constant, for every unit increase in rate of asking child focused closed ended questions, there is a 0.47 increase in engagement rates; this statistic is 2.22 times further away from zero than one would expect by chance alone. Additionally, holding other collaborative strategies constant, for every unit increase in rate of providing relevant or reinforcing information, there is a 0.33 rate increase in engagement rates; this statistic is 2.37 times further away from zero than one would expect by chance alone.



Table 49. Predicting Engagement from Collaborative Strategies

	B	SE	T	P
Constant	0.60	0.06	10.06	0.00
C1_1: Open Ended Question, Child Focused	0.32	0.53	0.60	0.55
C1_2: Open Ended Question, Parent Well Being Focused	-0.65	0.95	-0.68	0.50
C1_3: Open Ended Question, Parenting Behavior Focused	-4.95	4.87	-1.01	0.32
C2_1: Closed Ended Question, Child Focused	0.47	0.21	2.22	0.04*
C2_2: Closed Ended Question, Parent Well-Being Focused	-0.34	0.27	-1.26	0.22
C2_3: Closed Ended Question, Parenting Behavior Focused	2.22	2.32	0.96	0.35
C3: Provides Relevant or Reinforcing Information	0.78	0.33	2.37	0.02*
C4: Establishes Dyadic Context	-0.76	0.67	-1.12	0.27
C5: Responds to Parent Cues	1.44	0.70	2.04	0.05
C6: Friendly/Warm Demeanor	1.30	0.29	1.79	0.09
(N =28)				

\*p&lt;.05

The regression for predicting disengagement rates produced significant results ( $p < .01$ ) with an  $R^2$  of 0.73, suggesting the model accounts for 73% of the variance in disengagement rates. Significant predictors in the model include controlling interactions, failing to establish dyadic context, and didactic information sharing. For controlling interactions, every unit increase in rates of controlling interactions translates to a 2.05 increase in rates of disengagement; this statistic is 2.44 times further away from zero than one would expect by chance. Every unit increase in rates for failing to establish dyadic context translates to a 1.20 increase in rates of disengagement; this is a statistic 4.44 times further away from zero than expected by chance alone. Lastly, every unit increase in rates for didactic information translate to a 0.79 increase in rates of disengagement; this is a statistic 3.46 time further away from zero than expected by chance alone.

Table 50. Predicting Disengagement from Non-Collaborative Strategies				
	B	SE	T	P
Constant	0.25	0.10	2.52	0.02
NC1: Non-Responsive to Parent	-0.23	0.57	-0.40	0.69
NC2: Controls Interaction	2.06	0.84	2.44	0.02*
NC3: Fails to Establish Dyadic Context	1.20	0.27	4.44	0.00* *
NC4: Didactic Information Sharing	0.79	0.23	3.46	0.00* *
NC5: Fails to Provide Structure	0.57	0.58	0.98	0.33
NC6: Missed Opportunity for Scaffolding	-0.56	0.49	-1.12	0.27
(N = 28)				

\*p<.05, \*\*p<.01

Additional analysis were completed to explore results of EDOP and HVOF coding at the individual level of video-recorded home visits. This analysis mainly consists of descriptive summaries of individual home visit level data and visualizations to aid in interpretation. Table 51 provides a summary of EDOP and HVOF data for all video-recorded home visits. This includes: (1) total collaborative and non-collaborative rates, (2) differences between collaborative and non-collaborative rates (negative values indicate greater use of non-collaborative rates), (3) total engagement and disengagement rates, and (4) differences between engagement and disengagement rates (negative values indicate higher disengagement rates). Collaborative rates were higher in 20 of the home visits (average difference of 0.23, range of -0.95 to 1.47) and engagement rates were higher in 19 of the home visits (average difference of 0.15, range of -0.86 to 0.95); see cells in Table 51 shaded in green. Figure 12 provides a summary of the number of home visits where higher collaborative and non-collaborative rates coincided with either higher engagement or disengagement rates. As seen in Figure 12, higher rates of collaborative strategies more

consistently coincided with higher rates of engagement across the videos. An odds ratio of 6.66 was calculated for the values presented in Figure 12, indicating the odds of higher engagement rates is roughly 7 times more likely when collaborative rates are higher than when collaborative rates are lower. Finally, Figure 13 illustrates the rates of collaborative and non-collaborative strategies across home visits and Figure 14 illustrates the rates of engagement and disengagement across home visits.

Table 51. Summary of EDOP and HVOF Codes for Individual Videos					
Collaboration Rate	Non-Collaboration Rate	Difference between Collaboration and Non-Collaboration Rate	Engage Rate	Disengage Rate	Difference between Engagement and Disengage Rate
0.10	1.05	-0.95	0.33	1.19	-0.86
0.12	0.71	-0.59	0.56	0.65	-0.09
0.29	0.60	-0.31	0.94	0.60	0.34
0.34	0.25	0.09	0.28	0.97	-0.69
0.38	0.22	0.16	0.62	0.38	0.24
0.41	0.72	-0.31	0.64	0.85	-0.21
0.43	0.55	-0.12	0.67	0.28	0.40
0.47	0.18	0.29	0.35	0.29	0.06
0.52	0.24	0.28	0.55	0.79	-0.24
0.54	0.61	-0.07	0.61	0.61	0.00
0.55	0.38	0.17	0.52	0.08	0.43
0.60	0.29	0.31	0.45	0.17	0.29
0.60	0.47	0.13	0.70	0.33	0.37
0.70	0.40	0.30	0.81	0.23	0.57
0.77	0.62	0.15	0.96	0.58	0.38
0.80	1.04	-0.24	0.88	1.48	-0.60
0.82	0.14	0.68	0.79	0.25	0.54
0.89	0.42	0.47	0.95	0.00	0.95
0.94	0.29	0.65	0.23	0.39	-0.16
0.94	0.25	0.69	0.67	0.40	0.27
0.94	0.51	0.43	0.54	0.57	-0.03
1.00	0.42	0.58	0.73	0.04	0.69
1.04	0.57	0.48	0.91	0.13	0.78
1.09	0.51	0.57	0.77	0.20	0.57
1.09	0.72	0.38	0.75	0.63	0.13
1.11	1.20	-0.09	0.14	0.97	-0.83
1.23	0.26	0.97	0.80	0.26	0.54
1.71	0.24	1.47	0.74	0.26	0.47
(N = 28)					

Figure 12. Collaborative and Non-Collaborative Rates by EDOP Rates

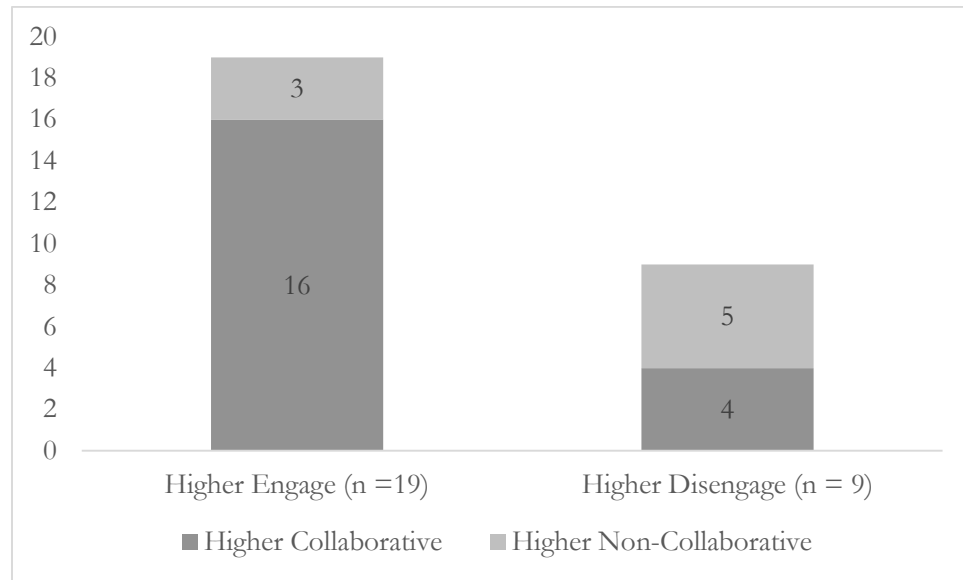


Figure 13. Collaborative and Non-Collaborative Rates across Home Visits

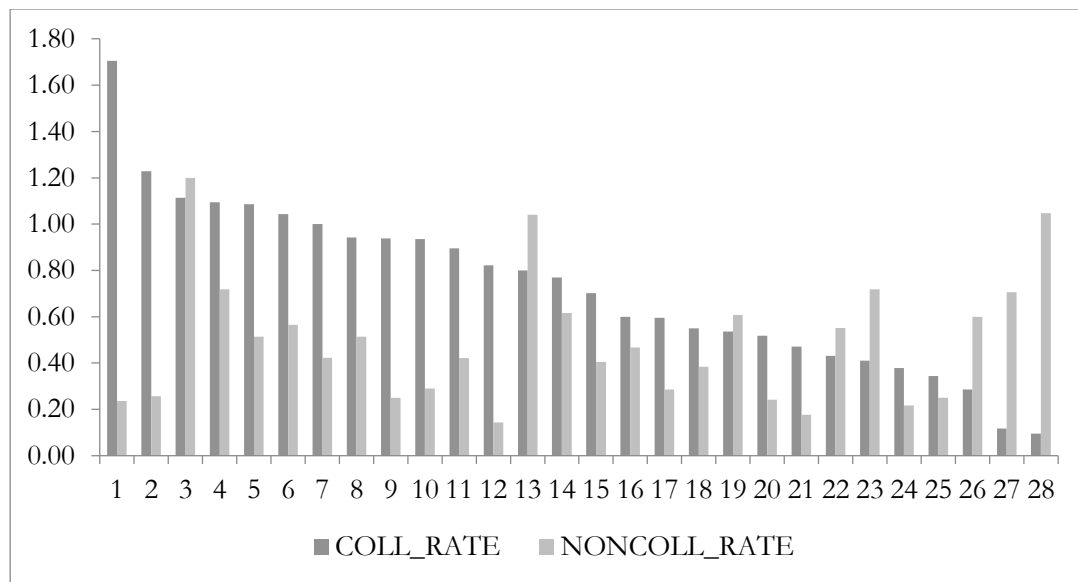
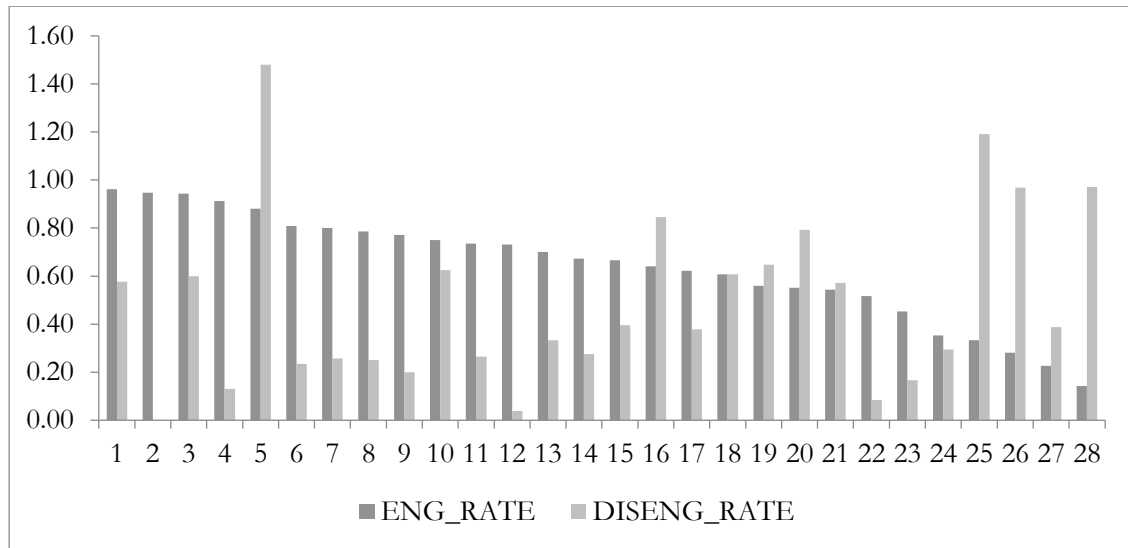


Figure 14. Engagement and Disengagement Rates across Home Visits



## CHAPTER FIVE

### DISCUSSION

Overall, the results of this study (1) highlight the impact participant engagement and disengagement have on a variety of program operations and dimensions of implementation, (2) point to specific home visitor strategies that relate to participant engagement and disengagement, and (3) call attention to the multidimensional and interactive nature of participant engagement and disengagement. Results also suggest that home visitors typically do not receive concentrated and practice-based training on engaging participants during home visits and the field lacks a comprehensive, unified approach to participant engagement during home visits. Finally, results indicate that program monitoring of participant engagement during home visits, when used, is sporadic and often attends to more structural aspects of participant responsiveness such as program dosage or participant satisfaction.

The following discussion section begins with a brief summary of study results followed by implications for research and practice and study limitations.

#### **Study Component 1: Home Visitor Surveys and Semi-Structured Interviews**

##### **The Impact of Participant Disengagement during Home Visit**

As discussed in Chapter 2, focusing on participant responsiveness is especially useful given its potential impact on other dimensions of program implementation and operations. Results from the home visitor survey and semi-structured interviews support this potential impact. Specifically, results suggest that participant disengagement during home visits is associated with: (1) the quality and nature of home visitor-participant interactions, (2)

program dosage, (3) extent of home visitor-participant collaboration, (4) program content, (5) home visitor job satisfaction, and (6) home visitor perception of child and family outcomes. While there is an awareness of the influence of more structural aspects of participant responsiveness (e.g. number of visits received, length of program enrollment), the current study highlights the role of more dynamic, interactional aspects of participant engagement and disengagement during home visits.

The identification of these more interactional aspects of engagement suggests the need for the field to proactively track participant engagement during home visits and address engagement concerns before the intervention window closes or participants drop out of program services. During the semi-structured interviews home visitors discussed different patterns of participant disengagement, including sporadic disengagement and more pervasive, consistent disengagement. In the case of the latter pattern of disengagement, while existing home visiting research (see Roggman et al., 2008) tends to emphasize residential moves as a primary reason for program attrition, discussion with home visitors in this study indicates that many participants are “disengaged from the beginning”, tend to receive fewer home visits, and ultimately drop out of program services early. This points to an opportunity for the field to borrow from educational research and develop early warning systems to prevent program attrition (Heppen & Therriault, 2008). An important component of preventing program attrition is identifying participants most at risk of dropping out and implementing targeted approaches to keep participants enrolled. In fact, previous research indicates that a one-point increase in home visitor global ratings of participant engagement during home visits decreases the likelihood of participants dropping out by 68% (Brand & Jungman, 2014).



Another note-worthy finding concerns the impact of participant disengagement on home visitors' perspectives of and expectations for participants. In the semi-structured phone interviews, many home visitors discussed a sense of lowered expectations for participants who demonstrate initial disengagement during home visits. In some cases, this meant that home visitors would engage in more commenting on parenting behaviors and attempts to “just grab onto anything” by highlighting and praising small parenting behaviors. While home visitors couched this strategy as “strength-based,” empirical research is lacking on whether this is an effective strategy for engaging and motivating participants. Prior research in educational settings indicates that providing students praise for completing small tasks or “correct behaviors” can lead to student inferences of low ability (Barker & Graham, 1987). It is possible that participants who receive praise from home visitors for smiling at or responding to their child, for example, might infer that the home visitor believes they are low in parental ability. Home visitors also discussed having lower expectations for what would be considered a successful visit for disengaged parents, implying that even brief moments of engagement for disengaged parents are viewed as a success.

Home visitors also discussed changing their approach in working with disengaged parents, including: (1) taking greater control of home visit agendas and content, (2) providing more modeling for parent behaviors, (3) engaging in direct interactions with children, and (4) avoiding discussion of topics related to family issues that don't directly relate to home visit content and/or purpose. Some of these changes in approach potentially further undermine participant engagement. For example, participant motivation to engage can decline in the absence of support for autonomy and a sense of relatedness (Skinner, 2009). Additionally, research indicates that higher rates of home visitor-participant collaboration translate to greater program retention (Ingoldsby et al., 2013). Existing

educational research has found similar reciprocal effects of student behavioral engagement on teacher behavior, whereby students who are initially highly engaged behaviorally receive more teacher behaviors associated with engagement (e.g. autonomy support and structure) and disengaged students receive fewer of these teaching strategies (Skinner & Belmont, 1993).

While some home visitors discussed changes in approach that could further undermine participant engagement, some home visitors discussed changes in approach that reflected compensatory strategies associated with promoting engagement and motivation. For example, some home visitors discussed working tirelessly with disengaged parents to understand their goals and motivations and always being sure to directly relate home visit activities and content to participant goals. This included home visitor use of “higher order” statements to call participants’ attention to the purpose of home visit activities and their relevance to participant contexts and goals. These strategies for attention focusing and relevance are considered effective for engaging and motivating individuals (Keller, 1983). Therefore, in some instances, it appears that participant disengagement prompts home visitors to use more effective engagement strategies and consistently attend to the “engagement piece” by checking in with and collaborating with participants to individualize services. Finally, the negative correlation between home visitor agreement that disengagement impacts their work with families and the extent that individual supervision focuses on participant disengagement shows that discussion of participant engagement during individual supervision can potentially mitigate the negative impact of participant disengagement on home visitors work with families.

## **Program Training and Supervision on Participant Engagement**

Currently, there is limited research on the influence of home visitor training and supervision on engaging participants during home visits. Available research only includes home visiting programs in select regions. For example, while not specifically labeled training on participant engagement, Duggan et al. (2011) found that less than 5% of the 346 trainings attended by home visitors in programs across Maryland concentrated on home visitor communication skills using role play of specific communication strategies. Clearly, home visitor communication and interaction strategies overlap with strategies that promote participant engagement (e.g. relating to client, being client centered, emphasizing relevance of home visit activities to client context). Research in the medical field pays substantial attention to developing provider communication skills, which typically translates to improved client satisfaction and engagement (Roter, 2000).

The current study provides an indication of the extent of home visitor training and supervision, across program models and regions, on participant engagement and strategies for engaging participants. Overall, almost all home visitor survey respondents indicated that they received both formal and informal training on participant engagement (93% and 91%, respectively). Of those that received training; however, only between 22% and 26% rated their training as excellent, indicating home visitors see room for improvement with regards to training and preparation on participant engagement. In fact, less than 20% of home visitors said they needed no additional training on participant engagement. This finding is especially noteworthy considering that the sample of home visitors, on average, were very experienced home visitors. Interestingly, home visitors who reported higher quality formal and informal training were significantly more confident in skills for engaging participants during home visits.

Similar to the findings by Duggan et al. (2011), only 31% of home visitors' training included direct observations of their own home visits to facilitate skills and strategies for participant engagement. However, 86% of home visitor training did include observations of others' home visits or videotaped home visits. This finding points to an opportunity for the field in light of research findings highlighting the value of interactive, practice based, and focused professional development. Meta-analysis suggests that teacher training in early education contexts is most effective in improving teacher practice when based on observations of actual classroom practices and when there is a specific behavioral focus (Fukink, 2007). Pianta et al. (2014) found that coaching prompts that focus teacher attention on their own practice and require teacher observation and analysis of their own practice are key features in improving the quality of teacher-child interactions.

With regard to extent of supervision, a majority of home visitors (84%) said they receive at least monthly individual supervision. However, only 12.5% of home visitors said that their individual supervision always focuses on participant engagement and more than half of home visitors indicated that their supervision rarely or only sometimes focuses on participant engagement. Again, this is an unfortunate finding considering that home visitors are likely to benefit from ongoing and individualized guidance on strategies for engaging participants during home visits as opposed to isolated training opportunities (Pianta et al., 2014). Additionally, correlations for the current study indicate that home visitors who report a greater focus on participant engagement during individual supervision also tend to feel that participant disengagement is less influential on their work with families. Supervision is likely an avenue for home visitors "venting", gaining perspective on their work with families, and considering how best to approach challenging situations. Prior research has found that

higher rates of individual supervision predict lower program attrition rates (McGuigan, Katzev, & Pratt, 2003).

In addition to documenting extent of home visitor training and supervision on participant engagement, the current study measured specific training needs by asking home visitors to report both the importance of and their confidence in specific skills for engaging participants. Results of the training needs assessment indicated that home visitors may require additional training on several specific skills, including: (1) keeping participants enrolled in programming, (2) understanding what participants hope to gain from home visits, (3) recognizing when they have done something to cause a participant to withdraw, (4) engaging participants in active discussion and conversation during home visits, (5) helping reluctant participants volunteer information, (6) maintaining parent interest in home visit content and activities, and (6) encouraging active and consistent parent-child interaction during home visits. Many of these topics relate to specific home visitor communication and facilitation skills, skills that are not well addressed in existing home visiting research. Additionally, lacking ability in promoting parent-child interactions during home visits is a serious threat to the fidelity of the many home visiting program models that explicitly focus on and aim for a majority of a home visit to include and prompt parent-child interactions.

Last, findings from semi-structured interviews provide insight on the exact nature and content of home visitor training on participant engagement. While a majority of home visitor survey respondents said they received training, more in-depth discussion with home visitors indicated that training often included only vague strategies for engaging participants and, in some instances, did not directly address strategies for engaging participants. Many home visitors discussed training as “on the job” or “figuring it out” as you go along. Another common training type included reactionary training which mainly consisted of

home visiting staff and supervisors troubleshooting specific cases or instances of participant disengagement *after* they occur. Only a few home visitors, when prompted, were able to discuss specific strategies they learned from their formal or informal training. These results suggest that while home visitors report receipt of training, training doesn't typically concentrate on specific strategies or skills for engaging participants and often lacks a unified approach or conceptualization of participant engagement during home visits and how best to promote engagement. This is confirmed in the results related to home visitor training needs, where home visitors reported a desire for more formal training with specific strategies for engaging participants. Home visitors also reported that training is most beneficial when it is applicable to home visits and reflects engagement challenges that actually occur during home visits.

### **Program Monitoring of Participant Engagement during Home Visits**

Ongoing tracking and monitoring of program practices is an important aspect of continuous quality improvement efforts. Accordingly, the current study asked home visitors to report on whether and how their program monitors participant engagement. From the survey results, just over half of home visitors indicated that their home visits are observed 1 to 2 times per year, with some focus on issues of participant engagement. A majority of home visitors (61%) whose home visits are observed use a formal tool or checklist to guide observations, and results of observations are typically discussed during individual supervision.

The survey did not ask home visitors to report the specific content of observations; however, semi-structured interviews allowed for more in-depth discussion with home visitors on how they and their program monitors participant engagement. Despite survey results indicating that most home visitors are observed on their home visits, during the semi-

structured interviews, no home visitors actually discussed observation of home visits as a method for monitoring participant engagement during home visits. Program methods for monitoring participant engagement discussed by home visitors often did not directly relate to engagement. Instead, methods included monitoring and documenting family goals and progress towards meeting goals or monitoring structural aspects of engagement only—such as number of home visits received or length of enrollment. Other methods home visitors discussed were limited to mere documentation of the content and activities that occur during home visits. Four the 16 home visitors (25%) simply stated their program has no method for monitoring participant engagement and 2 (12%) discussed participant satisfaction surveys as a method for monitoring participant engagement. These findings suggest that programs and home visitors may have differing local concepts of what constitutes participant engagement during home visits, which often differ from research based definitions of engagement. Instead of focusing on moment-to-moment interactions within individual home visits, there appears to be a focus on more overarching and encompassing aspects of engagement such as adhering to goals, overall participant satisfaction, and maintaining active enrollment.

However, when home visitors were asked to discuss how they informally monitor participant engagement, many were able to discuss more specific indicators of engagement *within* home visits. Home visitors discussed monitoring: (1) whether participants demonstrated more awareness of their child and their development (internalization of program information), (2) physical indicators of engagement such as eye contact and physical proximity, and (3) extent of participant elaboration on responses and willingness to volunteer information. These findings indicate that although their program does not formally track these indicators of engagement, home visitors are aware of and informally

observe indicators of participant engagement during home visits. It is worth noting, however, that home visitor did not discuss either informal or formal monitoring of or reflection on *their own* behaviors as they relate to indicators of participant engagement.

### **Study Component 2: Coding Video-Recorded Home Visits**

This study component included preliminary findings from the development of a new observation tool to capture specific behaviors of engagement and disengagement in home visits, the EDOP. The EDOP was used to identify sequential relationships between home visitor strategies and participant engagement or disengagement. It was also compared to a popular existing observation tool, the HOVRS-A+.

### **Differences between Global Measure of Engagement and Frequency Counts**

Results from coding video-recordings of home visits using the EDOP indicate that 64% of intervals were coded for engagement codes and 48% were coded for disengagement codes. The least common engagement codes included: (1) participants asking questions or requesting information, (2) active participant involvement, and (3) participants initiating activities as prompted by the home visitor. More common engagement codes included participants volunteering information and self-initiating activities. The least common disengagement codes included active non-participation and participants appearing worried, anxious, or tense. More common disengagement codes included: (1) participant observation, (2) passive involvement, and (3) non-response to home visitor.

With regard to differences between the EDOP and HOVRS-A+, overall, the EDOP offers a more multidimensional view of participant engagement. While the HOVRS-A+ utilizes a single, unidimensional measure of engagement that makes distinctions between “adequate” and “excellent” levels of engagement, coding results using the EDOP fail to make the same distinctions with participants displaying a mix of both engagement and



disengagement—even at the highest levels of HOVRS-A+ quality. A factor analysis of the EDOP suggests two distinct patterns of participant engagement: (1) engagement with the home visitor and (2) engagement with home visit activities. These findings mirror studies in educational settings of engagement as a multi-dimensional rather than unidimensional construct (Skinner, Kindermann, & Furrer, 2008). While beyond the scope of the current study, the reason behind different engagement profiles may be a function of many factors. For example, they be associated with participant needs where participants with a higher need for relatedness are more likely to engage with the home visitor. Alternately, participants with avoidant attachment styles may lean towards engaging in home visit activities rather than engaging with the home visitor. Profiles of engagement may also vary according to how long home visitors have been working with participants. It is possible that when participants are just beginning to develop relationships with home visitors, they engage more in home visit activities rather than directly engaging with the home visitor. Last, profiles of engagement may relate to specific strategies used by home visitors, with some home visitors relying more heavily on strategies that promote a particular pattern of participant engagement. For example, home visitors who rely more heavily on asking questions might promote participant engagement with the home visitor as opposed to participant engagement with home visit activities. Correlations between EDOP engagement codes for participant engagement with the home visitor and the adapted HVOF codes for home visitor asking closed and open-ended questions provide preliminary evidence for this possibility.

A benefit of the multidimensional measure of participant engagement offered by the EDOP is the ability to pinpoint specific instances of participant engagement and disengagement to highlight bright spots and identify areas in need of improvement. As

previously discussed, coaching and professional development is more effective when (1) focused on actual practice within implementation settings, and (2) when focused on a specific behavior or strategy (Pianta et al., 2014). Instead of providing a global rating, the EDOP can provide home visiting programs with more specific guidance rooted in the context of actual home visits. Additionally, the multidimensional nature of the EDOP and its specificity may prove more useful for research purposes—including investigations of the impact of different patterns of participant engagement during home visits on child and family outcomes.

Results for this research question also bring up questions of ideal or expected rates of participant engagement during home visits and ways in which programs hope participants engage during home visits. In this sample of home visits, participants typically displayed a mix of engagement and disengagement. Additionally, participants tended to favor one style of engaging during home visits over the other (i.e. engaging with home visitor versus engaging with home visit activities). A “threshold” for ideal participant engagement during home visits is unknown. Likewise, proportions of the type of participant engagement that program models hope participants display is unclear. Answers to these questions likely depend on the focus of individual program models. Some models may focus more on general family needs or psychotherapy and are amenable to higher participant engagement with home visitors while other program models focus more on parent-child interactions and favor higher participant engagement with home visit activities. Either way, in light of these findings, programs will likely benefit from refining program logic models through intentional, well-informed, and careful consideration of exactly how and how much they hope participants engage during home visits. This will not only provide useful guidance for home visitors but will also prove beneficial in beginning to define and measure “active”

ingredients of home visits that predict interim child and family outcomes which ultimately bolster long term outcomes.

### **Relationship between Home Visitor Strategies and Participant Engagement or Disengagement**

Descriptive results for the adapted HVOF summarize the overall rate of home visitor collaborative and non-collaborative strategies. Overall, collaborative codes were coded in 73% of intervals and non-collaborative codes were coded in 49% of intervals. The least commonly observed collaborative strategies included: (1) open-ended questions about parenting behavior, (2) closed ended questions about parenting behavior, and (3) responding to participant cues. Open and closed-ended home visitor questions about parenting behaviors occurred in less than 1% of intervals. Considering that emphasizing the relevance of topics and behavioral change is a key motivational strategy, failing to directly ask parents about the kinds of parenting behaviors they *already* engage is a missed opportunity to motivate parents to change maladaptive behaviors or increase positive behaviors. The most commonly observed collaborative strategies include closed ended questions about children and providing relevant or reinforcing information. Common strategies used by home visitors that are non-collaborative included: didactic information sharing, failing to establish dyadic context, and missed opportunity for scaffolding. With regard to the overall relationship between home visitor strategies and participant engagement as measured by the EDOP, the odds of participant engagement was 7 times greater for home visits with higher rates of collaborative strategies as compared to non-collaborative strategies.

Correlational analysis between home visitor collaborative and non-collaborative strategies and participant engagement and disengagement revealed several interesting relationships. Many of these correlations were in expected directions of association while

others were unexpected. Correlations are not sequential in nature and are symmetrical.

Therefore, it isn't possible to determine if the home visitor strategies are influencing participant engagement or disengagement or vice versa. However, the expected directions of association suggest that certain home visitor strategies tend to coincide with either participant engagement or disengagement. For example, home visitors asking closed ended questions tends to occur with decreased active participant involvement and participants initiating activities; however, asking closed ended questions tends to occur with increased participant volunteering information or asking questions and requesting information.

Unexpected direction of associations could suggest a reciprocal process of participant behaviors influencing home visitor strategies. For example, a positive relationship between participant non-response and home visitor establishing dyadic context and home visitor friendly/warm demeanor might suggest that home visitors are trying to compensate for lack of participant engagement by greater use of collaborative strategies to engage and relate to participants. This echoes results from Study Component 1 where a few home visitors discussed greater use of collaborative strategies during home visits with disengaged participants. It also mirrors studies in educational settings that teachers attempt to compensate for students emotional disengagement through positive, motivationally engaging strategies (Skinner & Belmont, 1993). Interestingly, Skinner & Belmont, found that this compensatory behavior was only associated with student emotional disengagement and not student behavioral disengagement. Additional research is needed to explore if home visitors respond differently according to the type of disengagement participants display.

Unexpected relationships also suggest that certain instances of participant engagement may carry a different valence as a function of home visitor behaviors. For example, home visitor controlling interactions tended to coincide with participants initiating

activities and active participant involvement. Because coding for the EDOP and the adapted HVOF occurred in two separate and independent coding phases, coding when a participant initiated activities or demonstrated active involvement as a result of home visitor coercion or, alternatively, as a strategy for avoiding controlling home visitor behaviors was not possible. Instead, participant initiation of activities and active involvement was coded if it occurred at all—regardless of the context of surrounding home visitor behaviors. Future versions of the EDOP may require adaptations to include sub codes to better capture the meaning behind participant behaviors. Likewise, home visitor non-collaborative strategies may carry a different meaning depending on specific participant behaviors. The positive correlation between home visitor non-response to participants and participants volunteering information may suggest that when participants continuously share personal information or engage in conversation, home visitors may purposively not respond as a strategy for redirecting participants to different topics or home visit activities. This again echoes results from Study Component 1 where home visitors discussed having to gloss over or avoid certain family issues or stresses in order to maintain focus on the purpose of home visit sessions. Finally, unexpected correlations may indicate that a certain level of participant engagement is necessary in order for home visitors to utilize higher order collaborative strategies. The positive relationship between participants volunteering information, asking questions and requesting information and home visitors' missed opportunity for scaffolding suggests that home visitors may simply have fewer opportunities to provide scaffolding when participants fail to provide information or demonstrate a minimum level of engagement. This possibility is further confirmed in the negative relationship between participant observation, total disengagement, and home visitor missed opportunity for

scaffolding. When participants are simply observing or disengaged, it is likely difficult for home visitors to provide scaffolding and extend participant learning.

As a better way to understand patterns of home visitor behaviors and participant engagement that is not symmetrical in nature and permits inference of directionality, EDOP and HVOF coding data was also analyzed sequentially. Results for the sequential analysis highlight several specific home visitor strategies that relate to participant engagement and disengagement. Specifically, home visitors asking open ended questions and establishing the dyadic context demonstrated the largest conditional probabilities with participant engagement. Although not surprising, this is a little worrisome given how infrequently open ended questions were coded. Additionally, home visitors controlling interactions, failing to establish dyadic context, and didactic information sharing produced the largest conditional probabilities with participant disengagement. Again, these findings are worrisome considering that some of the most commonly observed non-collaborative strategies included didactic information sharing and failing to establish dyadic context.

In some instances, results of the sequential, correlational, and regression analysis converge to highlight home visitor strategies as related to participant engagement and disengagement. For example, sequential and correlational analysis both highlight the collaborative strategy of establishing the dyadic context as related to greater participant engagement. Additionally, all sets of analysis highlight non-collaborative strategies of: (1) controlling interactions, (2) failing to establish dyadic context, and (3) didactic information sharing relating to higher participant disengagement.

In other instances; however, the different analysis approaches produce different results. For example, regressions predicting engagement rates indicate that closed-ended, child-focused questions and the provision of relevant or reinforcing information are the

largest predictors of participant engagement while the conditional probabilities don't highlight these particular strategies. These results suggest that sequential, micro analysis produces different results than correlational or cross-sectional analysis. Prior research comparing sequential methods to cross-sectional analysis of medical provider-patient communication has found similar results (e.g. Bensing et al., 2010). As discussed in Chapter 2, this raises questions about the validity of causal claims from existing correlational and cross-sectional analysis examining relationships between home visit content, home visitor strategies, and rates of participant engagement. These results may also suggest the need to reconsider and refine the time lag used to decide if a home visitor strategy is "followed" by an engagement or disengagement code. Choosing a timeframe for sequential analysis is often driven by previous research. There is, however, no existing sequential home visiting research to draw from for the current study.

### **Research and Practice Implications**

The current study is exploratory in nature and findings should be interpreted with appropriate caution. However, the findings do offer several research and practice implications, which are discussed below.

#### **Research Implications**

The field of home visiting has historically lamented a failure to understand what happens in home visits. While efforts have been made to provide greater understandings of the content and quality of home visits, including development of observational measures of home visits, insufficient attention is paid to participant engagement. Findings from the present study highlight the importance of paying close attention to participant engagement due to the potential widespread impact on program operations and service delivery. Future research should go beyond existing research focused primarily on structural aspects of

engagement (e.g. dosage and length of enrollment) and incorporate more proactive and dynamic measures of participant engagement to better understand program implementation and effective home visitor strategies.

Of course, additional research is necessary to arrive at the most appropriate, practical, and meaningful methods for measuring participant engagement and identifying home visitor strategies that promote engagement. The present study used sequential analysis which is typically the only available method for inferring the directionality and causality of social exchanges and interactions occurring during individual home visits. However, it is not clear what the most appropriate lag times for sequential analysis are in the context of home visits. Research is needed to explore appropriate lag times and understand differences in study findings as a function of different lag times. Additionally, the present study focused mainly on how home visitors influence participants. Future research should focus more on understanding the reciprocal nature of home visitor-participant interactions. Correlational analysis from the present study provides preliminary evidence that home visitors influence participant behaviors *and* participants influence home visitor behaviors. Understanding these reciprocal relationships requires a more targeted coding process and analysis based on specific research questions with hypothesized bi-directional relationships. It also requires longitudinal research looking at home visitor-participant interactions across home visits. For example, a coding system might specifically focus on whether home visitors are purposively non-responsive to participants who continuously share personal information and longitudinal analysis might look at how purposeful home visitor non-response influences participant sharing behaviors in subsequent home visits.

Correlational analysis for the present study also highlights the contextualized nature of home visitor-participant interactions. This likely requires continued refinement of the



EDOP and adapted HVOF to develop codes that capture the meaning of behaviors rather than behaviors alone. For example, a participant may actively engage in a home visit activity because they find it interesting and entertaining. On the other hand, a participant may actively engage in a home visit activity as a strategy for avoiding a direct interaction with a home visitor or as a means for ignoring a home visitor question or directive. Introducing the meaning of behaviors into a coding system requires a higher level of observer inference and potentially introduces observer effects thus reducing measurement accuracy. Despite this potential limitation, a meaning based coding system would provide more contextualized findings that are less likely to be misinterpreted. In the example provided above, a coding system focused on behavior alone would assign the same interpretation of behaviors with a different valence while a coding system focused on the meaning of behaviors would provide different and contextualized interpretations.

The small sample size used for the coding portion of this study prevented analysis of whether home visitor strategy use varies as a function of home visitor or program characteristics. Future research should explore whether home visitor background characteristics relate to strategy use during home visits. Additionally, research is needed to explore how program characteristics influence home visitor strategy use and how home visitors react to incidents of participant disengagement. Findings from the current study provide preliminary evidence that supervision focused on participant engagement and receipt of excellent training on participant engagement potentially moderates the impact of participant disengagement by increasing home visitors' confidence in addressing incidents of participant disengagement. It is not clear, however, if home visitor confidence translates to practice. Qualitative results from the study also suggest that some home visitors respond to participant disengagement with strategies that further undermine engagement while other

home visitors respond with compensatory strategies intended to enhance engagement.

Future research should address why home visitors react differently to participant disengagement and identify methods for promoting more positive, compensatory home visitor reactions.

Study findings also indicate that the field of home visiting lacks a comprehensive, unified approach to participant engagement during home visits. Other fields have successfully developed unified and theory based approaches to engagement that are used to drive operational definitions of program quality. For example, the field of afterschool research uses Maslow's hierarchy of needs to define levels of student engagement and identify teaching strategies most likely to promote successively higher levels of student engagement and ultimately yield positive student outcomes. The present study utilized a motivational framework for conceptualizing participant engagement and home visitor strategies most likely to promote engagement. A motivational framework is especially beneficial when trying to promote behavior change or motivate participants to gain new knowledge, which can be a more difficult endeavor with adult participants. Additionally, a motivational framework encompasses many aspects of theories of behavior change whereby the key ingredient for success is often a function of motivation. While the home visiting field does not have to use a motivational framework, it should take steps towards identifying a framework and developing organizing and universal principles for engaging participants that goes beyond the generalities of 'meeting participants where they are' and 'being empathetic'. In the qualitative interviews with home visitors, they struggled to discuss universal strategies for engaging participants. Instead, home visitors took a stance of relativity and discussed how everything depended on the individual family and their situation. While individualizing to families is an important tenet of home visiting, it is also

necessary to have specific guiding principles or universal engagement strategies that can directly inform home visitors work with families.

### **Practice Implications**

As previously discussed, participant engagement during home visits has the potential to impact many aspects of program operations and service delivery. This includes impacting home visitor sense of self-efficacy and job satisfaction. In qualitative interviews with home visitors, it was clear that participant engagement is an ongoing topic of discussion and one of the more difficult components of a home visitor's job. Unfortunately, study findings show that home visitors do not typically receive targeted and intensive training on participant engagement. In fact, a majority of home visitors reported that they need additional training on participant engagement. Home visitors also reported that their supervision only rarely or sometimes focuses on participant engagement. Perhaps most importantly, while survey results suggest that home visitors do receive observations of their home visits, home visitors did not actually mention observation of their home visits during the qualitative interviews. Future training and supervision should include observations of home visits in order to effectively guide home visitors' behaviors and promote high quality, effective home visitor-participant interactions. Interactions during home visits are often fast moving and home visitors may not be consciously aware of their own behaviors. Therefore, observation is central in facilitating home visitor awareness of and reflection on their behaviors, how their behaviors influence participants, and the nature of their reactions to participant behaviors. Existing research suggests that this type of targeted, practice based, and observational professional development is the most effective for promoting high quality interactions (Pianta et al., 2014). However, home visitors were least likely to report a preference for professional development that includes observations of their home visits. Additional work is

necessary to help home visitors understand the value and purpose of observations and overcome this resistance. This might include introducing observations from a strength based and collaborative approach focused on highlighting and reinforcing bright spots and working collaboratively to reflect on observations and discuss implications for future home visits. Making observations an expected and regular component of home visiting can also help promote a greater sense of transparency and accountability around home visits. To achieve expected program outcomes, it is important that home visitors' ability to engage and motivate participants is not left to chance alone or home visitors independently 'learning along the way'.

In addition to observing home visitor practice, programs should track the extent of participant engagement during home visits. The current study suggests that program monitoring of participant engagement is often sporadic and limited to structural aspects of engagement such as completed home visits or attendance at supplemental program events. More proactive tracking of participant engagement *during* home visits can potentially serve as one indicator of an early warning system for addressing low engagement before the intervention window closes. Programs could use observational methods similar to the EDOP to track extent of participant engagement, however, an observational coding system similar to the EDOP may not be practical for program purposes as they are time intensive to implement. Prior research has effectively used home visitor reports of participant engagement after each home visit session and found that a one-point increase in home visitor global ratings of participant engagement during home visits decreases the likelihood of participants dropping out by 68% (Brand & Jungman, 2014). This suggests that program tracking of participant engagement during home visits is practical and would prove beneficial in preventing program attrition.

Study findings also have implications for home visiting program models. In the context of MIECHV and attention towards demonstrating efficacy in an increasingly wide array of child and family outcomes, more serious attention and thought should be paid to the issue of participant engagement. Program models should specify and outline exactly how they expect participants to engage during home visits in program logic models and align expected home visitor behaviors accordingly. It was clear during home visitor interviews that beyond general descriptions of the overarching content and purpose of home visits, most program models do not provide specific guidance of exactly what home visitors and participants should ideally be doing during home visits. If robust child and family outcomes are expected, these aspects of program implementation need further clarification so they can be accurately monitored over time to ensure program fidelity.

### **Limitations and Future Research**

There are three areas where study limitations should be considered when interpreting the results, in sampling, measurement, and analysis. Each of these are considered below.

#### **Sample**

A convenience sample was used for both the home visitor survey and semi-structured interviews, thereby limiting generalizability of study findings to the entire population of home visitors and home visiting programs. Overall, the sample is diverse geographically but less diverse in regards to program models, home visitor race/ethnicity, and home visitor years of professional experience. The recruited sample, while representing multiple regions across the States, only represents a subset of home visiting program models. Overall, home visitor participants tended to be more experienced, with an average of 7 years delivering home visits. The sample also relies on home visitor perspective alone as opposed to supervisor or program model developer perspectives. Additional research is needed to

explore the perspectives of other home visiting stakeholders, including potential content analysis of program model trainings, resources, and materials.

For the video-recorded home visits, the sample came from an archived data set and is limited to a particular region and home visiting funding stream. Additionally, only two home visiting program models are represented in the video-recorded home visits.

Additional research, using either a random or purposeful stratified sample, is necessary to permit greater generalizability of study findings.

### **Measurement**

Results for the current study are limited by the use of newly developed measures that have not yet been validated. For the home visitor survey and semi-structured interview protocol, steps were taken to increase the face validity of both measures. This included piloting the survey with home visitors and content review of both measures by two experts in the field of home visiting. Additionally, the home visitor survey drew from existing research on validated methods for assessing training needs (see Hennessy, Hicks, Hilan, & Kawonal, 2006). For the EDOP and the adapted HVOF, steps were taken to assure face validity and measurement accuracy. This included a review of research on theories of motivation and behavior change to link each code to a theoretical basis and hypothesized relation to either participant engagement (in the case of codes for home visitor strategies) or participant outcomes (in the case of codes for participant engagement and disengagement). Additionally, both observers attained initial inter-rater reliability and inter-observer reliability was monitored throughout the coding process to maintain consistency and reduce measurement error as a function of observer effects. However, both the EDOP and the adapted HVOF are in an early pilot phase and require additional piloting and refinement to further assess validity and reliability.

## Analysis

Analysis limitations concern the qualitative content analysis of the semi-structured home visitor interviews. Typically, content analysis includes more than one coder to provide coder triangulation (Ryan & Bernard, 2003). However, due to limited resources, the current study relied on only one coder (the author) to code semi-structured home visitor interviews.

Future efforts should be made to triangulate findings presented here with an additional coder, other data sources, and with home visitor participants. Additionally, Study Component 2 also has a major limitation of limited statistical power due to a small sample size. Despite small sample sizes, significant findings were observed. However, results should be interpreted with caution as some significant findings may not have emerged due to lack of statistical power. Regressions analysis in Study Component 2 with small sample sizes may also be influenced by outliers. Additional research, with larger sample sizes, is needed. Sequential analysis are also limited by a decision to consider lag times of one minute, without the ability to reference prior sequential home visiting research. Additional efforts are necessary to more thoroughly consider appropriate lag times for sequential analysis of home visits. For the current study, only engagement and disengagement codes occurring within one minute of codes for home visitor strategies were considered as “followed by” and used for the purposes of sequential analysis. Extending the lag time in light of the nature of home visitor-participant interaction patterns influences the results and conclusions drawn from sequential analysis by allowing additional codes to be considered in relation to home visitor strategies.

The current study is also limited in primary attention to the effect of home visitor strategies on participants and not the reciprocal effects of participant behaviors on home visitors, which—according to results from Study Component 1 and existing educational

research—are likely to exist. The choice to focus on home visitor behaviors was made in an effort to provide applicable findings, towards elements which programs actually have the ability to improve and modify through targeted professional development. In other words, the more important question for applied research purposes is how home visitors respond to or facilitate participant behaviors rather than how participants influence home visitors. Additional research; however, is needed to explore the reciprocal nature of participant behaviors on home visitor behavior. Another limitation is that coding did not consider the content of home visit sessions, under the assumption that the behavioral codes are content neutral. It is possible that the content of home visit conversations and activities may produce meaningful differences in home visitor and participant behaviors. Future research is needed to combine coding from the EDOP and the adapted HVOF with coding for home visit content and activities. Additionally, analysis options were limited by the paper coding system and manual data restructuring. Available electronic coding systems, which provide more extensive and automatic sequential analysis, were beyond the budget.

Additional areas of future research include exploring thresholds and patterns of participant engagement in relation to other dimensions of quality program implementation and child and family outcomes. Also, with larger sample sizes, research on differences in EDOP and adapted HVOF codes according to program models, participant and home visitor characteristics can and should be considered.

### **Conclusion**

For more than a decade, the home visiting field has lamented lower than expected levels of participant engagement with participants generally receiving 50% of intended visits (range of 38-56%) and many participants (range of 20-80%) dropping out of programming early (Gumby, Culross, & Behrman, 1999). Existing research on participant engagement



largely concentrates on structural aspects of engagement, such as the number of home visits received and length of program enrollment. However, how participants engage during home visits—the primary and often sole point of service for home visiting—warrants greater attention. Results from this study demonstrate that extent of participant engagement during home visits has the potential to impact a wide range of program operations and dimensions of program implementation. Additionally, results suggest that participant disengagement during home visits serves as an early warning of reduced program dosage and attrition. When considered in light of related fields' (e.g. early childhood education, afterschool programming, adult education) substantial attention to issues of engagement and how best to promote engagement, study results highlight the need for home visiting research to pay greater attention to process oriented and proactive measures of participant engagement during home visits.

Simply measuring participant engagement during home visits is not sufficient. Targeted home visitor professional development is needed to promote home visitor strategies that engage and motivate participants. The EDOP and the adapted HVOF drew from motivational research as a conceptual framework for identifying strategies known to promote motivational engagement and behaviors associated with motivated engagement. Results highlight several specific strategies associated with participant engagement and disengagement. Additionally, the structure of the EDOP and adapted HVOF lend themselves to use in providing home visitors with specific coaching prompts and opportunities to observe and reflect on specific behaviors. As previously discussed, Pianta et al. (2014) found that specific coaching prompts in the context of observed classroom practices produced the greatest changes in the quality of teacher-child interactions.

Home visiting program models should consider whether a similar comprehensive and unified conceptual framework for participant engagement in home visit exists. Other fields, such as afterschool and early childhood education, have developed and tested conceptual frameworks for engagement and utilized results to aid in defining program quality and to provide targeted professional development (See Smith et al., 2012 and Pianta et al. 2014). Home visitors would likely benefit from putting their work with participants in a clear and unified conceptual framework that includes attention to motivationally engaging, interactional aspects of home visits in addition to attention to expected home visit content and activities. To effectively do their jobs, home visitors require guidance on not only when to complete child screenings or which handouts to provide but also on *how* to interact with participants in a way that motivates participants to engage in home visit content and activities. In the current home visiting landscape and attempts to address widespread social issues through a puzzle of evidence based programs and implementation science, participant engagement in home visits might just be a missing piece.

APPENDIX A  
HOME VISITOR SURVEY

## Parent Engagement Home Visitor Survey

### 1. Home Visitor Survey Consent

#### INTRODUCTION

This is a research study conducted in collaboration with the Home Visiting Applied Research Collaborative (HARC).

You are being asked to participate because your home visiting program is part of the voluntary Home Visiting Applied Research Collaborative (HARC). This research study will include approximately 100-120 home visitors whose programs are part of HARC and agree to participate in the study. Please read the information below carefully. You may contact the individuals listed under 'Contacts and Questions' to ask any questions you may have before deciding to participate in the study.

#### ABOUT THE STUDY

The purpose of this study is to better understand home visitor perspectives on the training and support they have received to engage participants during home visits.

If you agree to be in the study, you will be asked to:

Complete a survey lasting approximately 30 minutes. The survey gathers some basic information about you, your training on engaging parents and your experiences with and perspectives on parent engagement during home visits. Your honest and complete responses are very much appreciated. Upon completion of the survey, a \$5 gift card will be emailed to you.

If interested, voluntarily provide contact information to be recruited for additional research. Future research includes an additional 30-45 minute phone interview. Participants for phone interviews will receive a \$25 gift card.

If your program does not allow staff to receive payments for participating in research studies, payment will be made to the organization without indicating who participated.

APPENDIX B  
HOME VISITOR INTERVIEW PROTOCOL

<b>Table 1. Summary of Topic Areas and Research Questions for HV Interviews</b>			
Topic Area (in order of discussion)	Research Question(s)	Interview Questions	Related Survey Questions
1. Parent role during home visits.	What are home visitor perspectives on the parent's role during home visits? Do home visitors feel parents should ideally be actively engaged? How did home visitors arrive at their perspectives?	Q1-Q8	Table 10
2. Home visitor role for engaging parents.	Do home visitors feel it is their responsibility to promote engagement regardless of parent engagement styles or potential barriers to engagement?	Q9-Q15	N/A—Pulled from open ended responses.
3. Home visitor strategies to promote engagement.	Do home visitors experience difficulties in engaging parents during home visits? How do home visitors overcome engagement challenges?	Q16 & Q17	N/A—Pulled from open ended responses.
4. Home visitor confidence in skills to promote active engagement.	What has promoted lower versus higher levels of home visitor confidence in skills to promote active parent engagement during home visits? How does confidence level impact home visitors' willingness to try strategies for promoting active engagement?	Q18 & Q19	Tables 1 & 2
5. Program influence on parent engagement.	Are there issues with the program model and/or curriculum itself that influence parent engagement during home visits?	Q20-Q23	N/A- Pulled from coding video-recorded home visits.
6. Impact of engagement on program implementation.	How does low levels of parent engagement during home visits impact program implementation?	Q24-Q28	Table 9

<b>Table 2. Interview Protocol</b>
<b><i>Introduction</i></b>
<b>Read verbal consent form, confirm participant consent to audio taping interview.</b>
<p>Thank you for agreeing to participate in a phone interview, I appreciate your time and am looking forward to learning more about your work as a home visitor. The purpose of this research is to understand more about parent engagement during home visits with the specific aim of understanding more about home visitors' experiences with and perspectives on parent engagement during home visits. Just as a note, when I use the term parent engagement—I am referring to the extent of parent's participation, interest, and investment in home visit activities, content, and discussions that occur within home visit sessions.</p> <p>We feel it is very valuable to have the perspective of home visitors, who are most capable of providing insight on what happens within the context of home visits. As such, your honest and complete answers are much appreciated. Please keep in mind that there are no right or wrong answers to the questions or topics covered, we are interested in your perspective and experience only.</p> <p>As we go through the questions, feel free to ask me to clarify the question or rephrase the question as necessary. I will try to keep track of time and make sure that the interview doesn't exceed 45 minutes, however, please feel free to remind me of the time and let me know if you need to stop the interview at any time.</p>
<b><i>Preliminary/Broad Topics</i></b>
<b><i>First, we are going to briefly discuss your approaches to engaging parents during home visits and how you learned to engage parents during home visits.</i></b>
1. When you think about your home visits, how do you get parents to engage during home visits? For example, how do you get them to share information, participate in activities, ask questions, maintain interest, etc.?
2. Did you receive any training or guidance that helped you learn these strategies and how to maintain active parent interest and involvement during home visit sessions? If yes, can you explain the training in as much detail as possible? What kinds of strategies/techniques did the training give you for maintaining active parent interest and involvement during home visits? How many trainings would you estimate have addressed this topic? Do you feel the training is sufficient? Why or why not?
3. Is there any additional training you think would be helpful for you as a home visitor in engaging parents during home visits?
4. Does your program require you to make notes regarding how involved a parent is in a home visit? Do you use a checklist or some other form to track parent participation?
5. During a given home visit, how do you know whether a parent is interested, involved and invested in a home visit?
<b><i>Topic Area 1</i></b>

<b><i>I would like to talk now about parent's role during home visits.</i></b>
1. Does your program and/or program model have clear expectations for the specific ways parents ideally participate in home visits? For example, are the parents ideally leading a home visit or are they listening and absorbing information?
2. What do you expect of parents during a home visit? How do you expect a parent to behave during a home visit? What types of things do you expect a parent to do/say during a home visit? Does that vary from family to family? If so, what kinds of things influence how involved the parent is in the home visit? Do those things influence your expectations for individual families?
2. When you first start working with a parent, do you discuss expectations for how they participate in home visits? If yes, how do you explain your expectations? What exactly do you say?
<i>Follow-up: When you have an initial home visit with the parent or are recruiting the parent, do you explain what they will likely be doing during home visits? What exactly do you say?</i>
5. What has influenced your expectations on the kinds of behaviors you hope parents engage in during home visits?
<i>Follow-up: Are expectations for parent behavior during home visits covered in program training? Model materials? How? Is it discussed during individual supervision sessions? How? Is it something you arrived at based on your experience working with families? Your educational background and training?</i>
<i>Clarifying questions: Can you expand on this at all? Can you tell me anything else? Can you provide any examples?</i>
3. When you think about a home visit that went really well and you felt especially good about, what specific behaviors did you observe in parents?
4. Now, when you think about a home visit that didn't go well and you didn't feel so good about, what specific behaviors did you observe in parents?
<b>We discussed expectations for parent behaviors during home visits, now let's talk about expectations for your behaviors during home visits—especially as it relates to engaging parents.</b>
1. Does your program have clear expectations for your role as a home visitor with respect to interactions with parents? For example, are you an educator, a facilitator? Can you explain, in as much detail as possible, what you are expected to do as a home visitor during a given home visit session.
<i>Follow-up: To successfully complete your job expectations, what should you specifically be doing during every home visit? What kinds of interactions should you be having and with whom? With the child? With the parent? Why?</i>
<i>Clarifying questions: Can you expand on this at all? Can you tell me anything else? Can you provide any examples?</i>



<p>2. How do you know what the expectations are for your behaviors during a home visit—especially as it relates to engaging parents? Is this topic covered in program training? Supervision? Is it something you have learned along the way?</p> <p><i>Clarifying questions: Can you expand on this at all? Can you tell me anything else? Can you provide any examples?</i></p>
<p>3. When you first start working with a parent, do you discuss what your role will be during the home visits? What do you say?</p> <p><i>Follow-up: When you have an initial home visit with the parent or are recruiting the parent, do you explain what you will do during home visits? What exactly do you say?</i></p> <p><i>Clarifying questions: Can you expand on this at all? Can you tell me anything else? Can you provide any examples?</i></p>
<p><b>Topic Area 3</b></p>
<p><b>Now I would like to discuss ways that you address engagement issues and strategies you use to overcome potential problems.</b></p>
<p>1. How do you define active parent engagement? How do you know a parent is actively engaged? What do parents say and do that tells you the parent is actively engaged in the home visit?</p>
<p>1. If you had to estimate, from never, sometimes, frequently, or most of the time, how often would you say that lack of parent engagement during your home visits an issue? How do you recognize it as an issue? What are parents doing during a visit that makes you concerned?</p> <p><i>Clarifying questions: Can you expand on this at all? Can you tell me anything else? Can you provide any examples?</i></p>
<p>2. When you are doing a home visit with a parent who isn't engaged, what do you do? How do you cope? Have you identified any effective strategies? How did you identify these strategies? Are you confident in your ability to cope with parents who aren't engaged?</p> <p><i>Clarifying questions: Can you expand on this at all? Can you tell me anything else? Can you provide any examples?</i></p>

3. Are there clear expectations of what you should do as a home visitor in situations of low engagement or engagement that doesn't align with the program model's expectations? Is it your role to encourage parents to engage in a different manner? Why or why not?
<b>Topic Area 5</b>
<b>Now let's talk about the program model and its role in engaging parents.</b>
1. If you could change anything about the program model, curriculum, or structure of home visits to better promote active parent engagement, what would it be?  <i>Follow-up: Do you feel the amount of information and topics covered in the program model or curriculum is sufficient for maintaining parent engagement during home visits? Why or why not?</i>  <i>Clarifying questions: Can you expand on this at all? Can you tell me anything else? Can you provide any examples?</i>
2. What aspects of the program model/curriculum are parents most responsive to? What aspects are they least responsive to?  <i>Clarifying questions: Can you expand on this at all? Can you tell me anything else? Can you provide any examples?</i>
<b>Topic Area 6</b>
<b>Last, I would like to discuss how parent engagement impacts your work with families and home visits.</b>
1. When parents are less engaged during home visits, how does this impact you as a home visitor?  2. How does it impact your home visits when parents are less engaged? For example, how are your visits with a family who is really engaged different from your visits with families who are less engaged?  <i>Clarifying questions: Can you expand on this at all? Can you tell me anything else? Can you provide any examples?</i>
<b>Topic Area 4—EXTRA IF ENOUGH TIME</b>
<b>Now I would like to ask you a few more questions about your responses to the survey questions.</b>

1. Refer to survey questions for job skills, ask home visitor what has promoted higher confidence in skills they ranked as highly confident (will specify 2-3 specific skills from survey results). If ranked low, ask what would better promote/improve their confidence level in skills they ranked as lower confidence level. What kind of training would you recommend or do you think would be most beneficial?

*Clarifying questions: Can you expand on this at all? Can you tell me anything else? Can you provide any examples?*

2. When you feel less confident in XX (one specific example from survey), are you still willing to try out that strategy during a home visit?

*Clarifying questions: Can you expand on this at all? Can you tell me anything else? Can you provide any examples?*

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