ARTICLE

HOME VISIT QUALITY VARIATIONS IN TWO EARLY HEAD START PROGRAMS IN RELATION TO PARENTING AND CHILD VOCABULARY OUTCOMES

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ABSTRACT: Home-visiting programs aiming to improve early child development have demonstrated positive outcomes, but processes within home visits to individual families are rarely documented. We examined family-level variations in the home-visiting process ($N = 71$) from extant video recordings of home visits in two Early Head Start programs, using an observational measure of research-based quality indicators of home-visiting practices and family engagement, the Home Visit Rating Scales (HOVRS). HOVRS scores, showing good interrater agreement and internal consistency, were significantly associated with parent- and staff-reported positive characteristics of home visiting as well as with parenting and child language outcomes tested at program exit. When home-visiting processes were higher quality during the program, home visit content was more focused on child development, families were more involved in the overall program, and most important, scores on measures of the parenting environment and children's vocabulary were higher at the end of the program. Results showed that home visit quality was indirectly associated with child language outcomes through parenting outcomes. Observation ratings of home visit quality could be useful for guiding program improvement, supporting professional development, and increasing our understanding of the links between home-visiting processes and outcomes.

Keywords: home visit quality, home-visiting practices, family engagement, parenting, child vocabulary

RESUMEN: Los programas de visita a casa con la meta de mejorar el desarrollo del niño han demostrado resultados positivos, pero los procesos dentro de la visita a casa a familias individuales son raramente documentados. Examinamos las variaciones en el nivel de familia en los procesos de visitas a casa (N = 71) con grabaciones de video existentes de visitas a casa en dos programas de Comienzo Temprano (Early Head Start), usando una medida de observación de indicadores de calidad basados en la investigación de prácticas de visita a casa y participación de la familia, las Escalas de Puntuación de Visita a Casa (HOVRS). Los puntajes de HOVRS, que muestran un buen acuerdo de inter-puntuación y consistencia interna, se asociaron significativamente con los reportes de padres y del personal sobre las positivas características de la visita a casa así como con los resultados de crianza y lenguaje del niño, examinados al final del programa. Cuando los procesos de visita a casa fueron de alta calidad durante el programa, el contenido de visita a casa estuvo más enfocado en el desarrollo del niño, las familias participaron más en el programa general, y lo más importante, los puntajes sobre las medidas del ambiente de crianza y vocabulario del niño fueron más altos al final del programa. Los resultados muestran que la calidad de las visitas a casa estuvo directamente asociada con los resultados del lenguaje del niño a través de los resultados de crianza. Los puntajes de observación de la calidad de las visitas a casa pudieran ser útiles para guiar el mejoramiento del programa, apoyar el desarrollo profesional e incrementar nuestra comprensión de los lazos entre los procesos de visita a casa y los resultados.

Palabras claves: calidad de las visitas a casa, prácticas de visita a casa, participación de la familia, crianza, vocabulario del niño

RÉSUMÉ: Les programmes de visite à domicile ayant pour but d'améliorer le développement précoce de l'enfant ont fait preuve de résultats positifs, mais les protocoles au sein même des visites au domicile de familles individuelles sont rarement documentés. Nous avons examiné les variations

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selon les familles dans les protocoles de visite à domicile (N = 71) à partir d'enregistrements vidéo de visites à domicile dans deux programmes américains de *Early Head Start* (programme fédéral d'aide aux familles pauvres), en utilisant une mesure observationnelle d'indicateurs (basés sur les recherches) de qualité des pratiques de visite à domicile et d'engagement de la famille, les Echelles HOVRS (an anglais *Home Visit Rating Scales*). Les scores HOVR, faisant preuve d'un bon niveau d'accord entre les évaluateurs et de consistance interne, se sont avérés liés de façon importante aux caractéristiques positives de la visite à domicile, telles qu'elles étaient rapportées par le parent et l'employé, ainsi qu'aux résultats de parentage et de niveau de langue de l'enfant testés à la fin du programme. Lorsque les protocoles de visite à domicile étaient de meilleure qualité durant le programme, le contenu de la visite à domicile était plus centré sur le développement de l'enfant, les familles étaient plus impliquées dans le programme en général, et surtout les scores sur les mesures du milieu de parentage et le vocabulaire de l'enfant étaient plus élevés à la fin du programme. Les résultats démontrent que la qualité de la visite à domicile était indirectement liée aux résultats concernant le niveau de langue des enfants à travers les résultats parentaux. Des évaluations d'observation de la qualité de la visite à domicile pourraient s'avérer utiles pour guider les améliorations au programme, soutenir le développement professionnel et développer notre compréhension des liens entre les protocoles de visite à domicile et les résultats.

Mots clés: qualité de la visite à domicile, pratiques de visite à domicile, engagement familial, parentage, vocabulaire de l'enfant

ZUSAMMENFASSUNG: Hausbesuchsprogramme zur Verbesserung der frühkindlichen Entwicklung haben positive Ergebnisse gezeigt, jedoch wurden die Prozesse der Hausbesuche bei den individuellen Familien selten dokumentiert. Wir untersuchten familienbezogene Variationen in Hausbesuchsprozessen (N = 71) mithilfe vorhandener Videoaufnahmen von Hausbesuchen aus zwei Frühförderungsprogrammen. Dabei wurde ein Beobachtungsmaß für forschungsbasierte Qualitätsindikatoren aus der Hausbesuchspraxis genutzt, die "Home Visit Rating Scales" (HOVRS). Die HOVRS-Werte zeigten eine gute Interraterübereinstimmung und internale Konsistenz, sie waren signifikant mit den von den Eltern und Mitarbeitern berichteten positiven Eigenschaften von Hausbesuchen assoziiert sowie mit den Outcomevariablen zur Erziehung und Sprache der Kinder am Ende des Programms. Wenn die Hausbesuchsprozesse während des Programms eine höhere Qualität aufwiesen, dann zielte der Inhalt der Hausbesuche stärker auf die kindliche Entwicklung, die Familien wurden mehr in das gesamte Programm einbezogen und am wichtigsten: die Messwerte zur Erziehung und zum Wortschatz der Kinder waren am Ende das Programms höher. Die Ergebnisse zeigten, dass die Qualität der Hausbesuche indirekt durch die Erziehungsoutcomes mit der Sprache der Kinder verbunden war. Die Erfassung von Beobachtungen bezüglich der Qualität von Hausbesuchen könnte von Nutzen sein für die Verbesserung von Programmen, als Unterstützung bei der beruflichen Entwicklung und, um unser Wissen über die Verbindungen zwischen Hausbesuchsprozessen und Ergebnissen zu erweitern.

Keywords: Qualität von Hausbesuchen, Hausbesuchspraxis, Einbindung von Familien, Erziehung, Wortschatz von Kindern

抄録: 子どもの早期発達を向上させることを目的とする家庭訪問プログラムは、良い結果を示してきた。しかし個々の家族への家庭訪問の中での過程は、ほとんど記録されていない。私たちは、家庭訪問の実践と家族の関与についての研究に基づく質の指標の観察方法であるthe Home Visit Rating Scales (HOVRS)を用いて、 2 つの早期ヘッドスタートプログラムにおいて、残っている家庭訪問のビデオ記録から、家庭訪問過程の家族レベルの変動を検証した(N = 71)。HOVRS得点は、良好な評価者間一致度と内的整合性を示していて、親およびスタッフが報告する家庭訪問のポジティブな特徴ばかりでなく、プログラムの出口でテストした育児と子どもの言語の結果とも、有意に関連していた。プログラム中の家庭訪問過程の質がより高いとき、家庭訪問の内容は子どもの発達により焦点付けられ、家族はプログラム全体により関与し、そして最も重要なことに、プログラム終了時の育児環境と子どもの語彙の測定ではより高い得点だった。結果から、家庭訪問の質は、育児の結果を通して、子どもの言語の結果に間接的に関連していたことが示された。家庭訪問の質の観察による評定は、プログラムの改善をガイドし、専門性の開発を支援し、そして家庭訪問過程と結果との間の関連についての私たちの理解を増大させるのに有益だろう。

キーワード: 家庭訪問の質, 家庭訪問の実践, 家族の関与, 育児, 子どもの語彙

摘要: 以往研究已經證明旨在提高兒童早期發展的家訪有正面的成果, 但很少研究紀錄各個家庭家訪中的程序。我們採用兩個早期迎頭趕上計劃(Head Start Programs) 的現存錄像, 調查了家訪過程中家庭級的變化 (N = 71), 用家訪評定量表(Home Visit Rating Scales (HOVRS)) , 以研究為基礎的質量指標, 去觀察家訪方法和家庭參與。 HOVRS評分表現良好的評定者間協議和內部一致性, 與家長及工作人員報告的正面家訪特徵, 和計劃終結時育兒及兒童語言結果有顯著的關係。計劃中較高質量的家訪, 內容更加側重於兒童發展, 家庭較多參與總體計劃, 最重要的是, 養育環境與兒童的詞彙量的測試, 在年底計劃終結時得分均較高。結果表明, 家訪質量與兒童語言結果, 通過育兒結果間接相關。觀察評估家訪質量可能對改進計劃, 促進專業發展, 和提高我們對家訪過程及結果的關係之理解有幫助。

關鍵詞: 家訪質量, 家訪方法, 家庭參與, 親職教養, 孩子的詞彙

ملخص: برامج الزيارات المنزلية التي تهدف لتحسين نمو الطفل أظهرت نتائج إيجابية ولكن لم يتم توثيق هذه الزيارات بالنسبة للعائلات المختلفة بالشكل الكافي . قامت هذه الدراسة بتناول الاختلافات الفردية على مستوى العائلات في عملية الزيارة المنزلية (العينة = 71) من خلال تسجيلات فيديو مطولة لزيارات منزلية في برنامجين ما قبل المدرسة وذلك باستخدام مقياس ملاحظة أظهرت نتائج هذا المقياس اتساقا داخليا وارتبطت إحصائيا بالسمات الإيجابية (HOVRS) لتقدير مؤشرات جودة ممارسات الزيارة وتفاعل الأسرة معها فيما يسمى مقياس تقييم الزيارة المنزلية للزيارة المنزلية التى عبر عنها الآباء وفريق العمل . كما كان هناك ارتباطا ذا دلالة إحصائية بين درجات هذا المقياس وبين المستوى اللغوى عند الطفل في التقييم النهائي للبرنامج . وعندما كانت عمليات الزيارات المنزلية أعلى جودة خلال البرنامج كان محتوى الزيارة متركزا أكثر على نمو الطفل وكانت العائلات أكثر اشتراكا في البرنامج بشكل عام . والأهم من ذلك كانت درجات مقياس بيئة التعامل الأسري ونمو المفردات أعلى مع نهاية البرنامج. أبرزت نتائج الزيارة أن جودة الزيارة المنزلية كانت مرتبطة بشكل غير مباشر بالمخرجات لدى الطفل وذلك من خلال مخرجات عملية تعامل الآباء والأمهات . وتعتبر تقييمات الملاحظات عن جودة الزيارة المنزلية مفيدة لتحسين البرنامج ودعم النمو المهني وزيادة فهمنا للعلاقة بين العمليات التي تتم أثناء الزيارة المنزلية والمخرجات النهائية للبرنامج لكل من الطفل والآباء وفريق العمل .

كلمات مفتاحية : جودة الزيارة المنزلية – ممارسات الزيارة المنزلية – اشتراك الأسرة – الأبوة والأمومة – مفردات الطفل

* * *

Home visiting is a widely used approach to delivering individualized prevention and intervention services to families with infants and young children at risk for developmental problems or with established developmental delays or disabilities. Several rigorous investigations have shown empirical evidence of some home-visiting programs effectively improving child development outcomes (Avellar & Supplee, 2013; Paulsell, Avellar, Martin, & Del Grosso, 2010; Sweet & Appelbaum, 2004). Reports of these programs often describe what happens on home visits in very general ways or describe the content of materials or curriculum activities, but rarely examine the actual processes that occur during home visits to each family (c.f. McBride & Peterson, 1997; Peterson, Luze, Eshbaugh, Jeon, & Kantz, 2007). Examining these processes may reveal a source of variations in home-visiting outcomes and inform home-visiting quality improvement and professional development efforts. Our objective was to develop an empirically based, psychometrically sound observational measure to examine the quality of home-visiting processes in relation to parent and child outcomes.

Within and across home-visiting program models, impacts on parent (i.e., primary caregiver) and child outcomes are mixed, even though child development and the parenting that supports it are explicit goals of most evidence-based, home-visiting programs (e.g., Head Start Program Performance Standards and Other Regulations, 2016; Healthy Families America, 2008; Parents as Teachers, 2014). A home-visiting program found effective in one study may be found not effective or effective for different outcomes in another study (Azzi-Lessing, 2011; Paulsell et al., 2010). Attention to within-program, home-visiting process variations, as suggested by several home-visiting researchers (e.g., Berlin, 1998; Gomby, 1999; Peacock, Konrad, Watson, Nickel, & Muhajarine, 2013; Peterson et al., 2007; Raikes et al., 2014), could reveal why a program works better in one context than in another or better with some families than with others. Some of the inconsistencies in home-visiting program outcomes have been attributed to variations in dosage; the characteristics of the mother, family, community, or home visitors; or the match between home visitor and family characteristics (Azzi-Lessing, 2011; Daro, McCurdy, Falconnier, & Stojanovic, 2003; Easterbrooks et al., 2013; McFarlane et al., 2013). A few studies evaluating the type or quality of specific processes during home visits have shown that program outcomes vary in relation to two components of home-visiting processes: home-visiting practices and family engagement (Peterson et al., 2007; Roggman, Boyce, Cook, & Jump, 2001). To observe these components, we used an observational measure with evidence-based indicators, with which we examined variations in home visit quality in relation to variations in program outcomes. The following sections summarize research supporting the constructs in the observational measure.

HOME-VISITING PRACTICES

Four key home-visiting practices effectively increase parents' developmental support for their infants and young children: (a) establishing a positive relationship with the parent, child, and other participating family members; (b) responding to each family's unique strengths and culture; (c) facilitating developmentally supportive parent–child interactions; and (d) establishing a collaborative partnership with the parent to support the child's ongoing development. Empirical support for these practices has come from various disciplines such as early childhood education (e.g., Raikes et al., 2006), nursing (e.g., Kelly, Zuckerman, & Rosenblatt, 2008), early intervention (e.g., Woods, Kashinath, & Goldstein, 2004), psychiatry (e.g., Heinicke et al., 1999), social work (e.g., Zajicek-Farber, 2010), and infant mental health (e.g., Wheeler et al., 2013).

Building Positive Relationships

One key practice in home visiting is building positive relationships with the mothers, children, and other family members who participate in home visits. Establishing positive relationships between home visitors and participating family members is a central tenet of relationship-based intervention approaches and predicts greater parent engagement and stronger outcomes (Guralnick, 2013; Heinicke et al., 1999; Mahoney & Perales, 2005). The quality of these relationships, particularly with the mother, has been associated with higher levels of parent engagement (Korfmacher, Green, Spellmann, & Thornburg, 2007) and more

responsive, developmentally supportive parenting (Barnard, Morisset, & Spieker, 1993; Bernstein, Campbell, & Akers, 2001; Emde, Korfmacher, & Kubicek, 2000; Kelly et al., 2008). In some programs, home visitors encourage family members beyond the mother and child to participate in home visit activities, using a whole-family approach to increase in-home support for children's development (McBride, Brotherson, Joanning, Whiddon, & Demmitt, 1993). Interactions with fathers and older siblings support children's early development (Oshima-Takane & Robbins, 2003; Perez-Granados & Callanan, 1997; Roggman, Boyce, Cook, Christiansen, & Jones, 2004). Such interactions can be encouraged even when fathers or siblings are not present for home visits, but their importance supports the engagement of additional family members when they are present.

Positive relationships between the home visitor and participating family members are necessary, but may not be sufficient: When home-visiting time is spent on building adult relationships at the expense of time spent focusing on child development, particularly among families facing more risks, outcomes are not always as positive as they might be (Peterson et al., 2013). Additional home-visiting practices of responding, facilitating, and collaborating to support child development are needed to increase available support in the home for children's early and continuing development.

Responding to Family Strengths

Home visitors must adapt to a wide range of family cultures and lifestyles. Responsiveness to family strengths and culture helps home visitors identify opportunities to individualize for each family and build on positive aspects of parenting and family functioning that can support children's early development (Bernstein et al., 2001; Brorson, 2005; C. Caldwell, Green, & Billingsley, 1994; Daro & Harding, 1999; Lanzi, Terry, Guest, Cotton, & Ramey, 1999; Powell, Zambrana, & Silva-Palacios, 1990; Slaughter-Defoe, 1993). This strengths-based approach (Hughes & Gottlieb, 2004; Olds & Kitzman, 1990) enables providers to flexibly adapt services to address the ever-changing needs of each family and child (Daro, Jones, & McCurdy, 1993; Daro & McCurdy, 1994; Donnelly, 1992; Gomby, Culross, & Behrman, 1999; Lanzi et al., 1999; Olds & Kitzman, 1993; Wasik & Bryant, 2000; Weiss, 1993).

Capitalizing on each family's strengths helps identify resources for supporting children's early development during everyday routines and activities when family members interact with each other. In Early Head Start, for example, the content of the home visits must be "jointly planned by the home visitor and the parents" to "help them provide learning opportunities" for their children (Head Start Program Performance Standards, 2016, § 1306.33 (a) (5) (b); § 1306.33 (a) (5) (b) (1)). Effective home visitors help parents increase opportunities to support their children's development by, for example, engaging and talking with their children during the family's routines and activities (Dunst, Bruder, Trivette, & Hamby, 2006; Guralnick, 2005; McWilliam, 2010; Woods et al., 2004). Parents often need support and encouragement from home visitors to engage in these kinds of developmentally supportive interactions with their children.

Facilitating Interaction

Facilitating positive parent–child interactions targets the kinds of parenting that support children's early development—a primary aim of evidence-based, home-visiting programs (Bernstein et al., 2001; Daro & Harding, 1999; Gomby, 1999; Guralnick, 1998; Katz et al., 2011; McWilliam, 2010; Paulsell et al., 2010; Peterson et al., 2007; van den Boom, 1995; Weiss, 1993). Despite the central importance of parent–child interactions to children's development, with established theoretical (e.g., Bronfenbrenner, 1986) and empirical (e.g., Bates, Maslin, & Frankel, 1985; Bee et al., 1982) support, home visitors vary in the extent to which they directly promote parenting interactions during home visits (Guralnick, 2001; Roggman et al., 2001).

When home visitors directly facilitate parent–child interaction and directly encourage parents to interact responsively with children, child outcomes improve (Mahoney, Boyce, Fewell, Spiker, & Wheeden, 1998; Roggman et al., 2001). When home visitors focus on parent–child interactions, provide positive feedback, and ask reflective questions based on observations, substantial improvements have been shown in parenting behaviors that foster children's socioemotional and cognitive development (Kelly et al., 2008). In addition, home visitors can enhance their effectiveness by establishing a collaborative partnership that does not intrude on the parent's role in supporting the child's development (Guralnick, 2005).

Collaborating Nonintrusively

Collaboration between home visitors and parents is emphasized in early childhood interventions (Dunst, 2002; Korfmacher et al., 2008). For example, Head Start Program Performance Standards (2016) require collaborative partnerships with families that in home-based models are typically established in the context of jointly planned home visits. These collaborative partnerships go beyond positive relationships by requiring the home visitor to "assist, encourage, and support parents as they foster the growth and development of their children" [§1304.40(a)(1)]. Both quantitative and qualitative studies have suggested that collaborating with parents to plan, implement, and review activities increases parent capacity to support their children's development and can thereby increase the likelihood that a program will have lasting impacts on children's development (Dunst, Trivette, & Hamby, 2006; Hebbeler & Gerlach-Downie, 2002). A collaborative home visitor avoids intruding on or taking over the parent's role and instead follows the parent's lead as they jointly focus on the primary purpose of home visiting—to support the child's development.

Collaborative partnerships can prepare parents to provide enhanced developmental support for their children between home visits and even after the home-visiting program ends. Sustained child outcomes of home-visiting programs are assumed to rely at

least in part on parents' continuing support for their children's development (e.g., Chazan-Cohen et al., 2009; Kendrick et al., 2000; Love et al., 2005; Olds et al., 2004; Zajicek-Farber, 2010). Practices that emphasize the mutual competence of home visitor and parent are thought to provide more sustainable support than do those using an expert model of showing and telling parents the right way to interact with their children (Bernstein et al., 2001). Collaborative practices, like other research-based, home-visiting practices, are most effective when they engage the parent and child in the home visit.

FAMILY ENGAGEMENT

Home-visiting practices are likely to be effective only if they engage parents and children with each other and in home visit processes. Specific kinds of parent–child interactions, characterized by warmth, responsiveness, and engagement in play and conversation, influence child development in socioemotional, language, and cognitive domains, all of central importance to children's success in school and beyond (Bornstein & Tamis-LeMonda, 2006; Brotman et al., 2009; Caspi et al., 2004; Culp, Hubbs-Tait, Culp, & Starost, 2001; Dodici, Draper, & Peterson, 2003; Fewell & Deutscher, 2002; Fuligni & Brooks-Gunn, 2013; Gardner, Ward, Burton, & Wilson, 2003; Hirsh-Pasek & Burchinal, 2006; Hubbs-Tait, Culp, Culp, & Miller, 2002; NICHD Early Child Care Research Network, 1999; Shonkoff & Phillips, 2000). To the extent that home-visiting programs increase these aspects of parenting, child outcomes also will likely improve; for example, home visiting that increased maternal responsiveness improved child socioemotional outcomes, and home visiting that increased parent book reading improved child language outcomes (Boyce, Innocenti, Roggman, Jump Norman, & Ortiz, 2010; Landry et al., 2012; Moss et al., 2011; Van Doesum, Riksen-Walraven, Hosman, & Hoefnagels, 2008).

Not surprisingly, parent engagement in home visiting is related to stronger program outcomes (Heinicke et al., 2000; Korfmacher et al., 2008; Korfmacher, Kitzman, & Olds, 1998; Lieberman, Weston, & Pawl, 1991; Raikes et al., 2006), but little is known about variations in children's engagement in home visits, perhaps because their engagement depends somewhat on their age, with young infants sometimes sleeping through an entire home visit and older toddlers often eagerly engaging in all aspects of a home visit. Generally, however, children's engagement with people and the environment provides the context for development (Bloom & Tinker, 2001; de Kruif & McWilliam, 1999; McWilliam & Bailey, 1992), so a child's engagement with a parent in home visiting is likely to be important for child development outcomes.

STUDY PURPOSE

The aforementioned review shows that home-visiting quality is reflected in home visitors' positive relationships with families, responsiveness to family strengths, facilitation of positive parent–child interactions, and nonintrusive collaboration with families, as well as in families' engagement in their home visits. Home-visiting practices and family engagement are rarely observed directly, however, especially in relation to other aspects of home-visiting services or to parent and child outcomes. The paucity of data on home visiting and processes, in contrast to the large body of research on early care and education classroom quality and processs (e.g., Love et al., 2003; Mashburn et al., 2008; Pianta et al., 2005), has resulted in a lack of knowledge about family-level variations in the quality of home-visiting processes and how they relate to variations in parenting and child development outcomes (Nievar, Van Egeren, & Pollard, 2010).

To examine variations in home-visiting processes across families, we observed extant videos of home visits with families in two home-based programs of the Early Head Start Research and Evaluation Project (EHSREP; Administration for Children Youth & Families [ACYF], 2002), using an observational measure of key home-visiting processes identified in the research literature. We examined quality ratings of home-visiting practices and family engagement in relation to extant data on home-visiting during the program and on parenting and child outcomes at the end of the program. Our objectives were (a) to examine the psychometric properties of observation-based, home visit quality ratings; (b) to explore home-visiting practices and family engagement in relation to other aspects of home visits; and (c) to explore home-visiting practices and family engagement in relation to parenting and child outcomes.

METHOD

Observational data from archived video recordings of individual home visits were examined in relation to variations in home visits, from parent and staff reports, and to program outcomes, from independent standardized assessments, at two home-based programs in the EHSREP (ACYF, 2002). The sample used here is a convenience sample of families, approximately 33% of all enrolled families, who had been selected for home visit video recording as part of site-specific research protocols. For the present study, our goal was to understand home-visiting processes with this convenience sample of families, not to suggest that this sample is representative of all EHS families, all EHSREP families, or all families enrolled at these two sites.

Families in the Videos

Videos of home visits to 71 families were available, 25 at the first site and 46 at the second site. All of these families had been enrolled in the program for at least 6 months before a home visit was recorded, and all remained enrolled for at least 7 months and up to the end of the program, averaging 30 months of enrollment. Nearly one fourth of the families enrolled during pregnancy, all by child age 12 months, with child age at enrollment averaging 5 months.

Table 1 shows demographic characteristics of these families by entire group and for those at each site. Among the families in the

TABLE 1. *Family and Child Characteristics*

Characteristics	Total Sample	Site 1	Site 2
No. of Families	71	25	46
Families Receiving Public Assistance	24%	32%	20%
Families With Only One Adult in Home[a]	24%	44%	13%
Families With Moderate to High Risk[a]	44%	62%	34%
Mother European American	84%	87%	83%
Mother Speaks English	87%	83%	89%
Maternal Age Below 20 at Child's Birth	38%	32%	41%
Maternal High-School Completion	70%	70%	70%
Mother Unemployed and Not in School	57%	52%	59%
Child Gender (% male)	42%	40%	44%
Child With Disability	16%	16%	15%
Child Firstborn	66%	68%	64%

[a]Statistically significant differences between sites; $p < .05$.

videos, their average annual income was barely over $9,000, but fewer than 1 in 4 were receiving public assistance or headed by single mothers living alone. Over two thirds of mothers had completed high school, although fewer than half were currently employed or in school, and a third were under age 20 when their children were born. Almost two thirds of the children were firstborns, fewer than half were male, and 1 in 7 qualified for disability services. Only two demographic characteristics differed by site: Families at the second site were less likely to have only one adult in the home (13 vs. 44%) or more than two risk factors (56 vs. 79%) of the five factors used to calculate family risk: teenage mother at time of child's birth, single parent, education less than high school, neither employed nor in training/education, or receiving public assistance. Compared with families in other home-visiting programs in the EHSREP study, families enrolled in these two programs had lower family-risk scores, but most of the families (66% of all enrolled families, 64% of those with video) reported at least two risk factors. Families in the videos, as compared with other enrolled families at the same sites, were likely to stay enrolled longer, but differed on family characteristics only within the second site, where families with video were more likely to be receiving public assistance or to have a child with a disability and would thus be considered higher risk than would those without video.

Procedure

Video recordings of home visits were made by local research team members or program staff. At one site, home visit videos were obtained as part of a research study of the processes and content of home visits. At the other site, home visit videos were obtained as part of a collaborative formative evaluation. At both sites, the video recordings typically included the entire EHS home visit of approximately 90 min. All available video-recorded home visits were observed and rated for quality. Trained observers watched the video recordings of home visits and rated the quality of home-visiting practices and family engagement immediately afterward. Generally, video recordings were viewed only one time to complete the ratings.

Reliability of the quality ratings was established before data collection and monitored during data collection. Observers, blind to any other family data, were trained by reading and discussing the coding scheme, watching and scoring practice videos, meeting to resolve disagreements, and then being tested on five videos for scoring agreement with scoring by developers of the rating scales. The process was repeated as needed until agreement reached at least 85% across the indicators within each of the rating scales; then observers began scoring videos for data to be used in analysis. To monitor agreement, one of every four videos (25%) scored by a trained observer also was scored by one of the scale developers to ensure that agreement on all scales was maintained at 85% ($\kappa =$ .75). Weekly meetings provided opportunities to discuss disagreements and clarify scoring.

In addition to video of home visits, data from parent interviews, child assessments, parent–child observations, EHS home visitor reports, and staff ratings were available for families participating at these sites. As part of the EHSREP, local data collectors were systematically trained to conduct interviews, observations, and assessments using standardized protocols and then required to submit video of themselves conducting assessments to ensure fidelity to the research protocol (for details, see ACYF, 2002; Love et al., 2005; Love, Chazan-Cohen, Raikes, & Brooks-Gunn, 2013). Family, parent, and child data were collected at multiple time points. During telephone interviews after 6, 15, and 26 months of enrollment, parents were asked about the services that they had received, including the frequency of home visits since enrollment or since the previous interview. When children reached age 36 months, their language development was assessed in the families' homes using a standardized measure of vocabulary. While in the home, data collectors also interviewed the primary caregiving parent and observed the home environment. When enrollment ended for each family, program staff rated the parent's overall engagement in the home-visiting program.

Measures

Home visit quality. The Home Visit Rating Scales (HOVRS; Roggman, et al., 2008) were used to rate the quality of home-visiting practices and family engagement from observations of video-recorded home visits. In the development of this measure, information from interviews with home visitors and supervisors across multiple home-visiting programs regarding high or low home visit quality was organized into sets of observable indicators consistent with constructs supported by the research literature: home visitor *responsiveness* to family strengths and culture, home visitor *relationship* with family members, home visitor *facilitation* of parent–child interaction, home visitor *nonintrusiveness* and collaboration, parent–child *interaction*, *parent engagement*, and *child engagement*.

The seven observational rating scales are based on indicators of home-visiting quality, with the first four scales rating the practices used by the home visitor and the last three scales rating the engagement of the parent and child. Each scale consists of indicators listed in columns under four anchor points: 1, 3, 5, and 7. These individual indicators are then used to determine a rating for each scale, from 1 (*lowest*) to 7 (*highest*), based on the pattern of observed indicators across the columns from lowest to highest. Although these scale ratings are highly correlated with scale scores calculated as weighted sums of checked indicators, the scale ratings are considered preferable for two reasons: (a) They allow the measure to be used without complex calculations, and (b) they allow observers to consider the scale in its entirety and use informed judgment about the salience of specific indicators.

Other home-visiting measures. Other home-visiting characteristics selected for examination in relation to the home-visiting quality ratings were those that have been reported elsewhere as being associated with positive parenting or child outcomes in these programs (Raikes et al., 2006): quantity or dosage intensity of home visits, proportion of home visit time spent on child development content, and overall family involvement in the program. Quantity of home visiting was estimated from parent reports, over three interviews, of whether they had received the prescribed number of home visits during the reporting period. This dosage-intensity variable reflects the number of reporting periods during which the family received the required number of weekly home visits, ranging from 0 to all 3 reporting periods (ACYF, 2002). As a metric of quantity, dosage intensity of home visits is considered more accurate than is enrollment duration, which varies with child age at entry and may continue for many months while programs try to retain nonparticipating or irregularly participating families. Home visit content was estimated from home visitor reports of the percent of time spent addressing child development content during each home visit, averaged across all home visits reported for each family. Family program involvement was rated when children were 36 months old by a program staff member who had information about the family, but may not have been the family's home visitor. Program involvement was rated on a scale of 4 (*consistently highly involved in the program throughout enrollment*), 3 (*involvement varied and was sometimes high, sometimes low during the family's enrollment*), 2 (*involvement was consistently low throughout enrollment*), 1 (*not involved at all*) (for more information on these measures, see ACYF, 2002; Love et al., 2005; Love et al., 2013).

Parenting outcomes. Parenting was measured during in-home assessments, at child age 36 months, with a combination of observation and interview items on the Home Observation Measure of the Environment (HOME; B.M. Caldwell & Bradley, 1984). The HOME measures the developmental support a parent provides in the home as reflected in the use of a variety of materials and experiences that provide opportunities for nurturance and stimulation of young children. The HOME predicts children's positive developmental outcomes across a variety of ethnicities and cultures (Bradley, Corwyn, Burchinal, McAdoo, & Garcia-Coll, 2001) and has been used in other studies to measure parenting outcomes of home-visiting programs (Kendrick et al., 2000). The HOME includes a *Language Support* subscale, regarding parents' support for children's early language and literacy, and a *Warmth* subscale, regarding parents' positive affective tone toward their children.[1]

TABLE 2. *Home-Visiting Quality Ratings,[a] Summary Scores, and Total Score*

Scale	*n*[b]	Minimum	Maximum	*M*	*SD*
1. Responsiveness	71	2.00	5.00	2.81	.91
2. Relationship	71	2.00	6.00	4.96	.70
3. Facilitation	68	1.00	5.00	2.79	1.08
4. Nonintrusiveness	71	1.00	7.00	3.16	.98
5. Parent–Child Interaction	67	1.00	6.50	4.23	1.05
6. Parent Engagement	71	2.00	7.00	4.80	1.12
7. Child Engagement	66	3.00	7.00	5.56	1.07
Home-Visiting Practices[c]	71	2.00	4.75	3.43	.65
Family Engagement[d]	71	1.50	6.50	4.81	.89
HOVRS total[e]	71	2.33	5.29	4.01	.70

[a]When there were two recorded home visits to the same family, ratings were averaged.
[b]Facilitation, Nonintrusiveness, Parent–Child Interaction, and Child Engagement scales were not rated if the child was unborn, asleep, or absent.
[c]Home- visiting practices = average of Scales 1–4.
[d]Family engagement average of Scales 5–7.
[e]Home-visiting quality total = average of Scales 1–7.

Child language development outcome. Child language development was assessed when children were 36 months old with the Peabody Picture Vocabulary Test-III (PPVT-III; Dunn & Dunn, 1997), a measure of receptive vocabulary. PPVT standard scores, used in this study, have a mean of 100 and an *SD* of 15, and the authors report an internal consistency coefficient of .93, and validity correlations ranging from .69 to .91 with other established verbal tests.

RESULTS

Initially, the home-visiting quality ratings were examined descriptively and used to derive three summary scores. A *home-visiting practices* score was calculated by averaging the first four rating scales, a *family engagement* score was calculated from the last three rating scales, and a *home-visiting quality* score was calculated from all seven ratings scales. Table 2 presents the range, average, and variability of each rating scale and summary score.

The home-visiting quality scale ratings and summary scores were then examined in relation to each other. As seen in Table 3, all scale scores contributed significantly to the summary scores. Correlations between scales were all in the expected direction and

[1]For the EHSREP sample (ACYF, 2002), internal consistency αs were reported for the HOME and its subscales, ranging from .68 to .80, but internal consistency is considered inappropriate for this type of measure (Bollen & Lennox, 1991; Bradley, 2015).

TABLE 3. *Correlations Among Home-Visiting Quality Rating Scales (HOVRS) and Summary Scores*

Score	1	2	3	4	5	6	7	8	9
1. Responsiveness									
2. Relationship	.35**								
3. Facilitation	.51**	.25*							
4. Nonintrusiveness	.12	.27*	.46**						
5. Parent–Child Interaction	.33**	.25*	.29*	.40**					
6. Parent Engagement	.45**	.35**	.51**	.48**	.72**				
7. Child Engagement	.31*	.37**	.31*	.20	.20	.24*			
8. Home-Visiting Practices	.70**	.59**	.84**	.68**	.46**	.64**	.41**		
9. Family Engagement	.48**	.42**	.49**	.45**	.84**	.86**	.64**	.65**	
10. HOVRS Total	.65**	.60**	.73**	.62**	.73**	.81**	.57**	.91**	.90**

*$p \leq .05$.
**$p \leq .01$.

TABLE 4. *Partial Correlations, Controlling for Site, Between Home-Visiting Quality and Home-Visiting Quantity, Content, and Family Involvement*

HOVRS Scales and Scores	Home-Visiting Quantity ($n = 55$)	Child Development Content ($n = 69$)	Family Program Involvement ($n = 60$)
Responsiveness to Family	.07	.03	.11
Relationship With Family	.24†	.17	.11
Facilitation of Interaction	.15	−.09	.16
Nonintrusiveness	.16	.15	.31*
Parent–Child Interaction	.06	.37**	.30*
Parent Engagement	.16	.31*	.43**
Child Engagement	−.21	−.08	−.06
Home-Visiting Practices score	.23	.07	.27*
Family Engagement score	.03	.27*	.30*
HOVRS Total	.16	.18	.31*

HOVRS = Home-Visiting Quality Rating Scales.
†$p \geq .10$.
*$p \leq .05$.
**$p \leq .01$.

statistically significant, except for responsiveness with nonintrusiveness and child engagement with nonintrusiveness and parent–child interaction. In addition, the reliability coefficient αs were acceptable for each of the summary scores: home-visiting practices (four scales), $\alpha = .66$, family engagement (three scales), $\alpha = .64$, and total home-visiting quality (seven scales), $\alpha = .78$, which likely was higher because more scores went into the calculation. Internal consistency in the summary scores is considered appropriate because the scales were developed specifically to represent the quality of home-visiting process, but the rating scales themselves are comprised of lists of yes/no indicators, at differing levels of quality (1, 3, 5, 7), which are not appropriate for analyzing internal consistency within a rating scale.

Home-Visiting Quality Ratings and Other Aspects of Home Visiting

To examine whether observed home-visiting practices and family engagement were related to other aspects of home visits, each home-visiting quality scale rating and summary score was examined in relation to parent-reported dosage, home visitor-reported content, and staff-rated program involvement. Site was controlled in these and subsequent analyses because of site differences in family characteristics. By using a single covariate representing multiple differences between sites, we were able to maintain statistical power while accounting for these differences.

As can be seen in Table 4, child development content and family program involvement—reported indicators of quality—were the aspects of home visiting most consistently associated with our observational ratings of home visit quality. The proportion of time home visitors reported that they spent focusing on child development content during the home visits to the family was associated with the observed home visitor nonintrusiveness rating, parent–child interaction rating, parent engagement rating, family engagement score, and total home-visiting quality score. Families' overall program involvement, as rated by a program staff member, was associated with these same observed quality scales and, in addition, with the home visitor practices score. Notably, the strongest correlation—offering clear support for convergent validity—was between two measures of parent engagement from different sources: the staff-reported rating of the family's overall program involvement and our independent rating of observed parent engagement in home visits. Home-visiting quantity, or dosage, was not significantly associated with any the HOVRS ratings or scores, although there was a trend for a positive association with the relationship rating. Interestingly, dosage was not significantly associated with overall family involvement in the program, $r = .23$, $p = .12$, or with proportion of time spent on child development content, $r = .12$, $p = .44$.

Home-Visiting Quality Ratings and Program Outcomes

To examine whether observed home-visiting practices and family engagement were related to variations in outcomes, each HOVRS scale rating and summary score was examined in relation to parenting and child development outcomes. The home-visiting practices score represents the strategies being used to promote parenting that, in turn, is expected to support children's optimal development. Each home-visiting quality scale rating and summary score was examined in relation to the HOME and its subscales (B.M. Caldwell & Bradley, 1984) and to the PPVT (Dunn & Dunn, 1997), both of which were measured impacts of the EHSREP randomized design study (Love et al., 2013; Love et al., 2005). Of the families with video, 79% had both HOME and PPVT outcome data available at the end of the program. Those missing either parenting or child vocabulary data were more likely to be Latino and to be unemployed at the first site or receiving public assistance at the second site, but they did not differ on any other family characteristics or on the

TABLE 5. *Regression Models (N = 60), With Site Controlled, Testing Indirect Association a of Home-Visiting Quality Total with Child Language Development (PPVT-III) at Age 3 Though Parenting Support (HOME Total)*

	Model 1			Model 2		
Predictor Models and Variables	*B*	*SE*	*β*	*B*	*SE*	*β*
Predictors of HOME Total Environment						
Site	.31	.07	.52***			
HOVRS Total	1.22	.62	.23*			
R^2 for Model			.43*			
F for R^2 Change at Last Step			3.93*			
Predictors of Child Vocabulary (PPVT-III)						
Site	−.41	.34	−.19	−.96	.37	−.43*
HOVRS Total	6.88	3.16	.33*	4.89	3.03	.24
HOME Environment Total				1.78	.60	.48*
R^2 for Model			.08*			.22*
F for R^2 Change at Last Step			4.74*			8.79**

HOME = Home Observation Measure of the Environment; HOVRS = Home-Visiting Quality Rating Scales; PPVT-III = Peabody Picture Vocabulary Test-III.
Indirect effect test, Sobel test statistic = 1.65.
*$p \leq .05$.
**$p \leq .01$.
***$p \leq .001$.

HOME or child vocabulary measures at ages 24 or 60 months. Site was controlled in these analyses.

Parenting and child outcome variables at 36 months were associated with home-visiting quality variables. Partial correlations, controlling for site, were statistically significant, $p < .05$, between the HOME total score and HOVRS home-visiting practices, $r = .33$, family engagement, $r = .31$, and total home visit quality, $r = .34$, and more specifically between the HOME Language Support subscale and these HOVRS scores, *r*s = .28, .27, and .30, respectively. Partial correlations with child vocabulary scores on the PPVT approached statistical significance, $p > .10$, for home-visiting practices, $r = .25$, and total home visit quality, $r = .25$.

To explore further, we used a multiple regression approach to test the indirect association of home-visiting quality with child vocabulary through parenting, examining whether the data supported a general strategy of working through the parent to the child, particularly in terms of the parents' environmental support for development and the children's language abilities. A sequence of regression models, with site controlled, first tested the HOME as the parenting outcome with the HOVRS total home-visiting quality score as a predictor, and then tested the PPVT as the child outcome with total home-visiting quality and parenting as predictors. Table 5 shows the results of these analyses, supporting an indirect association of home-visiting quality with child vocabulary through parenting.

To explore this indirect association with more specificity, we examined additional regression models, testing each separate HOVRS scale and summary score as an indirect predictor of child vocabulary through the association of home-visiting quality with the HOME measure of the quality of the home environment provided by parents. The home-visiting practices score (Responsiveness, Relationship, Facilitation, and Nonintrusiveness scales) showed patterns similar to the total HOVRS score, but none of the separate practice scales or family engagement scales did so. Parent–child interaction was the only other HOVRS scale that predicted children's vocabulary scores and was related to HOME scores, but it showed a direct independent association, not an indirect one. The HOME Language Support subscale reflecting parents' language and literacy support showed similar patterns, but the Warmth subscale did not.

These analyses indicate that overall home visit quality, as measured by the HOVRS total score, combining ratings from all seven home-visiting quality rating scales, predicted a more developmentally supportive parenting environment in the home, as indicated by the total HOME score, which in turn predicted a larger child vocabulary, as indicated by the PPVT score. More specifically, the home-visiting practices score—combining ratings of only the first four scales of Relationship, Responsiveness, Facilitation, and Nonintrusiveness—directly predicted parent HOME Language Support subscale scores and indirectly predicted child PPVT vocabulary scores.

DISCUSSION

To examine variations in the quality of home visiting at the family level, we used an observational measure, the HOVRS, to rate the quality of home visitor practices, family engagement, and total home visit quality. The HOVRS was developed based on home visitor input and an extensive literature review of home-visiting practices related to various parenting and child outcomes that are targeted by many home-visiting programs. Our objectives were to examine the psychometric properties of the measure and to test variations in observed home-visiting quality in relation to other aspects of home visiting and in relation to parent and child outcomes. The results show that, first, observational ratings of home visit quality can be made reliably by trained observers viewing video-recorded home visits to rate home-visiting practices and family engagement and that the summary scores from the multiple home-visiting quality rating scales showed adequate internal consistency. Second, home-visiting quality as rated by this measure was related to independently measured aspects of home visiting: home visitor reports of the percent of home visit time spent on child development content and staff ratings of each family's overall involvement in the entire program. Third, higher ratings of home-visiting quality, as measured by HOVRS, were associated with stronger parenting and child outcomes at the end of the home-visiting program.

Home-visiting quality is multidimensional, and our emphasis was on home-visiting practices and family engagement during visits to individual families. We rated quality based on the effective use of research-based, home-visiting practices to engage the parent and child in the home visit and with each other. Ratings of high-quality practices were related to ratings of high-quality family engagement. Other aspects of quality included home visitor reports

of home visit content and staff reports of overall family involvement across all program activities. Our observational ratings of the quality of home-visiting processes, particularly as reflected in more collaborative practices and greater parent engagement, were higher when home visitors reported that more of the home visit time to a particular family, across multiple home visits, was spent focused on child development content. Our ratings of home-visiting quality also were higher when families were rated by staff as more involved in the overall home-visiting program. These results support the convergent validity of the HOVRS home-visiting quality rating scales by association with other aspects of implementation quality and family engagement: child development content during home visits and family involvement in the entire program. Quantity or dosage intensity of home visits to individual families was not related to home-visiting quality as measured by our observational rating scales, to family program involvement, thought to reflect quality (Raikes et al., 2006), or to home visit content.

When the observed quality of home visiting was higher, independently measured parenting and child development outcomes were higher. Specifically, home-visiting quality during the program was associated with more developmentally supportive parenting environments and more advanced child language development at the end of the program. These results support predictive validity of the home-visiting quality ratings by association with targeted outcomes at the end of the program. Because the parenting environment and children's development are interrelated, they were tested independently as outcome variables and then together in regression models to test an indirect association of home-visiting quality with parenting to child outcomes. The association of home-visiting quality, particularly home-visiting practices, with children's language development was significantly accounted for by parents' developmental support in the home environment, particularly their language and literacy support. The models suggest the value of working through the parent—in a collaborative, relationship-building, strengths-based facilitative approach—to support the child's development. Key home-visiting practices (i.e., relationship, responsiveness, facilitation, and nonintrusiveness), as measured by the HOVRS, were associated with child outcomes primarily via their association with parenting outcomes. That is, when home visitors used higher quality practices and more effectively engaged parents and children in home visit activities and developmentally supportive interactions, parenting outcomes were stronger and in turn, child outcomes were stronger.

Implications for Use in Home-Visiting Programs

Psychometrically valid ratings of home-visiting quality, based on observable indicators that predict parenting and child development, could be useful for professional development and program improvement. A measure of the quality of home visiting could be used to guide the supervision and mentoring of home visitors and thereby increase the overall effectiveness of home-visiting programs.

The HOVRS measure was initially field-derived, developed by asking home visitors in different kinds of home-visiting programs to list things that happen when a visit goes well or does not go well and then organizing these descriptive indicators into scales. But the HOVRS measure also is research-based; empirical and theoretical literature has supported the strategies reflected in these scales and the specific indicators. The measure is reliable, valid, and appropriate for programs that use home visiting to help parents support their young children's development. The home-visiting practices measured by the HOVRS reflect an approach of responding to family strengths in the context of a positive practitioner–family relationship, promoting developmentally supportive parenting interactions, establishing practitioner–parent collaborative partnerships, and engaging the parent and child in the home visit and with each other. None of these strategies was adequate on its own; it was the combination of practices that best predicted parenting outcomes and, in turn, child outcomes.

We used home-visiting quality ratings to observe home-visiting quality in EHS, but these quality ratings have been used for other home-visiting programs using a similar approach (e.g., Boyce et al., 2010), and a version of the measure also has been used to measure home-visiting quality in early intervention in both face-to-face and tele-intervention home visits (Blaiser, Behl, Callow-Heusser, & White, 2013). The practices measured by our home-visiting practices ratings could be enhanced with training or coaching, just as similar practices have been increased with training in other studies. For example, home visitors trained in a relationship-based approach increased their parent–child focus more than sixfold, from 8 to 50% of the home visit time (Kelly et al., 2008).

The psychometric strength of our home-visiting quality measure is based on single views of video recordings, so the reliability of the measure would apply to observations made "live" during a home visit, a useful alternative in situations where video is not practical but observation of home-visiting quality is important. Nevertheless, we recommend video recording for several reasons. First, video-recorded home visits can be used to establish and maintain observational measurement reliability in new settings. Second, video-recorded home visits also are useful for professional development. A supervisor, mentor, or coach working with home visitors could observe home-visiting quality in vivo, but video recordings can be reviewed with the home visitor afterward and discussed in terms of the observed effectiveness of home-visiting practices at engaging specific families. By video recording several home visits, programs can create a training library of recordings for training home visitors, for improving supervisor's observation skills, for increasing home visit program-implementation quality, and for learning about research-supported home-visiting practices.

Limitations

The generalizability of results from this study is limited by concerns regarding sample, design, program model, scope of results, and measurement focus. The sample of families in this study was

limited in number and diversity. Most families were European Americans living in semirural areas of the United States, and are not representative of families participating in EHS home-visiting programs more generally. First, these at-risk families are at lower risk than are families in other EHSREP home-visiting programs. Although sample families were at risk due to poverty, with incomes well below federal poverty guidelines of the time, and had two or more risk factors, they were facing fewer risks than were families at other EHSREP study home-visiting sites. Second, families in the videos were enrolled in these home-visiting programs longer than the average enrollment duration reported for other EHSREP families in home-visiting programs (Raikes et al., 2006), which may have allowed more time for variations in home-visiting quality to become associated with outcomes. Third, the timing of home visit video recordings was linked neither to child age nor to time since enrollment. Thus, future studies should examine home-visiting quality across a wider range of families, including those who remain enrolled for more limited periods and live in more diverse communities, with data collected at specific time points and age points during the intervention and considered in relation not only to community influences, such as access to resources and support, but also to family influences such as ethnicity, parent education, and risk.

The correlational design of the study precludes any causal interpretations. This focus on family-level variation offers valuable information, showing parenting and child development outcomes associated with specific family-level variation in home-visiting practices. This is consistent with an intervention approach aimed at helping parents provide more developmental support to their infants and young children. Further studies that test specific home-visiting practices in randomized designs are crucial for understanding what is needed to make evidence-based, home-visiting programs work. Rigorous evidence supporting curricula and program models has been essential for improving services to young children at risk. Similarly, more research on home-visiting quality is likely to reveal ways to improve the impact of programs, in the same way that good teaching quality can improve the impact of evidence-based curricula or classroom programs. Nonetheless, the HOVRS was sensitive enough to detect within-group variations in implementation in relation to program outcomes, which is a common design for program evaluation and could be useful for treatment fidelity and continuous program improvement purposes.

Another limitation is that only one home-visiting program model, EHS, was represented in this study. Home visiting is used by many different kinds of programs serving families with infants and toddlers, and although most aim to improve parenting, not all articulate a specific objective as clearly as does EHS of working "through the parent" to focus on the needs of the child (Head Start Bureau, 2004, p. 20). Furthermore, many programs have multiple goals that go beyond parenting and child development. We focused on a particular aspect of home-visiting quality, reflecting a broadly defined approach to home visiting that aims to help parents support the early development of infants and young children at risk for negative outcomes. The measure reflects a two-generation, strengths-based approach, emphasizing early child development beginning in infancy, engaging parent and child together in positive, developmentally supportive interactions, and collaborating with parents to plan individualized home visits.

In this study, home-visiting quality predicted the overall quality of parenting reflected in the home environment, but mainly the language-support aspects of parenting, not the emotional aspects measured by the Warmth subscale. Although these limited results may be due to power constraints of a relatively small sample and a limited number of observations per family, they also may indicate a stronger emphasis on verbal interaction and language development in these particular programs or communities.

Unexpectedly, observed quality of child engagement during home visits showed a lack of association with parent–child interaction quality, child development content, or dosage of home visits. The lack of association between parent–child interaction and child engagement is likely due to some home visitors interacting with the child to engage them in home visit activities without facilitating parent–child interaction. Another possible contributing factor is the required duration of 90 min for EHS home visits that may require infants and toddlers to be fed, soothed, cleaned, or allowed to sleep, thus limiting their engagement in the home visit, regardless of the quality of parent–child interaction. Our results regarding child engagement in this sample also may simply reflect unpredictable variations in children's engagement in home visits related to their age, state, temperament, and caregiving needs. Low quality on any of the engagement rating scales may warrant close attention by home visitors to adapt their practices to family interests and needs. Focused as it is on guiding parenting interactions that support child development, our measure of home-visiting quality will require adaptations to be developed and evaluated for observing home visits when children are not present or when mothers are still pregnant.

The perspective of home visit quality that was measured in this study was framed in terms of the effectiveness of home visiting to promote parent–child interactions that are known to support children's early development. Therefore, the observation ratings focus on practices that home visitors use to engage parents and children in developmentally supportive interactions during home visits. There are, however, other important things that home visitors do as part of their practices that were not observed or rated with this measure, such as linking families with needed community resources, guiding parent problem solving, and promoting healthy prenatal care.

Conclusion

The HOVRS measure shows promise as a valid, reliable instrument for evaluating home-visiting processes and improving our understanding of why the same home visit models may obtain different results in different places or with different kinds of families. The results of the present study support the value of specific observable process indicators to rate home-visiting quality. The association

of these home-visiting quality ratings with stronger parenting and child outcomes provides support for a strengths-based approach to home visiting of working collaboratively through the parent to improve children's outcomes. Being able to reliably observe these aspects of home-visiting quality increases our ability to explore and explain variations in home-visiting effectiveness. This, along with other measures of home-visiting quality, can help home-visiting programs ensure implementation of research-based practices and can help researchers identify processes that work best for engaging families in home visits to support children's early development.

AUTHOR NOTE: The word "better" often can be too vague (i.e., how or in what way is something "better?"). Please search throughout your article for this word to see if it can be changed to more clearly define what you want to convey.

REFERENCES

Administration for Children, Youth, & Families (ACYF). (2002). Making a difference in the lives of infants and toddlers and their families: The impacts of Early Head Start, Washington, DC: Department of Health and Human Services.

Avellar, S.A., & Supplee, L.H. (2013). Effectiveness of home visiting in improving child health and reducing child maltreatment. Pediatrics, 132(Suppl. 2), S90–S99.

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

Barnard, K.E., Morisset, C.E., & Spieker, S. (1993). Preventive interventions: Enhancing parent-infant relationships. In C.H. Zeanah (Ed.), Handbook of infant mental health (pp. 386–399). New York: Guilford Press.

Bates, J.E., Maslin, C.A., & Frankel, K.A. (1985). Attachment security, mother-child interaction, and temperament as predictors of behavior-problem ratings at age three years. Monographs of the Society for Research in Child Development, 50(1/2), 167–193.

Bee, H.L., Barnard, K.E., Eyres, S.J., Gray, C.A., Hammond, M.A., Spietz, A.L. et al. (1982). Prediction of IQ and language skill from perinatal status, child performance, family characteristics, and mother-infant interaction. Child Development, 53, 1134–1156.

Berlin, L.J. (1998). Opening the black box: What makes early child and family development programs work? Zero to Three, 18, 1–3.

Bernstein, V.J., Campbell, S., & Akers, A. (2001). Caring for the caregivers: Supporting the well-being of at-risk parents and children through supporting the well-being of the programs that serve them. In J.N. Hughes, A.M. La Greca, & J.C. Conole (Eds.), Handbook of psychological services for children and adolescents (pp. 107–132). New York: Oxford University Press.

Blaiser, K.M., Behl, D., Callow-Heusser, C., & White, K.R. (2013). Measuring costs and outcomes of tele-intervention when serving families of children who are deaf/hard-of-hearing. International Journal of Telerehabilitation, 5(2), 3–10.

Bloom, L., & Tinker, E. (2001). The intentionality model and language acquisition: Engagement, effort, and the essential tension. Monographs of the Society for Research in Child Development, 66 (4, Serial No. 267).

Bollen, K., & Lennox, R. (1991). Conventional wisdom on measurement: A structural equation perspective. Psychological Bulletin, 110(2), 305.

Bornstein, M.H., & Tamis-LeMonda, C.S. (2006). Maternal responsiveness and cognitive development in children. New Directions for Child & Adolescent Development, 1989(43), 49–61.

Boyce, L.K., Innocenti, M.S., Roggman, L.A., Jump Norman, V.K., & Ortiz, E. (2010). Telling stories and making books: Evidence for an intervention to help parents in migrant Head Start families support their children's language and literacy. Early Education & Development, 21, 343–371.

Boyce, L.K., Innocenti, M.S., Roggman, L.A., Price, C., Jump Norman, V.K., Cook, G.A., & Ortiz, E. (2010). Family bookmaking: An approach to support parent-child language interactions in natural environments. Review of Disabilities Studies: An International Journal, 6, 42–53.

Bradley, R.H. (2015). Constructing and adapting causal and formative measures of family settings: The HOME Inventory as illustration. Journal of Family Theory & Review, 7(4), 381–414.

Bradley, R.H., Corwyn, R.F., Burchinal, M., McAdoo, H.P., & Garcia-Coll, C. (2001). The home environments of children in the United States Part II: Relations with behavioral development from birth through age 13. Child Development, 72, 1868–1886.

Bronfenbrenner, U. (1986). Ecology of the family as a context for human development: Research perspectives. Developmental Psychology, 22, 723–742.

Brorson, K. (2005). The culture of a home visit in early intervention. Journal of Early Childhood Research, 3, 51–76.

Brotman, L., O'Neal, C.R., Keng-Yen, H., Gouley, K., Rosenfelt, A., & Shrout, P.E. (2009). An experimental test of parenting practices as a mediator of early childhood physical aggression. Journal of Child Psychology & Psychiatry, 50, 235–245.

Caldwell, B.M., & Bradley, R.H. (1984). HOME observation for measurement of the environment. Little Rock: University of Arkansas at Little Rock.

Caldwell, C., Green, A., & Billingsley, A. (1994). Family support in Black churches: A new look at old functions. In S.L. Kagan & B. Weissbourd (Eds.), Putting families first: America's family support movement and the challenge of change (pp. 137–160). San Francisco: Jossey-Bass.

Caspi, A., Moffitt, T.E., Morgan, J., Rutter, M., Taylor, A., Arseneault, L. et al. (2004). Maternal expressed emotion predicts children's antisocial behavior problems: Using monozygotic-twin differences to identify environmental effects on behavioral development. Developmental Psychology, 40, 149–161.

Chazan-Cohen, R., Raikes, H., Brooks-Gunn, J., Ayoub, C., Pan, B.A., Kisker, E.E. et al. (2009). Low-income children's school readiness: Parent contributions over the first five years. Early Education & Development, 20, 958–977.

Culp, A.M., Hubbs-Tait, L., Culp, R.E., & Starost, H.-J. (2001). Maternal parenting characteristics and school involvement: Predictors

of kindergarten cognitive competence among Head Start children. Journal of Research in Childhood Education, 15, 5–17.

Daro, D., & Harding, K.A. (1999). Healthy Families America: Using research to enhance practice. Future of Children, 9, 152–176.

Daro, D., Jones, E., & McCurdy, K. (1993). Preventing child abuse: An evaluation of services to high-risk families. Philadelphia: William Penn Foundation.

Daro, D., & McCurdy, K. (1994). Preventing child abuse and neglect: Programmatic interventions. Child Welfare, 73, 405–430.

Daro, D., McCurdy, K., Falconnier, L., & Stojanovic, D. (2003). Sustaining new parents in home visitation services: Key participant and program factors. Child Abuse & Neglect, 27, 1101–1125.

de Kruif, R.E., & McWilliam, R.A. (1999). Multivariate relationships among developmental age, global engagement, and observed child engagement. Early Childhood Research Quarterly, 14(4), 515–536.

Dodici, B.J., Draper, D.C., & Peterson, C.A. (2003). Early parent-child interactions and early literacy development. Topics in Early Childhood Special Education, 23, 124–136.

Donnelly, A.C. (1992). Healthy Families America. Children Today, 21, 25–28.

Dunn, L.M., & Dunn, L.M.(1997). Examiner's manual for the PPVT-III: Peabody Picture VocabularyTest (3rd ed.). Circle Pines, MN: American Guidance Service.

Dunst, C.J. (2002). Family-centered practices birth through high school. Journal of Special Education, 36(3), 141–149.

Dunst, C.J., Bruder, M.B., Trivette, C.M., & Hamby, D.W. (2006). Everyday activity settings, natural learning environments, and early intervention practices. Journal of Policy & Practice in Intellectual Disabilities, 3(1), 3–10.

Dunst, C.J., Trivette, C.M., & Hamby, D. (2006). Characteristics and consequences of help-giving practices in contrasting human services programs. Little Rock, AR: Division of Early Childhood.

Easterbrooks, M.A., Bartlett, J.D., Raskin, M., Goldberg, J., Contreras, M.M., Kotake, C. et al. (2013). Limiting home visiting effects: Maternal depression as a moderator of child maltreatment. Pediatrics, 132(Suppl. 2), S126–S133.

Emde, R.N., Korfmacher, J., & Kubicek, L.F. (2000). Toward a theory of early relationship-based intervention. In J.D. Osofsky & H.E. Fitzgerald (Eds.), WAIMH handbook of infant mental health: Vol. 2. Early intervention, evaluation, and assessment (pp. 3–32). New York: Wiley.

Fewell, R.R., & Deutscher, B. (2002). Attention deficit hyperactivity disorder in very young children: Early signs and interventions. Infants & Young Children, 14, 24–32.

Fuligni, A.S., & Brooks-Gunn, J. (2013). Mother-child interactions in Early Head Start: Age and ethnic differences in low-income dyads. Parenting, 13(1), 1–26.

Gardner, F., Ward, S., Burton, J., & Wilson, C. (2003). The role of mother-child joint play in the early development of children's conduct problems: A longitudinal observational study. Social Development, 12, 361–378.

Gomby, D.S. (1999). Understanding evaluations of home visitation programs. The Future of Children, 9, 127–143.

Gomby, D.S., Culross, P.L., & Behrman, R.E. (1999). Home visiting: Recent program evaluations—Analysis and recommendations. The Future of Children, 9, 4–26.

Guralnick, M.J. (1998). Effectiveness of early intervention for vulnerable children: A developmental perspective. American Journal on Mental Retardation, 102, 319–345.

Guralnick, M.J. (2001). A developmental systems model for early intervention. Infants & Young Children, 14(2), 1–18.

Guralnick, M.J. (Ed.). (2005). The developmental systems approach to early intervention. Baltimore: Brookes.

Guralnick, M.J. (2013). Developmental science and preventive interventions for children at environmental risk. Infants & Young Children, 26, 270–285.

Head Start Bureau. (2004). The home visitor's handbook for the Head Start home-based program option. Washington, DC: U.S. Department of Health and Human Services.

Head Start Program Performance Standards and Other Regulations. (2016). § 1306.33 Home based program option. Washington, DC: Department of Health and Human Services. Retrieved from April 7, 2016, http://eclkc.ohs.acf.hhs.gov/hslc/standards/hspps/1306/1306.33%20%20Home-based%20program%20op-tion..htm

Healthy Families America. (2008). Research spotlight on success: Healthy Families America promotes positive parenting. Chicago: Author.

Hebbeler, K., & Gerlach-Downie, S. (2002). Inside the black box of home visiting: A qualitative analysis of why intended outcomes were not achieved. Early Childhood Research Quarterly, 17, 28–51.

Heinicke, C.M., Fineman, N., Rodning, C., Ruth, G., Recchia, S., & Guthrie, D. (1999). Relationship based intervention with at-risk mothers: Outcome in first year of life. Infant Mental Health Journal, 20, 349–374.

Heinicke, C.M., Goorsky, M., Moscov, S., Dudley, K., Gordon, J., Schneider, C., & Guthrie, D. (2000). Relationship-based intervention with at-risk mothers: Factors affecting variations in outcome. Infant Mental Health Journal, 21(3), 133–155.

Hirsh-Pasek, K., & Burchinal, M. (2006). Mother and caregiver sensitivity over time: Predicting language and academic outcomes with variable- and person-centered approaches. Merrill–Palmer Quarterly, 52, 449–485.

Hubbs-Tait, L., Culp, A.M., Culp, R.E., & Miller, C.E. (2002). Relation of maternal cognitive stimulation, emotional support, and intrusive behavior during Head Start to children's kindergarten cognitive abilities. Child Development, 73, 110–132.

Hughes, J.R., & Gottlieb, L.N. (2004). The effects of the Webster-Stratton parenting program on maltreating families: Fostering strengths. Child Abuse & Neglect, 28, 1081–1097.

Katz, K.S., Jarrett, M.H., El-Mohandes, A.A., Schneider, S., McNeely-Johnson, D., & Kiely, M. (2011). Effectiveness of a combined home visiting and group intervention for low income African American mothers: The Pride in Parenting Program. Maternal and Child Health Journal, 15(1), 75–84.

Kelly, J.F., Zuckerman, T., & Rosenblatt, S. (2008). Promoting first relationships: A relationship-focused early intervention approach. Infants & Young Children, 21, 285–295.

Kendrick, D., Elkan, R., Hewitt, M., Dewey, M., Blair, M., Robinson, J. et al. (2000). Does home visiting improve parenting and the quality of the home environment? A systematic review and meta analysis. Archives of Disease in Childhood, 82, 443–451.

Korfmacher, J., Green, B., Spellmann, M., & Thornburg, K.R. (2007). The helping relationship and program participation in early childhood home visiting. Infant Mental Health Journal, 28, 459–480.

Korfmacher, J., Green, B.L., Staerkel, F., Peterson, C., Cook, G., Roggman, L. et al. (2008). Parent involvement in early childhood home visiting. Child & Youth Care Forum, 37, 171–196.

Korfmacher, J., Kitzman, H.K., & Olds, D.L. (1998). Intervention processes as conditioners of home visitation program effects. Journal of Community Psychology, 26, 49–64.

Landry, S.H., Smith, K.E., Swank, P.R., Zucker, T., Crawford, A.D., & Solari, E.F. (2012). The effects of a responsive parenting intervention on parent-child interactions during shared book reading. Developmental Psychology, 48, 969–989.

Lanzi, R., Terry, K., Guest, K., Cotton, J., & Ramey, C. (1999). Home visiting with families at risk for child abuse and neglect: Review of programs, findings, best practices, and lessons learned from the field. Birmingham, AL: Civitan International Research Center.

Lieberman, A.F., Weston, D., & Pawl, J.H. (1991). Preventive intervention and outcome with anxiously attached dyads. Child Development, 62, 199–209.

Love, J.M., Chazan-Cohen, R., Raikes, H., & Brooks-Gunn, J. (2013). What makes a difference: Early Head Start evaluation findings in a developmental context. Monographs of the Society for Research in Child Development, 78(1), vii–viii.

Love, J.M., Harrison, L., Sagi-Schwartz, A., van IJzendoorn, M.H., Ross, C., Ungerer, J.A. et al. (2003). Child care quality matters: How conclusions may vary with context. Child Development, 74, 1021–1033.

Love, J.M., Kisker, E.E., Ross, C., Raikes, H., Constantine, J., Boller, K. et al. (2005). The effectiveness of Early Head Start for 3-year-old children and their parents: Lessons for policy and programs. Developmental Psychology, 41, 885–901.

Mahoney, G., Boyce, G.C., Fewell, R., Spiker, D., & Wheeden, C.A. (1998). The relationship of parent-child interaction to the effectiveness of early intervention services for at-risk children and children with disabilities. Topics in Early Childhood Special Education, 18, 5–17.

Mahoney, G., & Perales, F. (2005). Relationship-focused early intervention with children with pervasive developmental disorders and other disabilities: A comparative study. Journal of Developmental & Behavioral Pediatrics, 26(2), 77–85.

Mashburn, A.J., Pianta, R.C., Hamre, B.K., Downer, J.T., Barbarin, O.A., Bryant, D. et al. (2008). Measures of classroom quality in prekindergarten and children's development of academic, language, and social skills. Child Development, 79, 732–749.

McBride, S.L., Brotherson, M.J., Joanning, H., Whiddon, D., & Demmit, A. (1993). Implementation of family-centered services: Perceptions of families and professionals. Journal of Early Intervention, 17, 414–430.

McBride, S.L., & Peterson, C.A. (1997). Home based interventions with families of children with disabilities: Who is doing what? Topics in Early Childhood Special Education, 17, 209–233.

McFarlane, E., Burrell, L., Crowne, S., Cluxton-Keller, F., Fuddy, L., Leaf, P.J., & Duggan, A. (2013). Maternal relationship security as a moderator of home visiting impacts on maternal psychosocial functioning. Prevention Science, 14(1), 25–39.

McWilliam, R.A. (2010). Routines-based early intervention: Strategies for supporting young children with disabilities. Baltimore: Brookes.

McWilliam, R.A., & Bailey, D.B. (1992). Promoting engagement and mastery. In D.B. Bailey & M. Wolery (Eds.), Teaching infants and preschoolers with disabilities (2nd ed., pp. 229–256). Columbus, OH: Merrill.

Moss, E., Dubois-Comtois, K., Cyr, C., Tarabulsy, G.M., St-Laurent, D., & Bernier, A. (2011). Efficacy of a home visiting intervention aimed at improving maternal sensitivity, child attachment, and behavioral outcomes for maltreated children: A randomized control trial. Development and Psychopathology, 23, 195–210.

NICHD Early Child Care Research Network. (1999). Child care and mother-child interaction in the first three years of life. Developmental Psychology, 35, 1399–1413.

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

Olds, D.L., & Kitzman, H. (1990). Can home visitation improve the health of women and children at environmental risk? Pediatrics, 86, 108–116.

Olds, D.L., & Kitzman, H. (1993). Review of research on home visiting for pregnant women and parents of young children. The Future of Children, 3, 53–92.

Olds, D.L., Kitzman, H., Cole, R., Robinson, J., Sidora, K., Luckey, D.W. et al. (2004). Effects of nurse home visiting on maternal life course and child development: Age 6 follow-up results of a randomized trial. Pediatrics, 114, 1550–1559.

Oshima-Takane, Y., & Robbins, M. (2003). Linguistic environment of secondborn children. First Language, 23, 21–40.

Parents as Teachers. (2014). Quality assurance guidelines for parents as teachers affiliates. St. Louis, MO: Author. Retrieved from April 7, 2016, http://www.parentsasteachers.org/images/stories/QA_guidelines_3-16-15_final.pdf

Paulsell, D., Avellar, S., Martin, E.S., & Del Grosso, P. (2010). Home visiting evidence of effectiveness review: Executive summary. Washington, DC: U.S. Department of Health and Human Services, Administration for Children and Families, Office of Planning, Research and Evaluation (No. 6938). Mathematica Policy Research.

Peacock, S., Konrad, S., Watson, E., Nickel, D., & Muhajarine, N. (2013). Effectiveness of home visiting programs on child outcomes: A systematic review. BMC Public Health, 13(1), 17–34.

Perez-Granados, D.R., & Callanan, M.A. (1997). Conversations with mothers and siblings: Young children's semantic and conceptual development. Developmental Psychology, 33, 120–134.

Peterson, C.A., Luze, G.J., Eshbaugh, E.M., Jeon, H.J., & Kantz, K.R. (2007). Enhancing parent-child interactions through home visiting: Promising practice or unfulfilled promise? Journal of Early Intervention, 29(2), 119–140.

Peterson, C.A., Roggman, L.A., Green, B., Chazan-Cohen, R., Korfmacher, J., McKelvey, L. et al. (2013). Home visiting processes: Relations with family characteristics and outcomes. Zero to Three, 33(3), 39–44.

Pianta, R., Howes, C., Burchinal, M., Bryant, D., Clifford, R., Early, D., & Barbarin, O. (2005). Features of pre-kindergarten programs, classrooms, and teachers: Do they predict observed classroom quality and child–teacher interactions? Applied Developmental Science, 9, 144–159.

Powell, D.R., Zambrana, R., & Silva-Palacios, V. (1990). Designing culturally responsive parent programs: A comparison of low-income Mexican and Mexican-American mothers' preferences. Family Relations, 39, 298–304.

Raikes, H., Green, B.L., Atwater, J., Kisker, E., Constantine, J., & Chazan-Cohen, R. (2006). Involvement in Early Head Start home visiting services: Demographic predictors and relations to child and parent outcomes. Early Childhood Research Quarterly, 21, 2–24.

Raikes, H.H., Roggman, L.A., Peterson, C.A., Brooks-Gunn, J., Chazan-Cohen, R., Zhang, X., & Schiffman, R.F. (2014). Theories of change and outcomes in home-based Early Head Start programs. Early Childhood Research Quarterly, 29, 574–585.

Roggman, L.A., Boyce, L., Cook, G., & Jump, V. (2001). Inside home visits: A collaborative look at process and quality. Early Childhood Research Quarterly, 16, 53–71.

Roggman, L.A., Boyce, L.K., Cook, G.A., Christiansen, K., & Jones, D. (2004). Playing with daddy: Social toy play, Early Head Start, and developmental outcomes. Fathering, 2, 83–108.

Roggman, L.A., Boyce, L.K., & Innocenti, M.S. (2008). Developmental parenting: A guide for early childhood practitioners. Baltimore, MD: Brookes.

Roggman, L.A., Cook, G.A., Jump Norman, V.K., Christiansen, K., Boyce, L.K., & Innocenti, M.S. (2008). Home Visit Rating Scales (HOVRS). In L.A. Roggman, L.K. Boyce, & M.S. Innocenti (Eds.), Developmental parenting: A guide for early childhood practitioners (pp. 209–217). Baltimore: Brookes.

Shonkoff, J.P., & Phillips, D.A. (2000). From neurons to neighborhoods: The science of early childhood development. Washington, DC: National Academies Press.

Slaughter-Defoe, D.T. (1993). Home visiting with families in poverty: Introducing the concept of culture. The Future of Children, 3, 172–183.

Sweet, M., & Appelbaum, M. (2004). Is home visiting an effective strategy? A meta-analytic review of home visiting programs for families with young children. Child Development, 75, 1435–1456.

van den Boom, D.C. (1995). Do first-year intervention effects endure? Follow-up during toddlerhood of a sample of Dutch irritable infants. Child Development, 66, 1798–1816.

Van Doesum, K., Riksen-Walraven, J.M., Hosman, C.M., & Hoefnagels, C. (2008). A randomized controlled trial of a home-visiting intervention aimed at preventing relationship problems in depressed mothers and their infants. Child Development, 79, 547–561.

Wasik, B.H., & Bryant, D.M. (2000). Home visiting: Procedures for helping families. Thousand Oaks, CA: Sage.

Weiss, H. (1993). Home visits: Necessary but not sufficient. The Future of Children, 3, 113–139.

Wheeler, R., Ludtke, M., Helmer, J., Barna, N., Wilson, K., & Oleksiak, C. (2013). Implementation of the PICCOLO in infant mental health practice: A case study. Infant Mental Health Journal, 34, 352–358.

Woods, J., Kashinath, S., & Goldstein, H. (2004). Effects of embedding caregiver implemented teaching strategies in daily routines on children's communication outcomes. Journal of Early Intervention, 26, 175–193.

Zajicek-Farber, M.L. (2010). Building practice evidence for parent mentoring home visiting in early childhood. Research on Social Work Practice, 20(1), 46–64.