Early Childhood Research Quarterly 44 (2018) 288–303

Contents lists available at ScienceDirect

Early Childhood Research Quarterly

# Occupational stress and well-being among Early Head Start home visitors: A mixed methods study

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ARTICLE INFO

*Article history:*
Received 8 January 2017
Received in revised form 5 September 2017
Accepted 27 November 2017
Available online 8 March 2018

*Keywords:*
Home visitation
Early head start
Occupational stress
Compassion satisfaction
Burnout
Secondary traumatic stress

ABSTRACT

The current, unprecedented scaling up of evidence-based home visiting makes it crucial to elucidate the factors and processes that promote successful program implementation. One key factor is the well-being of the workforce. Scant attention has been paid to the ways in which early childhood home visitors may be affected by their work with low-income, high-risk families, however. This mixed methods study examined Early Head Start (EHS) home visitors' *compassion satisfaction, secondary traumatic stress, burnout, and job withdrawal, and their* associations with home visitor, family, and work characteristics. Data included survey questionnaires ($N = 77$) and individual interviews ($n = 7$). A subset of home visitor survey data ($n = 27$) was linked with data from EHS families ($N = 102$) to examine the associations between home visitors' well-being and EHS families' psychosocial risks. Overall, EHS home visitors demonstrated moderate to high compassion satisfaction and more variable levels of secondary traumatic stress. The home visitors' occupational stress and well-being were associated with home visitor, family, and work characteristics. For example, home visitors' secondary traumatic stress was associated with EHS families' psychosocial risks. Home visitors' burnout was associated with job withdrawal. Both quantitative and qualitative data showed that home visitors were exposed to varying levels of EHS family risk and trauma, and that some home visitors were deeply affected by this exposure.



## 1. Introduction

Home visiting is a promising service strategy for promoting child health and development among vulnerable expectant families and families with young children (Gomby, 2007). Passage of the Maternal, Infant, and Early Childhood Home Visiting (MIECHV) legislation under the 2010 Affordable Care Act introduced an unprecedented era of dissemination of "evidence-based" home-visiting programs that had previously demonstrated positive effects, such as Early Head Start, Healthy Families America, and the Nurse–Family Partnership (Harding, Galano, Martin, Huntington, & Schellenbach, 2007; Love et al., 2005; Olds, 2006). With this new era came growing recognition of the need to elucidate the factors and processes that promote successful replication and scale-up of evidence-based home-visiting strategies (Goldberg, Bumgarner, & Jacobs, 2016; Paulsell, Del Grosso, & Supplee, 2014). One key factor known to support implementation fidelity is the competence and confidence of the workforce (Bertram, Blase, & Fixsen, 2015). Home visitors must be selected, trained, and supported to promote intended outcomes while working with families with a wide range of strengths and needs.

The extent to which home visitor capacities fit with target population characteristics and specific program goals warrants further investigation (Duggan et al., 2007). Home-visiting programs typically target families with high levels of risk including poor infant health, poverty, domestic violence, parental substance abuse, and child maltreatment (Adirim & Supplee, 2013; Paulsell, Avellar, Sama Martin, & Del Grosso, 2010). Programs also intend to improve a broad range of outcomes (e.g., maternal and child health, school readiness, and economic self-sufficiency; U.S. Department of Health and Human Services Administration for Children and Families, 2015). When working with families with multiple, complex risks, home visitors must have the requisite capacities and supports to achieve intended outcomes.

One question that has received little empirical attention concerns how the nature of the work both positively and negatively affects home visitors' capacity and motivation to carry out their roles. Work with vulnerable families might be experienced as

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https://doi.org/10.1016/j.ecresq.2017.11.003
0885-2006/

stimulating and rewarding, resulting in *compassion satisfaction* or, conversely, as stressful and overwhelming, leading to *burnout*, *secondary traumatic stress*, or *job withdrawal* (Stamm, 2002). To fill the gap in the literature on home visitor perceptions of their work, this mixed methods study examined the associations between home visitor, client, and work characteristics and compassion satisfaction, secondary traumatic stress, burnout, and job withdrawal among Early Head Start home visitors.

### 1.1. Professional quality of life

Stamm's (2010) model of Professional Quality of Life guided the current research. Stamm's model offers an ecological approach for understanding home visitors' positive and negative experiences in relation to their work with vulnerable children and families. This model, moreover, suggests that characteristics of the work environment, workers' exposure to secondary trauma in the work setting, and workers' personal characteristics play a role in the development of compassion satisfaction, secondary traumatic stress, and burnout.

*Compassion satisfaction* refers to the perceived satisfaction that helping professionals find in their job, the degree to which they feel successful in their job, and the degree to which they feel supported (Stamm, 2002). The term compassion satisfaction recognizes that work as a professional caregiver can be both challenging and rewarding, and that workers can be motivated by job satisfaction (Bride, Radey, & Figley, 2007). Compassion satisfaction reflects a worker's resilience, capacity for personal growth, and ability to find meaning in her/his stressful work experiences and client relationships.

Coined by Figley (1983), the term *secondary traumatic stress* describes the adverse psychological outcomes associated with the stress of helping or wanting to help a traumatized or suffering person. Although compassion is a necessary precursor to establishing trust within a helping relationship, this compassion can also be eroded as a result of working with clients who are suffering (Figley, 2002a). Secondary traumatic stress is thought to be a progressive and cumulative process that is caused by prolonged, continuous, and intense contact with clients, exposure to stress, and how the helper understands and uses her/his own personality, culture, beliefs and life experiences in the work (Coetzee & Klopper, 2010).

Although secondary traumatic stress stems from secondary exposure to trauma, *burnout* is a term generally used to describe an affective reaction to more general, ongoing occupational stressors that result in a reduced capacity to maintain an intense and meaningful involvement at work. The literature on burnout is extensive yet complex, because it is driven by a variety of conceptual approaches and definitions (Maslach & Leiter, 2008; Pines and Aronson, 1988; Shirom, 2003; Stamm, 2010). According to Stamm's model (2010), burnout refers to emotional exhaustion associated with feelings of hopelessness, anger, frustration, and difficulties in coping with the work or in performing one's job effectively. The onset of these symptoms is typically gradual.

Antecedents of compassion satisfaction, burnout, and secondary traumatic stress are multidimensional and can generally be grouped into three levels: worker, client, and work characteristics. Worker characteristics include factors such as gender (Linley & Joseph, 2007), ethnicity (Sprang, Clark, & Whitt-Woosley, 2007), age, years of experience (Craig & Sprang, 2010; Hamama, 2012), depressive symptoms (Maslach, Shaufeli, & Leiter, 2001), empathy (MacRitchie & Leibowitz, 2010; Sheen, Slade, & Spiby, 2013), adult attachment style (West, 2015), and personal trauma history (Baird & Kracen, 2006; Linley & Joseph, 2007; McKim & Smith-Adcock, 2016). Client characteristics include the nature and extent of trauma and risk to which workers are exposed (Boscarino, Figley, & Adams, 2004; Cunningham, 2003; Sprang et al., 2007). Work characteristics include factors such as job demands, job control, and resources such as supervision and coworker support (Alarcon, 2011; Boyas & Wind, 2010; Lee et al., 2013; McKim & Adcock, 2014; Thompson, Amatea, & Thompson, 2014).

### 1.2. Associations between occupational stressors and home visitor, program, and family well-being

Secondary traumatic stress and burnout have been associated with negative outcomes for workers, organizations, and clients. For workers, burnout has been associated with negative health and mental health problems including physical illness, sleep disturbances, work/family conflict, impatience, moodiness, negative attitudes, and substance abuse (Burke, Greenglass, & Schwarzer, 1996; Cordes & Dougherty, 1993; Miller, 2011). Secondary traumatic stress has been associated with physical, emotional, social, mental, and spiritual exhaustion; difficulty separating work from personal life; reduced frustration tolerance; destructive attempts at self-care; loss of hope; reduced feelings of self-competence; functional impairment; loss of self-worth; diminished productivity; poor morale; and diminished capacity to enjoy life (Bride, Robinson, Yegidis, & Figley, 2004; Bride et al., 2007; Figley, 2002b; Gentry, Baranowsky, & Dunning, 2002; Showalter, 2010).

Negative impacts on workers may translate into negative outcome for organizations. Burnout may lead to low productivity, reduced commitment to the job and/or organization, absenteeism, intent to leave, and job turnover (Dickinson & Perry, 2002; Maslach et al., 2001; Miller, 2011; Swider & Zimmerman, 2010). Burnout compromises decision-making and the workers' ability to attend fully to their clients (Lloyd, King, & Chenoweth, 2002; Maslach et al., 2001). Thus, work-related emotional exhaustion may erode the quality of the working alliance with vulnerable families (Bride et al., 2004, 2007; Gentry et al., 2002; Showalter, 2010).

Occupational stress is especially costly when it contributes to staff turnover. Recent studies have shown annual turnover rates of EHS home visitors to range from 10.5 to 16.3% per year (Vogel et al., 2011, 2015). In turn, absenteeism and turnover can lead to higher stress levels and financial costs for organizations (Maslach & Leiter, 1997). Turnover is costly because home visitors who leave take with them skills, knowledge, and experience that are not easily replaced, especially given the high costs of home visitor training (Coffee-Borden & Paulsell, 2010; Dickinson & Comstock, 2009; Larson & Hewitt, 2005). Although we are not aware of any data on the monetary costs of turnover specific to home visitors, studies have shown that the cost of turnover for workers earning an annual salary of less than $30,000 is approximately 16 percent of the worker's annual salary (Boushey & Glynn, 2012). Home visitor turnover disrupts relationship-based work with families and is associated with reduced program effectiveness and increased family dropout (Gomby, 2007).

### 1.3. The nature of the work: early head start home visiting

Early childhood home visiting has a long history in the U.S., dating back to the 19th century when private charities sent "friendly visitors" to homes of the urban poor (Weiss, 1993). As interest in early child development increased throughout the 20th century, support for home visiting also increased, as did the development and evaluation of complex models such as Parents as Teachers, Healthy Families America, the Nurse–Family Partnership, and Early Head Start. Today, home-visiting models vary in terms of target audience, duration and frequency of visits, and outcome priorities. Home visiting has been shown to be a cost-effective strategy for improving a broad range of child and family outcomes, such as child health and development, maternal health, parenting includ-

ing maltreatment, as well as long-term benefits such as reductions in juvenile delinquency, family violence, and crime, and increased family economic self-sufficiency (for reviews see National Home Visiting Resource Center, 2017; Sama-Miller et al., 2017). At the same time, even "evidence-based" home-visiting models demonstrate room for improvement. A 2013 systematic review illustrated that most programs showed more nonsignificant effects than statistically significant, positive effects (Avellar & Supplee, 2013). Understanding program implementation, especially the role of the home-visiting workforce in facilitating implementation, is crucial. Studies of program implementation have highlighted the importance of factors such as dosage, fidelity to the intervention, and the extent to which practices align with overall program goals (Cassilas, Fauchier, Derkash, & Garrido, 2016; Gomby, 2007; Jones Harden, Chazan-Cohen, Raikes, & Vogel, 2012; Paulsell et al., 2014). Limited research has addressed characteristics of the home-visiting workforce, however.

The current study examined home visitors in Early Head Start (EHS), the largest U.S. federal program designed to promote physical, cognitive, language, social, and emotional development in infants and toddlers from low-income families (Administration for Children and Families, 2014). Approximately 35% of families served by EHS participate in the home-based option (Early Childhood Learning and Knowledge Center, 2017), a dual-generation approach in which the home visitor meets with the family weekly in their home for 90 min from birth until the child reaches the age of three. The EHS home-based model uses a family-centered, relationship-based approach that requires a high level of interpersonal contact. EHS home visitors are required to have a high school diploma, although many have bachelor's degrees (Walker, 2014).

EHS programs prioritize enrollment for families with greatest need. Thus, families served by EHS often demonstrate multiple risks in addition to poverty. Two large national studies found high rates of single parenthood, teen parenthood, unemployment, low educational attainment, and mental health and substance abuse problems among EHS families (Administration for Children and Families, 2006; Vogel et al., 2011). Distressed families may present emotional and behavioral challenges and may share stories of personal trauma that take a high toll on home visitors (Azar, 2000; Gibbs, 2001; Rupert & Morgan, 2005).

Few studies have examined how EHS home visitors experience and are affected by their work. One longitudinal study of 41 EHS home visitors found high levels of emotional exhaustion and depression (Gill, Greenberg, Moon, & Margraf, 2007). Two other studies found evidence of occupational stress (Jones Harden, Denmark, & Saul, 2010) and poor mental and physical health (Whitaker, Becker, Herman, & Gooze, 2013) among EHS home visitors. In another study, 35% of EHS home visitors reported that they were likely or very likely to leave their jobs in the next 12 months (West, Berlin, & Jones Harden, 2013). This evidence raises concerns about not only workers' well-being but also EHS service quality. Thus, understanding occupational stress and well-being in Early Head Start home visitors is paramount to building and sustaining a stable and competent workforce for this critical national program.

### 1.4. The current study

The above review of the literature underscores the paucity of literature examining the home-visiting workforce. Specifically, there is very limited research examining occupational stress and well-being among home visitors, and among EHS home visitors in particular. Our goal was to fill this gap in the literature by capturing overarching trends and obtaining more enriched data through a mixed methods approach, which has been used only rarely in the home-visiting literature. To achieve this goal, the current study addressed two research questions:

(a) What are the rates of compassion satisfaction, burnout, and secondary traumatic stress among EHS home visitors?
(b) In what ways are home visitors' compassion satisfaction, burnout, secondary traumatic stress, and job withdrawal associated with home visitor, EHS family, and work characteristics?

Consistent with a mixed-methods research design, we integrated quantitative and qualitative approaches to address these questions, hypothesizing that each approach would contribute unique information and that the integration of the quantitative and qualitative data would be especially informative.

## 2. Method

### 2.1. Study design

We used a mixed methods sequential explanatory design in which a quantitative phase was followed by a qualitative phase (Creswell & Plano Clark, 2011). Mixed methods approaches are especially valuable when there has been minimal prior research on a topic and when neither quantitative nor qualitative data are likely to capture the complexity of a phenomenon fully (Creswell & Plano Clark, 2011; Tashakkhori & Teddlie, 2003; Yoshikawa, Weisner, Kalil, & Way, 2008). The current study's research questions and the lack of existing evidence led to the selection of a mixed methods approach. The goals of the quantitative phase were to assess rates of compassion satisfaction, burnout, secondary traumatic stress, and job withdrawal and to identify home visitor, EHS family, and work characteristics that are associated with these outcomes. The goals of the qualitative phase were to help explain why certain factors, tested in the first (quantitative) phase, were or were not associated with the outcomes of interest and to capture home visitors' experiences that were not fully assessed in the survey (Ivankova, Creswell, & Stick, 2006).

Quantitative and qualitative methods were connected in multiple stages of the study. Methods were linked at an intermediate stage when we used survey data to guide the selection of individual interview participants (e.g., extreme scorers on the secondary traumatic stress scale) and the development of the interview guide and initial coding scheme. We juxtaposed and integrated data from the two phases to explore differences between home visitors with extreme scores on a measure of secondary traumatic stress. Finally, results of both phases were integrated in the interpretation of outcomes from the entire study.

### 2.2. Participants

The current study built on an ongoing randomized controlled trial (RCT) testing the effects of home-based Early Head Start with and without a supplemental parenting intervention, *Attachment and Biobehavioral Catch-up* (Berlin, Martoccio, & Jones Harden, 2017; Buffering Toxic Stress Consortium Principal Investigators, Meyer, & Fortunato, 2013). Home visitors from five EHS programs that participated in the RCT were invited to participate in the current study. In addition, to increase sample size and enhance generalizability, we invited *all* remaining home visitors from established EHS programs in the state to participate. We identified 19 additional EHS home-visiting programs through publicly available Program Information Report data (Office of Head Start, 2014) and through the assistance of the state Head Start Association and Department of Education. Six new programs were deemed ineligible because they were in the process of hiring and training home visitors; the remaining 13 programs agreed to participate, for a total sample of 18 EHS programs.

**Table 1**
Participant demographic characteristics ($N = 77$).

| Characteristic | N | % |
|---|---|---|
| Female | 76 | 98.7 |
| Race | | |
| Black or African American | 19 | 24.7 |
| White | 40 | 51.9 |
| Biracial or other | 16 | 20.7 |
| Missing | 2 | 2.6 |
| Hispanic, Latino, or Spanish origin | 34 | 44.2 |
| Marital/relationship status | | |
| Married or living with a partner | 48 | 62.3 |
| Single/never married/separated/widowed/divorced | 29 | 37.7 |
| Have children of their own | 52 | 68.4 |
| Education | | |
| Vocational/technical program | 1 | 1.3 |
| Some college | 15 | 19.5 |
| Associate's degree | 15 | 19.5 |
| Bachelor's degree | 38 | 49.4 |
| Master's degree | 8 | 10.4 |
| Fewer than 5 years of home-visiting experience | 65 | 84.4 |

**Table 2**
Interview participant characteristics ($N = 7$).

| Characteristic | N | % |
|---|---|---|
| Female | 7 | 100 |
| Hispanic, Latino, or Spanish origin | | |
| Yes | 4 | 57.1 |
| No | 3 | 42.9 |
| Marital/relationship status | | |
| Married or living with a partner | 5 | 71.4 |
| Single/never married/separated/widowed/divorced | 2 | 28.6 |
| Have children of their own? | | |
| Yes | 5 | 71.4 |
| No | 2 | 28.6 |
| Educational attainment | | |
| Less than Bachelor's degree | 1 | 14.3 |
| Bachelor's degree or higher | 6 | 85.7 |
| Years of experience providing home-visiting services | | |
| Less than 5 years | 5 | 71.4 |
| 5 or more years | 2 | 28.6 |

In the quantitative phase, 80 home visitors from the 18 EHS programs were invited to complete pencil-and-paper survey questionnaires; 77 (96%) home visitors agreed to participate. Home visitors represented urban, suburban, and rural EHS programs. The number of participants per EHS program ranged from one to nine ($M = 4.28$, $SD = 1.87$). Home visitors were diverse in age, race/ethnicity,[1] and education (see Table 1). More than half (52%) were white, 44% were Latino, and 59% had a bachelor's degree or more education. Participants' ages ranged from 22 to 71 years ($M = 39.01$, $SD = 11.29$). Caseload sizes ranged from 1 to 22 families ($M = 10.60$, $SD = 3.81$). Ten home visitors had larger than typical caseloads (e.g., more than 12 families) because they worked in combination programs in which families received both center-based services and less frequent (monthly) home visits. There were two significant differences between RCT home visitors ($n = 31$) and the larger, statewide sample ($n = 46$); RCT home visitors were more likely to identify as Hispanic or Latino ($\chi^2$ (1, $N = 77$) $= 28.02$, $p < .001$) and had higher scores on compassion satisfaction than non-RCT home visitors ($t(73.74) = 3.43$, $p < .001$). Consequently, home visitor ethnicity was included as a covariate in all analyses.

In order to assess the unique contribution of EHS family risk to home visitor well-being, survey data from the RCT home visitors were linked with demographic and psychosocial risk data from EHS families whom they served ($N = 102$), which were previously collected as part of the larger RCT. Family-level risk data were available for a subset of home visitors only ($n = 27$). The RCT included English- or Spanish-speaking biological mothers, aged 18 years or older, who were the primary caregivers of 6- to 18-month-old infants and who had received home-based EHS services for at least 3 months. The RCT excluded families receiving Part C early intervention services due to concerns about overburdening families with providers.

In the qualitative phase, we used a two-stage maximum variation sampling strategy in which we identified home visitors to recruit for individual interviews based on their responses in the quantitative phase. First, we used the survey data to identify home visitors who scored in the highest or lowest tertiles on the measure of secondary traumatic stress. Second, we sampled five respondents from each group (high/low) to ensure variability in demographic characteristics (age, ethnicity, and family status) and EHS program. Seven of the 10 home visitors recruited (70%) agreed to participate. Of the seven interviewees, three "high STS" participants scored in the top quartile for secondary traumatic stress and four "low STS" participants scored in the bottom quartile. Table 2 describes interview participant characteristics. Because qualitative research is designed to obtain an in-depth understanding of a complex phenomenon, a smaller sample size is sufficient to answer specific research questions, as in the current study (Small, 2009).

### 2.3. Procedures

In the first, quantitative phase, the first author visited 17 of 18 EHS programs to administer pencil-and-paper surveys. For the 18th program, which had only one home visitor, procedures were described by phone, and a study packet was mailed to the participant with clear instructions and a postage-paid return envelope. At five EHS sites in which home visitors spoke primarily Spanish, study procedures were explained in Spanish by a bilingual, bicultural research assistant. Participants at all sites were offered the opportunity to take the survey in English or Spanish. The survey took approximately 40 min to complete. Participants received a $25 gift card for their time.

In the second, qualitative phase, the first author or a trained research assistant conducted face-to-face semi-structured interviews at locations selected by the participants. Interviews were designed to take about one hour ($M = 57$ min; $SD = 15.11$). Six of the seven interviews were conducted in English; one interview was conducted in Spanish by the bilingual, bicultural assistant. Interviews were audiotaped and transcribed verbatim. Again, participants received a $25 gift card for their time.

### 2.4. Survey questionnaire measures

As noted, in the quantitative phase of the study, home visitors completed pencil-and-paper surveys. Scales used in the survey were well established with previous evidence of reliability and validity. When assessing internal consistency reliabilities in the current sample, following Peterson (1994), we considered an alpha coefficient of .70 as acceptable. If internal consistency reliabilities dipped below .70, we evaluated scale properties further and considered the deletion of problematic items. If there were no problematic items to delete and the alpha coefficient was between .60 and .70, the scale was retained, given that some scholars have argued that an alpha coefficient of .60 is also acceptable, especially when using an established measure with a new culture (Loewenthal, 2004).

[1] Race and ethnicity were assessed together and could not be reported in a non-overlapping manner.

#### 2.4.1. Compassion satisfaction, secondary traumatic stress, burnout, and job withdrawal

The Professional Quality of Life Scale (ProQOL Version 5; Stamm, 2010) comprises 30 Likert-style items (1 = *never* to 6 = *very often*) that comprise three subscales with 10 items each: Compassion Satisfaction; Secondary Traumatic Stress; and Burnout. Items were summed to create subscale scores. Following Peterson (1994), we used alpha of .70 as acceptable. In this sample, Cronbach's alphas were good for compassion satisfaction ($\alpha$ = .87) and acceptable for secondary traumatic stress ($\alpha$ = .78) but relatively poor for burnout ($\alpha$ = .63). Three items with low item-total correlations ("I have beliefs that sustain me," "I am a very caring person," and "I feel connected to others") were subsequently dropped, resulting in a 6-item Burnout scale ($\alpha$ = .78). Home visitors' job withdrawal was assessed using three questions drawn from the Organizational Withdrawal Scale (OWS; Laczo and Hanisch, 1999; Hwang & Hopkins, 2012), averaged to create an overall job withdrawal score ($\alpha$ = .91).

#### 2.4.2. Home visitor demographic and psychosocial characteristics

Age, number of months providing home-visiting services, and the number of months working in current position were assessed as continuous variables. Race, ethnicity, years of experience providing home-visiting services, and years of education were assessed categorically.

One item assessing overall physical health, "Would you say your health in general is. . .," was rated on a scale ranging from 1 (*poor*) to 5 (*excellent*) (Gallup-Healthways Well-Being Index, n.d.). Depressive symptoms were assessed using the 10-item version of the Center for Epidemiologic Studies Depression Scale (CES-D 10; Andresen, Carter, Malmgren, & Patrick, 1994). Response options ranged from 0 (*rarely or none of the time*) to 3 (*most of the time*). Items were summed to create a total score, with higher scores indicating more depressed mood ($\alpha$ = .68).

The 12-item Experiences in Close Relationship Scale (ECR-S; Wei, Mallinckrodt, & Vogel, 2007) was used to assess attachment avoidance (6 items) and attachment anxiety (6 items). The ECR-S is a well-established measure with strong psychometric properties. Instructions and items were reworded to measure close relationships in general, independent of an individual's current relationship status (Mikulincer & Shaver, 2007). Likert response options ranged from 1 (*disagree strongly*) to 7 (*agree strongly*). Internal consistency reliabilities were low in this sample for both scales ($\alpha$'s = .66). For the Anxiety subscale, the item-total correlation for one item was small and negative (−.04); upon closer examination, it was suspected that the phrasing of the item as a double negative ("I do not often worry about being abandoned") was likely the problem, particularly for Spanish-speaking participants. For this reason, this item was dropped. The final 5-item scale had adequate internal consistency reliability ($\alpha$ = .80). For the Avoidance subscale, no particular item was deemed particularly problematic; thus, all items were retained.

Empathy was assessed using fourteen items from the Interpersonal Reactivity Index (IRI; Davis, 1983). Seven items each assessed Personal Distress ($\alpha$ = .83) and Perspective-Taking ($\alpha$ = .77). Likert responses ranged from 1 (*never*) to 5 (*always*). Items were summed to create the two scale scores. Home visitors' material hardship was assessed using the sum of four items developed by Mayer and Jencks (1989). Participants indicated whether in the past 12 months they received certain types of public assistance, did not have enough money to provide shelter for their family, did not pay all of their bills, and did not have enough money for health care and/or medicines (all coded 1 = *yes*, 0 = *no*).

#### 2.4.3. Work characteristics

Nineteen items from the Job Characteristics Questionnaire assessed five domains of potential stress: skill discretion, decision authority, demands, coworker support, and supervisor support (Karasek et al., 1998; Ryff et al., 2011). Response options ranged from 1 (*never*) to 5 (*always*). Following Whitaker, Dearth-Wesley, and Gooze (2015), items from the Skill Discretion and Decision Authority subscales were combined into a single subscale, Control (9 items). Due to low subscale reliability and low item-total correlations, three items were dropped, resulting in a final 6-item scale ($\alpha$ = .71). Cronbach's alphas for the Demands (5 items), Coworker Support (2 items), and Supervisor Support (3 items) subscales were .82, .84, and .89, respectively.

Satisfaction with salary and benefits was assessed using a 4-item scale (Dickinson & Painter, 2009). Participants rated items on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Items were summed to create a total score, with higher scores indicating greater satisfaction ($\alpha$ = .52). This scale was retained for exploratory purposes despite low reliability because prior research has shown associations between satisfaction with salary and intent to leave among other human service employees (Mor Barak, Nissly, & Levin, 2001). One survey item assessed the number of families on each home visitor's caseload as a continuous variable. We created two Likert-type items to assess (a) home visitors' concerns about their personal safety while on the job, and (b) home visitors' perceptions of their employers' concerns about their personal safety while on the job.

#### 2.4.4. EHS family risk

EHS family cumulative risk was assessed using EHS family demographic and psychosocial risk data collected as part of the RCT. A 13-point cumulative risk score was created for each family. Relevant EHS family risk factors were identified based on criteria following Sameroff, Seifer, Zax, and Barocas (1987). EHS family demographic risk variables included maternal education, marital status, teen mother at birth of first child, TANF receipt, social cohesion, socioeconomic strain, and number of children in the home. EHS maternal psychological risk variables included maternal depressive symptoms, maternal anxiety, maternal childhood trauma, parenting stress, intimate partner violence, and adult attachment insecurity. Individual variables were transformed into new dichotomous variables indicating the presence or absence of risk (1 = *presence of risk*, 0 = *absence of risk*). For continuous variables, established cut scores were used to determine presence or absence of risk when available; otherwise, families in the top quartile were placed in the *presence of risk* category. Dichotomous variables were summed to create the cumulative risk index with higher scores indicating higher levels of EHS family cumulative risk.

### 2.5. Individual interview guide

The semi-structured interview guide[2] contained 19 questions designed to elicit a more nuanced understanding of why multilevel factors shown in the quantitative phase were or were not associated with the outcomes of interest. Interview questions were grouped into four main categories: (a) expectations of the work, (b) experiences with families, (c) coping, and (d) meaning making. Follow-up questions and/or probes were used to clarify responses and to elicit greater detail (Marshall & Rossman, 2011; Padgett, 2008). Six of the seven interviews were conducted in English. One interview was conducted in Spanish. This interview was transcribed in Spanish and then translated into English by the same research assistant.

### 2.6. Data analysis

As detailed below, we first analyzed the quantitative, survey questionnaire data. We then used the individual interview data to explain and elaborate on survey findings.

[2] The interview guide is available upon request.

**Table 3**
EHS home visitors' scores on the compassion satisfaction and secondary traumatic stress scales of the ProQOL.

| Cut score | Compassion satisfaction ($N = 76$) | | Secondary traumatic stress ($N = 77$) | |
|---|---|---|---|---|
| | *n* | % | *n* | % |
| Low | 0 | 0 | 64 | 83.1 |
| Moderate | 29 | 38.2 | 12 | 15.6 |
| High | 47 | 61.8 | 1 | 1.3 |

### 2.6.1. Quantitative data analysis

Survey data cleaning and descriptive and bivariate analyses were conducted in SPSS v. 22. Overall, minimal data were missing (1.72%). For scale scores, missing values were handled using ipsative (person-level) mean imputation when at least 66% of items on the scale were available. To control for clustering within the 18 EHS programs, we used multilevel modeling (MLM) to examine the fixed effects of home visitor, EHS family, and perceived work characteristics on the outcomes. Sample sizes at levels one and two were expected to yield adequate power to build models with eight to 10 predictor variables (Bickel, 2007; VanVoorhis & Morgan, 2007) and unbiased estimates with as few as 15 clusters (McNeish and Stapleton, 2014). Following the recommendation of Gelman and Hill (2007), multilevel models were built and tested incrementally in a sequence of steps leading to models of increasing complexity. Model fit was assessed using Akaike information criteria (AIC) and Bayesian information criteria (BIC) following the addition or subtraction of individual variables. These fit indices assess incremental improvement in fit across models, with the smallest value representing the best fitting model (Byrne, 2012).

We conducted two sets of multivariate analyses in MPlus 7.1 (Muthén and Muthén, 2012). In the first set of analyses, a series of two-level models assessed the effects of home visitor and work characteristics on the four dependent variables: compassion satisfaction, secondary traumatic stress, burnout, and job withdrawal. In the first two models, variables were selected based on prior research findings in related fields. The first model included home visitor demographic and psychosocial variables and covariates. In the second model, home visitors' self-reported perceptions of work characteristics were added. In the third model, exploratory variables were added based on EHS program manager recommendations (i.e., material hardship and perceptions of safety) and more limited research findings (i.e., empathy). A series of intermediate models were tested between the third and final models in which variables were dropped one at a time if they showed no association with the dependent variable.

The second set of two-level analyses tested the relative influence of EHS family cumulative risk on compassion satisfaction, secondary traumatic stress, burnout, and job withdrawal using, as described above, a subsample of home visitor survey data ($n = 27$) linked with available data from EHS families ($N = 102$).[3] In these models, a set of dummy variables controlled for clustering within EHS programs.

**Table 5**
Unconditional intraclass correlation coefficients (ICCs) for key study variables.

| Construct | ICC |
|---|---|
| Compassion satisfaction | .127 |
| Secondary traumatic stress | .003 |
| Burnout | .095 |
| Job withdrawal | .277 |

### 2.6.2. Qualitative data analysis

Qualitative data analysis followed procedures outlined by Miles, Huberman, and Saldana (2014) and drew explicitly on results

[3] We followed an approach for micro–macro multilevel analysis in which a dependent variable at level two (e.g., secondary traumatic stress) is predicted by an independent variable defined at level one (e.g., EHS family cumulative risk) (Croon and van Veldhoven, 2007). This approach overcomes many of the problems associated with more traditional approaches to this design (e.g., aggregating level one or level two data into group means), while also capitalizing on the sample size at level one.

**Table 4**
Bivariate correlations between individual and occupational characteristics and key outcome variables ($N = 74$–$77$).

| | Compassion satisfaction | Secondary traumatic stress | Burnout | Job withdrawal |
|---|---|---|---|---|
| Home visitor characteristics | | | | |
| Ethnicity (1 = Hispanic or Latina; 0 = other) | .49*** | .04 | −.27* | −.19 |
| Age | .19 | −.09 | −.18 | −.15 |
| Material hardship | .24* | .06 | −.05 | .00 |
| Years of education | −.05 | −.15 | .03 | .19 |
| Depressive symptoms | −.38*** | .36*** | .57*** | .29* |
| Attachment anxiety | −.07 | .33** | .27* | −.09 |
| Attachment avoidance | −.18 | .40** | .17 | .04 |
| Perspective-taking | .19 | −.09 | −.02 | .08 |
| Personal distress | −.10 | .41*** | .14 | −.17 |
| Work characteristics | | | | |
| Caseload size | .13 | .03 | .08 | .10 |
| Job control | .05 | −.08 | −.32** | −.31** |
| Job demands | −.11 | .23* | .57** | .44** |
| Coworker support | .17 | −.33** | −.24* | .06 |
| Supervisor support | .32** | −.14 | −.33** | −.24* |
| Satisfaction with salary and benefits | .08 | .05 | −.34** | −.51** |
| Job satisfaction | .47** | −.08 | −.56** | −.43** |
| Concerns about personal safety | −.21 | .03 | .32** | .11 |
| Perception of employer's commitment to safety | .05 | −.15 | −.42*** | −.50** |
| Hours of supervision per month | .20 | .12 | −.14 | −.08 |
| Compassion satisfaction | | | | −.19† |
| Secondary traumatic stress | | | | .08 |
| Burnout | | | | .57** |

*$p \leq .05$.
**$p \leq .01$.
***$p \leq .001$ (2-tailed).
†$p \leq .10$

**Table 6**
Unstandardized fixed effect estimates and SEs for models predicting compassion satisfaction ($N = 75$).

| Parameter | Model 1 | Model 2 | Model 3 | Final model |
|---|---|---|---|---|
| ICC | .006 | .004 | .006 | .004 |
| Home visitor characteristics | | | | |
| Hispanic or Latina ethnicity | 4.65 (1.08)*** | 4.99 (1.20)*** | 4.31(1.05)*** | 4.16 (1.0)*** |
| Education | .46 (.59) | .57 (.64) | .36 (.54) | |
| ≥5 years of experience in home visiting | 1.78 (1.41) | 1.86 (1.48) | 2.38 (1.33)† | 1.94 (1.30) |
| Adverse childhood experiences | .02 (.24) | .14 (.26) | −.10 (.24) | |
| Depressive symptoms | −.43(.15)** | −.39 (.15)** | −.41 (.14)** | −.41 (.13)*** |
| Attachment anxiety | .08 (.09) | .08 (.10) | .13 (.09) | |
| Attachment avoidance | −.13 (.09)† | −.13 (.09) | −.13 (.09) | −.11 (.08) |
| Work characteristics | | | | |
| Caseload size | | .17 (.14) | .27 (.14)† | .15 (.13) |
| Hours of supervision per month | | .08 (.30) | −.07 (.32) | |
| Perception of job demands | | .08 (.18) | −.16 (.16) | |
| Perception of job control | | .16 (.18) | −.01 (.15) | |
| Coworker support | | .57 (.40) | .31(.35) | |
| Supervisor support | | −.01 (.14) | −.05 (.14) | |
| Exploratory variables | | | | |
| Material hardship | | | 1.19 (.48)* | 1.02 (.43)* |
| Perspective-taking | | | .24 (.14)† | .23 (.11)* |
| Information criteria | | | | |
| AIC (*SD*) | 447.91 (.26) | 445.26 (.25) | 448.08 (.44) | 438.14 (.28) |
| Sample-size adjusted BIC (*SD*) | 439.57 (.26) | 431.49 (.25) | 433.07 (.44) | 429.80 (.28) |

† $p \leq .10$.
* $p \leq .05$.
** $p \leq .01$.
*** $p \leq .001$.

from the quantitative phase of this study. First, we uploaded transcripts into Dedoose 6.1.18 (SocioCultural Research Consultants, 2015).[4] Prior to analyzing the data, a provisional "start list" of first cycle codes was created based on the quantitative findings. Codes described multilevel factors for occupational stress and well-being such as personality, empathy, job demands, supervisor support, and coworker support, for example. We next applied the preliminary codes to the first four interview transcripts, after which codes were refined and finalized. Codes were added to capture new factors not assessed in the survey, such as *environmental hazards* and *overinvolvement*. Second cycle coding was then used to group codes into categories and themes that appeared to intersect. Next, the data were examined for the existence of patterns both within and between cases. Finally, quotes from participants were extracted to provide examples of situations that may give rise to occupational stress and well-being.

Study procedures included several strategies to enhance rigor and trustworthiness of these analyses (Padgett, 2008). First, the use of both qualitative and quantitative data to study the same phenomena provided methodological triangulation. Second, research memos were written throughout the coding process to document emerging and evolving thoughts about the data. Third, to reduce the impact of researcher bias, the primary coder met several times with a research assistant who independently reviewed four transcripts, two at a time. These meetings served to: (a) develop the initial code list, (b) identify and discuss alternate perspectives on the data, and (c) establish inter-rater agreement. Finally, participant contact sheets, transcripts, research memos, codes, and themes were preserved to create an audit trail for the purpose of enhancing openness and reproducibility. All study procedures were approved by the University of Maryland, Baltimore Institutional Review Board.

[4] Dedoose is a secure web application that facilitates analysis of mixed methods data.

## 3. Results

### 3.1. Quantitative results

#### 3.1.1. Rates of compassion satisfaction, secondary traumatic stress, and burnout

Table 3 presents the relative rates of compassion satisfaction and secondary traumatic stress based on Stamm's (2010) categorical cut scores. The majority of home visitors were categorized as high on Compassion Satisfaction ($n = 47$, 61.8% scored "high") and low on Secondary Traumatic Stress ($n = 64$, 83.1% scored "low"). The dropping of one problematic item from the Burnout scale precluded the use of cut scores to compare our sample's scores with normed data.

#### 3.1.2. Correlates of compassion satisfaction, secondary traumatic stress, burnout, and job withdrawal

Preliminary bivariate correlations among variables were examined and found to be in expected directions (see Table 4). Notably, one variable, depressive symptoms, was associated with all four outcomes of interest. Correlations among the dependent variables were moderate, ranging from −.30 to .57. Variability associated with clustering at the EHS program level was assessed by calculating the unconditional intraclass correlation coefficients (ICCs) for each outcome of interest. ICCs for the outcomes ranged from .003 to .277 (see Table 5). For job withdrawal, the relatively large ICC of .277 indicated that 28% of the variability was associated with factors at the organizational level. Low ICCs for other outcomes suggested that variability in these outcomes was associated primarily with factors at the home visitor or client level.

#### 3.1.3. Predictors of compassion satisfaction

After controlling for program-level variability, the addition of home visitor characteristics resulted in an improvement in model fit over the initial baseline model (see Table 6). Significant predictors of compassion satisfaction included Latina ethnicity

**Table 7**
Unstandardized fixed effect estimates and SEs for models predicting secondary traumatic stress ($N = 76$).

| Parameter | Model 1 | Model 2 | Model 3 | Final model |
|---|---|---|---|---|
| ICC | .006 | .003 | .016 | .014 |
| Home visitor characteristics | | | | |
| Hispanic or Latina ethnicity | .89 (1.03) | .42 (1.06) | .27 (.99) | .03 (.96) |
| Education | −.96 (.53)† | −.739(.53) | −.77 (.50) | −.78 (.49) |
| ≥5 years of experience in home visiting | −1.96 (1.40) | −2.54 (1.34)† | −3.01 (1.23)* | −2.83 (1.23)* |
| Depressive symptoms | .44 (.14)** | .37 (.15)** | .34 (.13)* | .31 (.12)** |
| Adverse childhood experiences | −.05 (.23) | −.03 (.23) | −.01 (.21) | |
| Attachment anxiety | .07 (.09) | .07 (.09) | −.06 (.09) | |
| Attachment avoidance | .33 (.08)*** | .31 (.09)*** | .31 (.08)*** | .29 (.07)*** |
| Work characteristics | | | | |
| Caseload size | | −.09 (.13) | −.08 (.12) | −.08 (.12) |
| Job demands | | .25 (.16) | .32 (.14)* | .30 (.12)** |
| Job control | | .13 (.15) | .09 (.15) | |
| Coworker support | | −.42 (.36) | −.02 (.35) | |
| Supervisor support | | .07 (.14) | −.04 (.14) | |
| Hours of supervision per month | | .37 (.28) | .48 (.27)† | .47 (.25)† |
| Exploratory variables | | | | |
| Personal distress | | | .53 (.16)*** | .50 (.13)*** |
| Information criteria | | | | |
| AIC (*SD*) | 450.27 (1.02) | 454.81 (1.21) | 445.97 (.51) | 437.09 (.64) |
| Sample-size adjusted BIC (*SD*) | 442.06 (1.02) | 441.66 (1.21) | 432.00 (.51) | 427.23 (.64) |

*Note.* Standard errors are in parentheses.
† $p \leq .10$.
* $p \leq .05$.
** $p \leq .01$.
*** $p \leq .001$.

($B = 4.16$, $p \leq .001$), greater material hardship ($B = 1.02$, $p = .02$), greater empathic perspective-taking ($B = .23$, $p = .04$), and fewer depressive symptoms ($B = -.41$, $p = .001$).

#### 3.1.4. Predictors of secondary traumatic stress

The addition of home visitor and work characteristics improved model fit over the baseline model (see Table 7). Significant predictors included fewer than five years of experience as a home visitor ($B = -2.83$, $p = .02$), more depressive symptoms ($B = .31$, $p = .01$), adult attachment avoidance ($B = .29$, $p \leq .001$), greater empathic personal distress ($B = .50$, $p \leq .001$), and perceptions of higher job demands ($B = .30$, $p = .01$).

#### 3.1.5. Predictors of burnout

The addition of home visitor and work characteristics improved model fit over the baseline model (see Table 8). Significant predictors included higher levels of depressive symptoms ($B = .46$, $p \leq .001$) and perceptions of higher job demands ($B = .47$ $p \leq .001$). There were trends toward associations between burnout and perceptions of greater supervisor support ($B = .16$, $p = .07$), concerns about safety on the job ($B = .25$, $p = .08$), and having the perception that the employer was less committed to personal safety ($B = -.24$, $p = .09$).

#### 3.1.6. Predictors of job withdrawal

After accounting for clustering, significant predictors of job withdrawal included higher levels of burnout ($B = .11$, $p \leq .001$), low satisfaction with benefits ($B = -.12$, $p = .004$), and home visitors' perceptions that their employers were less concerned about their personal safety ($B = -.08$, $p = .02$). Greater coworker support ($B = .11$, $p = .09$) was also marginally associated with job withdrawal (see Table 9).

#### 3.1.7. Associations with EHS family characteristics

In the second set of analyses, baseline data from the 102 EHS families that were available from the RCT were linked with survey data from 27 home visitors. After controlling for the same sets of variables included in the cross-sectional survey analyses described above, higher EHS family cumulative risk scores were associated with greater home visitor secondary traumatic stress ($B = 4.95$, $p = .05$), but not compassion satisfaction or burnout.

### 3.2. Qualitative results

The individual and collective analysis of interviews yielded three major themes that demonstrated differences and commonalities in how home visitors experience their work: Feelings about the Work; Sources of Stress; and Support and Coping. When indicated, quantitative results are referenced and linked with qualitative findings. Table 10 presents exemplar quotes organized by theme and participants' relative levels of secondary traumatic stress.

#### 3.2.1. Feelings about the work

All home visitors expressed both positive and negative feelings about their work. When asked what they like most about their jobs, some emphasized the intrinsic rewards associated with working with vulnerable families. Some enjoyed the relational aspects of the job, such as spending time with the families and developing trust. Others focused more on the end results, such as seeing the children grow and develop and seeing the parents reach their goals. In addition, some participants discussed how they enjoyed learning about how to work with different types of families and appreciated the intellectual challenges of the job. All responses demonstrated a high level of commitment to EHS families. There were no apparent differences between "high STS" and "low STS" home visitors in how they described positive aspects of their work. All home visitors also expressed negative feelings about the work. Some negative feelings were associated with specific job demands such as paperwork or family recruitment. However, "high STS" visitors expressed more pervasive feelings of exhaustion, preoccupation, and, in one case, hopelessness, directly related to working with families in crisis or with families who show little improvement.

**Table 8**
Unstandardized fixed effect estimates and SEs for models predicting burnout ($N = 75$).

| Parameter | Model 1 | Model 2 | Model 3 | Final model |
|---|---|---|---|---|
| ICC | .007 | .005 | .001 | .001 |
| Home visitor characteristics | | | | |
| Hispanic or Latina ethnicity | −1.28 (.92) | −1.86 (.81)* | −1.54 (.80)* | −1.35 (.71)† |
| Education | −.15 (.48) | −.29 (.39) | −.33 (.38) | |
| Years in current position | .09 (.14) | −.03 (.14) | −.00 (.16) | |
| Depressive symptoms | .67 (.13)*** | .47 (.11)*** | .45 (.11)*** | .46 (.09)*** |
| Attachment anxiety | .02 (.08) | .06 (.08) | .03 (.07) | |
| Attachment avoidance | .11 (.08) | .04 (.07) | .05 (.07) | .06 (.06) |
| Work characteristics | | | | |
| Caseload size | | −.09 (.11) | −.10 (.10) | −.09 (.09) |
| Perception of job security | | −.77 (.48) | −.58 (.54) | −.65 (.42) |
| Job demands | | .41 (.13)*** | .48 (.16)** | .47 (.12)*** |
| Job control | | −.23 (.12)* | −.14 (.14) | −.12 (.11) |
| Coworker support | | .10 (.26) | .08 (.25) | |
| Supervisor support | | .11 (.10) | .16 (.10) | .16 (.09)† |
| Hours of supervision per month | | .10 (.21) | .01 (.38) | |
| Exploratory variables | | | | |
| Concerns about personal safety | | | .25 (.15)† | .25 (.15)† |
| Perception of employer's commitment to safety | | | −.22 (.19) | −.24 (.14)† |
| Information criteria | | | | |
| AIC (*SD*) | 426.22 (.86) | 406.38 (.91) | 403.35 (.36) | 394.79 (.40) |
| Sample-size adjusted BIC (*SD*) | 418.71 (.86) | 393.03 (.91) | 388.33 (.36) | 383.95 (.40) |

*Note.* Standard errors are in parentheses.
† $p \leq .10$.
* $p \leq .05$.
** $p \leq .01$.
*** $p \leq .001$.

**Table 9**
Unstandardized fixed effect estimates and SEs for models of the predictors of job withdrawal (level 1 $N = 76$).

| Parameter | Model 1 | Model 2 | Final model |
|---|---|---|---|
| ICC | .132 | .103 | .096 |
| Home visitor characteristics | | | |
| Hispanic or Latina ethnicity | −.14 (.23) | .08 (.23) | |
| Education | .08 (.10) | .14 (.09) | .14 (.09) |
| Depressive symptoms | −.02 (.03) | −.01 (.03) | −.01 (.03) |
| Compassion satisfaction | .04 (.02)† | .01 (.02) | |
| Secondary traumatic stress | −.07 (.02)** | −.04 (.02)† | −.03 (.02) |
| Burnout | .20 (.03)*** | .13 (.04)*** | .11 (.03)*** |
| Work characteristics | | | |
| Job demands | | .03 (.03) | .03 (.03) |
| Job control | | .04 (.03) | .04 (.03) |
| Coworker support | | .11 (.07) | .11 (.06)† |
| Supervisor support | | −.01 (.02) | |
| Hours of supervision per month | | −.01 (.06) | |
| Satisfaction with salary and benefits | | −.11 (.04)** | −.12 (.04)** |
| Job security | | −.06 (.12) | |
| Perception of employers' commitment to safety | | −.08 (.04)* | −.08 (.03)* |
| Information criteria | | | |
| AIC (*SD*) | 200.24 (.46) | 199.45 (.64) | 190.36 (1.09) |
| Sample-size adjusted BIC (*SD*) | 192.85 (.46) | 185.49 (.63) | 180.51 (1.09) |

*Note.* Standard errors are in parentheses.
† $p \leq .10$.
* $p \leq .05$.
** $p \leq .01$.
*** $p \leq .001$.

### 3.2.2. Sources of stress

Given that all participants described some negative feelings about the work, the interview data were examined for multiple stressors that may give rise to compassion satisfaction, secondary traumatic stress, or burnout. To facilitate integration with survey results, factors are described as home visitor characteristics, EHS family characteristics, and work characteristics.

### 3.2.3. Home visitor characteristics

Interview data suggested that some home visitors were more susceptible to occupational stress. For example, home visitors varied in their ability to separate work from home life, both physically and mentally. Four home visitors reported taking paperwork home at night or using time at home after work hours or on weekends to scour the Internet for resources for their families. Home visitors also varied in the extent to which they reported worrying about families after the workday was over. Although several home visitors shared that families sometimes called them during evenings or on weekends, only one "high STS" home visitor said that she would return calls after work hours.

Home visitors also varied in their levels of patience and, alternately, frustration, particularly when parents cancelled or failed to

**Table 10**
Summary of qualitative themes and exemplar quotes by relative level of secondary traumatic stress.

| Qualitative themes | | Exemplar quotes | |
|---|---|---|---|
| | | "High STS" | "Low STS" |
| Feelings about work | Positive | Sometimes you're the only voice for these kids who can't speak yet. | They're always grateful when I'm there and it feels good just to be working with them. I feel good. |
| | Negative | Most of the time when there are crises, it feels very overwhelm[ing]. . .it make[s] me a little bit tired. Not tired physically, mentally. Mentally. . . because of all the struggling they're going through. | They don't pay for certain things that I think we deserve . . . they don't pay for any of the cellphone bill. |
| Sources of stress | Home visitor | Sometimes families will call you 7 o'clock at night, 9 o'clock at night or 6 o'clock in the morning. . .and if they're in crisis I will call back. And I will come back out there if I have to. | I leave my work cell phone here, so if they call after hours I'll see it the next morning and then I'll return their call to see if it's something they still need. |
| | EHS family | I have a mom, she has many different things like mental issues, like bipolar, depression, anxiety. We talk about it all the time, about goals, and it seems like she's not moving forward. . .she's attached to me. When other home visitors come, no, she just want me. That's very challenging. | I've been in a home and 5 or 6 other family members are there where this one may be drinking alcohol or this one may be smoking. |
| | Work | Sometimes I think, I don't want to do this anymore because I don't have the proper training. I don't feel confident really. | Paperwork. . .keeping up on medical records and all that . . .it's a lot for us, when our caseload is so large and to have to deal with the family files as well as doing visits. |
| Coping and supports | Personal coping and supports | If they are not doing well, that part is really hard sometimes. . .sometimes after my work, I try to do other things to keep my brain, you know. Like planting, do scrapbooking, ride my bike, to continue doing things and separate that part. | You think about some of this stuff. . .you think about that when you go home, [wondering] 'Is she all right?' or something like that. But I can't take it home with me. |
| | Organizational supports | My supervisor definitely helps a lot. . .She's done home visiting and kind of has a feel for these families and. . .she kind of know what they are going through. | [Supervisor] has an open door policy so, you know whenever something's going on, if we're not comfortable with a situation that we walk into in a home, anything like that we're able to talk to her about that. |

be present for visits. The following quote from one "high-STS" home visitor suggests that some visitors learned patience and reflection through experience:

> I realized, okay. I need to be very patient. I need to just tell myself things happen. They cancel, they cancel. Don't beat yourself up. Don't take it personal. Don't feel like, "Oh, is it because they don't like you?" I was thinking all of that in the beginning.

Home visitors also appeared to vary in the extent to which they inquired about and offered direct emotional support to families with severe challenges such as mental illness, domestic violence, or substance abuse. Home visitors who saw such inquiries as part of their role would at times elicit intimate details of families' lives, which may have contributed to worry, stress, overinvolvement, or feelings of helplessness. Notably, one "high STS" home visitor described being highly emotionally involved with her families, referring to examples of trauma in the lives of some of her clients and emphasizing that families told her "everything." Other visitors placed heaver emphasis on helping families meet concrete needs such as for food and shelter. These visitors seemed less likely to inquire about sensitive topics, and if they encountered such topics would focus on making a referral to a professional service provider.

### *3.2.4. EHS family characteristics*

For both "high" and "low" STS home visitors, EHS family characteristics contributed to worker stress and well-being by increasing demands on home visitors' time, by challenging confidence and producing anxiety, and by reducing the amount of control workers had over their schedules. All home visitors described spending a lot of time coordinating services, particularly for families who were struggling to meet basic needs. Some families required more time and "hand-holding" to connect to services. These included mothers with depression or other mental health concerns, parents with cognitive or developmental disabilities, and families who did not speak English. In some instances, EHS families had needs that may have exceeded the home visitors' skills and abilities. In particular, each of the "high STS" home visitors described a sense of feeling overwhelmed by "high demand" families. "High STS" home visitors described caseloads comprising families with very difficult psychosocial challenges, in addition to stressors related to low family income. Two of the three "high STS" home visitors detailed challenges working with families with mental health concerns. The third also served families with mental health challenges, yet she seemed particularly overwhelmed by mothers with cognitive limitations. EHS family behaviors may lead to some visitors feeling anxious and out of control.

### *3.2.5. Work characteristics*

Both "high" and low" STS participants alluded to rigorous job demands, lack of job control and resources, and environmental hazards as sources of stress. Home visitors cited documentation requirements, caseload size, low pay, and lack of supplies as things they liked least and as areas of their work experience in need of improvement. Several home visitors indicated that it was very difficult, or "nearly impossible," to complete required paperwork during the workday. One home visitor expressed suspicion and frustration that the data were not used for any legitimate purpose.

Home visitors varied in the extent to which they felt supported in their roles and were understood and appreciated by others in their organization. Some visitors described feeling ill-prepared at first to begin work with families, and suggested that most of their learning occurred on the job. One "high-STS" home visitor suggested a need for more realistic training: "I can't really say that [training] helped very much . . . it showed us videos of, like, the perfect family." Some visitors expressed frustration with feeling undervalued by upper management. As one "high-STS" home visitor explained: "The people higher up, most of them have never done home visits so they don't realize just how hard it is to meet with

these families every week." "High" and "low" STS home visitors revealed no apparent differences in coping strategies or perceptions of supervisor support.

Lack of control was another potential source of stress. Some home visitors verbalized a fear of "getting in trouble" if they were too flexible in meeting family needs. As described by one "high-STS" home visitor who worked with a family that frequently cut visits short: "I'll come early and then she'll cut the visit anyway and it'll be one hour. I'm like, 'I can't do an hour. I've got to have that one hour and 30 min. That's required.'" In addition, all home visitors had families who cancelled visits. Rescheduling was difficult, particularly when multiple families cancelled in the same week. To balance program requirements and the need to be flexible for families, some home visitors scheduled visits during the evenings, cutting into their personal time.

Finally, environmental hazards were a concern for home visitors. Participants described visiting families living in dangerous neighborhoods or arriving at a house where someone was using drugs. Home visitors also described houses where there were high levels of smoke, mold, insects, or animal droppings. One home visitor coped by wearing surgical scrubs to work that she could quickly shed upon departing.

#### 3.2.6. Support and coping

Home visitors used a variety of active coping strategies to reduce stress, promote personal well-being, and "leave work at work." All visitors seemed to recognize the importance of self-care in reducing job-related stress. They described using exercise, yoga, journaling, and listening to music to reduce stress. Meaningful relationships outside of work were deemed especially important. Supervisor and coworker support were highly valued sources of support among all home visitors. Home visitors appreciated having both formal and informal "drop-in" supervision.

Interprofessional and interorganizational collaboration were described as essential in supporting home visitors. Some visitors described the benefits of having readily available, on-site support from a team of multidisciplinary professionals who could provide consultation for home visitors and supplemental services for distressed families. Programs varied in the extent to which they had strong relationships with other community organizations, however.

When asked about supports that would make their work easier, suggestions included smaller caseloads, money for supplies, better office space, stronger connections with community providers and resources, and better training to support working with parents with severe challenges such as cognitive disabilities. One visitor wished the program would pay a portion of her cell phone bill, which she said was necessary for her job. Several visitors mentioned that they were personally responsible for recruiting families and keeping their caseloads full, which was a major demand on their time.

In the current study, although quantitative data were given priority, qualitative date were used to explain survey findings and explore possible variations in experiences between visitors who exhibited "high" vs. "low" levels of secondary traumatic stress. These data are considered exploratory due to the small sample size. Nevertheless, one key difference between the two groups emerged. Consistent with the quantitative findings, each of the "high STS" home visitors described negative feelings toward their work that were more pervasive and seemed to be more directly associated with having intense, prolonged contact with distressed families. Comparison of the two groups revealed no apparent differences in coping strategies or perceptions of support.

## 4. Discussion

This study adds to the existing literature by both describing and "unpacking" the professional quality of life of *all* EHS home visitors in the state of Maryland. Home visitors in this sample experienced moderate to high compassion satisfaction and low to high secondary traumatic stress relative to other human service professionals (Stamm, 2010). Both the survey and interview data showed that home visitors were exposed to varying levels of EHS family risk and trauma, and that some home visitors were more deeply affected by this exposure than others. The high levels of compassion satisfaction that we observed may have buffered the effects of stressful or negative experiences and thus account for the relatively low levels of secondary traumatic stress (Stamm, 2010). Due to scale modifications, burnout scale scores in this sample could not be compared to norms.

### 4.1. Compassion satisfaction

Overall, the survey and interview findings revealed high levels of compassion satisfaction. The survey data suggested that compassion satisfaction was associated primarily with home visitors' individual characteristics including Latina ethnicity, fewer depressive symptoms, material hardship, and greater perspective-taking ability. The finding of a negative association between depressive symptoms and compassion satisfaction is consistent with a large body of literature linking depression and occupational stress (e.g., Stamm, 2010), but is among the first finding of this association in EHS home visitors. By including depressive symptoms as a covariate, this study examined the unique contributions of the other predictors to the outcomes of interest after accounting for depressive symptoms. The findings from this study are also consistent with research on nurses who work in high-stress setting (Yu, Jiang, & Shen, 2016); this study extends these findings to suggest that perspective-taking in home visitors can promote compassion satisfaction.

That Latina ethnicity and material hardship were associated with higher levels of compassion satisfaction may be consistent with prior research that has shown that matching home visitors and families with similar sociodemographic characteristics facilitates family engagement in services (Daro, McCurdy, Falconnier, & Stojanovic, 2003; Wasik, 1993). Many study participants were Latina home visitors working primarily with Latina families, suggesting that matching home visitors and families by language and culture may be similarly advantageous (Shanfelt et al., 2005). Relatedly, although we did not assess the extent to which home visitors were indigenous to the communities in which they worked, this could be a relevant factor to explore in future studies. Unlike some previous studies (Figley, 2002a, 2002b; Kraus, 2005; Linley & Joseph, 2007; McKim & Smith-Adcock, 2014), this study showed no associations between compassion satisfaction and home visitors' years of experience, personal trauma history, workplace quality, perceptions of supervision, or greater job control.

Overall, the findings relative to compassion satisfaction have implications for how programs recruit, hire, and prepare home visitors, with the ultimate goal of promoting their satisfaction with their positions. In a longitudinal study of early childhood home visitors, high levels of home visitor knowledge, competence, psychological functioning, and job satisfaction were documented at program entry, but satisfaction with the work eroded over time (Gill, Greenberg, Moon, & Margraf, 2007). Thus, it is critical to implement organizational strategies over time to mitigate against the negative effects of long-term home-visiting work, such as secondary traumatic stress. Such strategies may include professional development opportunities and supports regarding staff

mental health (e.g., depression), perspective-taking, and sociocultural knowledge and skill (Finello, Terteryan, & Zadouri, 2016; Yu et al., 2016).

### 4.2. Secondary traumatic stress

Home visitor, EHS family, and work characteristics were each associated with secondary traumatic stress in this sample. More experienced home visitors demonstrated lower levels of secondary traumatic stress, suggesting that they may have developed coping strategies that allow them to stay in the profession, and that stress may prompt some home visitors to leave their positions (Cunningham, 2003). Empathic personal distress and attachment avoidance were two home visitor qualities found to be associated with higher levels of secondary traumatic stress. The interview data supported this finding and showed that some home visitors may become overinvolved and have difficulty separating work from personal life. The survey findings suggest that these home visitors may find it particularly challenging to work with highly distressed families that have multiple, complex risk factors. Notably, in previous studies, attachment avoidance has been found to be associated with reduced support-seeking behavior (Mikulincer & Shaver, 2007), which could lead to heightened emotional distress and deteriorated well-being.

Greater perceived job demands was the sole work characteristic associated with secondary traumatic stress. This scale reflects the extent to which home visitors felt that they were overly busy, or that their work was overly demanding. Work-related characteristics such as higher levels of exposure to clients who have experienced trauma, a higher percentage of people with PTSD on one's caseload, and a greater length of time providing therapy have been implicated in the development of secondary traumatic stress in other helping professions (Adams, Boscarino, & Figley, 2006; Craig & Sprang, 2010; Cunningham, 2003; Schauben & Frazier, 1995; Sprang et al., 2007). Surprisingly, supervision was not associated with lower levels of secondary traumatic stress. In interviews, home visitors described supervision as highly valuable, yet the amount of supervision received by home visitors in this sample may have been too low to mitigate the effects of job stress. An alternate explanation may be that supervision emphasized administrative tasks and monitoring over support and professional development. Results from a recent *meta*-analysis indicated that reflective supervision had a significantly greater effect on program outcomes than supervision addressing only administrative issues or case management (Cassilas et al., 2016).

Secondary traumatic stress has been identified as particularly challenging for professionals working with large caseloads of higher risk families (Bride, 2007; Dmytryshyn, Jack, Ballantyne, Wahoush, & McMillan, 2015), such as those enrolled in Early Head Start programs. The findings from this study suggest that programs may be able to decrease home visitor secondary traumatic stress by addressing relevant psychological issues through professional development and other supports (Finello et al., 2016), such as appropriate affective boundaries with program participants, collegial relationships with coworkers, as well as coping with the perceived stress of the job. In addition, the integration of "trauma-informed" approaches, which promotes strategies to address trauma in staff and program participants, into the work of a variety of health and human service professionals, has been found to buffer staff against traumatic stress (Jacobowitz, Moran, Best, & Mensah, 2015; Kusmaul, Wilso, & Nochajski, 2015).

### 4.3. Burnout

Consistent with prior research (Gill et al., 2007; Lee et al., 2013), the survey and interview data suggest that home visitors' perceptions of too many job demands likely played a key role in the development of burnout. The questions on the job demands scale pertained to having enough time to complete tasks, being overly busy, and having too many different types of tasks that are hard to combine. Interestingly, the low ICC for burnout suggests that home visitors' *perceptions* of greater job demands may play a more important role in the development of burnout than actual work characteristics. The interview data provide a more nuanced understanding of how job demands, when combined with low pay, a hazardous work environment, concerns about personal safety, and perceptions of limited support, might have a cumulative effect on morale, and in turn, on occupational well-being. Surprisingly, no significant associations were found between burnout and caseload size, perceptions of job security, job control, coworker support, or quantity of supervision as measured by survey data. Nevertheless, the findings on burnout underscore the relation between the job-related stress that home visitors may experience and the potential (or lack thereof) for their sustained engagement with their work (Gill et al., 2007; Jacobowitz et al., 2015).

As the home-visiting field continues to struggle with workforce issues, particularly regarding how to maintain high-quality home-visiting staff (Coffee-Borden & Paulsell, 2010), it is critical that management staff in home-visiting programs are aware of the signs of burnout and are able to modify organizational climate to the extent possible to ameliorate emotional exhaustion and burnout. For example, in a study of home visitors in a child maltreatment prevention program, it was documented that improvements in organizational task orientation (i.e., planning and efficiency), alleviation of work pressures (i.e., high job demands and time pressure), and home visitor empowerment (i.e., control over the work) could decrease home visitor burnout (Lee et al., 2013).

### 4.4. Job withdrawal

These results are consistent with prior research that has shown burnout to be a consistent predictor of intent to leave and/or turnover (Dickinson & Perry, 2002; Kim & Stoner, 2008; Shim, 2010). Questions on the burnout scale pertained to feeling "worn out" or overwhelmed by the work. These feelings were expressed by some home visitors in the interviews and have implications for workforce stability. As in prior research, this study found that dissatisfaction with salary and benefits and the perception that the employer is less committed to workers' personal safety were also associated with self-reported job withdrawal (Dickinson & Perry, 2002; Hopkins, Cohen-Callow, Kim, & Hwang, 2010; Kim, 2013; Kim & Stoner, 2008).

Thus, in addition to providing psychological support to address home visitors' affective responses to their families and their positions, programs would benefit from validating the home visitors' role through increased salaries and benefits and other concrete support. Although focused on educational settings, the Institute of Medicine and National Research Council (2015) volume on enhancing the early childhood workforce advocates strongly for marked improvements in salary and benefit structures for the individuals who staff early childhood programs. Finally, the organization's attention to staff safety, through professional development around personal safety, organizational safety protocols, additional staff on home visits, and other safety strategies, may increase staff retention (Ellett, Ellis, & Westbrook, 2007; Fazzone, Barloon, McConnell, & Chitty, 2000; Jackson, Clare, & Mannix, 2002; Jones Harden, 2010).

### 4.5. Contributions, limitations, and suggestions for future research

This mixed methods study contributed in several ways to the understanding of occupational stress and well-being in the home-

visiting workforce, an increasingly widely used group of human service workers providing a broad range of services to vulnerable expectant and new families. Strengths include the high survey response rate, the use of established measures, and the linking of survey data from home visitors with risk data from the EHS families with whom they worked. A limitation of the study was the use of cross-sectional data for most analyses, preventing causal inferences or confirming the direction of the associations. The findings were also based on self-report data, the validity of which may have been compromised due to social desirability and/or recall bias. The relatively small sample size should also be considered when interpreting insignificant findings or unexpected results. These study results may not generalize to all EHS home visitors and programs, particularly for analyses that linked a survey data with EHS family data, as participating EHS families were predominantly Latino.

Research using alternate measurement instruments, such as actual observations of home visits, and longitudinal designs is needed. In the current study, several scales demonstrated low reliability; thus, the true rate of occurrence in the sample may be over- or underestimated. Increased attention to the association between EHS family characteristics (e.g., nature and quantity of risk factors) and workforce strengths and needs may further enhance the positive effects of home visiting. Future studies should evaluate the ways in which programs recruit families and how recruitment strategies impact caseload variability within and between EHS programs. As previously mentioned, more research is needed examining the quality, function, and effectiveness of supervision for EHS home visitors.

### 4.6. Implications for home-visiting program and policy development

The high levels of compassion satisfaction found in this sample are encouraging; nevertheless, moderate to high levels of secondary traumatic stress among some home visitors should raise concern, particularly in light of prior research linking secondary traumatic stress and burnout with worker's physical and mental illness (Cordes & Dougherty, 1993; Burke et al., 1996; Miller, 2011). Identifying individual, occupational, and organizational characteristics that contribute to home visitor well-being and stress provides a basis for EHS programs to develop strategies to support home visitor well-being and reduce job-related stress.

The findings suggest the need for a thoughtful and thorough recruitment process that will attract candidates who are a good fit with the position and its unique demands. The results suggested that mental health, perspective-taking skills, comfort in close relationships, and the ability to cope with multiple job demands are important qualities for home visitors. Indeed, others have recommended hiring home visitors for "fit" by seeking candidates who are strong in essential qualities, such as openness and empathy, in lieu of more specific skills, which can be taught (Daro, McCurdy, & Nelson, 2005). In addition, Larson and Hewitt (2005) emphasized the importance of giving candidates ample information during the hiring process so that they have realistic expectations and can make an informed decision about if and how they are a good fit with the job. They highly recommended the use of "realistic job previews" in the form of a video, scrapbook, or meeting with or shadowing current home visitors to provide honest and accurate information about job characteristics in the hiring process.

The findings highlight the need for programs to support home visitor motivation and capacity to carry out their roles. The interview data, in particular, suggest that some home visitors felt unsupported or undervalued by their EHS programs, emphasizing the importance of using effective recognition and motivation strategies as means to help retain competent staff (Larson & Hewitt, 2005). Home visitors may also benefit from greater role clarity in terms of when and how to intervene with families experiencing severe psychosocial challenges. For example, the qualitative data supported the benefits of using a multidisciplinary team approach to working with high-risk families. Home visitors attempting to help families negotiate complex psychosocial problems greatly appreciated the advice and support that they received from mental health consultants, social workers, and other professionals. Some home-visiting programs have also tried implementing "enhanced" models designed specifically to meet the needs of high-risk families. Successful examples include training home visitors in motivational interviewing (Galanter & Baker, 2013) or adding supplemental services or interventions, such as interpersonal or cognitive behavioral therapy (Gray & Price, 2014), or other family-centered interventions (Buffering Toxic Stress Consortium Principal Investigators et al., 2013).

The need to address concerns about low salaries among human service workers has been well documented (Larson & Hewitt, 2005). To retain a competent workforce, programs must offer salary, benefits, incentives, and opportunities for advancement commensurate with workers' skills and experience and take into consideration the risks associated with the work. Further initiatives could be aimed at reducing home visitor burden associated with working unpredictable or odd hours, and discouraging home visitors from using their own funds to pay for supplies.

Finally, the findings emphasize the need for home-visiting programs to attend to issues of home visitor safety. Home visitors may feel more supported if program directors and supervisors introduce safety as a regular topic of conversation or supervision. Programs should also implement policies and safety protocols that guide decisions when staff feel unsafe (Jones Harden, 2010).

### 4.7. Conclusion

As the largest federally funded program designed to promote optimal development in low-income infants and toddlers, EHS has tremendous potential to make large-scale, population-based impacts in the lives of vulnerable families and children. Home visitors serve as the essential link between these program goals and service outcomes. The current findings confirm that home visiting is experienced as rewarding by all home visitors and as physically and emotionally demanding by some home visitors. The need to recruit, support, and retain a competent workforce is of paramount importance. Additional supports and shifts in thinking may be needed to address the complex needs of both the EHS families and staff in order to help the EHS home-based program realize its full potential.

## Funding

This project was funded by the Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services (Award # 90YR0079; Co-PIs Allison West and Lisa Berlin and Award # 90YR0059; Co-PIs Lisa Berlin and Brenda Jones Harden).

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