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Investigating Maternal Self-Efficacy and Home Learning Environment of Families Enrolled in Head Start

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Abstract The aim of this study was to examine the relationships between mothers' self-efficacy beliefs, their preschool children's home learning environments, and literacy skills. A sample of 112 mother–child dyads was recruited from Head Start centers in rural and urban communities. The measures included maternal self-efficacy and maternal perceptions of child's readiness to read as well as the Stipek Home Learning Activities (SHLA) scale, Home-Learning Environment Profile (HLEP), and the Stony Brook Family Reading Survey (SBFRS). Modeling path analysis was performed. Model fit indices indicated that the resulting model was a good fit for the data. Concerning the direct effects of maternal self-efficacy on home learning environment, positive significant effects for the SHLA measure as well as the HLEP were found. However, no direct effect was found with regard to maternal self-efficacy on SBFRS indicating evidence for the domain specificity of efficacy beliefs. Implications of the study include findings that higher maternal self-efficacy is related to creating a more positive home learning environment. Additionally, higher maternal perceptions of child readiness to read mediates the relationships between higher maternal self-efficacy and a more positive home literacy environment. Moreover, these findings highlight the link between home learning environment and children's receptive vocabulary skills.

Keywords Self-efficacy · Domain specificity · Early literacy · Head Start · Preschool

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Introduction

Head Start has a rich history, and 2015 marked the 50th anniversary of the program. In 1965, Head Start was created by President Johnson as part of the "War on Poverty" to assist vulnerable populations with services to help them become school ready. The focus was to help both students and parents living in disadvantaged societies. The goals focus on the well-being of the whole child, and parent involvement and engagement are essential tenets or principles of the program.

Today, the United Nations Educational, Scientific and Cultural Organization (UNESCO) created a set of goals entitled *Education for All*, which outlines international goals for education. The first goal of UNESCO's *Education for All* is, "Expanding and improving comprehensive early childhood care and education, especially for the most vulnerable and disadvantaged children" (United Nations Educational, Scientific and Cultural Organization UNESCO 2014). Head Start does this by incorporating a classroom-based model with a home visiting component. Head Start aims to improve the lives of enrolled students and their parents through systematic instruction in pre-academic skills. Unlike other early education models, Head Start instructors work to build parents' skills in two ways. First, they teach parents how to become models and educators to their children. Second, the instructors promote engagement with the parents in their homes, schools and communities.

Once in the classroom, teachers used children's emergent language and literacy skills to indicate school readiness (Okado et al. 2014). However, children raised in households with incomes below the national poverty level have been shown to have significant deficits in school readiness skills when compared to peers from higher income environments (Lee and Burkam 2002). More specifically,

research has correlated risk factors, such as low socioeconomic status and parent education levels, with lower levels of emergent language and weaker literacy skills upon school entry (Hart and Risley 1995). Parents must have the knowledge, skills, and motivation to engage their children in learning opportunities at home long before they arrive in a classroom.

In order for children raised in poverty to be on par with peers from more economically stable homes when entering kindergarten, parents should embrace their role as their children's first teacher. To do this, they need to have knowledge of the skills children require in order to be successful in school and capitalize upon experiences and conversations that build skills, such as letter-sound identification, numeracy, shapes, colors, and concepts of print. For example, literacy skills have been found to develop best when parents engage often and early in activities, such as dialogic and shared book reading with their children (Fielding-Barnsley and Purdey 2002). The quality and frequency of these interactions directly correlate to both the children's motivation for reading and their reading skills later in life (Sonnenschein and Munsterman 2002). Similarly, literacy-related variables, print conventions, and parents' reports of the extent to which their children are involved in practicing skills associated with reading are related to later language outcomes and are predictive of emergent literacy skills (Bennett et al. 2002; Levy et al. 2006).

Increasing parents' engagement in literacy activities with their children requires parents to have both competence in creating learning opportunities and confidence in their abilities to instruct their children in these necessary skills. To this end, this study investigates mothers' self-efficacy as it relates to children's literacy and how this relates to the promotion of literacy-related interactions in the home. We examined maternal literacy practices, home literacy environments, material behaviors regarding children's early literacy experiences, and children's literacy competence. Implications will inform current interventions and help shape parent training which aim to create supportive home environments in order to promote language and literacy skills in young children.

Theoretical Framework

The link between a child's home learning environment and positive outcomes with formal academic tasks in school are well-established in numerous countries (Aram et al. 2013; Baharduin and Luster 1998; Bradley et al. 1988; Li and Tan 2016; Sammons et al. 2015). Parental involvement in enriching everyday activities has important effects on children's cognitive and language development, influencing both their reading skills and interests. These effects extend from early childhood through later years and are highly correlated with later academic outcomes (Bennett et al. 2002; Kiernan and Huerta 2008; Meng 2015; McClelland et al. 2003; Yeo et al. 2014). Specifically, maternal self-efficacy was shown to play a key role in creating a supportive environment for children to supplement learning at home. In the past, studies regarding maternal self-efficacy have focused on general feelings and beliefs about mothering or teaching and how those beliefs might relate to a child's competence level; however, these studies have not examined mothers' feelings of efficacy regarding their ability to instruct, model, and provide experiences within specific topics or domains related to their children's academic development.

Self-Efficacy

Self-efficacy is a well-studied construct based on Bandura's (1994) social cognitive theory. Self-efficacy is a belief about one's capabilities to perform a specific task, and these beliefs determine how a person thinks, acts, and feels. Individuals with high self-efficacy are likely to persist longer on a task and challenge themselves more than those with lower self-efficacy (Plourde 2002). According to Bandura (1977), self-efficacy beliefs are produced from four experiences, two of which are mastery and vicarious experiences. In a mastery experience, a task is performed by the individual. In a vicarious experience, an individual observes another performing a task. If the task is performed successfully, self-efficacy will grow. If it is not successful, self-efficacy will decrease. Additionally, self-efficacy beliefs vary based on a domain such as literacy or science (Pajares 1996). For example, a parent may have high self-efficacy beliefs with regard to helping his or her child learn how to read, but at the same time, may have low self-efficacy beliefs in the domain of teaching scientific concepts.

Parental Self-Efficacy Beliefs

Parental self-efficacy is a belief that one can successfully parent a child, which affects one's willingness to take on the role of their child's first teacher. Studies have found direct links between self-efficacy and parent involvement at school and in educational activities at home (Hoover-Dempsey et al. 1992; Seefeldt et al. 1998). In order to become involved in their children's education, parents must perceive that they have the necessary skills to help their child adequately (Hoover-Dempsey and Sandler 1997). In fact, parents who feel competent in their parenting roles are more likely to engage in teaching behaviors and more likely to provide a home environment that promotes children's emotional, social, and academic development (Bradley and Corwyn 2001; Jones and Prinz 2005; Vukovic et al. 2013).

In their study, Jackson et al. (2009) found that parenting efficacy had an indirect effect on adaptive language skills and that education and parenting efficacy were negatively associated with parental depressive symptoms. Likewise, in their seminal study Hoover-Dempsey et al. (1992) found that parents with higher self-efficacy spent more hours engaging in educational activities with their children at home. These parents also volunteered in the classroom for more hours, and reported fewer calls to the teacher, as compared to parents with low self-efficacy. Interestingly, Seefeldt et al. (1998) examined 253 parents of children previously enrolled in Head Start programs and found that parents' scores on a self-reported measure of self-efficacy were not predictive of their level of involvement at home, but correlated with higher levels of school-related involvement.

Maternal Self-Efficacy Beliefs

Maternal self-efficacy has been explored often in parenting literature, where high self-efficacy is related to positive outcomes and better adjustment in children (Izzo et al. 2000). In 2001, Bandura et al. investigated a self-efficacy model that considered relationships among multiple factors, including parents' academic efficacy, parents' academic aspirations for their children, children's own academic efficacy, children's own academic aspirations, children's prosocial behavior, and children's academic achievement. The investigators found that the contribution of parents' academic efficacy to children's academic achievement was mediated entirely by its influence on children's own academic efficacy and academic aspirations. Parents with high efficacy facilitated the children's beliefs that they could manage their own learning and master schoolwork, which in turn was linked to higher academic aspirations (Bandura et al. 2001).

Similarly, Brody et al. (1999) used the Parenting Efficacy Scale (Duke et al. 1996) to explore links between maternal efficacy beliefs, developmental goals, parenting practices, and children's academic and psychosocial competence. They found that although mothers' efficacy beliefs predicted the developmental goals they wanted for their children, they were not linked to parenting practices. In other words, mothers have developmental goals for their children, but they may not always know the best way to meet these goals, and many do not consider their resources to be adequate enough to support children's needs. Lynch (2002) examined the relationship between mothers' self-efficacy in their ability to help improve elementary school children's reading achievement and children's perceptions of their own reading ability. Results revealed that the mothers' self-efficacy positively related to the children's perceptions of their reading abilities; mothers played an essential role in influencing the self-perceptions of their young children.

In a short-term longitudinal study examining self-identified African American mothers of 3-year-old children from low-income backgrounds, researchers found that parenting efficacy mediated the relationships among family income, socioeconomic status, and children's social and academic adjustment with regard to child behavior problems and adaptive language skills. Specifically, parenting efficacy had an indirect positive effect on adaptive language skills. Thus, parents may have appropriate developmental goals for their children, but may not know the best way to meet these goals.

Current Study

This study investigates mothers' self-efficacy as it relates to children's literacy and how this connects to the promotion of literacy-related interactions in the home. In order to synthesize a systematic set of relationships between mothers' self-efficacy, home learning environments, literacy activities, and children's vocabulary growth, a hypothesized model was proposed by specifying the endogenous variable (i.e. resulting variable) and exogenous variables (predictor variables). The purpose of this study was to model direct and indirect relationships among the variables, including maternal self-efficacy, parental perception of their child's school readiness, SHLA, SBFRS, HLEP, and the child's vocabulary skills. In testing a goodness-of-fit to the data, the magnitude and significance of interconnection, including both direct and indirect effects on the dependent variable, were estimated within the hypothesized model. A hypothesized model with the graphical representation of relationships among the variables used in this study is shown in Fig. 1.

Methods

Participants

Participants were recruited from six rural and urban Head Start centers in a Midwestern state (eight classrooms) and three urban Head Start programs in an Eastern seaboard state (four classrooms), and included 112 mother–child dyads. The average age of mothers was 27.57 years (SD = 5.01), ranging from 19 to 44 years of age. The average age of children was 56.98 months (SD = 7.49), with a range from 43 to 69 months. Out of these children, 49% (n = 60) were males and 51% (n = 62) were females. Ethnicity of mothers varied, with just over half of mothers self-identifying as European American (53%, n = 65), 42%

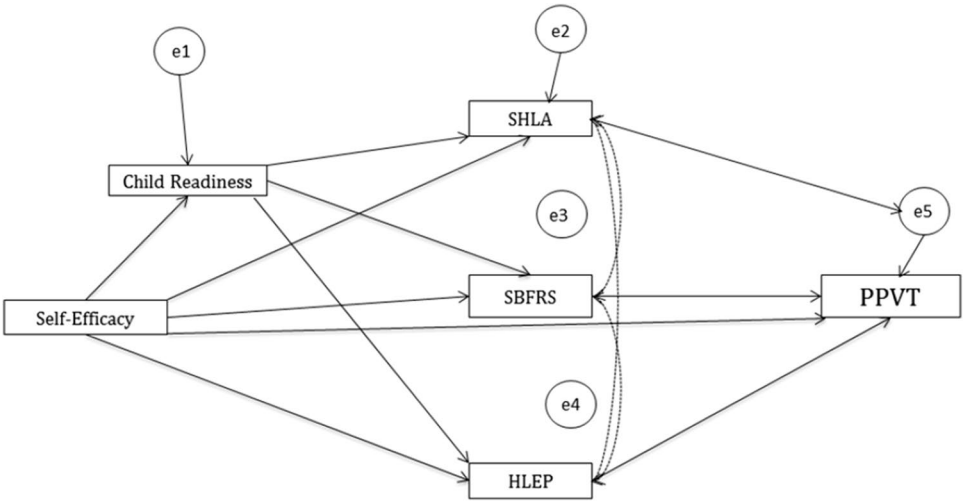

Fig. 1 Hypothesized model. *SHLA* Stipek Home Learning Activities, *SBFRS* Stony Brook Family Reading Survey, *HLEP* Home Learning Environment Profile, *PPVT* Peabody Picture Vocabulary Test, 3rd edition (PPVT-III)

(n = 51) as African-American, 3% (n = 3) as Hispanic, and 2% (n = 2) as other ethnic groups. Maternal education was diverse, with 7% of mothers reporting that they had completed less than high school, 16% of mothers attended or graduated from trade school, 6% earned GED, 31% graduated from high school, 33% of mothers reporting some college and 7% reported they had earned an associate's degree. In terms of maternal employment, over half the mothers reported they were not working (52%), and a few were students (3%). Data were collected about each household, with mothers reporting the number of adults and children in the household. The mean number of adults in each household was 1.89 (range 1–4), and the mean number of children in each household was 2.59 (range 1–7).

A sample size is one of the concerns associated with performing a path analysis or structural equation modeling for the purpose of maintaining power, obtaining stable parameter estimates, and evaluating standard errors. Although there is a conservative view of sample size, a general agreement in the minimum satisfactory sample size is 100–150 subjects for exploratory purposes (e.g., Anderson and Gerbing 1988). Kline (1998) also notes that a sample size between 100 and 200 is viewed as a "medium" sample size and that the 10:1 ratio of the number of subjects to the number of model parameter is a realistic target. Therefore, the analysis for this study with the sample size is considered tenable.

Measures

The measures selected for this study included measures of two types of maternal beliefs: maternal self-efficacy and maternal perceptions of the child's readiness to read. We also included three measures of home learning environment, including two global instruments and one domain-specific instrument. The global measures were the Stipek Home Learning Activities (SHLA) Scale and the Home-Learning Environment Profile (HLEP), and the domain-specific measure was the Stony Brook Family Reading Survey (SBFRS).

Maternal Self-Efficacy

The Parent Self-Efficacy Scale measure was originally developed by Duke et al. (1996), who outlined five domains of item content: love, control, communication, education, and general efficacy. For this scale, efficacy beliefs were measured using the 34 items on a 5-point Likert scale. The overall reliability coefficient for the sum of 34 items on the scale was 0.94 for the sample (Duke et al. 1996). Brody et al. (1999) successfully used this self-efficacy measure with a sample of 139 rural Head Start mothers. They computed the domains individually, and the reliability coefficients ranged from 0.66 to 0.74 for their sample. In the current study, internal consistency for the 34 items of this measure was computed using the single composite self-efficacy score obtained by adding up the scale scores. Specifically, the internal consistency of the Parent Self-Efficacy Scale measure for the current study was strong (Cronbach $\alpha = 0.86$).

Maternal Perceptions of Their Child's Readiness

Mothers' beliefs about their children's readiness to acquire early literacy skills were assessed with a six-item instrument originally implemented in another study exploring parent–child shared reading and readiness with 62 families enrolled in Head Start programs (see, Bojczyk et al. 2016). Items assessed mothers' beliefs about how ready their child was to learn letters of the alphabet and their corresponding sounds, to use books, to learn from reading with a parent, and to learn how to read independently using a 4-point

Likert Scale ranging from a rating of 1, which equates to "strongly disagree" to a rating of 4, which equates to "strongly agree." The internal consistency for the original study was 0.83 (Bojczyk et al. 2016). The internal consistency of the measure for the current study was strong (Cronbach $\alpha = 0.82$).

Stipek Home Learning Activities (SHLA)

The first measure of mothers' home-learning activities with children was an adaptation of two scales designed to differentiate between formal and informal learning activities (Stipek et al. 1992). The formal and informal items combined for one score. A sample of a formal item is, "How much time do you or another adult spend in a typical week teaching your preschool child about letters or reading with store-bought or homemade materials like flashcards or workbooks?" A sample of an informal item is, "How much time do you or another adult spend in a typical week teaching your preschool child about letters or reading while doing other activities (like reading a cereal box or a sign)?" Items were rated on a 5-point scale with categories ranging from a rating of 1, which equates to "once a month or less," to a rating of 5, which equates to "almost every day." The internal consistency of the measure for the current study was strong (Cronbach $\alpha = 0.82$).

Home-Learning Environment Profile (HLEP)

The second measure of mothers' home-learning activities with children was the HLEP (Heath et al. 1993). Mothers indicate how frequently their children engage in each activity or observe another person engaged in that activity using a 4-point Likert scale with categories ranging from a rating of 1, which equates to "never," to a rating of 4, which equates to "often." Sample items include, "How often do you say or sing the alphabet with your child? How often do you read labels to your child such as the labels on food packages or clothes?" The internal consistency of the measure for the current study was good (Cronbach $\alpha = 0.81$).

Stony Brook Family Reading Survey (SBFRS)

The third measure of home-learning activities included nine items from the SBFRS (Whitehurst 1992). Sample items include the number of children's books in the home, the frequency with which the child looks at books by his or herself, frequency of trips to the library, and how much the caregiver enjoys reading books herself. The internal consistency of the measure was acceptable (Cronbach $\alpha = 0.71$).

Receptive Vocabulary

The *Peabody Picture Vocabulary Test, Third Edition* (PPVT-III) (Dunn and Dunn 1997) is a measure of receptive vocabulary that requires examinees to select a picture that best depicts the verbal stimulus given by the examiner (e.g., "Point to *dog*" "Point to *crying*"). Dunn and Dunn (1997) report an internal consistency reliability of 0.95 and a split-half reliability of 0.94 for the normative group. The internal consistency of the measure for our sample was excellent (Cronbach $\alpha = 0.93$).

Procedure

This project was approved by both the IRB, the Head Start Policy Council, and the respective sites. The study was conducted with mothers and their preschool children at the local Head Start center at a time convenient for the mother. All mothers signed informed consent, and children provided verbal assent to the procedures as approved by the institutional review board. An interview format was selected to individually administer a demographic survey, the self-efficacy survey, and the home literacy activity questionnaires to the mothers, consistent with other research conducted with parents of children enrolled in Head Start (e.g., Brody et al. 1999). For families who were in need, transportation was provided to ensure that interested parents could participate. Interviews of the mothers were conducted by the lead researcher and first author. While the interview with the mother was conducted, another research assistant completed the receptive and expressive vocabulary assessments with the preschool child. The team of research assistants included highly trained graduate students who had experience administered standardized assessments on a routine basis as part of their program in Speech Language Pathology or Psychology. The sample did not include any mothers who spoke a primary language other than English, which was the nature of the Head Start population (i.e., the majority of the children from the rural and urban sites were native speakers of English). All mother survey data was collected in the following standardized order: SBFRS, HLEP, SHLA, Self-efficacy, and Demographics. All participants were assured that their responses would remain confidential.

Results

Data Analysis

Prior to addressing the research questions, an examination of missing data, scatterplots and univariate normality checking was performed. The final dataset utilized in analysis had no missing data. Neither abnormality nor violation

of the assumption was found. The fit of the model to the data was estimated with maximum likelihood path analysis. Fit criteria were adopted for the statistical significance and practical meaning for model testing. In addition to the non-statistical significance of the Chi square likelihood test as a goodness-of-fit in SEM, four more criteria were used in determining a good fit: (1) the χ^2/df ratio (3.0 or below, as suggested by Kline 1998), the comparative fit index (CFI) (0.95 or above), the goodness of fit index (GFI) (0.95 or above), and the root mean-square error of approximation (RMSEA) (0.05 or below), (2) the statistical significance of individual parameter estimates for the paths in the model, (3) the direction of parameter estimates, and (4) theoretical appropriateness of the model.

Descriptive Statistics and Correlations

Means and standard deviations, as well as a correlation matrix among variables, including maternal self-efficacy scale, maternal perception of child readiness, SHLA, HLEP, SBFRS, and receptive vocabulary measure, are shown in Table 1. All scores but the PPVT-III were composite scores (i.e., combined scale scores) of the survey data. The mean standard score of the PPVT-III (M = 92.52; age equivalency = 6.5) indicated that the children in the Head Start program performed below the normative group, given that the mean of the normative group was 100. The measures showed acceptable to good internal consistency reliability coefficients of the measure (Cronbach α = 0.71–0.86; i.e., correlations among different items on each measure). This is indicative of tenable internal consistency of the survey measures assessing the same one-dimensional latent construct. Regarding correlations, the maternal self-efficacy was positively correlated with maternal perception of child readiness (r = .24), SHLA (r = .22), and home learning environment (r = .31). However, it was not significantly correlated with SBFRS and the PPVT-III. The three home-learning activities measures were significantly correlated with one another (r range 0.48–0.67). The PPVT-III showed significant correlations with the three home-learning activities measures (r range 0.24–0.38; see Table 1).

Because reliability influences the overall validity of the study, the reliability found in Duke et al.'s (1996) and other studies in addition to parameters obtained for the current study attests to the validity of the measures used in this study. The rigorous design of this study and previous studies (Bojczyk et al. 2016) contributes to the internal validity. Given that validity of the measure concerns the extent to which a measure assesses what it purports to measure and that the measures used in this study are widely used in the literature, the psychometric properties of the measures were satisfactory. In addition, criterion-related validity, which refers to the extent to which the measure correlates with other measures that are known to measure the same construct, was acceptable given that significant correlations among the SHLA, SBFRS, and HLEP (see Table 1). Because the results of this study can be generalized to other contexts of Head Start programs, the external validity also is adequately demonstrated.

A Path Model

Based on the theoretical consideration and previous research, a measurement model was formulated focusing on relationships of multiple observed variables used in this study (see Fig. 1). The theory-driven model included maternal self-efficacy as an exogenous variable, and mother's perception of the child's readiness and the three home activity variables were used as endogenous variables to test for consistency with the data of the current study.

A series of path models were tested using AMOS 22.0, to determine the best model fit explaining relationships among maternal self-efficacy, maternal perception of child

Table 1 Descriptive statistics and correlation matrix (n = 122)

	1	2	3	4	5	6
1. Maternal self efficacy	0.*86*					
2. Child readiness	0.24**	0.*82*				
3. SHLA	0.22*	0.18	0.*82*			
4. SBFRS	0.16	0.30**	0.57**	0.*71*		
5. HLEP	0.31**	0.21*	0.67**	0.48**	0.*81*	
6. PPVT-III	0.05	0.16	0.38**	0.27**	0.24**	–
Mean	135.80	20.48	39.67	29.44	81.46	92.52
SD	10.49	2.79	6.68	5.57	8.59	12.45

Cronbach's alpha values are shown on the diagonal, correlation coefficients are shown below the diagonal

SHLA = Stipek Home Learning Activities, *Stony Brook* = Stony Brook Family Reading Survey, *HLEP* = Home Learning Environment Profile, *SD* = standard deviation

*$p < 0.05$, **$p < 0.01$

readiness, child learning environment, and child vocabulary skills. We sought to understand if maternal self-efficacy is related to child learning environment, as measured by three unique instruments (SHLA, SBFRS, and HLEP). This was measured both directly and via maternal perception of child readiness. We also investigated whether the child-learning environment predicted child vocabulary skills as measured by PPVT-III.

After determining the relationships and parameters in the model as well as designating the parameter specification (i.e., under identification or over identification), model estimation took place using maximum likelihood. We first used a global-type omnibus test of the fit of the entire model and then examined the fit of the individual parameters of the model. Based on the results, model modification was made by performing a specification search based on the parameter estimates. A series of model testing was performed by adding or deleting a path in search for a good-fit model.

The final standardized solution for a model is shown in Fig. 2. Model fit indices indicated that the resulting model was a good fit to the data: χ^2 (2, N = 122) = 1.40, p = .496, RMSEA = 0.00, 90% CI (0.00, 0.16), TLI = 1.04, CFI = 1.00. Looking at the direct effects of maternal self-efficacy on home learning environment, we found positive significant effects on the SHLA (0.18, p < .05), as well as on the HLEP (0.25, p < 05). However, no direct effect was found with regard to maternal self-efficacy on SBFRS (0.04, p > .05). This suggests that higher maternal self-efficacy is related to creating a more positive home learning environment as measured by SHLA and HLEP, but not as measured by SBFRS.

Results indicate that even though there is not a direct effect of maternal self-efficacy on SBFRS, there was a maternal perception of child readiness as a mediator between the two variables. Maternal self-efficacy was found to be positively related to maternal perception of child readiness to read (0.26, p < .005), which in turn is positively associated with SBFRS (0.29, p < .005). This indicates that higher maternal self-efficacy is positively related to higher maternal perceptions of child readiness to read, which in turn is associated with a more positive home literacy environment as measured by SBFRS.

Looking at the relationship between the three measures of child home learning environments and PPVT-III, results indicate that only the SHLA is significantly related to child vocabulary skills, as measured by PPVT-III (0.37, p < .05). Communality estimate for PPVT-III indicated that the given indicators accounted for 15% of the variance in the child's vocabulary skills.

The path analysis was useful for evaluating the contributing mechanism between the variables under consideration in this study. However, it should be noted that the model could not determine the direction of causality because the model helped define correlations and demonstrate the strength of the relationship, but did not provide evidence of the direction of causation.

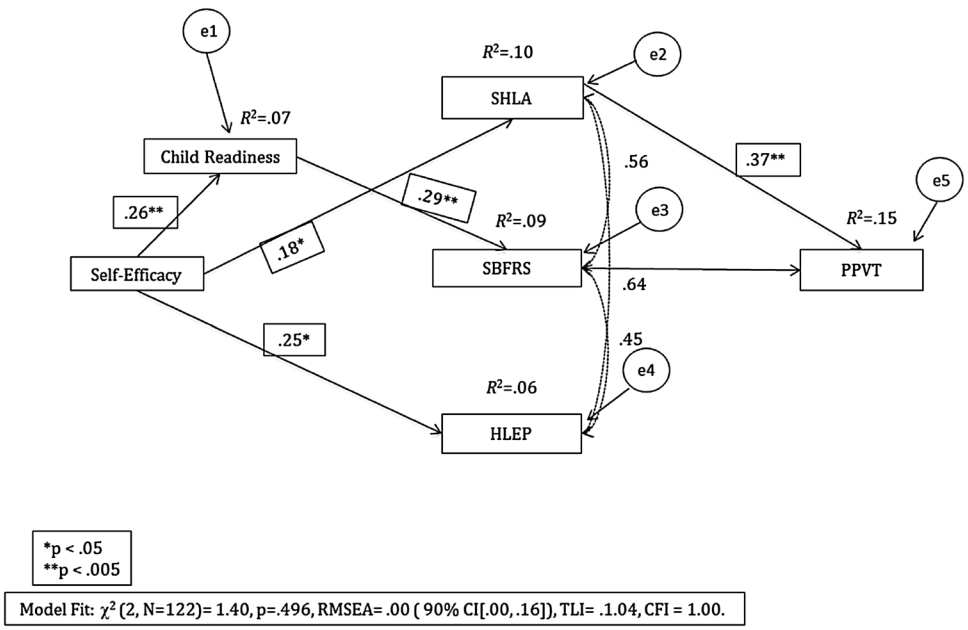

Fig. 2 Path model. *SHLA* Stipek Home Learning Activities, *SBFRS* Stony Brook Family Reading Survey, *HLEP* Home Learning Environment Profile, *PPVT* Peabody Picture Vocabulary Test, 3rd edition (PPVT-III)

Discussion

The Importance of High Maternal Self-Efficacy

Results of this study highlight the critical role a mothers' feelings of self-efficacy play in their motivation to engage in literacy activities with their young children. Outcomes on parent measures indicate that maternal self-efficacy was predictive of scores on both the HLEP and SHLA measures, but was not related to scores on the SBFRS. This pattern is in itself informative, teaching us that efficacy beliefs transferred to general parenting scores but were not specific to reading or other individual domains. Thus, increasing a mother's overall feelings of self-efficacy may not directly impact their involvement in and feelings of efficacy related to specific areas. In other words, if a mother does not have high reading self-efficacy, she may be less likely to guide her children in literacy activities.

Second, scores on the SBFRS demonstrated an indirect relationship between the home learning environment and mothers' perceptions of their child's school readiness. These results indicate that maternal self-efficacy is related to child readiness perception, which in turn is associated with creating a better learning environment at home for the child. As mothers' feelings of efficacy increase, they create stronger home learning and literacy environments and believe more strongly that their children are ready for school-based academic activities. It is interesting to note, however, that maternal self-efficacy was not directly related to all three measures of child learning environment, and that there may be a factor of maternal perception of child readiness that comes into play as well. This may also be indicative of domain specificity, pointing out that even though a mother believes in her ability to teach, the home learning environment that she maintains is dependent upon what she believes she is ready to teach, as well as her perception of what her child is ready to learn.

Finally, the SHLA composite was found to strongly correlate with children's receptive vocabulary as measured by the PPVT-III. This finding is of interest, as the SHLA measure focuses on teaching specific aspects of beginning literacy. Teaching mothers the importance of their instructive role in their child's language development and helping them feel confident in leading vocabulary-promoting activities may improve scores on literacy-related outcome measures.

Training Mother as Teacher

In the past, little was known about effective ways to influence parental teaching and establish best practices to improve children's school readiness. Given these findings, it is necessary to consider how to increase self-efficacy. While demographic characteristics such as income and education level are certainly impactful factors in any system of support, they are rarely receptive to change. As such, researchers and interventionists would benefit from focusing on interventions, which could effectually increase self-efficacy in parents and create change in parent–child interactions and home learning environments.

With the combined knowledge that self-efficacy is predictive of how a mother creates a learning environment and that parents who adopt their role as educators influence their children's school readiness, educators should consider how they can build parental self-efficacy in areas such as language and literacy development. Such instruction and support could potentially help parents increase opportunities for their children to master pre-academic skills and be better prepared when they enter school. Specifically, early education and intervention programs, such as Head Start, advocate for parents being their child's primary educators; yet more than advocacy, instruction and training may be required to increase both abilities and confidence in engaging with their children in an instructive manner.

Findings from this study indicate that parents' general feelings of efficacy do not necessarily transfer to their children's vocabulary development. Rather, parents must feel that they have the knowledge and skills necessary to promote domain-specific skills such as reading in order to effectively assist their child in that area. Understanding self-efficacy increases most through the mastery of target skills and vicarious experiences, researchers and parent support personnel should work to place parents in a position where they would be most likely to have experiences that will build self-efficacy (Bandura 1993; Haverback and Parault 2011).

One example of how this strategy could occur is through a similar program that is used for pre-service teachers today. Head Start programs could have a mother come into the classroom and observe (vicarious) the teacher's pedagogical practices in reading and literacy. While observing how the teacher hones her craft, the mother could gain insight into how to replicate these lessons. Next, the mother could work with a child and teacher (apprenticeship) to attempt to replicate similar literacy activities. During this replication, the teacher would be there to assist the mother in any way she needed. Then, the mother could practice implementing the lesson independently (mastery), increasing her feelings of self-efficacy.

Limitations and Future Directions

One limitation of the current study is that the children in this study were from only two areas of the same country. Future researchers should study how maternal efficacy beliefs impact mothers from a broad range of cultural and

socioeconomic backgrounds. Another limitation of this research is that a global notion of parental efficacy was measured, as opposed to a domain-specific version. Thus, future research should focus on how a mother's efficacy in their ability to teach reading, mathematics, science, and social studies, as these parental beliefs correlate with parenting practices.

Future research should also aim to identify specific traits, attributes, or activities that strengthen domain-specific self-efficacy. In doing so, researchers could broaden their target audience to include diverse family compositions, such as single-parent homes and homes with extended family involvement. Research is also needed on how fathers develop self-efficacy in different domains, and whether one parental role or another more readily masters some of those domains. Additionally, the creation and validation of domain-specific measures of self-efficacy and the correlation of these with measures of skill attainment or mastery would prove beneficial in identifying future areas for intervention.

Conclusion

In alignment with UNESCO's Education for All (2014), there have been efforts in many different places around the world to support parents in promoting literacy. For example, Aram et al. (2013) investigated home literacy practices in Israel. Likewise, Li and Tan (2016) found a significant impact of the home literacy environment on Chinese speaking Singaporean children. Thus, the home literacy environment is of international importance.

This study highlights the relationship between a mother's feelings of self-efficacy and the type of home learning environment she provides, as well as the frequency with which she engages in pre-academic activities with her young children. The finding of most importance, however, is the fact that creating general feelings of self-efficacy does not translate to feelings of effectiveness in domain-specific areas such as reading or language development. The implication of this is that mothers need domain-specific instruction and experiences in order to feel confident in their abilities to teach their children these skills.

Results of this and other studies show that when mothers have feelings of self-efficacy in these important pre-academic areas, they create more supportive home learning environments and provide more opportunities for their children to engage in reading-related activities. To promote an increase in self-efficacy, programs that support parents should focus on creating experiences for mothers that will supply resources on how to incorporate literacy into the household as well as create opportunities for mothers to practice, learn, model, and observe others using effective literacy strategies with their children.

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