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Maternal mediation in book reading, home literacy environment, and children's emergent literacy: a comparison between two social groups

OFRA KORAT, PNINA KLEIN, and ORA SEGAL-DRORI
School of Education, Bar-Ilan University, Ramat-Gan, 5200, Israel

Abstract. The researchers addressed two questions: (1) Does maternal reading mediation and family home literacy environment (HLE) relate to children's emergent literacy (EL) level? and (2) Do the relationships among these variables differ as a function of socio-economic strata (SES) level. A total of 94 5–6-year-old children, 47 from low SES (LSES) and 47 from high (HSES) families, and their mothers participated. Mother–child interactions while reading an unfamiliar book were videotaped and their verbal expressions were coded for extracting maternal mediation level. Children's independent EL level was assessed prior to the interaction. Compared with the LSES group, HSES children showed higher EL levels and their homes had a richer literacy environment. Maternal mediation level differed by SES: LSES mothers paraphrased text more often; HSES mothers' higher mediation level included a discussion of the written system and making connections beyond the text. In the HSES group, maternal mediation level and HLE related to children's EL; no such relationships appeared in the LSES group. Results are discussed in terms of children's socio-economic background and their reading experiences. Implications for researchers and educational practices about the relationships between children's literacy development, SES, HLE, and parental mediation are discussed.

Key words: Emergent literacy, Home literacy environment, Joint book reading, Maternal mediation, SES

The relationship between parental mediation while reading books to young children and socioeconomic strata (SES) has been well documented (e.g., Ninio, 1980; Heath, 1983; Snow & Ninio, 1986; Sonnenschein, Brody, & Munsterman, 1996); but there is still much to learn about the nature of parental mediation and the degree to which it relates to children's emergent literacy (EL) development (Stahl, 2003; van Kleeck, 2003). Home literacy environment (HLE) (e.g., frequency of parental book reading to the young child, number of children's books at home, parental exposure to books, etc.) is another significant factor that relates to children's SES (Heath, 1983; Wells, 1985; Whitehurst & Lonigan, 2001) and to their early literacy achievements (Dickinson & Tabors, 1991; Burgess, Hecht, & Lonigan, 2002). However, it is still not clear whether and in which way the impact of parental mediation level during

book reading can be differentiated from that of HLE since both have been shown to be correlated with SES. Given that this question has been investigated by only a few researchers (see, e.g., Dickinson & Tabors, 1991; De Temple & Snow, 1996; Leseman & de Jong, 1998) and that the comparative effects of these two variables have usually been analyzed within only one SES group, middle or low, and given the important pedagogical implications of this issue for intervention programs, a better understanding of the underlying mechanisms is important. Thus, in the present research, our aim was to shed further light on the relationship between maternal book reading mediation level, HLE, and children's EL development in two different SES groups.

Shared storybook reading is a cultural and familial activity which occurs more often between parents and children than the reading of other type of texts (e.g., alphabet or song books) (De Temple & Snow, 1996; Goodist, Raitan, & Perlmutter, 1988), and which most often takes place between mothers and their young children (Pellegrini, Galda, Shokley, & Stahl, 1994). Although the numerous researchers who have studied parental mediational behavior (level or styles) during a book reading activity have used different types of scales, the idea of "distancing," first suggested by Sigel (1982), is the most prevalent concept on which most of these scales are based. This idea is grounded in a discourse-oriented theoretical framework and suggests that there are three general levels of parental talk while interacting with young children during such activities: high, medium, and low levels of cognitive challenges, referred to as "distancing." More specifically, parents who discuss issues with the child that go beyond the information presented in the text (inferences, predictions, etc.) are regarded as using a high level of distancing. Parents who discuss issues that relate to general knowledge about the world and about the child's own experiences are rated as using a medium level of distancing. And parents who describe and elaborate on the pictures in the book and focus more on specifics and less on general knowledge are regarded as using a low distancing level. As noted above, although this idea under girds most studies of parental mediation in book reading activities, it appears in different forms in the scales used.

One common method of analyzing parental reading behavior has been to categorize it into two levels: immediate talk (parallel to the low-distancing level) and non-immediate talk (parallel to the high-distancing level) (see, e.g., De Temple & Snow, 1996). Others have categorized parental mediation into two of the three distancing levels: low versus high (see, e.g., Leseman & De Jong, 1998). Others have used more than the three basic levels offered by Sigel (1982), defining subcategories within the three levels, ranking them based on lower to higher cognitive demands

(see, e.g., Reese, 1995; Haden, Reese, & Fivush, 1996; Bus, Leseman, & Keultjes, 2000). For example, few researchers included parental comments on the print relating to the written letters and words in the book or parental discussion of the reading process itself, behavior that can be regarded as a high level of distancing since it requires the child to think beyond the story and to see the book as an object and reading as a process (Haden et al., 1996). In the current study, we use a distancing scale of maternal mediation levels based on Bus et al. (2000), with some modifications, discussed later in the paper. Since the scale represents different levels of mediation from low to high based on the general distancing idea, we prefer to use the term mediation "level" rather than mediation "style."

The relationship between shared book reading activities and the socioeconomic status of the child's family has concerned many investigators in the last few decades (Ninio, 1980; Heath, 1983; Wells, 1985; De Temple & Snow, 1996; Bus et al., 2000). Heath, Ninio, and Wells found that high-SES mothers used higher levels of mediation during a book reading activity than lower SES mothers. For example, De Temple and Snow, who focused on 39 low SES (LSES) mothers reading to their children at age 3½ and then again 1 year later, reported that maternal non-immediate talk (namely, talk that moved beyond the written text) increased only slightly during the year. Even when the children were 4½ years old, more than 80% of the talk was either not related to the book content or about "concrete, immediately available information" (p. 54). In contrast, in another study by Wheeler (1983) that focused on mother–child reading mediation in middle-class families over a period of time, the results revealed a developmental shift. Thus, whereas reading to young children was accompanied primarily by the use of labels and comments, parental mediation with older children included more non-immediate talk. Although there is much research evidence that supports the relationship between parental mediation while book reading and children's oral language (see, e.g., Scarborough & Dobrich 1994; Bus, van Ijzendoorn & Pellegrini, 1995), much less research has been conducted on the relationship between parental mediation and children's EL (Stahl, 2003; van Kleeck, 2003).

Many researchers have focused on the relationship between the family's HLE and SES level. HLE has usually been measured in terms of availability of reading and writing materials in the home (e.g., number of children's and adult books and magazines, availability of writing materials) and of literacy activities (e.g., frequency of parental book reading to children, trips to the library, children's and parental exposure to book titles, writing activities with the children). Several researchers have pointed to the relationship between the family's HLE and SES levels

(Heath, 1983; Wells, 1985) as well as to its relationship with children's language abilities (DeBaryshe, 1993; Sénéchal, LeFerve, Thomas, & Daley, 1998; Evans, Shaw, & Bell, 2000). However, there have been fewer studies on the relationship between HLE and children's EL skills (Evans et al. 2000; Burgess et al., 2002).

Today we know that the gap between children from affluent families and those from low-income families in academic achievement, including literacy, does not start with entrance to grade school. Rather, this divergence is evident as early as in kindergarten, when LSES children present lower EL abilities (e.g., print concept, alphabet knowledge, word recognition, phonological awareness, etc.) (see Feitelson & Goldstein, 1986; Bowey, 1995; Reese, 1995; Smith & Dixon, 1995; Nicholson, 1997; Lonigan, Burgess, Anthony, & Baker, 1998;). Recent research has provided evidence that these EL abilities are the foundation for success in reading at school (Wagner et al., 1997; Nicholson, 1999; Hecht, Burgess, Torgesen, Wagner, & Rashotte, 2000; Scarborough, 2001; Whitehurst & Lonigan, 2001). Given the importance of children's early literacy skills for their future success in school and given the association between parental mediation during book reading and children's EL skills, we assume that although joint book reading is not usually directed to teaching young children to read, "it still plays a key role in the process of becoming literate" (Teale & Sulzby, 1999, p. 147). Reading the same book over again several times to young children not only supports their oral language abilities, but also their EL knowledge (e.g., print concept, orthographic knowledge) (Dickinson & Tabors, 1991; De Temple & Snow, 1996; Haden et al., 1996); yet the evidence for these benefits is inconsistent and limited (Stahl, 2003).

The results of several studies indicate a positive relationship between parental mediation level in book reading to young children and various aspects of the children's EL development in such areas as naming letters (Wells, 1985; Haden et al., 1996), print concepts (Wells, 1985; Dickinson & Tabors, 1991; Reese, 1995; De Temple & Snow, 1996), and word recognition (Leseman & de Jong 1998). For example, in a study of native Dutch and immigrant families from different SES groups, Leseman and de Jong found that level of parental mediation while reading books to children aged 4, 5, and 6 (e.g., making inferences, evaluating and commenting on the text, etc.) predicted, at age 7, not only the children's vocabulary but their word decoding skills as well. De Temple and Snow as well as Dickinson and Tabors found a similar pattern of results in their studies. Yet, other studies did not confirm these relationships. Observing parents reading a storybook to their young children yielded no correlations between parental reading level and children's early reading levels (Barr,

1983; Meyer, Stahl, Wardrop, & Linn, 1994). It has been suggested that storybooks may be a good source for language development in terms of vocabulary and syntax, but this was not found to be the case regarding word recognition (Stahl, 2003). It has also been noted that neither parents nor teachers generally emphasize print while reading to children (Dickinson & Tabors, 1991), and that children, too, do not focus on print when looking at alphabet books (Yaden, Smolkin, & MacGillivray, 1993).

Furthermore, it has been hypothesized that studies in which a relationship between parental storybook reading and children's print-related skills have been reported may actually be confounding the effects of parental mediation level with HLE level. For example, Nord, Lennon, Liu, and Chandler (2000) found that children who are read to more frequently, (i.e., at least 3 times a week) were more likely to know the letters of the alphabet, to read or pretend to read, and to write their own name. This could, of course, be related to their being exposed to more frequent reading. But these children were also more able than other children to count to 20. According to Stahl (2003), in this instance the children's higher EL skills could also be attributed to living in homes with a high academic environment (or high HLE, in our terms), which have a higher frequency of a wide range of literacy or similar activities, and not exclusively to frequency of parental reading. And, indeed, many studies have reported that LSES children, in contrast to their high SES (HSES) peers, are not only exposed to a lower level of parental mediation during book reading but also live in a poorer HLE, in terms of frequency of being read to, the number of books and literacy games available to them, fewer visits to the library, and the like (Feitelson & Goldstein 1986; Snow & Ninio, 1986; Scarborough & Dobrich, 1994; Bus et al., 1995; Teale & Sulzby, 1999). These aspects of children's HLE were found to be related to their school achievement (Heath, 1983; Wells, 1985) as well as to their EL skills at kindergarten age (Dickinson & Tabors, 1991; Burgess et al., 2002).

Our review of the available literature reveals that, in most studies, the relationship between the variables of interest – parental mediation level and family's HLE – and children's EL has not been examined within the same study. Furthermore, since most researchers have focused on one SES group only (HSES or LSES) and since parental mediation and HLE have been found to be related strongly to SES, the individual as well as interactive impact of these parameters remains unclear. We found only one study in which the researchers examined the relationship between HLE (but focusing on parental reading frequency only), parental mediation level during a book reading activity, and children's EL levels (see Sonnenschein & Munsterman, 2002). However, they restricted their sample to LSES families only. They found that while HLE was related to

the children's EL measures, parental mediation in book reading was not. In another study conducted in Holland by Leseman and de Jong (1998) the authors compared parental book reading to kindergarteners (aged 5–6) in middle SES families (Dutch communities) and in low-SES families (immigrant Surinamese communities). Maternal mediation, defined by them as "instruction quality" (p. 302), was regarded as one of several parameters of HLE, which also included parental report on literacy-related activities at home. They also studied the relationship between these variables and children's early literacy levels 1 year later when they were 7 years old and had entered elementary school. According to their findings, children's early literacy (word decoding) had a low-moderate relationship to HLE ($r = 0.35$) as well as to parental mediation ($r = 0.24$), but only in the middle SES group.

Another important limitation of the available research in this area is that the effects of storybook reading has been studied mainly among cohorts of younger children, aged 2, 3, and 4 years (e.g., Reese, 1995; De Temple & Snow, 1996; Haden et al., 1996), rather than among kindergarteners, aged 5–6 years (e.g., Leseman & de Jong, 1998; Hecht et al., 2000). Therefore, to redress some of these gaps in the body of literature referred to above, in the current study, we investigated children aged 5–6 from both low and middle SES groups. It is particularly important, we believe, to observe children of this age group during a parental book reading activity, especially in low-income families, for several reasons. First, it allows us to observe children who are more mature and developmentally ready to acquire literacy skills compared to the younger children typically researched in previous studies. Furthermore, since maternal mediation could be attuned to the children's developmental level, HSES mothers in particular may be more motivated and better able to present higher mediations level with 5–6-year-old children, who are both more developmentally ready as well as nearing school entry age. We felt that a properly designed study may allow us to gain keener and important insights into these complex relationships, which have many educational ramifications.

To sum up, in the current study we propose that two key elements within the context of storybook reading to young children, namely, the HLE and the parental mediation level while reading to their children, can offer distinct advantages for children's EL by promoting not only their oral language abilities, but also their knowledge of the written text. We hypothesize that children who live in a rich HLE and who are exposed to frequent reading by their parents will show higher levels of EL. We also hypothesize that a high-parental mediation level that uses higher "distancing" levels which present cognitive challenges and are directed to

orthographic knowledge, print concepts, or to actual reading, will show a stronger relationship to the children's EL level than the HLE since it works directly on this area of knowledge. Furthermore, based on the reportedly higher levels of parental mediation levels while book reading in HSES families, compared to LSES families (Heath, 1983; Wells, 1985; Leseman & de Jong, 1998), we hypothesize that the relationships between mediational levels, HLE, and children's EL will be more apparent in the HSES group than in the LSES group. We also believe that these relationships might emerge more clearly with kindergarten children, who are closer to school entry age and who are cognitively readier than younger children to acquire the written system and the reading skills that comprise EL (Levin & Tolchinsky-Landsmann, 1989). The evidence that HSES children's EL is more advanced than that of LSES children (Korat, Bhahar & Snapir, 2003; Korat, 2005) and that HSES children also tend to have greater advantages both in their HLE (Dickinson & Tabors, 1991; Burgess et al., 2002) and their parental mediation level during book reading (Snow & Ninio, 1986; Leseman & de Jong, 1998) also leads us to assume that we will find a stronger correlationship between these variables in the HSES group and than in the LSES group.

Investigating the relationships among these variables seems of vital importance to us, especially for children from low-income families, given the reported achievement gaps between LSES and HSES children cited earlier. De Temple and Snow (2003) have also argue that "it becomes increasingly urgent to think how to design preschoolers' home and school environments in order to ensure optimal literacy development" (p. 32). Undoubtedly, storybook reading invites much greater parental focus on the story's meaning than on the print or the process of reading itself (van Kleeck, 2003). Yet, it is possible that some parents do address these aspects, along with others mediational behaviors, when reading storybooks to their children, especially when reading to older children. For these reasons, we designed our study to allow us to look very closely at a reasonably large group of parents' mediating levels during storybook reading, and to use a more elaborate and finer-tuned parental mediational scale, hoping to learn more about the different strategies parents use when reading to their children that may enable their EL development.

In conclusion, in the study presented here, we focused on the relationship between maternal book reading mediation, HLE, and 5–6-year-old children's EL development among Hebrew-speaking families in Israel representing two different SES levels: low and high. We posed the following questions: (1) To what extent do maternal storybook reading mediation level and the family's HLE predict children's EL level? (2) Do the relationships among these variables differ as a function of SES level?

and (3) What levels of mediation do mothers use while reading a storybook to their children, aged 5–6, and do these vary by SES?

Method

Participants

A total of 94 5–6-year-old children, 54 girls (LSES $n = 26$, HSES $n = 28$) and 40 boys (LSES $n = 21$, HSES $n = 19$) and their mothers took part in this study. They were recruited from 41 kindergarten classes located in urban neighborhoods in the greater area of Tel-Aviv, Israel that varied in their SES level. Thus, 22 of 41 kindergarten classes came from HSES neighborhoods and 19 classes from LSES neighborhoods. From each of the 41 kindergartens, anywhere from 2 to 4 children participated in the study. All children came from Jewish Hebrew-speaking homes. Participants were solicited by letters sent to parents. This letter from the researchers was distributed to them via the school and included information on the study's aims (learning about children's academic development) as well as why it was important. Mothers who gave their consent participated with their children in the study. Families were given a children's book and an educational game as compensation for their participation.

A seven-factor index was used to calculate the families' SES levels. This index took into account the educational level, the profession and the occupation of the father and mother, and the family's income level; a "z" score was used to calculate the mean for the SES variable (range 1–5; $\alpha = 0.90$). All families that had a score above the median were categorized as middle-high SES (HSES) ($n = 47$); families scoring below the median were categorized as middle-low SES (LSES) ($n = 47$). In Israel, typically, a LSES characterizes the Jewish population of Middle East and North African extraction, and a HSES, those with European origins (Samooha & Kraus, 1986; Cohen, 1999). This was the case in our study as well. In both groups, most of the families were intact. Table 1 presents the demographic characteristics of the two SES groups in our study.

The table shows that in the HSES families, fathers' and mothers' educational, professional, and occupational levels are significantly higher than in the LSES families. These HSES family advantages also apply to family income and number of rooms in the home.

In Israel, formal reading and writing instruction begins in school when children are between the ages of 6 and 7. In kindergarten, children are exposed to the written system, including storybooks and educational

Table 1. Family's demographic characteristics in the low (LSES) and high (SES) SES groups.

	SES group				
	LSES (n = 47)		HSES (n = 47)		
Variable	M	SD	M		t
Child's age (in months)	71.08	4.54	71.04	4.05	0.38
Mothers' age (in years)	36.28	5.12	37.87	4.98	−0.51
Fathers' age (in years)	40.55	5.38	40.50	5.32	0.06
No. of children in family	2.60	0.80	2.40	0.82	1.34
Number of rooms	3.90	1.20	4.50	1.30	−2.15**
Family income[a]	2.76	0.96	3.62	0.87	−4.53**
School level[a]					
Mothers	2.34	0.79	4.13	0.95	−9.95***
Fathers	1.89	0.67	3.84	0.97	−11.12***
Professional level[a]					
Mothers	3.09	1.13	4.85	0.36	−10.17***
Fathers	2.96	0.94	4.80	0.46	−11.78***
Occupational level[a]					
Mothers	2.85	1.18	4.55	1.14	−7.12**
Fathers	2.72	0.91	4.77	0.92	−13.05***

[a]Range = 1–5.
**$p < 0.01$; ***$p < 0.001$.

games; also, lists of letters, printed words, and different texts are displayed around the room. Children's names appear on their clothes' hooks and personal lockers, and most children write their names on their artwork. Children are frequently read to from storybooks and they tend to browse through books independently as well. Such activities as phonological awareness (e.g., rhyming games or segmenting words into syllables), letter discrimination, or letter copying are part of the repertoire of many kindergarteners (Shatil, Share, & Levin, 2001).

Procedure

Data were collected in three sessions. In the first session, the children's EL was assessed individually within their kindergarten setting; in the second session, mother–child dyads were involved in a joint storybook reading

activity in their homes; in the third and final session, demographic and HLE information was gathered from the mothers.

Three to four days after testing the children individually in their kindergartens, the researcher visited the children's home. She gave the mother a book, which was not familiar to her or to the child and asked the mother to read it to the child as she usually would any other book. (A more detailed description of the rationale for choosing an unfamiliar book and procedures followed to ensure that the chosen book would be unfamiliar to the sample of mothers and children is presented in the section on "Observations of Mother–Child Book Reading" below.) To make quite certain that they were, in fact, unfamiliar with the chosen book, before starting the activity, both mothers and children were specifically asked if they knew the book and if they had ever read it before. No child or mother in the study answered this question affirmatively. A VHS camcorder on a tripod, placed at the far end of the room, videotaped the session. The researcher left the room while the mother and the child completed the task. Two to four days later, a home visit took place during which self-report questionnaires regarding demographic and HLE data were administered to the mother in a personal interview format.

Research tools

Demographic and home literacy environment data

Among other topics, mothers were asked for information about the present SES of the family, including their own and the father's educational level (number of school years), profession, occupation, and the family's income level. The data provided by the mothers about education, profession, and occupation were transformed to a 5-point scale (from 1 = low to 5 = high). The parental education scale ranged from 1 (6 years of schooling and less) to 5 (20 years of schooling and more). The professional qualification and current occupation scale ranged from 1 (unskilled worker and menial industrial laborer) to 5 (higher executives and major professionals). The family's income level was based on the mother's ranking of the family income compared to the established average in Israel during the research period (this information was given to the mothers); the mothers' rankings ranged from 1 (very much below the national average) to 5 (very much above the national average).

The HLE Questionnaire included such aspects as number of adult and children's books in the home, frequency of parental reading of books to the child, frequency of trips to the library with the child, and the number of children's educational games in the home. The scales for frequency of reading to the child and for visits to the library ranged from 1–5, where

1 = not at all; 2 = once a month; 3 = once a week; 4 = twice a week; and 5 = every day.

In addition, mothers were asked about their reading habits. Their familiarity with adult and children's literature was assessed by the Title Recognition Test (TRT) (Stanovich & West, 1989), which was adapted by Aram and Levin, (2001), Korat and Levin (2001) and Aram, Korat, and Levin (2006) for use with a Hebrew-speaking population to reflect available adult and children's books in Hebrew. Mothers were presented with two lists of books: one list included 30 titles of adult books and the second list included 30 titles of children's books. Each list included 20 titles of current best sellers and 10 foils, which were verified as non-existent titles in library databases. Mothers were asked to indicate which of the listed book titles they recognized. The advantages of this measure compared to a direct question about frequency of parental book reading is its immunity from social desirability responses, its low-cognitive load, and the absence of a necessity for retrospective time judgments. To obtain a total score on exposure to print, a correct response – that is, recognition of an established current best seller, contributed one point, and an incorrect response – that is, recognition of a foil, deleted two points. Thus, the possible range of scores on this test is from -20 to 20 for each of the two lists: adult books and children's books. The TRT for adult books has been found to correlate with maternal verbal ability ($r = 0.75$, $p < 0.001$) and children's HLE level ($r = 0.45$, $p < 0001$) (D. Aram, 1998, unpublished data) and with children's emergent reading level ($r = 0.33$, $p < 0.01$) (Aram et al., 2006). The TRT for children's books has been found to correlate with children's emergent reading ($r = 0.54$, $p < 0.001$), and children's emergent writing ($r = 0.43$, $p < 0.001$) (D. Aram, 1998, unpublished data).

To make mothers' TRT scores and those of the other HLE measures uniform, "z" scores were calculated. Cronbach's α for this measure was 0.72. A similar HLE questionnaire, used by Korat and Levin, (2001) in another study with kindergarteners and their mothers, yielded moderate to large correlations with children's emergent reading ($r = 0.31$–0.54, $p < 0.001$) and writing ($r = 0.28$–0.48, $p < 0.001$), including a large correlation with maternal mediation level in a joint writing activity ($r = 0.77$, $p < 0.001$). Similar results emerged in a study with second graders (Aram et al., 2006).

Children's emergency literacy level

Children's EL level was assessed using five parameters: concepts about print, word recognition, phonological awareness, naming letters, and the ability to read a familiar book.

Print concept. A Hebrew adaptation by Shatil (2001) of Clay's (1979, 1989) test of the convention of print was used. It required children to answer 16 questions dealing with such concepts as page, line, writing, drawing, knowledge of book, and text handling (e.g., where one begins and ends reading a book, a page, a line), as well as the direction in which reading proceeds (from right to left in Hebrew). Two questions were developed specifically for the Hebrew version, which related to the children's awareness of the presence, shape, and location of Hebrew diacritical marks. Each correct answer received a score of 1; thus, the range of scores on this test was from 0 to 16.

Word recognition. Adopting the methodology previously employed by Levin and her colleagues (Levin & Tolchinsky-Landsmann, 1989; Levin & Korat, 1993; Levin, Share, & Shatil, 1996), we encouraged children to recognize three pairs of words as best they could, with no demonstration or training provided. These pairs were selected to evaluate the ability to represent various aspects of reading. In the first pair, ''tree–trees'' (in Hebrew, *aitz–aitzeem*), each of the two words represents congruence between its phonological, semantic, and morphological structure: the longer-sounding word (phonology) denotes more objects (semantics) and consists of more morphemes (morphology). In the second pair, ''sea–a drop'' (*yam–tipa*), each of the two words represents incongruence between its phonological and semantic factors: the longer-sounding word (tipa [a drop], which has two syllables) denotes fewer objects (one drop), while the shorter word (yam [sea], which has one syllable) denotes a larger mass of such objects (the sea has many drops). In the third pair, ''barber–hairdresser'' (*sapar–saparit*), each of the two words represent a gender category and each word in the pair manifests congruence between its phonological and morphological structure: the longer-sounding word has more morphemes due to the feminine suffix (Ferreiro & Teberosky, 1982; Levin & Tolchinsky-Landsmann, 1989; Levin & Korat 1993). Each of the three pairs of words was written on a separate card, with the two words in the pair one below the other. The three cards were presented to individual children one at a time. The children were told that two words were written on the card, and they were asked to identify which word was written where. For example: ''Here are two written words: 'sea' and 'a drop.' Show me where the word 'sea' is written and where the word 'drop' is written .'' The number of pairs correctly recognized determined the total word recognition score, which ranged from 0 to 3.

Additionally, following each pair's identification, the children were asked to explain their judgments. Their explanations revealed the kinds of explicit considerations of which the children were aware and which they

used in constructing their judgments. The explanations for each pair of words were classified into five levels, from high (5) to low (1), as follows: Level 5 = reading and naming letters (e.g., the child says "This is *tipa* [drop] because I see the letter *teth*" and points to the correct letter); Level 4 = relating to phonological length (e.g., the child says "This is *aitzeem* because it is longer–*ai-tzeem*–and this is only *aitz*"; here, the child segmented the words into syllables); Level 3 = relating to phonological and semantic length (e.g., the child says "This is *saparit* because it is longer–*sa-pa-rit*–and she [the hairdresser] has to cut the hair long"); Level 2 = relating to semantic length (e.g., the child says "This is *aitzeem* because it is long, it has many letters, and trees are many more than one tree"); and Level 1 = other explanations; this category included contextual and circular explanations, as well as no explanation (e.g., a circular answer was when the child kept repeating a non-answer "Because this is the answer. I am a big boy, so I know" even after the researcher did some probing to get a more precise answer). These explanation scores ranged from 1 = low to 5 = high for each pair of words. The scores were averaged across the three pairs of words so that the total explanation scores across all three pairs of words ranged from 1 to 5. Inter-judge reliability for the explanation scores, based on 10% of the sample, was high and significant ($\kappa = 0.88$).

To arrive at an overall word recognition score for each child, their total word recognition scores (range: 1–3) and their total explanation scores (range: 1–5) were each first converted to "*z*" scores; the "*z*" scores for each of the two measures were then averaged, resulting in an overall mean word recognition score. These "*z*" scores were entered into a reliability analysis, resulting in a Cronbach's $\alpha = 0.90$. In previous studies, children's performance on the word recognition task was found to be related to emergent word writing ($r = 0.58$) and print concepts ($r = 0.52$) (Korat et al., 2003) and predicted children's word reading and reading comprehension at school (Levin et al., 1996; Korat et al., 2003).

Phonological awareness. Phonological awareness was measured using two tests developed by Aram and Levin (2002), each of which includes 20 monosyllabic word pairs. On the first test of initial phonemes (e.g., gad–gur), the children were asked if the initial phonemes of the two words in the pair were similar or different. On the second test of final phonemes (e.g., zer–har), they were asked if the final phonemes of the two words in the pair were similar or different. The number of pairs correctly recognized determined the phonological awareness score. Thus, the total range of scores for both tests combined is from 0 to 40. The correlation between the children's scores on the two tests was $r = 0.66$, $p < 0.001$. The final

score of children's phonological awareness was determined by the percentage of correct responses averaged across the two tests. Children's performance on these tests was found to be related to their orthographic awareness ($r = 0.54$) and to their emergent writing and reading of words ($r = 0.52$) (Aram & Levin, 2002).

Letter naming. The Hebrew script includes 22 regular letters and five final letters (*mem*, *nun*, *tsadi*, *peh*, *kaf*). The final letters represent five sounds, which are also represented in the regular letters; however, when they appear at the end of words, they are represented by a different grapheme. Since children usually recognize the final letters later than they do the regular letters, it was decided to omit final letters from the test. Children were presented with the 22 regular letters of the Hebrew alphabet, each written on a separate card, one at a time, and asked for the name or the correct sound of one phoneme (e.g., /b/ for Bet) or of two phonemes (e.g., /ba/ for Bet). The letters were presented in random order. Correct names or correct sounds received a score of 1 for each of the 22 regular letters; thus the range of scores was 0–22. Inter-judge reliability for this task, based on 10% of the sample, was high and significant ($\kappa = 0.92$).

Emergent reading of a familiar book. This assessment was based on a measure developed by Sulzby (1991). The children were asked to choose a book that they like from among three books that had been read to them by the teacher several times and that she thought the children knew well. The children were then asked to read this book. Children's reading was audiotaped and later transcribed. This type of assessment is based on a "natural activity" which occurs among young children when they play at either reading books for themselves or for others. Sulzby used it with English-speaking children and found that, with age, as children have more experience with book reading, they move from reading the story according to the illustrations (by commenting or labeling) to focusing on the story structure and the written style of the text. Garvin and Walter (1991) found a moderate positive correlation ($r = 0.42$) between children's performance on Sulzby's measure and children's concepts about print scores (CAP) as well as children's reading ability in first grade.

Based on Sulzby's (1991) system of coding children's responses on this measure, transcripts of the children's reading of the book were classified into 11 categories of emergent book reading ranging from low (1) to high (11), as follows: (1) story not formed – reading by labeling the pictures; (2) story not formed – following the actions of the story according to the pictures; (3) story formed – dialogic storytelling, telling the story by conducting a dialogue with the researcher; (4) story formed – monologue

storytelling; (5) reading and storytelling mixed – using the oral and written system used in the book to tell the story; (6) reading similar to original story – using more intensively the written system of the book; (7) reading the story verbatim; (8) refusal to read (refusal is based on the fact that the child is aware of the conventional way of reading and knows that he or she is not able to do so); (9) aspectual reading – part of words, words, parts of sentences in different places of the book; (10) reading imbalanced – reading sentences and passages of the story with self corrections; and (11) conventional reading. Scoring ranged from 1 (low) to 11 (high). Inter-judge reliability, based on 10% of the sample, was high and significant ($\kappa = 0.87$). This test has not been used, to date, with Hebrew-speaking children.

Observations of mother–child book reading

Mothers were observed (via videotape) reading a non-familiar book to their children at home. We decided on a non-familiar, rather than a familiar, book for two reasons: (1) to avoid the possibility of different levels of previous exposure to the book, and (2) the expectation that a new book might present more of a challenge to the mother to elaborate on the book's content (De Temple & Snow, 1996; Haden et al., 1996; van Kleeck, Gillam, Hamilton, & McGrath, 1997). The 30-page book we chose, *Frog and a very special day* by Velthuijs (2000), had only just been published and was found in only one of the 10 stores we visited in the greater area of Tel-Aviv. To further establish its general unfamiliarity, parents, kindergarteners, kindergarten teachers, librarians, and book store staff from 10 different neighborhoods in the greater area of Tel-Aviv were asked if they know the book, and if they had read it themselves or to the children. Only 2 of 40 people that we asked said that they had seen this book in a store.

The videotaped session also included another activity involving conversation around the family's photo album, which will be discussed in a separate paper. In half of the cases, the mothers read the book first and, in the other half, mothers started with the conversation around the photo album. Each page of the chosen book has a big colored drawing, which covers more than half of the page, and 3–5 written sentences (of about 30 words). The story is about a frog that discovers, 1 day, that all his friends suddenly seem to be avoiding his company. This makes him very sad and he is very offended. But, at the end of the book, when he discovers that all of them had actually disappeared in order to prepare a birthday party for him, he feels loved by his friends and becomes very cheerful. The story has all the traditional characteristics of a ''written'' story: a full story scheme, inferential passages, and the language in it is typical of that found in such books. It includes illustrations and written text in pointed Hebrew, which employs

the diacritical marks or points (*nekudot*) that are usually used in texts intended for young children so that they can more easily relate to the text.

Maternal mediation level in book reading. The mother–child book reading interaction occurred in the participants' chosen place at home (in the living room, in the child's room, or in the kitchen) and lasted, on average, for about 15 minutes (M = 15 minutes; range = 10–25 minutes). Videotapes of the dyadic interactions were transcribed verbatim and the transcripts were used to code the interactions. In several cases, when coding was difficult to decide, videotapes were examined together with the transcripts. The mother–child interaction was segmented into verbal units (see examples in Table 2). Verbal units constitute the smallest unit of meaning; usually they are comprised of sentences. Single or multiple verbal units may be found within a speaking turn. This method was used earlier by Bus et al. (2000). Inter-judge reliabilities for segmenting the interaction into units were computed based on a random selection of 10% of the dyads. Reliability measured by Cohen's $\kappa = 0.80$, $p < 0.001$. Each unit was coded in three ways: (1) who is speaking (the mother or the child); (2) the function of the unit (a new unit or a continuation); and (3) the subject or topic of the unit (e.g., naming details in illustrations, or discussing the written system). Content was coded only when a new subject was added to the previous discourse. A repetition of content or comments was not coded as new content. Topic units were classified into four levels of content categories, from low (1) to high (4), as follows: (1) relating to illustrations in the book (e.g., naming of characters and objects in the illustrations, referring to the relationship between the text and the illustrations, or naming details in the illustrations that were not mentioned in the story), (2) paraphrasing the text, including word explanations, (3) promoting text comprehension via "distancing" (e.g., relating the child's own relevant experiences to further text comprehension or making connections beyond the text and, finally), (4) relating to the written text, the orthography, and the reading process. Examples of each of the four content categories, as transcribed from the videotaped mother–child reading interactions, are presented in Table 2.

Each unit was coded into only one of the four categories. Where a unit referred to more than one category, an arbitrary decision had to be made about which category it seemed to fit into better. This coding system was based on work done by Bus et al. (2000) and was modified for the purposes of the current study from eight content categories or levels to four levels only. The hierarchy of the levels was determined by "moving from concrete immediately available information" (De Temple & Snow, 1996, p. 54) to higher cognitive or abstraction processes, termed by Sigel (1982) as

Table 2. Examples of maternal mediation levels while book reading with their children.

Mediation level[a]	Example 1	Example 2
Relating to illustration	M: (reads) Instead, he found a note on the door	M: Do you see the pants?
	M: (Points at the illustration)	M: (points to the illustration)
	M: This is the note	M: What do they have there that looks so funny?
		C: Stripes
		M: That's right, they are with stripes
Promoting text comprehension via paraphrasing	M: (reads) Wait a minute, today is Wednesday... no Tuesday	M: (reads) He was grumbling to himself
	M: (reads) Today it is the day	M: What is grumbling?
	M: They are trying to find out what day it is, but nobody knows	C: Sad
	M: She says that today is Wednesday or Tuesday	M: No... grumbling is (changes the intonation to sound like grumbling)...
	M: And he is thinking	C: Angry
Promoting text comprehension via distancing	M: Look he fell into the water!	M: (reads) I do not know to do things
	M: What would have happened if he had fallen on the ground instead? What do you think?	C: Yes he knows. He knows how to swim, how to dive, how to jump
	C: Oh, (laugh) he could break his buttock	M: So what do you think will happen next?
	M: Oh yes, because the ground is hard	C: He will know [how to do things]
		M: He will find out that he knows
		C: Yes
Relating to the written system	M: (reads) A frog has a special day	M: (reads) Today it is a special day...
	M: What letters are in the word "frog"?	M: (points to the next word in the sentence and waits for the child to read)
	C: Zadik, Phe, Reish, Daled, and Ayin (the Hebrew letters of the word)	C: (reads the word) In-deed

[a] From level 1 = lowest to level 4 = highest.

"distancing." Level 1, merely relating to the drawings of the book alone, seemed to us to indicate a lower level than Level 2, dealing with text comprehension by discussing the written text, by simply paraphrasing it, or by giving explanations for a word. Level 3, dealing with text comprehension by enriching it with the child's own experiences or by relating it to a more general concept, seemed to us to indicate an even higher level. Level 4, relating to the written text, the orthography, and the reading process seemed to us to constitute the most demanding cognitive activity for kindergarten children, compared with the three lower levels described above.

To support the construct validity of these four maternal mediation levels underlying this scale, three independent judges read the introduction to the scale and the description of the levels with their examples. The judges were chosen because they are professionals in educational research and the practice of literacy in Israel. They were asked to order the levels, presented in random order without any identification, from the lowest to the highest. The question they were posed was, "What type of mediation might promote better children's cognitive and literacy development?" All three judges independently ordered the four levels according to the order presented above.

The analysis of topic units in this paper was restricted only to those, which account for at least 2% of all content units. Furthermore, references to procedures of book reading (e.g., "Let me turn the page") or to conduct issues (e.g., "sit properly") were not coded for this analysis. Each verbal unit that could be classified into the four content categories was given a score ranging from 1 = low (naming of characters and objects) to 4 = high (relating to the written system in the book). Inter-rater reliability estimates, as with all other measures, were obtained by using two independent raters. Inter-judge reliabilities for sorting content units were computed based on a random selection of 10% of the dyads. Reliability for the overall scale, measured by Cohen's $\kappa = 0.85$, $p < 0.001$. Reliabilities for each of the four categories were as follows: (1) for relating to illustrations in the book, $\kappa = 0.87$; (2) for paraphrasing, $\kappa = 0.90$; (3) for promoting text comprehension via "distancing," $\kappa = 0.86$; and (4) for relating to the written system in the book, $\kappa = 0.81$. All the κ scores were significant at the $p < .001$ level.

Results

Data on the families' HLE will be presented first, followed by data on maternal mediating level while storybook reading, children's EL levels,

correlations among the main variables in the study, and finally, data from hierarchical regression analyses for variables predicting children's EL.

Home literacy environment

Table 3 presents results pertaining to the HLE of the low- and high- SES families that participated in this study.

The data indicate that LSES homes were significantly less affluent than HSES homes in literacy tools and activities. Furthermore, although LSES mothers recognized significantly fewer adult books than HSES mothers, they recognized just as many of the children's books as did the HSES mothers.

Patterns of maternal mediating levels while book reading

Comparisons between the two SES groups regarding maternal mediating level while book reading to their young children are presented in Table 4.

Table 3. Home literacy environment (HLE) in the low (LSES) and high (HSES) SES families.

	SES group				
	LSES (n = 47)		HSES (n = 47)		
HLE variables	M	SD	M	SD	t
Number of books at home					
Children	49.49	45.51	100.84	55.10	3.45**
Adult	72.31	116.35	237.70	290.56	4.71**
Frequency of reading to the child[a]					
Mothers	3.32	.96	3.66	.90	1.78*
Fathers	2.36	1.22	3.28	1.30	3.51**
Maternal exposure to books[b]					
Adult books	24.00	18.70	43.77	18.42	5.06**
Children's books	58.55	18.51	59.88	15.42	3.71
Number of educational games at home					
Arithmetic	4.41	3.66	6.80	6.73	1.84*
Reading	3.85	2.64	5.73	3.53	2.56**

[a]Range = 1–5, where 1 = not at all; 2 = 1/month; 3 = 1/week; 4 = 2/week; and 5 = daily.
[b]Scores appear in percentages.
*p < 0.05; **p < 0.01.

Table 4. Maternal mediation level while book reading to their children: low (LSES) versus high (HSES) SES groups[a].

	SES group				
	LSES (n = 44)		HSES (n = 46)		
Mediation level	M	SD	M	SD	t
Relating to illustration	23.60	29.40	19.30	16.85	0.84
Promoting text comprehension via paraphrasing	32.30	26.12	22.90	17.49	2.00*
Promoting text comprehension via distancing	41.60	29.54	50.00	25.40	1.43^
Relating to the written system	2.50	7.80	7.70	19.30	1.70*

[a]Scores appear in percentages.
^$p < 0.07$; *$p < 0.05$

According to the data in this table, in both SES groups the most frequent maternal mediating level in book reading to kindergarteners (ages 5–6), was Level 3: promoting text comprehension via "distancing," followed by Level 2: promoting text comprehension via paraphrasing, then Level 1: relating to illustrations, and finally, Level 4: relating to the written system, which was their least frequently used mediating level. With respect to SES differences in mediating patterns, LSES mothers used patterns of paraphrasing significantly more often than HSES mothers (see Level 2 in Table 4: 32.30% versus 22.90%, respectively); Although, there was a clear tendency for HSES mothers to lead a discussion with their children beyond the written text more often than did LSES mothers, the difference did not reach significance (see Level 3 in Table 4). HSES mothers related significantly more often to the written system in the book than did LSES mothers (see Level 4 in Table 4: 7.70% versus 2.50%, respectively). A comparison of the overall maternal mediation level (range: 1–4) in the two SES groups yielded a significant difference. The overall mediation level of the HSES mothers (M = 2.46; SD = 0.46) was higher than that of the LSES mothers (M = 2.23; SD = 0.53) (t [88] = −2.17, $p < 0.03$).

Children's emergent literacy level

Data on children's EL level by SES are presented in Table 5.

The results show that in all five areas measured: print concept, word recognition, phonological awareness, letters' names, and emergent book

Table 5. Children's emergent literacy (EL) scores in low (LSES) and high (HSES) SES groups[a].

	SES group				
	LSES (n = 47)		HSES (n = 47)		
Emergent literacy skills	M	SD	M	SD	t
Print concept	67.82	23.24	83.64	16.67	3.79**
Word recognition	48.94	21.65	62.88	25.09	2.89*
Phonological awareness	68.24	13.07	74.79	17.37	2.06*
Letters' names	79.58	23.50	90.61	16.56	2.50***
Emergent book reading	28.14	16.10	41.30	22.40	3.20***
General EL level	59.10	12.91	69.11	12.63	3.80***

[a]Scores appears in percentages.
*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

reading, HSES children had significantly higher scores than did their LSES peers. One overall EL score across all five tasks was calculated after transforming individual task scores to "z" scores. The mean "z" score across all tasks was reliable (Cronbach's $\alpha = 0.70$) and served as the children's overall EL score. The overall score for EL also showed a significant difference between the two SES groups (see Table 5): the HSES children's score (M = 69.11, SD = 12.63) was higher than that of the LSES children (M = 59.10, SD = 12.91) ($t = 3.80$; $p < 0.001$).

Correlations among variables

In order to compute the relationship between the main variables in our study, we created one score for the family's HLE. The inter-item reliabilities of Cronbach's Alpha for this overall HLE score were 0.69. Correlational data for the relationships among SES, HLE, children's EL level, and maternal mediation level across SES and within each SES group are presented in Table 6.

All variables were significantly correlated with each other across SES. There was a moderately high, positive correlation between SES and HLE ($r = 0.64$, $p < 0.001$), indicating that the higher the SES of the family, the higher their HLE. All the other correlations across SES were also positive but more modest, indicating that children's general EL tended to be higher when their SES, family HLE, and maternal mediation levels were higher.

Table 6. Correlations among variables across and within SES groups ($n = 90$).

	1	2	3	4
Across SES groups				
SES	–	0.64***	0.32***	0.44***
HLE		–	0.27**	0.41***
Maternal mediation level			–	0.29***
Children's general EL level				–
Within low SES group ($n = 44$)				
SES	–	0.31*	0.32*	0.04
HLE		–	0.17	0.24
Maternal mediation level			–	0.12
Children's general EL level				–
Within high SES group ($n = 46$)				
SES	–	0.57***	0.20	0.27
HLE		–	0.19	0.25
Maternal mediation level		–	–	0.33*
Children's general EL level				–

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

Within each of the two SES groups, a positive and significant correlation was found between HLE and SES (LSES = 0.31, $p < 0.05$; HSES = 0.57, $p < 0.001$). A *U*-test performed to check for the significance differences between these two correlations did not reach significance ($U = 1.50$, $p > 0.05$). However, with two exceptions, all of the other correlations within each SES group were rather low and not significant. In the LSES group, a modest, positive, and significant correlation was found between maternal mediation level and SES ($r = 0.32$, $p < 0.05$), indicating that the higher the SES level of the family within the low SES group, the higher their mediation level tends to be when reading a storybook to their children. In the HSES group, a modest, positive, and significant correlation was found between maternal mediation level and children's general EL level ($r = 0.33, p < 0.05$), suggesting that the higher the maternal mediation level in the high SES group, the higher the children's general EL level tends to be. Each pair of correlations within the LSES and HSES groups was tested to determine if they were statistically different; no significant differences were located.

Analyses for variables predicting children's emergent literacy levels

To explore the possible contribution of the study's variables to the children's general EL level as well as each of the individual EL task levels, we executed a hierarchical regression analysis, entering SES as the first predictor, HLE as the second, and maternal mediation as the third in order. The results of this analysis across both SES groups are presented in Table 7.

Table 7 shows the additional contribution of each predictor as well as the cumulative variance explained by the combination of several predictors to children's general EL level. The data show that SES accounted for a significant 20% of the variance in children's general EL levels. HLE and maternal mediation level made no significant contribution to the children's general EL levels beyond that explained by SES. The data for each of the five EL variables considered separately show that both SES and HLE explained the variance in two of the five EL areas: children's print concepts (SES contributed 20% and HLE 5%) and letter naming skills (SES contributed 8% and HLE 4%), whereas in the remaining three EL areas, SES was the only predictor of variance: word recognition (8%), phonological awareness (4%), and emergent book reading (8%).

Given the moderately high correlation between SES and HLE levels overall, which might indicate a multicolinearity effect of these two variables, we executed a step-wise regression analysis for each SES group separately, entering HLE as the first predictor and maternal mediation as the second, testing their possible contribution to the variance in the children's general EL score as well as in the individual EL areas. The results of these analyses are presented in Table 8 for the LSES group and in Table 9 for the HSES group.

The data for the LSES group in Table 8 show only one significant result: HLE explained 14% of the variance in children's print concepts. Neither HLE nor maternal mediation level explained the variance in the LSES children's general EL level or their scores in any of the other four EL areas.

However, the data for the HSES group in Table 9 show a different picture. Maternal mediation level contributed a significant 8% to the variance in children's general EL level, unlike the HLE, which made no significant contribution to the children's general EL level. On the other hand, focusing on each measure of EL separately, HLE explained a significant 9% of the variance in children's print concepts and 10% of the variance in children's letter naming skills, whereas maternal mediation level explained a significant 12% of the variance in the children's phonological awareness.

Table 7. Summary of hierarchical regression analysis for variables predicting children's general and specific emergent literacy (EL) levels across SES ($n = 90$).

Variable		B	SE	β	*t*	R^2	ΔR^2
General EL level							
Step 1						0.20***	0.20***
	SES	6.20	1.30	0.45	4.75***		
Step 2						0.22***	0.02
	SES	4.40	1.70	0.32	2.56**		
	HLE	5.00	3.00	0.20	1.66		
Step 3						0.24***	0.02
	SES	3.90	1.73	0.28	2.23*		
	HLE	4.62	3.00	0.19	1.55		
	Maternal mediation	3.82	2.65	0.14	1.44		
Print concept							
Step 1						0.20***	0.20***
	SES	9.90	2.10	0.48	4.70***		
Step 2						0.25***	0.05**
	SES	5.84	2.71	0.26	2.15**		
	HLE	10.95	4.76	0.28	2.30**		
Step 3						0.25	0.00
	SES	5.46	2.78	0.24	1.96*		
	HLE	10.70	4.80	0.27	2.23**		
	Maternal mediation	2.83	4.26	0.06	0.66		
Word recognition							
Step 1						0.08***	0.08***
	SES	7.02	2.48	0.28	2.84***		
Step 2						0.09	0.00
	SES	5.00	3.27	0.20	1.52		
	HLE	5.44	5.75	0.12	0.94		
Step 3						0.09	0.00
	SES	4.97	3.36	0.20	1.47		
	HLE	5.42	5.80	0.12	0.93		
	Maternal mediation	0.20	5.16	0.00	0.04		
Phonological awareness							
Step 1						0.04*	0.04*
	SES	3.27	1.65	0.20	1.94		

Table 7. Continued.

Variable		B	SE	β	*t*	R^2	ΔR^2
Step 2						0.05	0.00
	SES	4.50	2.18	0.28	2.06**		
	HLE	3.32	3.84	0.12	0.87		
Step 3						0.08	0.03
	SES	3.70	2.20	0.23	1.67		
	HLE	3.86	3.80	0.14	1.00		
	Maternal mediation	6.03	3.38	0.19	1.78		
Letter name							
Step 1						0.08***	0.08***
	SES	6.08	2.17	0.28	2.80**		
Step 2						0.12	0.04**
	SES	2.10	2.80	0.10	0.74		
	HLE	10.76	4.93	0.28	2.18**		
Step 3						0.14	0.01
	SES	1.40	2.86	0.06	0.50		
	HLE	10.30	4.94	0.27	2.10**		
	Maternal mediation	5.11	4.40	0.12	1.16		
Emergent book reading							
Step 1						0.08**	0.08**
	SES	5.90	2.24	0.28	2.65**		
Step 2						0.08	0.00
	SES	7.00	2.94	0.33	2.36**		
	HLE	2.74	5.10	0.07	0.53		
Step 3						0.09	0.01
	SES	6.40	3.00	0.30	2.12**		
	HLE	3.20	5.12	0.08	0.62		
	Maternal mediation	4.26	4.55	0.10	0.93		

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

Discussion

Several important results emerged in the current study. First, when looking at the whole sample together, the family's SES level variable appears to have the strongest relationship with HLE, maternal mediation

Table 8. Summary of hierarchical regression analysis for variables predicting children's general and specific emergent literacy (EL) levels in the LSES group ($n = 44$).

Variable		B	SE	β	*t*	R^2	ΔR^2
General EL level							
Step 1						0.05	0.05
	HLE	7.42	4.83	0.23	1.50		
Step 2						0.06	0.00
	HLE	7.00	4.96	0.21	1.40		
	Maternal mediation	1.90	3.70	0.08	0.50		
Print concept							
Step 1						0.14**	0.14**
	HLE	19.11	7.80	0.35	2.45**		
Step 2						0.14	0.00
	HLE	22.35	8.54	0.37	2.60**		
	Maternal mediation	0.67	6.53	0.01	0.10		
Word recognition							
Step 1						0.02	0.02
	HLE	7.78	8.36	0.14	0.93		
Step 2						0.02	0.03
	HLE	7.52	8.60	0.13	0.87		
	Maternal mediation	1.11	6.40	0.03	0.17		
Phonological awareness							
Step 1						0.06	0.06
	HLE	8.37	4.86	0.25	1.72		
Step 2						0.06	0.00
	HLE	8.70	4.50	0.26	1.74		
	Maternal mediation	1.42	3.71	0.06	0.38		
Letter name							
Step 1						0.06	0.06
	HLE	15.00	9.03	0.24	1.66		
Step 2						0.09	0.03
	HLE	13.30	9.16	0.22	1.45		
	Maternal mediation	7.23	6.80	0.16	1.06		

Table 8. Continued.

Variable		B	SE	β	*t*	R^2	ΔR^2
Emergent book reading							
Step 1						0.00	0.06
	HLE	1.64	6.53	0.04	0.25		
Step 2						0.00	0.00
	HLE	1.66	6.83	0.04	0.24		
	Maternal mediation	0.08	5.00	0.00	0.01		

*$p < 0.05$; **$p < 0.01$.

Table 9. Hierarchical regression analysis for variables predicting children's general and specific emergent literacy (EL) levels in the HSES group ($n = 46$).

Variable		B	SE	β	*t*	R^2	ΔR^2
General EL level							
Step 1						0.06	0.06
	HLE	5.27	3.20	0.24	1.64		
Step 2						0.14**	0.08**
	HLE	4.04	3.16	0.18	1.28		
	Maternal mediation	7.47	3.68	0.30	2.00**		
Print concept							
Step 1						0.09**	0.09**
	HLE	9.46	4.45	0.30	2.12**		
Step 2						0.13	0.04
	HLE	8.20	4.47	0.26	1.84*		
	Maternal mediation	7.60	5.20	0.21	1.46		
Word recognition							
Step 1						0.01	0.01
	HLE	5.63	6.80	0.12	0.82		
Step 2						0.01	0.00
	HLE	5.52	7.00	0.12	0.78		
	Maternal mediation	0.70	8.16	0.01	0.08		
Phonological awareness							
Step 1						0.01	0.01
	HLE	0.88	4.86	0.02	0.18		

Table 9. Continued.

Variable		B	SE	β	*t*	R^2	ΔR^2
Step 2						0.12**	0.12**
	HLE	1.30	4.70	0.04	0.26		
	Maternal mediation	13.35	5.47	0.35	2.33**		
Letter name							
Step 1						0.10**	0.10**
	HLE	9.62	4.41	0.31	2.17		
Step 2						0.10	0.00
	HLE	9.17	4.53	0.30	2.00**		
	Maternal mediation	2.70	5.30	0.8	0.50		
Emergent book reading							
Step 1						0.00	0.00
	HLE	2.00	6.36	0.04	0.31		
Step 2						0.05	0.05
	HLE	3.61	6.36	0.08	0.56		
	Maternal mediation	11.57	7.32	0.23	1.50		

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

level in the book reading activity, and the children's EL level, as compared with other variables. In addition, across SES groups, SES plays an essential role (20%) in explaining the variation in children's overall emerging literacy development, whereas no such significant predictive relationship applied to HLE and maternal mediation level. This salience of the SES factor is not surprising, of course, and supports results of previous research, which showed that the family's demographic background (parental education, profession, occupation, and income) is a major predictor of children's cognitive development (see, e.g., Bornstein, Hahn, Suwalsky, & Haynes, 2003).

The results of our study contribute to the extant body of literature on children's early literacy in several areas. First, we found that when focusing on the HLE (materials and activities) and on maternal mediation level during a joint book reading activity within the "natural" context of the family, the family's SES level is the strongest predictor of the children's literacy development. In addition, when focusing on only the LSES group, we found that LSES mothers whose socio-economic level is higher than that of the other LSES mothers in the same group presented a higher

level of mediation while reading to their children. Thus, the SES differences we found, as they related to maternal mediation level, pertain not only to high versus low-SES group mothers but also to SES differences among the mother within the LSES group.

This research was conducted in Israel, a society with one of the biggest socio-economic gaps among Western countries, and one with huge differences in school-age children's literacy levels depending on their SES level (Douglas, 2000; PISA, 2002). Our research shows that this gap appears as early as at the kindergarten level, and that it is strongly related to the social and economic status of their families. An awareness of this gloomy picture should be an important challenge for policy makers concerned with economic and educational issues in Israel as well as in other countries.

The second important finding of this study is that the model of the relationship between maternal mediation and children's EL development appears only in the HSES group but not in the LSES group. These findings suggest that within the HSES group children who grow up in higher SES families and whose mothers tend to discuss the written system and to raise topics that go beyond the text while reading storybooks to them tend to have higher EL levels. Although the study was not designed to determine causality, this finding suggests that the high SES children's higher EL levels could be due to the higher-level interactions they have with their mothers during storybook reading. Looking more closely at the results we can see that children's phonological awareness, an EL skill, showed the most progress in the HSES group (contribution of 12%) as a function of the mothers' mediation. This phonological ability might be facilitated by the higher level (Level 4) of mediation mothers used when they talked with their children about letters' names and the spelling of words (e.g., Mother: What letters are in the word ''frog''? Child: Zadik, Phe, Reish, Daled, and Ayin [the Hebrew letters of the word]). This type of mediation, when it is done with the HSES children who have a high level of knowledge about letters' names, might facilitate their phonological awareness and support their sensitivity to their phonemic awareness, especially in Hebrew in which letters' names are determined by an acrophonic principle (letters' names have their initial sound of the word). In contrast, in the LSES group, the children's lower EL skills (e.g., their mean group score for ''emergent book reading'' was only 28%) and the low frequency with which LSES mothers used the higher Level 4 mediation (relating to print) may explain our finding that maternal mediation during mother-child book reading made no contribution to the LSES children's EL levels.

It should be noted that the design of this study precludes making inferences about causality regarding the relationships between the variables in question. That said, the significant correlations that emerged in the HSES group can be interpreted in three ways: (1) maternal reading mediation using the high levels is related to the children's high levels of literacy, (2) the children's literacy level is related to maternal reading mediation because of the mother's sensitivity to the child's current EL development level, and (3) there is a reciprocal relationship between children's EL and maternal reading mediation, each shaping and being shaped by the other.

The third important finding in our study is despite the differences between the two SES groups, we found some similarities between them as well. When data for each SES group were examined separately (HSES and LSES), HLE predicted the children's EL levels on some of the individual measures even if it did not predict their overall EL level across these individual measures. Thus, results show that with the LSES children, HLE contributed 14% to the variance in their CAP knowledge, and that with the HSES children HLE contributed 9% to the variance in their CAP knowledge and 10% to the variance in their knowledge of letters' names. These relationships between HLE and children's EL levels support previous findings attesting to this relationship (Burgess, Hecht & Lonigan, 2002; Sonnenschien & Munsterman, 2002). Our study expands on the existing database by showing that when examining two different SES groups more closely, in each SES group the frequency of reading to the child, the number of books at home, the number of trips to the library, and other such HLE measures can have an impact on the children's EL skills.

One of the important questions that we posed in the current study focused on the levels of mediation used by low- and high- SES mothers while storybook reading to their 5–6-year old kindergarteners. Our findings support previous evidence documenting different levels of mediation in the two SES groups (Ninio, 1980; Heath, 1983; Wheeler, 1983; Wells, 1985; Snow & Ninio, 1986; Sonnenschein et al., 1996;). We found that LSES mothers used paraphrasing of the text (Level 2) significantly more often than HSES mothers; on the other hand, HSES mothers used the two higher-level mediation strategies (Levels 3 and 4)—specifically, discussing the written system and making connections beyond the text more often than LSES mothers, although the SES differences with the Level 3 ''distancing'' strategies did not reach significance. The strategies of ''distancing'' used by the HSES mothers, in which they went beyond the text, featured, for example, probed questioning and urging the children to make predictions.

It is important to note that although the LSES mothers engaged in discourse about the book's written system (the fourth and highest mediation level) only a very small percentage of the time (2.5%), we were impressed by the relatively high percentage of times LSES mothers (41.60%) engaged in discourse that went beyond the written text (the third highest of four levels of mediation). Although the HSES mothers showed a non-significant tendency to engage in this type of discourse at a somewhat higher rate (50%), the LSES mothers' results are impressive when compared to what has previously been reported in research with LSES mothers: 12% by De Temple and Snow (1996) and about 10% by Pellegrini, Perlmutter, Galda, and Brody (1990). Perhaps the differences in these studies' results could be explained by the different ages of the children who participated. Whereas our study looked at 5–6-year-old kindergartners who were tested by us just a few months before they entered formal schooling, the studies reported above, as well as most other studies in this area, included younger children aged 3–5 years. Thus, it could be suggested that there is a threshold effect, namely, that maternal mediation or teaching is in response to the child's developmental level in both SES groups. It would appear, based on our results, which both groups of mothers tend to move towards a new "zone of proximal development" (Vygotsky, 1978) for their children when they reach ages 5–6. Our study was not designed to determine whether mothers actually do change their strategies as their children move from preschool to kindergarten age. However, the differences between our results and those of previous studies with younger children leads one to conjecture that both the HSES and the LSES mothers in our study engaged more frequently in higher levels of mediation (Levels 3 and 4 for the HSES mothers and Levels 2 and 3 for the LSES mothers) while reading books to their kindergarten-age children than they might have done when their children were younger. This pattern of maternal mediation supports Vygotsky's notion of the zone of proximal development which asserts that educators can encourage higher levels of development by presenting new learning experiences that are somewhat – but not too much – higher than the child's actual developmental level. Based on our data, it could be hypothesized that mothers from both groups are sensitive to their children's developmental levels and adapt their mediational strategies accordingly. It could be suggested that when LSES mothers focus on the story meaning (Level 3) and when HSES mothers refer to the written language (e.g., letters and words) (Level 4), perhaps both groups of mothers are accurately gauging their children's EL abilities and adjusting their storybook reading mediation accordingly. This hypothesis deserves closer examination in future research.

Another important finding of our close observation of parent–child joint storybook was that we found mothers, which tend to discuss the written text with their kindergarten children. Although even the HSES mothers commented on the written system only about 8% of the time and used the other mediational levels far more frequently, these results are important since they add further useful information to the on-going debate about how much and if parents and children relate to the print of the book in a joint book reading event (Stahl, 2003).

These results showed that talking with kindergarteners about print while reading a storybook to them appears among the HSES mothers, who are mostly highly educated, and their children who are close to entering grade school (i.e., 3–4 months before school begins).

These results support Stahl's (2003) assumption that ''storybook reading plays a small but crucial role in developing children's word recognition skills'' (p. 377). Generally, Stahl had serious reservations about the role of storybook reading as a supportive context for children's word recognition skills perhaps because, as he sees it, only a few parents ''use storybook reading time as a venue for teaching about the construction of words'' (p. 377). Consequently, he believes that ''This small role [of storybook reading] may be expressed in small correlations, especially with measures of word recognition'' (p. 377). Instead, he suggests two other genres of text that he feels have greater potential for promoting children's learning about print: alphabet books and patterned books, especially when children are able to use initial consonant cues to aid in word recognition.

To date, most of the available research on intervention programs supporting EL in low-income families through book reading have focused mainly on children's verbal abilities (Whitehurst et al., 1994; Lonigan & Whitehurst, 1998; Hargreve & Sénéchal, 2000); only a few studies have dealt with other EL skills, particularly print concept skills, within the context of book reading interventions (see, e.g., Neuman, 1996). The results of a recent intervention study with highly educated mothers who were instructed to refer to the print in the book while reading to their young children showed that their children's early literacy skills – measured as print and word knowledge – were significantly higher after they had experienced this type of intervention than were those of children in the control group (Ezell & Justice, 2000). Their results indicate that when mothers are taught to use this higher level of mediation while reading a book to their children, it has the potential to enhance their children's EL development. Our results are in line with their findings, indicating that this level of maternal mediation which supports children's knowledge of

the written text can also exist in a "natural" setting (the home environment), as we found in the case of the HSES joint book reading experience.

Two major pedagogical implications can be drawn from our findings. First, as noted before, the importance of the family's SES level for the HLE, maternal mediation level, and children's EL level should be recognized. Appropriate actions to ensure that children have an optimal chance to do better should be a goal of national priority in Israel, as well as in other countries. Second, future studies should put their emphasis on how best to design family intervention programs so as to maximize children's literacy growth. Considering the relatively low level of variance contributed by HLE and maternal mediation in book reading to children's EL, we suggest that intervention efforts incorporate other activities that are more directly supportive of children's EL development, such as emergent writing activities (see, Aram & Levin, 2001) or phonological awareness activities (see, Nicholson, 1997), among others. We suggest considering the use of alphabet and rhyming books in these intervention programs, not just storybooks, in order to encourage a discussion of the written text by the mothers (see, e.g., Stahl, 2003).

Several limitations of this study, briefly noted below, should be taken into consideration in future studies. First, the maternal mediation levels, which emerged in the current research were based on one single observation of mothers reading an unfamiliar storybook to their children. We are aware that data based on multiple observations could provide stronger evidence of typical parental levels. Second, using non-narrative genres (e.g., alphabet, rhyming, or expository books), rather than the storybook genre we used, might also have an effect on both parental mediation level as well as children's EL development (Ezell & Justice, 2000; Stahl, 2003). Third, including maternal reports on how much they engage their children in print activities, such as teaching their children to print letter or words, could give us a better idea about home literacy activities and might better explain the children's measured EL levels (Sénéchal et al. 1998). Fourth, all kindergarten classes in the study were located in urban neighborhoods in the greater area of Tel-Aviv. They all use the same official curriculum, which is based on a similar literacy approach, and they also all share the same educational supervisor. Still, it is possible that the factors other than the official curriculum (e.g., teachers' proficiency levels, school conditions, etc.) are also related to the children's EL levels, not just the HLE and the parent mediational level. It was beyond the scope of this study to consider these variables but they deserve investigation in future studies.

Finally, in our study, the children's EL was examined as a in relation to maternal reading mediation levels at one point in time in the children's

development – before formal schooling. A longitudinal study, which follows these same children into grade school and focuses on their reading and writing development is in process now. This should give us a fuller picture about the relationship between the children's family literacy environment, parent–child joint book reading, and children's literacy achievements in reading and writing at school.

References

Aram, D., Korat, O., & Levin, I. (2006). Maternal mediation in a young child's writing activity: A sociocultural perspective. In R. M. Joshi & P. G. Aaron (Eds.), *Handbook of orthography and literacy* (pp. 709–733). Mahwah, NJ: Lawrence Erlbaum Associates.

Aram, D., & Levin, I. (2001). Mother-child joint writing in low SES: Sociocultural factors, maternal mediation and EL. *Cognitive Development*, *16*, 831–852.

Aram, D., & Levin, I. (2002). Mother-child writing and storybook reading: Relations with literacy among low SES kindergartener. *Merrill-Palmer Quarterly*, *48*, 202–224.

Barr, R. D. R. (1983). *How schools work*. Chicago: University of Chicago Press.

Bornstein, M. H., Hahn., C., Suwalsky, J. T. D., & Haynes, M. (2003). Socioeconomic statues, parenting and child development: The Hollingshead four-factor index of social statues and the socioeconomic index of occupations. In M. H. Borenstein & R. Bradley (Eds.), *Socioeconomic statues, parenting and child development* (pp. 29–82). Mahwah, NJ: Lawrence Erlbaum.

Bowey, J. (1995). Socioeconomic status differences in preschool phonological sensitivity and first-grade reading achievement. *Journal of Educational Psychology*, *87*, 476–487.

Burgess, R. B., Hecht , S. A. , & Lonigan, C. J (2002). Relations of the home literacy environment (HLE) to the development of reading-related abilities: A one-year longitudinal study. *Reading Research Quarterly*, *37*, 408–426.

Bus, A. G., Leseman, P. P. M., & Keultjes, P. (2000). Joint book reading across cultures: A comparison of Surinamese-Dutch, Turkish-Dutch and Dutch parent-child dyads. *Journal of Literacy Research*, *32*, 53–76.

Bus, A. G., van Ijzendoorn, M. H., & Pellegrini, A. D. (1995). Joint book reading makes for success in learning to read: A meta-analysis on intergenerational transmission of literacy. *Review of Educational Research*, *65*, 1–21.

Clay, M. (1979). *Stones*. London, England: Heinemann Educational Books.

Clay, M. (1989). Concepts about print in English and other languages. *The Reading Teacher*, *42*, 268–276.

Cohen, Y. (1999). Socioeconomic gaps between Sefardic and Ashkenazic Israelis: 1975–1995. *Israeli Sociology*, *1*, 115–134.

DeBaryshe, B. D. (1993). Joint picture book reading correlates of early oral language skills. *Journal of Child Language*, *20*, 455–461.

De Temple, J. M., & Snow, C. (1996). Styles of parent-child book reading as related to mother's view of literacy and children's literacy outcomes. In J. Shimron (Ed.), *Literacy and education: Essays in memory of dina feitelson* (pp. 49–68). Cresskill, NJ: Hampton Press.

De Temple, J. M., & Snow, C. (2003). Learning words from books. In A. Kleeckvan, S. A. Stahl & E. B. Bauer (Eds.), *On reading books to children: Parents and teachers* (pp. 16–37). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.

Dickinson, D. K., & Tabors, O. (1991). *Beginning literacy with language*. Baltimore, MD: Brookes.

Douglas, W. (2000). Student engagement at school: A sense of belonging and participation. Paris: OECD, www.pisa.oecd.org.

Evans, M. A., Shaw, D., & Bell, M. (2000). Home literacy activities and their influence on early literacy skills. *Canadian Journal of Experimental Psychology*, *54*, 65–75.

Ezell, H. K., & Justice, L. M. (2000). Increasing the print focus of adult-child joint book reading through observational learning. *American Journal of Speech-Language Pathology*, *9*, 36–47.

Feitelson, D., & Goldstein, Z. (1986). Patterns of book ownership and reading to young children in Israeli school-oriented and nonschool-oriented families. *The Reading Teacher*, *39*, 924–930.

Ferreiro, E., & Teberosky, A. (1982). *Literacy before schooling*. Exeter, NH: Heinemann.

Garvin, A., Walter, E. (1991). The relationships among children's storybook reading behavior and knowledge about print concepts in kindergarten and their reading ability in first grade (Report No. 143). Indiana University East Richmond, IN. (ERIC Document Reproduction Service No. ED 380795).

Goodist, J. G., Raitan, J. G., & Perlmutter, M. (1988). Interaction between mothers and preschool children when reading a novel and familiar books. *International Journal of Behavioral Development*, *11*, 489–505.

Haden, C. A., Reese, E., & Fivush, R. (1996). Mothers extratextual comments during storybook reading: Stylistic differences over time and across texts. *Discourse Processes*, *21*, 135–169.

Hargreve, A. N., & Sénéchal, M. (2000). A book reading intervention with preschool children who have limited vocabularies: The benefits of regular reading and dialog reading. *Early Childhood Research Quarterly*, *15*, 75–90.

Heath, S. B. (1983). *Ways with words: Language, life and work in communities and classrooms*. Cambridge, England: Cambridge University Press.

Hecht, S. A., Burgess, S. R., Torgesen, J. K., Wanger, R. K., & Rashotte, C. A (2000). Explaining social class differences in growth of reading skills from beginning kindergarten through fourth-grade: The role of phonological awareness, rate of access and print knowledge. *Reading and Writing: An Interdisciplinary Journal*, *12*, 99–127.

Korat, O. (2005). Contextual and non-contextual knowledge in EL development: A comparison between children from low SES and Middle SES communities. *Early Childhood Research Quarterly*, *20*, 220–238.

Korat, O., Bahar, E., & Snapir, M. (2003). Functional-social and cognitive aspects in EL: Relations to SES and to reading-writing acquisition in first grade. *Megamot*, *42*, 195–218 (Published in Hebrew).

Korat, O., & Levin, I. (2001). Maternal beliefs, mother-child interaction, comparison of independent and collaborative text writing between two social groups. *Journal of Applied Developmental Psychology*, *22*, 397–420.

Leseman, P. P. M., & de Jong, P. F. (1998). Home literacy: Opportunity, instruction, cooperation and social-emotional quality predicting early reading achievement. *Reading Research Quarterly*, *33*, 294–318.

Levin, I., & Korat, O. (1993). Sensitivity to phonological, morphological and semantic cues in early reading and writing in Hebrew. *Merrill-Palmer Quarterly*, *39*, 213–232.

Levin, I., Share, D., & Shatil, E. (1996). A qualitative-quantitative study of preschool writing: Its development and contribution to school literacy. In C. M. Levy & S. Ransdale (Eds.), *The science of writing: Theories, method, individual differences and application* (pp. 271–293). Mahwah, NJ: Lawrence Erlbaum.

Levin, I., & Tolchinsky-Landsmann, L. (1989). Becoming literate: Referential and phonetic strategies in early reading and writing. *International Journal of Behavioral Development*, *12*, 369–384.

Lonigan, C. J., Burgess, S. R., Anthony, J. L., & Baker, T. A. (1998). Development of phonological sensitivity in 2- to 5-year-old children. *Journal of Educational Psychology*, *90*, 294–311.

Lonigan, C. J., & Whitehurst, G. J. (1998). Relative efficacy of parental and teacher involvement in a shared reading intervention for preschool children from low income background. *Early Childhood Research Quarterly*, *13*, 263–290.

Meyer, L., Stahl, S. A., Wardrop, J., & Linn, R. (1994). Effects of reading storybooks to children. *Journal of Educational Research*, *88*, 69–85.

Neuman, S. B. (1996). Children engaging in storybook reading: The influence of access to print resources, opportunity, and parental interaction. *Early Childhood Research Quarterly*, *11*, 495–513.

Nicholson, T. (1997). Closing the gap on reading failure: Social background, phonemic awareness, and learning to read. In B. A. Blachman (Ed.), *Foundations of reading acquisition and dyslexia: Implication for early intervention* (pp. 381–407). Mahwah, NJ: Erlbaum.

Nicholson, T. (1999). Literacy, family and society. In G. B. Thompson & T. Nicholson (Eds.), *Learning to read: Beyond phonics and whole language* (pp. 1–22). New York: Teachers College Press.

Ninio, A. (1980). Picture-book reading in mother-infant dyads: Belonging to two subgroups in Israel. *Child Development*, *51*, 587–590.

Nord, C.W., Lennon, J., Liu, B., Chandler, K. (2000). *Home literacy activities and signs of children*'s emerging literacy: 1993 and 1999 (Report NCES-2000-026). Washington, DC: National Center for Educational Statistics (ERIC Document Reproduction Service ED 438 528).

PISA (2002). Literacy, reading, mathematics and science: PISA research 2002. Ministry of Education: Jerusalem (Hebrew).

Pellegrini, A. D., Perlmutter, J. C., Galda, L., & Brody, G. H. (1990). Joint reading between Black Head Start children and their mothers. *Child Development*, *61*, 443–453.

Pellegrini, A. D., Galda, L., Shokley, B., & Stahl, S. (1994). *The nexus of social literacy experiences at home and school: Implications for first grade oral language and literacy. Reading Research Report No. 21*. College Park, MD: National Reading Center.

Reese, E. (1995). Predicting children's literacy from mother-child conversations. *Cognitive Development*, *10*, 381–405.

Samooha, S., & Kraus, V. (1986). Ethnicity as a factor in status attainment in Israel. *Research in Social Stratification and Mobility*, *4*, 151–175.

Scarborough, H. S. (2001). Connecting early language and literacy to later reading (dis)abilities: Evidence, theory, and practice. In S. B. Neuman & D. Dickinson (Eds.), *Handbook of early literacy research* (pp. 97–110). New York: The Guilford Press.

Scarborough, H. S., & Dobrich, W. (1994). On the efficacy of reading to preschoolers. *Developmental Review*, *14*, 245–302.

Sénéchal, M., LeFerve, J., Thomas, E. M., & Daley, K. E. (1998). Differential effects of home literacy experiences on the development of oral and written system. *Reading Research Quarterly*, *33*, 96–112.

Shatil, E. (2001). *Haver Hadensh [A new friend]. Adaptation version of Concept About Print Test to Hebrew*. Kiryat Bialeek, Israel: Aah Publishing.

Shatil, E., Share, D. C., & Levin, I. (2001). On the contribution of kindergarten writing to grade one literacy: A longitudinal study in Hebrew. *Applied Psycholinguistics*, *21*, 1–21.

Sigel, I. E. (1982). The relation between parental "distancing" strategies and the child's cognitive behavior. In L.M. Laosa & I.E. Sigel (Eds.), *Families as learning environments for children* (pp. 47–86). New York: Plenum.

Smith, S. S., & Dixon, R. G (1995). Literacy concepts of low- and middle-class four-year-olds entering preschool. *Journal of Educational Research*, *88*, 243–252.

Snow, C., & Ninio, A. (1986). The contracts of literacy: What children learn from learning to read books. In W. H. Teale & E. Sulzby (Eds.), *EL: Writing and reading* (pp. 117–138). Norwood, NJ: Ablex Publishing Corporation.

Sonnenschein, S., Brody, G., & Munsterman, K. (1996). The influence of family beliefs and practices on children's early reading development. In L. Baker & P. Afflerbach (Eds.), *Developing engaged readers in school and home communities* (pp. 3–20). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.

Sonnenschein, S., & Munsterman, K (2002). The influence of home-based reading interactions on 5-year-olds' reading motivation and early literacy development. *Early Childhood Research Quarterly*, *17*, 318–337.

Stahl, S. A. (2003). What do we expect storybook reading to do? How storybook reading impacts word recognition?. In A. Kleeckvan, S. A. Stahl & E. B. Bauer (Eds.), *On reading books to children: Parents and teachers* (pp. 363–383). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.

Stanovich, K. E., & West, R. F. (1989). Exposure to print and orthographic processing. *Reading Research Quarterly*, *24*, 402–433.

Sulzby, E. (1991). Assessment of EL: Storybook reading. *The Reading Teacher*, *44*, 498–500.

Teale, W. H, & Sulzby, E. (1999). Literacy acquisition in early childhood: The roles of access and mediation in storybook reading. In D. A. Wagner (Ed.), *The future of literacy in a changing world* (pp. 131–150). Cresskill, NJ: Hampton Press.

van Kleeck, A. (2003). Research on book-sharing: Another critical look. In A. Kleeckvan, S. A. Stahl & E. B. Bauer (Eds.), *On reading books to children: Parents and teachers* (pp. 16–36). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.

van Kleeck, A., Gillam, R., Hamilton, L. S., & McGrath, C. (1997). The relations between middle-class parents' book-sharing discussion and their preschoolers' abstract language development. *Journal of Speech-Language-Hearing Research*, *40*, 1261–1271.

Velthuijs, M. (2000). *Zefardea beyom meuhad meod [Frog in a very special day]*. Tel Aviv, Israel: Zmora Bitan.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.

Wagner, R. K., Torgesen, J. K., Rashotte, C. A., Hecht, S. A., Barker, T. A., Burgess, S. R., Donahue, J., & Garon, T. (1997). Changing relations between phonological processing abilities and word-level reading as children develop from beginning to skilled readers: A 5-year longitudinal study. *Developmental Psychology*, *33*, 486–479.

Wells, G. (1985). Preschool literacy related activities and success in school. In D. Olson, G. Torrance & A. Hildyard (Eds.), *Literacy language and learning: The nature and consequences of reading and writing* (pp. 229–255). New York: Cambridge University Press.

Wheeler, M. P. (1983). Context-related age changes in mother's speech: Joint book reading. *Journal of Child Language*, *10*, 259–263.

Whitehurst, G. J., Arnold, D. S., Epstein, J. N., Angell, A. L., Smith, M., & Fischel, E. (1994). A picture book intervention in day care and home for children from low-income families. *Developmental Psychology*, *30*, 679–689.

Whitehurst, G. J., & Lonigan, C. J. (2001). EL: Development from prereaders to readers. In S. B. Neuman & D. Dickinson (Eds.), *Handbook of early literacy research* (pp. 11–30). New York: The Guilford Press.

Yaden, D. B., Smolkin, L. B., & MacGillivray, L. (1993). A psychogenetic perspective on children's understanding about letter associations during alphabet book reading. *Journal of Reading Behavior*, *25*, 43–68.

Address for correspondence: Ofra Korat, School of Education, Bar-Ilan University, Ramat-Gan, 5200, Israel,
E-mail: korato@mail.biu.ac.il