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Parents' support during different writing tasks: a comparison between parents of precocious readers, preschoolers, and school-age children

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Abstract The study aimed to deepen the understanding of parental sensitivity to their children's abilities and the nature of their scaffolding during writing tasks. We compared the parent–child writing interactions of three groups: precocious readers (PRs), same age preschoolers (SA), and older children with the same reading level (SRL) as the PRs. Each of 60 parent child-dyads was videotaped during three writing activities that varied in their structure level: word writing, writing a birthday invitation, and free writing within a wordless children's book. Interactions were analyzed for parental literacy-specific, social-emotional, and general cognitive support. Results demonstrated parents' sensitivity to their children's developmental level and skills. Parents of PRs showed levels of literacy-specific support similar to parents of older children with the SRL, and higher than parents of SA non-reading children. Parents of PRs resembled parents of SA preschoolers and provided their children with more social-emotional support than parents of the older SRL children. The general cognitive support of parents of PRs was higher than that of the two other groups. Moreover, parents of PRs referred to writing conventions and showed more responsiveness than parents in the other two groups. Parents in all three groups emphasized literacy-specific support during the more structured writing tasks (words and invitation), and placed greater emphasis on the social-emotional and general cognitive support during the least structured task (free writing within the wordless book). Beyond these differences, parents demonstrated a consistent support style. We discuss parent–child writing interactions as a context for early literacy development.

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Literacy development is often perceived as social in nature, arising from collaboration between the child and more experienced others (Rogoff, 1990). As such, we aimed to expand the knowledge regarding the nature of parental writing support during different writing tasks. We aspired to further understand parents' responsiveness to their children's literacy levels and the way that they encourage their children toward literacy understanding and performance during writing activities. Previous studies have demonstrated the importance of parental guidance in a parent–child collaborative writing context for children's independent literacy development (for a review, Aram & Levin, 2011). However, most of these studies assessed parents' support to either preschoolers (e.g., Skibbe, Bindman, Hindman, Aram, & Morrison, 2013) or school age children (e.g., Korat & Levin, 2001) and they focused on only one writing activity. In the present study, we included a third group—precocious readers (PRs)—preschoolers who read and comprehend fluently, without receiving formal instruction. These children are unique in that they are as young as the preschoolers and as literate as the school age children (Davidson, 1993; Henderson, Jackson, & Mukamal, 1993; Jackson, 1988). We compared the nature of parental writing support between these three groups during the completion of three different writing tasks. Being aware of the high literacy level of PRs (relative to their age), we wanted to learn about the nature of their parents' support (literacy, general cognitive and social-emotional) during writing activities.

We included two comparison groups to the PRs: same age children (SA) and same reading level children (SRL). Including only a comparison group of SA children might lead to attributing differences in writing support patterns to children' literacy knowledge (being PR), and not necessarily to the difference in parental attitudes. Similarly, including only a comparison group of SRL children might lead to attributing differences in parents' support patterns to the chronological age gap and not necessarily to the parents' attitudes. It was necessary, therefore, to use both comparison groups to study the nature of parents of PRs' writing support, and expand our understanding of parents' behavior during literacy interactions with their young children.

Parent–child writing interactions

In literate societies, children show an interest in the written world and attempt to produce their own writings before they are formally taught to read or write (e.g., Neumann, Hood, & Neumann, 2008; Tolchinsky, 2003). Writing is a mentally challenging task (Graham & Harris, 2000) and when children write, they often ask questions that can help them construct their knowledge about the written system (Aram & Levin, 2011). Parents may participate in children's joy derived from writing and take an active role in promoting children's understanding of the writing

system (e.g., Aram, 2007; Neumann et al., 2008; Robins, Treiman, Rosales, & Otake, 2012). Children still need their parents' help in completing writing tasks in the first years in school (Korat & Levin, 2001). Thus, parent–child writing interactions offer a productive context for studying the features of parental scaffolding in general and the way that they support their children's interest in the written system in particular (e.g., Aram & Levin, 2011; Neumann & Neumann, 2010). In the present study we focused on three aspects of parental writing support: literacy-specific, general cognitive, and social-emotional support (e.g., Aram & Levin, 2015; Lin et al., 2012).

Literacy-specific support

Writing in alphabetic orthographies requires an understanding of letter-sound mappings (Tolchinsky, 2003). Parents take advantage of writing situations to convey information regarding the writing system to their children (Bindman, Skibbe, Hindman, Aram, & Morrison, 2014; Neumann & Neumann, 2010). Measures of literacy-specific support assess how parents introduce children to the writing system and how they scaffold the child in segmenting the word into its phonemes, connecting each phoneme to a letter name, and printing the letter correctly in a recognizable way. These measures also relate to the parent's references to the specificities of the orthography (e.g., final letters in Hebrew, diglossic words in Arabic, silent letters or "ough" words in English). Indeed, research has shown that parents' literacy-specific support is linked to children's early literacy skills (Aram & Levin, 2001; Aram, Korat & Hassunah Arafat 2013a; Aram et al., 2013b; Bindman et al., 2014; Levin, Aram, Tolchinsky, & McBride, 2013; Lin et al., 2010), predicts later early literacy (Skibbe et al., 2013), and predicts reading and writing in school when controlling for the family's socio-economic background and the children's early literacy skills (Aram & Levin, 2004; Aram et al., 2013a, 2013b; Korat & Levin, 2001).

General cognitive parental support

Writing tasks invite talk about the tasks themselves (e.g., writing a story), the segments that have to be written (e.g., address, names, food products), the situation of joint writing, etc. Parents' explanations and elaborations during cognitively demanding tasks are important in teaching children to seek for new information and aim to understand it (Tzuriel, 2013). In the context of writing interactions, Leyve, Reese, and Wiser (2012) found that parents' elaborative reminiscing during shared writing of a list was positively and uniquely related to children's notating skills. General parental support measures were also linked to children's more general characteristics like interest in literacy (Leyve et al., 2012; Sparks & Reese, 2013).

Social-Emotional Support

The emotional nature of parent–child interactions reflects the security of the interactions (Shonkoff & Phillips, 2002). Parents' communication with the child, their ability to keep the child cooperating during a demanding task, and their way of

reinforcing the child to complete the task build the social-emotional features of the interactions. These measures relate to children's self-confidence and motivation to learn (Leyve et al., 2012; Sparks & Reese, 2013). In the realm of early literacy, Heather, Anthony, Aghara, Smith, and Landry (2008) studied daily activities with preschoolers and found that maternal responsiveness predicted children's decoding and reading comprehension skills when children were 8 years old.

Relating to various dimensions of maternal writing support, Lin et al., (2012) studied mothers' literacy, cognitive, and social-emotional support. They found that even with children's phonological awareness, morphological awareness, visual skills, and orthographic knowledge statistically controlled, both the literacy and the cognitive support uniquely predicted children's word reading and writing. One aspect of the social-emotional support, that of mothers' helping the child to focus on the process of writing, was also uniquely associated with both word writing and reading. Aram & Levin (2015) found that the literacy measures of mothers' support during word writing with their preschoolers as well as their social-emotional support (communication and collaboration with the child) was associated with children's literacy beyond the mothers' pedagogical beliefs, and their estimation of their children's literacy. In the present study, to gain a broad view of parents' writing support, we assessed mothers' literacy-specific, cognitive, and social-emotional support during different writing activities. We aimed to learn about the nature of parents' writing scaffolding and their sensitivity to their children's developmental level.

Sensitivity to children's abilities: focusing on parents of precocious readers (PRs)

Parents usually have a good sense of their children's abilities (e.g., Sonnenschein, Stapleton, & Metzger, 2014). Regarding early literacy, studies have found that mothers are generally aware of their children's knowledge level (Aram & Levin, 2015), and there is evidence that parents tend to be sensitive to and match the nature of their support to their children's literacy abilities (DeBaryshe, Buell, & Binder, 1996; Neumann & Neumann, 2010). For example, Aram (2007) found that mothers of preschool-age fraternal twins guided the more advanced twin on a higher level, demanding more from that twin on grapho-phonemic mapping, independent printing of the letters, and precision of the letter performance.

In our current research, we aimed to deepen our understanding regarding the nature of parents' writing support by learning about the specifics of parental support to PRs. We aimed to uncover how parents of PRs may be sensitive to the young age of their children and to their literacy skills compared to parents of SA children and parents of children at the SRL as their children.

While research on PRs is scarce, evidence suggests that they maintain their higher literacy achievements in school (Jackson & Kearney, 1995; Jackson & Roller, 1993; King & Friesen, 1972; Stainthorp & Hughes, 2000). Beyond the children's abilities, precocious reading is related to practice and adequate parental support (Tafa & Manolitsis, 2008; Tobin & Pikulski, 1988). Researchers who tried to explore the nature of parental support to PRs interviewed parents

regarding availability of literacy stimulations and activities in their homes. To date, however, no study that we know of has examined literacy-based interactions between parents and their precocious readers in a natural setting.

Interviews and questionnaires exploring the home environment of PRs have shown that PRs enjoy a positive literacy experience at home, supported by a wealth of literacy stimuli (Barclay, Benelli, & Curtis, 1995), along with emotional and academic support (Clarck, 1976; Durkin, 1975; Edmunds & Noel, 2003). When asked about the nature of their interactions with their children, mothers of PRs report that they frequently talk with their children, are interested in their children's ideas and thoughts, and expand their children's knowledge base through conversation. They say that they frequently reinforce and praise their children for their efforts and successes in reading (Barclay et al., 1995; Clarck, 1976; Durkin, 1966; Edmunds & Noel, 2003; Grant & Brown, 1986; Jackson & Roller, 1993; King & Friesen, 1972). Parents stress that the interest in reading came from the child and that they believed in their ability as parents to help their children and to guide them in their reading (Anbar, 1986; Edmunds & Noel, 2003; King & Friesen, 1972; Stainthorp & Hughes, 1998).

Studies on precocious reading to date have focused on children's reading ability and surrounding literacy environment. Less is known about PRs' early writing attempts and their writing interactions with their parents. To examine parents' sensitivity to their children and the possible generalization of parental writing support across tasks, we studied three different writing activities that varied in structure.

Writing tasks

Parents tend to match their support to the child's level but they also refer to the content of the task and its complexity. There is evidence that the nature of the tasks in which parents and their children are engaged affects the character of their interactions (Kermani & Brenner, 2000). During more complex or structured tasks that require specific output, parents guide their children more and offer more help (Dodici, Droper, & Peterson, 2003; Donovan, Taylor, & Leavitt, 2007; Isman & Tzuriel, 2008). Writing is a multidimensional activity that encompasses contemplating the meaning to be conveyed, composing the text, and respecting the linguistic register and genre elements. It also includes code-focused processes consisting of spelling words and printing them. Different writing tasks present different levels of literacy and cognitive demands. Aram (2002) compared maternal writing support during word and name writing. She found that mothers provided more direct guidance when writing words and were warmer and more cooperative when writing names. These differences probably relate to the dyads' confidence. Writing names is probably more prevalent in the home than writing new words (Treiman, Cohen, Mulqueeny, Kessler, & Schechtman, 2007). Indications that parents' support is related to the nature of the task led us to select three writing tasks that range in their demand for a specific outcome.

The present study

Understanding parents' support processes during writing activities can shed light on the way that parents can help their children cope with challenging activities and teach their children about the writing system. The study design gives us a wide scope of parental scaffolding by comparing parental writing support for three groups of children: precocious readers in preschool, same-age preschoolers who do not yet read, and school-age children matched to the precocious readers for reading level. To account for varying task demands and to identify possible global support styles, we assessed the nature of parental support during three writing tasks that ranged in their demand for a specific outcome: a structured task of writing dictated words, a semi-structured task of writing an invitation for a pretend birthday party, and a free, unstructured task of writing in a wordless picture book. We analyzed the writing interactions while referring to literacy-specific, general cognitive, and social-emotional support measures.

Grounded in the literature reviewed above, we first hypothesized that parents in the three groups will be aware of their children's literacy skills. Thus, we expected that the literacy-specific writing support of PR parents' would be more like that of parents of older children with SRL than of parents of SA non-reading children. Due to lack of previous research on the nature of precocious readers' parental support in terms of general cognitive support and social-emotional measures, we could not hypothesize further; therefore, we asked whether their general cognitive and social-emotional support would be similar to that of parents of age-matched children or parents of reading-level-matched children. Second, regarding the nature of parents' support in the three tasks, we hypothesized that across the three groups, parents' literacy-specific support would be higher during the word-writing task, lower during the invitation-writing task, and lowest during the book task. We hypothesized the opposite regarding the general cognitive and social-emotional support measures. For these measures, we expected parents' support to be highest during the book task, lower during the invitation-writing task, and lowest during the word-writing task. Third, regarding the stability in parents' support, we hypothesized that parents in all three groups would show a consistent "support style," across the three tasks and the measures.

Method

Participants

Participants ($N = 60$) included three groups of parents (two fathers) from Hebrew-speaking homes. The first group consisted of 20 parents of precocious readers (PRs) in preschool (12 boys and 8 girls; $M = 59$ months, SD = 4.89). The PRs reading (accuracy, speed, and comprehension) matched the literacy norms of second grade (Shatil, 2004). The second group consisted of 20 parents of typically developing, same-age (SA) preschoolers matched to the PR group by age ($M = 57$ months, SD = 4.81), and by sex (12 boys, 8 girls). The third group (SRL) consisted of 20

Table 1 Literacy levels of precocious readers and same-reading-level children (n = 20 in each group): means, standard deviations, and ANOVAs between groups

	Group	*M*	SD	*F*(1,38) (ns)	η^2
Reading speed	Precocious readers	125.55	41.72	.54	.01
	Same-reading-level readers	135.55	41.45		
Reading accuracy	Precocious readers	6.65	3.06	.65	.02
	Same-reading-level readers	5.91	2.77		
Reading comprehension	Precocious readers	6.65	1.03	1.48	.04
	Same-reading-level readers	6.27	1.28		
Word writing	Precocious readers	12.33	2.04	.14	.00
	Same-reading-level readers	12.0	2.07		

parents of children matched to the PRs by sex and by reading level, ($M = 78$ months, SD = 3.50). As seen in Table 1, no significant differences emerged between the PR and SRL groups' performance on Israeli literacy test norms (Shatil, 2004).

Parents' education was coded on a 4-point scale from high school (1), through B.A. (2) and M.A. (3), to PhD (4). The three groups did not differ statistically in parents' education level ($M = 2.95$, 2.50, and 2.70 for PRs, SRL, and SA respectively; $F(2,57) = 1.03$, *ns*, $\eta^2 = .35$), number of children in the family ($M = 2.15$, 1.85 and 1.90 for PRs, SRL, and SA respectively; $F(2,57) = 1.18$, *ns*, $\eta^2 = .12$), or the participating child's birth order ($M = 1.60$, 1.70 and 1.60 for PRs, SRL, and SA respectively; $F(2,57) = .16$, *ns*, $\eta^2 = .04$).

Procedure

Formation of the groups

Preschool teachers ($N = 50$) were asked orally by the researcher via a phone call if they had PRs in their class. The researcher told them that, "a PR is a preschool child who can read and understand what he/she reads." Thirty-five teachers thought that they had a PR in their preschool. The researcher called the parents of these children and, after receiving parental consent, these potential PRs completed two waves of assessment in their preschool to ascertain reading precociousness, utilizing two parts of an Israeli reading assessment for second grade (Shatil, 2004). First, the preschoolers were given 10 words to read aloud. The 30 preschoolers who were able to read the words were asked to read a short story (64 words) aloud and to answer eight questions. We measured reading fluency, accuracy, and comprehension. A child who read the story in less than 180 s, made no more than 12 diction mistakes, and answered at least four of the eight questions correctly was identified as a PR. These criteria coincided with the mean speed, accuracy, and comprehension scores of 20 randomly selected children nearing the end of first grade. Twenty children from 20 preschools who met the criteria and one of their parents formed the PR group.

For each identified PR, two children and one of their parents were recruited. First, a same-sex peer from the same preschool whose birth date was closest to the PRs'

was identified by the preschool teacher and was invited to join the study. After receiving parental consent, these preschool classmates and one of their parents formed the SA group. Second, the researcher approached first- and second-grade teachers from each PR's local elementary school after receiving consent from the school principal. After receiving parental consent, the researcher asked candidates to read the same short story that the PR had read. Criteria for matching the PR cohort was if the candidate SRL child demonstrated: a reading speed with a maximum of 10 s above or below the PR's reading speed, a maximum of two more or fewer reading errors than the PR, and correct answers given to a maximum of two more or fewer questions than the PR. Twenty children who met this criteria and one of their parents formed the SRL group.

The study

All the parents and children who participated in the study were told that it focused on writing interactions, and all were willing to be videotaped at home during writing activities. The researcher visited the families on three separate afternoons within 2 weeks—each time videotaping one writing task that lasted about 15 min. The parent–child dyad completed the three writing interactions in random order. The researcher put the video camera on the tripod and sat quietly next to it. The parents were asked to help the children to write as they saw fit. If they asked for the researcher's clarifications, such as "Can I do it this way?" the reply was, "You can do whatever you think is right, in whatever way you feel is appropriate." Videotapes of the parent–child interaction for the three tasks were transcribed by a Ph.D. student and served as the basis for analyzing characteristics of parental writing support.

The writing tasks

We chose three writing tasks that pose different challenges to the parents and the children in terms of text structure and the words' spelling. In Israel, children start learning to write in the first grade. Toward the end of second grade they are expected to be partially in command of Hebrew writing conventions (The Israeli Ministry of Education, 1998), so potentially they all need writing support.

Writing words

The dyad was presented with 12 cards, each of which displayed identifying drawings of a noun depicting an object. The words were: 'backpack' Y-L-K-U-T, 'scissors' M-S-P-R-I-M; 'swan' B-R-B-O-R; 'butterfly' P-R-P-R; 'puppy' C-L-V-L-V; 'hippopotamus' H-P-O-P-O-T-M; 'kettle' K-M-K-U-M; 'grater' P-O-M-P-I-H; 'refrigerator' M-K-R-R; 'oven' TNUR; 'crayons' Z-V-A-I-M; and 'pencil case' K-L-M-R. Each word included four to seven letters (totaling 60 letters). These words were selected because they included most of the Hebrew alphabet and enabled parents to refer to different aspects of Hebrew orthography (i.e., final letters, homophonic letters, vowels). The parent was asked to help the child write each word on a separate

page. This task is considered a structured writing task because the parents had to help their children write 12 specific words (e.g., Levin et al., 2013).

Writing an invitation

The researcher gave the child a blank half A4 page and asked the child to imagine having a birthday party in a week's time and to write an invitation. The parent was asked to help the child write the invitation. This task is considered a semi-structured task (e.g., Skibbe et al., 2013) because a birthday invitation has a structure of its own (i.e., invitee, inviter, date, and address). At the same time, parents helped their children write the details of the invitation according to their and their children's preferences (e.g., they decided who to invite, where, and when to hold the party). The texts of the invitations thus varied. For example, "Dear Roi, I have a birthday on Wednesday, you are invited to come to my home on Hatidhar st. 7, see you, Dan". Or, "To all my family, we will celebrate my birthday by the lake of the national park. Please come this Saturday on 10 in the morning, Yoni."

Writing within a wordless picture book

The researcher gave the dyad a picture book depicting zoo animals' nighttime adventures (Rathmann, 1994). Parents verified that they were not familiar with the book. The few words in the book were covered with seven speech bubbles (like in comic books), attached to the book's illustrations by hook-and-fastener strips. The parent was asked to help the child write whatever the child wanted in each of the seven speech bubbles. This task is considered an unstructured task because the parents and the children were free to decide what to write in each bubble; indeed, they wrote different phrases. For example, in the bubble on the page when the gorilla opens the elephants' cage parents helped their children write a variety of phrases, including: "I want to open," "come out slowly," "how are you elephant?" and "let's follow the zookeeper."

Writing support measures

We assessed parents' writing support via measures that were validated in previous studies across multiple languages (e.g., Aram, 2002; Aram et al., 2013a, 2013b; Bindman et al., 2014; Lin et al., 2012). In the word-writing task, the 12 words included a total of 60 letters. The other two tasks were free in terms of number of letters. We therefore analyzed parental writing support for a maximum of the first 60 written letters in each of the three writing activities.

Literacy-specific support measures

Grapho-phonemic mediation

This 10-point scale assessed the degree to which the parent guided the child through the process of segmenting a word into its sounds and retrieving the required letter

for each sound when attempting to spell an orally presented word. Higher scores indicate that the parent supports the child's writing through a more complete encoding process across letters. Each of the letters (maximum 60) in each writing task was scored separately for grapho-phonemic mediation, and the mean score across all letters served as the final grapho-phonemic mediation score in each task. At the low end of the grapho-phonemic scale, the parent referred to the word as a whole (0) or as a sequence of sounds (2) or as letters (3), without clarifying that sounds represent letters. For example, when mediating the writing of the word 'backpack' *yalkoot* YLKUT, a parent who merely sounded out the word, saying: "*Yal-koot*," would receive a score of 2. At the middle of the scale, the parent retrieved the target phonological unit and immediately dictated the required letter name (5), for example when a parent said: "*ya*—YOD" (the sound *ya* and the letter name for Y). At the high end of the scale, the parent encouraged the child to retrieve the phonological unit independently and to link it with a letter name (8), for example by asking: "What do you hear at the beginning, which letter is it?" When a parent supported her child on a high level and the child did not meet her expectation and she lowered her level of support, she was credited for her first attempt. The logic for this scoring is the understanding that a parent has to aim high within the child's Zone of Proximal Development (ZPD, Vygotsky, 1978). A parent can always lower the support to meet the child's knowledge but if the parent gives the answer without asking the question she doesn't challenge her child. For example, if she tells her child a letter's name before asking for its name, the child did not have a chance to think and retrieve the name independently. Parents' support was expected to somewhat vary from letter to letter (e.g., higher grapho-phonemic mediation scores would be expected for retrieving familiar letters, such as those that appeared in the child's name), therefore each of the letters (maximum 60) in each writing task was scored separately. Reliability across letters for the different tasks were: Cronbach's $\alpha = .95, .95, .97$ for the words, invitation and bubble tasks, respectively.

Printing support

This measure reflected how the parent guided the child to print each of the written letters in each writing task. The 10-point scale ranged from low-level printing support, where the parent wrote the letter by herself (1) or by holding the child's hand (2), through the mid-level where the parent wrote the letter and asked the child to copy it (4), to the higher level where the parent encouraged the child to discover the letter's shape using the child's own knowledge about letters ("It's like/yod/, just with the longer line") (6) or when she monitored the child's independent writing of the letter (9). As in the grapho-phonemic mediation, and using the same rationale, when a parent supported her child on a high level and the child did not meet her expectation and she lowered her level of support, she was credited for her first attempt. The average score across the letters (maximum 60) in each writing task served as the printing support score for each task. Reliability across letters: Cronbach's $\alpha = .98, .98, .97$ for the words, invitation and bubble tasks, respectively.

Demand for precision

For each writing task, this measure summed parents' requests for precision in shaping the letters, replacing letters, spacing between them, and so forth. It referred to situations where the parent drew the child's attention to the need to print a letter more accurately or asked the child to correct a letter. For example: "This line should be longer," "try to write it again," "next time use the letter *taf* and not *tet*" (two letters for the sound T).

Writing conventions

For each writing task, this measure summed parents' references to Hebrew orthographic conventions. For example, medial/final letters (five Hebrew letters have two written forms, medial and final), homophonic letters, the fact that the female noun suffix/a/is spelled with the letter H, the letter Y can be a vowel or a consonant, rules of morphology for plural, and writing direction.

General cognitive support measures

For each writing task, we summed parents' general cognitive support statements according to the categories listed below.

Explanations Parents' clarifications of situations and attempts to help the child better understand issues beyond the writing itself. For example, "You know, a swan has a long white neck," "now, we have to add our home address to our invitation," "you can see the gorilla opening the cage here in the drawing," and "what do you see in this drawing?"

Elaborations Parents' utterances that cognitively challenged the child and called for higher levels of thinking. Parents' elaborative talk encouraged the child to remember, reason, fantasize, imagine, problem solve, predict, and hypothesize (e.g., "What would you do in a situation like this?" "It's the same letter but it looks different because it appears at the end," "How old will you be next year?" "Why do we have to send birthday invitations?" and, "Z-V-A-I-M 'crayons' is in plural how do we say it in singular?").

Social-emotional support measures

For each writing task, we summer parents' socio-emotional support statements for each of the categories below.

Reinforcements Parents' specific reinforcements after a behavior or outcome production (e.g., "You wrote that beautifully").

Suggestions The occasions when the parent consulted with the child or gave the child options (e.g., "Let's try to read the invitation from the beginning, do you like that idea?" "What do you say?" or "What do you prefer?").

Responsiveness Parents' attitudes toward the child's suggestions or questions. We summed the times when, following a child's initiatives, the parent showed a willingness to converse with the child (e.g., if the child asked something and the parent answered, or if the child had an idea or commented on something and the parent referred to it).

Inter-judge reliability

The researchers taught two graduate students in school counseling how to code the interactions. Each student then independently coded 45 interactions (three tasks performed by 15 randomly selected dyads—five per group). Inter-judge reliability was highly significant (Kappa = .88).

Results

The results are presented in two parts. First, to learn about the nature of parents' writing support, we present the three groups' writing support across the three writing tasks and compare between them. Second, to learn about parents' writing support style, we present the stability in their support across the three writing tasks.

Parents' writing support across and between the three groups and tasks

Before comparing between the groups across the tasks, we present the number of letters that the parents helped their children write. In the word-writing task, the 12 words included a total of 60 letters and all the parents in the study supported their children in writing these words, hence, supported the writing of all 60 letters. The other two tasks were free in terms of number of letters. We found that in the invitation task, parents of PRs, SA, and SRL helped their children write an average of $M = 58.30$ (SD = 8.64), $M = 57.30$ (SD = 9.07), $M = 56.55$ (SD = 11.20) respectively, with no significant differences between the groups ($F(57,2) = .16$, $p = .85$). In the book task, parents of PRs, SA, and SRL helped their children write a mean of $M = 63.70$ (SD = 1.40), $M = 63.05$ (SD = 4.28), $M = 64.00$ (SD = 2.20) respectively, with no significant differences between the groups ($F(57,2) = .71$, $p = .50$). We analyzed parental writing support of maximum the first 60 written letters in each of the three writing activities.

Table 2 presents the descriptive statistics for parents' support across groups and tasks. Table 3 presents the statistical results for the two-way multivariate analyses of variance (MANOVAs) conducted between the three groups (PRs, SA, SRL) and the three tasks (words, invitation, book) for each of the nine parental support measures.

Table 2 Description of the writing support measures by group and task (N = 60)

	PRs—precocious readers (n = 20)			SA—same-age (n = 20)			SRL—same-reading-level (n = 20)		
	Book M (SD)	Invitation M (SD)	Words M (SD)	Book M (SD)	Invitation M (SD)	Words M (SD)	Book M (SD)	Invitation M (SD)	Words M (SD)
Literacy specific support									
Grapho-phonemic mediation	5.11 (2.69)	6.37 (2.37)	6.98 (1.71)	1.82 (1.09)	2.90 (2.10)	3.71 (1.67)	6.33 (2.74)	6.71 (2.54)	6.90 (1.84)
Printing support	5.48 (3.30)	7.41 (2.47)	8.21 (1.48)	1.59 (1.87)	3.20 (2.83)	4.22 (2.53)	7.75 (2.57)	8.11 (2.13)	8.12 (2.12)
Demand for precision	4.65 (3.67)	4.60 (2.28)	6.90 (3.22)	1.70 (1.92)	1.10 (1.74)	1.45 (1.27)	5.65 (3.18)	4.80 (1.90)	8.00 (3.35)
Writing conventions	5.90 (3.37)	6.75 (2.53)	7.60 (4.42)	1.30 (2.22)	1.50 (1.67)	.55 (1.23)	3.85 (3.67)	4.95 (2.28)	2.40 (3.48)
General cognitive support									
Explanations	23.15 (8.42)	18.40 (6.62)	4.75 (3.61)	12.85 (8.68)	9.70 (8.79)	3.45 (4.38)	13.60 (6.93)	6.25 (5.27)	8.20 (2.85)
Elaborations	21.35 (3.01)	12.95 (2.54)	1.45 (.82)	12.20 (7.70)	6.75 (7.06)	.55 (.82)	8.50 (8.43)	10.85 (10.43)	.95 (1.05)
Social-emotional support									
Reinforcements	12.66 (9.57)	13.80 (12.42)	15.20 (10.82)	15.35 (4.18)	10.90 (7.89)	16.95 (7.28)	7.55 (8.14)	4.70 (5.50)	8.55 (6.04)
Suggestions	9.90 (7.15)	6.65 (5.65)	5.80 (4.75)	7.70 (7.80)	6.75 (4.16)	7.00 (6.44)	4.45 (4.16)	3.75 (3.62)	4.05 (7.02)
Responsiveness	5.90 (6.71)	5.60 (5.04)	1.85 (.93)	1.90 (2.65)	1.30 (1.92)	.80 (1.24)	1.95 (2.50)	1.85 (2.13)	1.00 (1.29)

Table 3 Two-way MANOVAs (group × task) on the writing support measures (N = 60)

	Group			Task			Group × Task	
	$F(2,57)$	η^2		$F(2,114)$	η^2		$F(2,114)$	η^2
Literacy-specific support								
Grapho-phonemic mediation	26.57***	.48	PR, SRL > SA	15.73***	.21	W, I > B	2.91	.22
Printing support	32.33***	.53	PR, SRL > SA	24.61***	.30	W > I > B	3.96**	.12
Demand for precision	54.49***	.65	PR, SRL > SA	8.96***	.13	W > I, B	2.17	.02
Writing conventions	52.35***	.64	PR > SRL > SA	1.58	.27		2.32	.07
General cognitive support								
Explanations	19.35***	.40	PR > SRL, SA	62.17***	.52	B > I > W	6.99***	.19
Elaborations	19.06***	.40	PR > SRL, SA	73.62***	.56	B > I > W	7.09***	.19
Socio-emotional support								
Reinforcements	5.86***	.17	PR, SA > SRL	9.47***	.14	W > I, B	1.83	.12
Suggestions	3.66**	.11	PR, SA > SRL	2.53	.04		.98	.03
Responsiveness	9.33***	.24	PR > SA, SRL	11.08***	.16	I, B > W	3.26*	.10

W words task, *I* invitation task, *B* book task, *PRs* precocious readers, *SA* same-age, *SRL* same-reading-level

* $p < .05$; ** $p < .01$; *** $p < .001$

Literacy-specific support

As seen in Table 3, the MANOVAs revealed a significant main effect for Group regarding all four literacy-specific support measures. It showed a main effect for Task regarding grapho-phonemic mediation, printing support, and demand for precision, and a significant Group x Task interaction for printing support.

Grapho-phonemic mediation When comparing the three groups (see Table 2), the average support scores for parents in the PR and SRL groups tended to be in the middle of the score range. That is, when guiding their children through the process of segmenting a word into its sounds and retrieving the required letter for each sound, these parents ranged between the retrieval of a phonological unit and a dictation of the required letter name (Level 5 on the scale), through a retrieval of a phonological unit and encouraging the child to name the required letter (6), to helping the child to retrieve the phonological unit and then supporting the child in naming the letter (7). The average scores across tasks of parents in the SA group indicate that they tended to refer to words as a sequence of sounds (2) or letters (3) or immediately named the required letters (4). Post-hoc Bonferroni tests for the main effects of Group supported our first hypothesis that the grapho-phonemic mediation of parents in the PR and SRL groups ($M = 6.15$ and $M = 6.65$, respectively) significantly exceeded that of parents in the SA group ($M = 2.81$) but did not significantly differ from each other (see Table 3). When comparing the three tasks, post hoc Bonferroni tests partially supported our hypothesis. As seen in Table 3, parental grapho-phonemic mediation did not differ between the word-writing task ($M = 5.86$) and the invitation-writing task ($M = 5.32$), but its level on both of these tasks was significantly higher than on the book task ($M = 4.42$).

Printing support Comparing between the groups (see Table 2), the average scores across tasks indicate that when supporting their children in printing the letters, parents in the PR and SRL groups ranged between using visual clues (Level 5 on the scale), their child's knowledge of letters (6), and other words (7) to encouraging their children to independently produce letters (8). Average scores across tasks of parents in the SA group indicate that they tended to write the letter for the child (1), hold the child's hand and write with the child (2), draw dots for the child to connect (3), or show the child the printed letter for copying (4). Post-hoc Bonferroni tests for the source of differences in Group showed that parents' support in the PR and SRL groups significantly ($M = 7.03$ and $M = 8.00$, respectively) exceeded that of parents in the SA group ($M = 3.00$) but did not significantly differ from each other (see Table 3). As to the Task, post hoc Bonferroni tests showed that parents gave children significantly more autonomy on the word-writing task ($M = 6.85$) than on the invitation task ($M = 6.24$), and the least autonomy in the book task ($M = 4.94$). We found an interaction between Group and Task (see Table 3). The source of this interaction partially supported our second hypothesis. Parents in the PR and SRL groups gave their children similar printing support in the word writing and the invitation tasks, which was significantly higher than the support of parents in the SA

group. But, during the book task, parents of children in the SRL group gave their children significantly higher autonomy in printing the letters than parents of PRs, who gave their children significantly higher autonomy than parents of the SA group.

Demand for precision Comparing between the groups (Table 3), post hoc Bonferroni tests support our first hypothesis that parents in the PRs and SRL groups drew their children's attention to the correct printing of the letters ($M = 5.38$, $M = 6.15$ respectively) more frequently than did the parents of the SA group ($M = 1.41$) but did not significantly differ from each other. When comparing the Tasks, supporting our second hypothesis, post hoc Bonferroni tests showed that parents demanded significantly more precision on the word-writing task ($M = 5.45$) than on the invitation and the book tasks ($M = 3.50$ and $M = 4.00$), which did not differ from each other.

References to writing conventions Interestingly, we found only a main effect of Group in terms of parents' references of writing conventions (see Table 3). Across all three tasks, parents of PRs ($M = 6.75$) referred significantly more to the conventions of Hebrew orthography than parents of SRL children ($M = 3.73$), who in turn referred to these conventions significantly more than parents of SA children ($M = 1.11$).

General cognitive support

As seen in Table 3, the MANOVAs revealed significant main effects for Group and for Task, as well as significant interactions between Group and Task for parents' explanations and elaborations.

Explanations Comparing between the groups, post hoc Bonferroni tests showed that parents of PRs explained significantly more ($M = 15.43$) than parents of SA and SRL groups ($M = 8.66$, $M = 9.35$, respectively) who did not differ from each other. As to the tasks, significant differences existed with parents explaining the most in the book task ($M = 16.53$), then in the invitation ($M = 12.10$), and the least when writing the words ($M = 4.81$). When studying the source of the interaction between Group and Task we found that in the invitation and the book tasks, parents of PRs gave their children significantly more explanations than parent in the other two groups. However, within the word-writing task, there were no significant differences between the three groups (see Table 2).

Elaborations Comparing between the groups, post hoc Bonferroni tests showed that parents of PRs elaborated significantly more ($M = 11.91$) than parents of SA and SRL children ($M = 6.76$, $M = 6.50$, respectively), who did not differ from each other. As to the Tasks, parents elaborated the most in the book task ($M = 14.01$) by a significant factor, then in the invitation task ($M = 10.18$), and the least in the word-writing task ($M = .98$). When studying the source of the interaction between Group and Task we found that parents of PRs elaborated significantly more during

the book task than parents in the other two groups. However, there were no significant differences between the three groups (see Table 2) within the invitation and the word-writing tasks.

Social-emotional support

As seen in Table 3, the MANOVAs revealed a significant main effect for Group regarding the three social-emotional measures (reinforcements, suggestions, responsiveness), a significant main effect for Task regarding reinforcements and responsiveness, and a significant interaction between Group and Task for responsiveness.

Reinforcements Comparing between the groups, post hoc Bonferroni tests demonstrated that parents of PRs and SA children did not significantly differ from each other across the tasks ($M = 13.86$ and $M = 11.06$, respectively) and reinforced their children significantly more than parents of children in the SRL group ($M = 6.01$). As to the Tasks, somewhat against our second hypothesis, across the groups, parents gave their children significantly more reinforcements during the word-writing task ($M = 13.23$) than during the invitation and the book tasks ($M = 9.80$, $M = 8.50$ respectively) with no differences between the latter tasks.

Suggestions The MANOVA showed only a Group effect for this support. Post-hoc Bonferroni tests revealed that parents of PRs ($M = 7.45$) and SA children ($M = 7.15$) offered their children significantly more suggestions, by consulting with them or giving them options, than did parents of children in the SRL group ($M = 4.08$).

Responsiveness Regarding Group, parents of PRs ($M = 4.45$) showed significantly greater responsiveness than parents of SRL and SA children ($M = 1.60$ and $M = 1.33$ respectively), who did not differ from each other. As to the Tasks, parents showed more responsiveness during the invitation and the book tasks ($M = 2.92$ and $M = 3.25$ respectively), with no differences between them, than during the word-writing task ($M = 1.22$). Studying the source of the interaction between Group and Task, we found that parents of PRs showed significantly greater responsiveness when supporting their children's writing in the invitation and the book tasks, than when supporting word writing. There were no differences in parents' responsiveness across the different tasks in the SA and SRL groups.

Consistency of parental support across tasks

To assess the consistency of parental support among the 60 parents across the three writing tasks, we conducted reliability tests (Cronbach's α) across the writing tasks for the all the parents on each of the nine support measures. The results showed high reliability ($\alpha > .60$) for all of the support measures (with the exception of elaborations) (See Table 4). Supporting our third hypothesis, parents across the

three groups who scaffolded their child's writing on a higher level on one writing task, scaffolded their child's writing on a higher level on the other two tasks. On the elaboration measure, parents varied their support depending on the writing task. A significant positive correlation was found for the parents' elaborations on the invitation task and on the word-writing task, $r = .32$, $p < .01$. Hence, parental elaborations when writing in the book appeared to be the exception rather than the rule. Writing within the wordless picture book elicited greater parental elaborations than writing in the other two tasks.

Discussion

Studying parental writing support to PRs, SA, and SRL children, we aimed to deepen our understanding regarding the nature of parents' support. We hoped to learn how parents of children of various ages and literacy levels are sensitive to their children's literacy, general cognitive and social-emotional needs. Examining three writing tasks, we aimed to explore how different tasks evoke different parental support aspects and assess parents' global literacy support across tasks.

Parents' writing support: differences and similarities among the research groups

In line with our hypothesis, parents in the three groups were sensitive to their children's literacy level. Parents of children who read (PRs and SRL), showed similar levels of literacy-specific support. Specifically, parents of PRs granted their children independence while retrieving the letters and printing them, and at the same time, demanded precision on the writing product, just as parents of SRL school children did. Parents of the SA non-reading children were aware of their children's

Table 4 Consistency of parental support for all the parents across tasks (N = 60)

	Book *M* (SD)	Invitation *M* (SD)	Words *M* (SD)	Chronbach's α
Literacy-specific support				
Grapho-phonemic mediation	4.42 (2.97)	5.32 (2.88)	5.86 (2.30)	.88
Printing support	4.94 (3.65)	6.24 (3.28)	6.85 (2.78)	.90
Demand for precision	4.00 (3.14)	3.50 (2.60)	5.45 (3.98)	.64
Writing conventions	3.68 (3.00)	4.40 (3.07)	3.51 (4.00)	.65
General cognitive support				
Explanations	23.15 (8.42)	4.81 (4.11)	12.10 (7.89)	.62
Elaborations	14.01 (8.64)	10.18 (7.74)	1.00 (.90)	.06
Socio-emotional support				
Reinforcements	8.50 (8.00)	9.80 (9.60)	13.23 (8.67)	.73
Suggestions	7.35 (6.84)	5.71 (4.69)	5.61 (6.16)	.63
Responsiveness	3.25 (4.73)	2.92 (3.81)	1.22 (1.23)	.71

literacy skills and gave them more basic support, telling them the names of the letters and showing them how to print them.

Bornstein (2001) suggested that parental scaffolding affects children's development and children's characteristics affect their parents' support. Previous research showed that mothers' are aware of their children's literacy knowledge (Granot, 2004) and that their writing support is linked to their perceptions of their children's literacy level in preschool (Aram & Levin, 2015) and in second grade (Korat & Levin, 2001). Yet, Martini and Sénéchal (2012) also found that parents' expectations and beliefs in the realm of early literacy impact their activities in this area. We posit that the parents of PRs recognized their children's literacy abilities and challenged their children to perform the writing tasks in line with their skills at a higher level than expected for their age. We did not interview the parents regarding their activities and we cannot follow their inner motives so an alternative interpretation is that parents of PRs were also reacting to their children's high literacy abilities, handing their children the literacy specific support accordingly. Parents of PRs referred more to the specificities of Hebrew orthography than parents in the two other groups. Interestingly, they refer to the orthography more than parents of SRL children. They challenged their children to think about the writing conventions and draw generalizations. For example, in the invitation task, one mother said, "We write letters from right to left but numbers from left to right." Research has shown that reference to the orthography's rules during writing interactions predicts children's early literacy (e.g., Aram & Levin, 2011; Aram et al., 2013a, 2013b).

Parents' general cognitive support further draws attention to the support that parents of PRs' gave their children. They explained (in the invitation and the book tasks) and elaborated (in the book task) more than parents of SRL and SA groups, thus challenging their children to make analogies, draw conclusions, deduce information, and so forth. Such support is not necessarily related to children's age or literacy skills but it stimulates children beyond the immediate and the visible, and can help increase children's repertoire of cognitive functioning (Kozulin, 2003).

Regarding the social-emotional support, it seems that along with the recognition of their children's literacy abilities, parents of PRs acknowledge their children's age-imposed needs. Thus, resembling parents of SA preschool children, they provided their children with more support (reinforcements and suggestions) than parents of the older SRL children. This finding corresponds with prior research indicating that parents tend to offer more support and encouragement during challenging activities to younger children (e.g., Morelock, Brown, & Morrissey, 2003). Parents of SRL children gave their children less social-emotional support, presumably, because they expected their school age children to deal with writing tasks independently. Research indicates that when adults support children's feelings of competence, children achieve higher quality outcomes and learn more independently in the future (e.g., Mattanah, Pratt, Cowan, & Cowan, 2005). The writing tasks, particularly the book task, were demanding. Furthermore, parents of PRs were more responsive to their children when helping them write the invitation and when writing in the book than parents in the other two groups. They showed a willingness to discuss issues more frequently with their children and accept their

children's suggestions. Parental responsiveness is related in the literature to children's emotional security, social abilities, verbal ability, and intellectual achievements (Bornstein, Tamis-LeMonda, Hahn, & Haynes, 2008; Dickinson, Griffith, Golinkoff, & Hirsh-Pasek, 2012; Isman, & Tzuriel, 2008; Pino-Pasternak, Whitebread, & Tolmie, 2010).

Parents' writing support style: differences and similarities among the writing tasks

Regarding the tasks, we thought that parents literacy-specific support would be highest during the word writing task, lower during the invitation task, and lowest during the book task. We hypothesized the opposite regarding the general and social-emotional support measures. Beyond differences by task, we expected parents to show a consistent support style.

The results supported our assumptions regarding the different tasks. During tasks where outcomes were more prescribed (writing words and writing an invitation), parents in all three groups tended to emphasize the literacy-specific support measures. That is, parents remained oriented toward the goal of achieving a conventional outcome—a list of well-spelled and legible words. In keeping with this attitude, their support included higher levels of grapho-phonemic support, printing support, as well as demand for precision. During the less structured task of writing freely within the wordless picture book, parents' literacy specific support was lowest and they placed more emphasis on the social-emotional and general cognitive support. Parents related to writing within the picture book as a task that spurred conversation and imagination. In this task, they discussed the text with their children, and their support included more explanations and elaborations. The birthday invitation task fell in between. Parents expected an acceptable outcome, but at the same time they discussed the invitation elements with the child. The invitation task seemed to be perceived by parents as one that invited conversation, but also as one that demanded specific writing support that would result in the needed written product.

It seems that parents' support is related to both their perception of their children's capabilities and the task at hand (Neitzel & Dopkins Stright, 2004). Our results are in line with previous studies that stressed that parents modify their level of directing and demand in accordance with the nature of the activity. When parents perceived tasks as more structured they tend to be more directive (e.g., Aram, 2002; Gonzalez, 1996; Haden & Fivush, 1996; Kermani & Brenner, 2000; Sonnenschein, Baker, & Freund, 1993; Sun & Rao, 2012).

Our study sheds light on activities within the writing sphere. Studies that investigated the role of different activities in determining parental scaffolding examined activities that differ considerably in their demands, usually goal oriented versus free play activities, like building a figure versus playing with household objects (Gonzalez, 1996), or pattern construction versus playing with dough (Kermani & Brenner, 2000). The present study draws attention to the variations and the options of parent–child writing activities with preschoolers as well as with young school children.

Beyond the differences between the writing tasks, we found that the parents did demonstrate a consistent support style across most of the interaction's measures. Such a consistent style supports findings of past research that claimed to identify parents' scaffolding style (e.g., Aram, 2007; Korat & Levin, 2001; Lightfoot & Valsiner, 1992).

We want to draw attention to the main limitations of the study. First, PRs are difficult to locate, and a central limitation of this study was its small number of participants. The decision regarding the number of participants was based on studies of PRs from a wider geographic area (e.g., Tafa & Manolitsis, 2008). The fact that each of the current research groups contained only 20 participants did not permit further complex statistical analyses. Future research examining larger numbers of participants would allow for more in-depth examination of the nature of parents' support. Second, when reading our study, it is important to be aware of the nature of the three writing tasks and their demands. Also, it is possible to assume that to some extent parents' scores on the grapho-phonemic and the printing scales reflect their children's literacy skills. On these scales the scores reflect the parent's first approach to support her child's writing. After this attempt she could have lowered her scaffolding level, giving her child more support, and still be credited for the first attempt. Still, it is likely that a parent who is aware of her child's literacy skills will not support her writing on a high level because she expects that her child will not meet this level.

In sum, writing support can be used by parents as an effective tool to help children practice literacy throughout their day-to-day activities. Children should be involved in writing texts of different genres in a variety of daily situations such as: writing reminders or lists of things to bring to the preschool, people to call, things to buy, names of books to borrow and holiday greetings to family members or friends. Parents can use these opportunities to introduce children to orthography, teach them about writing as a communication tool, help them to learn about the writing system and encourage them toward higher levels of thinking.

Children with different levels of literacy knowledge can benefit from appropriate, high-quality parental support. In our study, parents of PRs were generally more successful in taking advantage of the opportunities that the writing tasks offered them for meaningful interactions with their children, compared to parents of children in the other groups. We recommend drawing parents' attention to their "natural" tendencies to give greater direction and refer more to literacy during structured writing activities and elaborate more during less structured activities. We can teach them about the nature of high levels of writing support within children's ZPD and help them to mindfully choose their writing support characteristics according to their children's needs and the writing activities.

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