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Parents' Interactions with Their First-Grade Children During Storybook Reading and Relations with Subsequent Home Reading Activity and Reading Achievement

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This study examined parents' verbal and affective interactions with their first-grade children during shared storybook reading and how these interactions relate to growth in children's reading activity and achievement. Participants varied in income level and ethnicity. The nature and amount of meaning-related talk was similar regardless of whether the parent or child assumed primary responsibility for reading, but there was more talk about the reading process itself (word recognition) when the child read. Talk that went beyond the immediate content of the story was more common among middle-income families. Positive affective interactions were associated with meaning-related talk, and negative interactions were associated with parental attempts to have the child use decoding strategies to identify unknown words. Affective quality was an important contributor to children's reading of challenging materials in third grade but not to their reading achievement. Implications for advising parents on reading with their children are considered.

Keywords: Reading development, Parent–child interaction, Home environment, Longitudinal study, Achievement.

Parents today, as in years past, are encouraged to read with their young children by educators, policymakers, pediatricians, and others. Parent–child storybook interactions have long been recognized as positive influences on children's reading development (Bus, van IJzendoorn, & Pellegrini, 1995; Scarborough & Dobrich, 1994; Snow, Burns, & Griffin, 1998), with much of the research focusing on the nature of the talk that accompanies the reading. Talk that goes beyond the immediate context of the story (nonimmediate talk) is thought to be particularly valuable in that it encourages children to make inferences and predictions and to draw on relevant knowledge of the world (DeTemple & Beals, 1991). Talk about the

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print itself may promote knowledge of the mechanics of reading (Pellegrini, Perlmutter, Galda, & Brody, 1990), but the extent of such talk seems to be minimal, at least when parents interact with their nonreading preschoolers (Baker, Fernandez-Fein, Scher, & Williams, 1998). Thus, many researchers believe that shared reading experiences are beneficial because the talk that accompanies them promotes vocabulary, comprehension and, perhaps, word recognition, contributing directly to reading achievement.

A major hypothesis of the present research is that shared reading experiences may also facilitate the development of children's reading skills less directly. The cultural theme of reading as a source of pleasure features in the implicit theory of literacy that pervades the practices of educational institutions in the modern world (Serpell, 1997, 2001). One of the reasons parents are encouraged to read with their children is to promote positive views about reading through pleasurable social interactions. Such interactions may nurture children's motivation for reading (Baker, Scher, & Mackler, 1997). However, if the social interaction is not pleasurable, then storybook reading may have unanticipated negative consequences on a child's later inclination to read (Bus & van IJzendoorn, 1995). Shared storybook reading may be beneficial not because it explicitly teaches children the skills needed to become effective readers, but because it influences whether or not children later choose to read. It is well documented that frequency of leisure reading predicts reading achievement (Baker, Dreher, & Guthrie, 2000; Snow et al., 1998). Thus, it is important to examine how the character of shared storybook interactions relates to both reading activity and reading achievement.

This study examined the interactions that took place between mothers and their first-grade children during shared storybook reading, with respect to both what was said and the affective atmosphere. A unique feature of the study is its comparison of interactions in relation to whether the parent or child was the primary reader of the story. This variable was not controlled experimentally; rather, the parent–child dyads had the choice as to who would read the story. Fortuitously, about half of the sample selected the child as the main reader of the story, whereas the other half selected the parent as the main reader. This enabled inquiry as to whether the nature and amount of talk varied systematically across groups, and whether the affective quality of the interaction differed. These questions are of particular significance in light of policy recommendations given to parents of first graders that they should have their children read to them at home (National Association for the Education of Young Children and the International Reading Association, 1998). Because most of the shared storybook reading research has been conducted with preschool children and their parents, little is known about the interactions when children themselves are beginning to read. Do parents

adopt a more instructional stance, directing children's attention to the mechanics of the reading process itself? Does such a stance impact the affective quality of the interaction?

Although there has been much speculation that certain types of talk facilitate reading comprehension, research evidence is scant because there are few longitudinal investigations that follow children beyond the beginning phases of reading instruction. Similarly, there is little longitudinal evidence regarding the importance of the socioemotional context of shared reading (but see Leseman & de Jong, 1998). This study examined the relations between the types of talk that occur during storybook reading, the affective atmosphere of the interaction, and the child's reading activity and reading achievement. Two regression analyses tested the hypotheses that nonimmediate talk and a positive affective climate would contribute to growth in reading comprehension and to children's reading of challenging materials, after controlling for the children's previous history of home storybook reading and their word recognition skills.

Previous research has revealed income and ethnicity differences in how parents interact with their preschool children during shared storybook reading (Snow et al., 1998; Whitehurst & Lonigan, 1998). For example, middle-income parents tend to engage their child in more talk about the story, especially talk that goes beyond the immediate context. This study is part of a larger longitudinal investigation, the Early Childhood Project, that has been guided by the premise that the sociocultural context influences parents' beliefs, values, and child-rearing practices, which in turn, impact child development. A secondary goal, therefore, was to compare interaction patterns across sociocultural groups, seeking clues that might help us better understand the well-established differences in reading activity and reading achievement that exist between low- and middle-income children (Snow et al., 1998).

In summary, there were three primary goals of this study: (a) To examine how parents and their beginning readers talk with one another during shared storybook reading, (b) to characterize the affective atmosphere of the book reading sessions, and (c) to examine how the storybook interactions contribute to growth in reading activity and achievement.

METHOD

Participants

Participants were 61 children (30 males and 31 females) and their mothers who were taking part in the Early Childhood Project, a longitudinal study of children's literacy development in Baltimore, Maryland (see Baker, Serpell, & Sonnenschein, 1995 or Baker, Serpell, Sonnenschein, Fernandez-

Fein, & Scher, 1994 for a more complete description). The study began in 1992–1993 when prekindergarten children enrolled at public elementary schools and their primary caregivers (usually mothers) were recruited. A second group of participants was added in 1994–1995, when the children in both groups began first grade. Participants in the present study came from both recruitment phases of the project.

The families represented four sociocultural groups: (a) Low-income African American, (b) low-income European American, (c) middle-income African American, and (d) middle-income European American. Eleven schools within the city of Baltimore participated in the project and provided access to information about their students for recruitment purposes. School lunch ticket status was used as a proxy for income level, with those students eligible to receive free or reduced-price lunch considered to be from low-income families. Ethnicity of the family was initially determined through designations in the demographic records of the Baltimore City Public Schools system, and confirmed during the home visits.

In 34 families, the mother took primary responsibility for reading the book to her child, in 14 families, the child took primary responsibility for reading the book to his/her mother, and in 13 families, parent and child shared responsibility (defined as the child reading more than 1/4 of the story). These three groups were compared with respect to the demographic variables of child gender, maternal education (number of years of schooling completed), and sociocultural group. Data on maternal education was available for only 54 families because it was not collected until children were in Grade 3, and there had been some attrition of the sample. The gender distribution was comparable across groups,[1] as was the ethnicity distribution. However, there were proportionately more low-income dyads in the group where the parent read the story. Analysis of variance revealed that mothers in this group also had lower education levels than mothers in either of the groups where the child read, $F(2, 51) = 6.91$, $p = .002$. In addition, children whose mothers took responsibility for reading the story had lower scores on the Woodcock-Johnson Basic Reading Skills composite (Woodcock & Johnson, 1989) administered in Grade 1 than children who took primary or shared responsibility for story reading, $F(2, 58) = 7.76$, $p = .001$.

[1] Preliminary analyses were conducted to determine whether the child's gender was a relevant variable that needed to be taken into account. Analyses showed that males did not differ significantly from females on any of the interaction measures or on the reading achievement measures. They did differ on some of the reading activity measures, with females engaging in significantly more storybook reading in Grade 2 and reading of all types in Grade 3. However, the relations between the storybook interaction measures and the reading activity measures were the same for males and females. Therefore, the two groups were combined for all analyses described in this article.

Table 1
Demographic and Achievement Information about the Child Participants As a Function of Reader-Responsibility Group

	Child As Primary Reader	Parent As Primary Reader
Sociocultural group		
Low-income African American	8	12
Low-income European American	4	13
Middle-income African American	7	2
Middle-income European American	8	7
Gender		
Male	13	17
Female	14	17
Maternal education (mean years of schooling)[a]	13.58 (2.69)	10.97 (2.50)
Reading achievement (Woodcock-Johnson)[b]		
Grade 1 Basic Reading Skills	20.93 (13.61)	10.47 (9.15)
Grade 3 Basic Reading Skills	41.28 (15.23)	27.72 (14.58)
Grade 3 Reading Comprehension	35.64 (15.26)	24.97 (15.45)

[a]Standard deviations are in parentheses. Data were available from 24 mothers in the child-as-reader group, and 30 mothers in the parent-as-reader group.

[b]Standard deviations are in parentheses. The Basic Reading Skills composite consists of the Word Attack and Word Identification tests. The Reading Comprehension composite consists of the Passage Comprehension and the Vocabulary tests. Grade 3 data were available from 25 children in the child-as-reader group, and 29 children in the parent-as-reader group.

Because dyads in which the child was the only reader and those in which mother and child shared responsibility did not differ on any of the dependent variables in preliminary analyses, the two groups were combined to increase the power of the analyses and clarity of presentation. Table 1 provides demographic and descriptive information about the participants, including the children's reading achievement as a function of reader responsibility: parent as primary reader or child as primary reader.

Procedures and Measures

Storybook reading observation. Participants were visited in their homes by one of six research assistants who was already known to the family through previous visits for the Early Childhood Project. In most cases, the research assistant was the same ethnicity as the family. Observations took place in the spring of the children's first-grade year. Mothers were asked to share a storybook with their child as they normally would. The researchers brought two storybooks with them: *Don't Wake up Mama! Another Five Little Monkey's Story* (Christelow, 1992) and *Tucking Mommy In* (Loh, 1988). The reading levels for both books were ages 4–8 years. Mothers were told that they and their child should choose which of the two books they wanted to read. Fifty-four of the dyads chose to read *Don't Wake up Mama!* Because only 7 dyads chose *Tucking Mommy In*, it was not possible to examine differ-

ences in interactions as a function of book. However, the distribution of choices was similar across sociocultural groups and across reading-responsibility groups. The interactions were videotaped and audiotaped, with the research assistant staying unobtrusively in the background.

Inventory of children's home reading activity. Parents were interviewed in their homes several times throughout the Early Childhood Project about their child's participation in a variety of literacy-related activities. This article focuses on the Ecological Inventory data collected on three separate occasions: (a) 8–12 months prior to the observation (late kindergarten for families recruited in the first phase of the project, and summer or early in the fall of first grade for families recruited in the second phase of the project); (b) 1 year after the observation, in the spring of second grade; and (c) 2 years after the observation, in the spring of third grade, the final year of the project. The focus is on a subset of home activities dealing directly with three types of print materials: books that focus on basic skills (e.g., ABC books), storybooks, and chapter books (Grades 2 and 3 only). Parents indicated the frequency of their child's participation on the following 4-point scale: 0 = not at all; 1 = very rarely, less than once a week; 2 = occasionally, somewhere between 1 and 3; and 3 = very often, almost every day. Separate ratings were collected as to whether the reading took place alone or in collaboration with others. Because the ratings for reading alone and with others were highly correlated, a composite measure for experience with each type of print material was created by summing the ratings. Visits to the library were also inventoried using the same rating scale.

Reading achievement. Two reading tests from the Woodcock-Johnson Tests of Achievement B Revised (Woodcock & Johnson, 1989) were administered individually to the children by members of the research team in the spring of Grade 1 at the children's schools. The tests were the Word Identification test, which calls for the identification of sight words, and the Word Attack test, which calls for the oral reading of pseudowords to measure the child's skill in applying phonic and structural analysis skills. Following the developer's instructions, a Basic Reading Skills composite score was constructed for use as a measure of word recognition.

These same two tests were administered in the spring of Grade 3, and a Basic Reading Skills composite score was again constructed. Also administered were the Passage Comprehension test, which calls for the child to read short passages and supply missing words that are appropriate in the context of the passage, and the Reading Vocabulary test, which calls for the child to state a word either similar or opposite in meaning to the word presented. Following the developer's instructions, a Reading Comprehension

composite score was constructed from these latter two tests. Grade 3 scores were available for only 54 of the children because some had left the project in the intervening years.

The Woodcock-Johnson reading tests are widely used in educational research and are highly reliable. Reliability data provided by the publisher are as follows: Letter–Word Identification: Age 6 = .96 (N = 316), Age 9 = .94 (N = 308); Word Attack: Age 6 = .95 (N = 245), Age 9 = .91 (N = 263); Basic Reading Skill composite: Age 6 = .98 (N = 245), Age 9 = .96 (N = 263); Passage Comprehension: Age 9 = .88 (N = 307), Vocabulary: Age 9 = .93 (N = 263); Reading Comprehension composite: Age 9 = .95 (N = 262).

Coding of the Storybook Interactions

Verbal interactions were coded from transcriptions of the taped observations using a coding system derived in part from Munsterman and Sonnenschein (1997). Two broad classes of verbalizations were of interest: those that dealt with the meaning of the story and those that dealt with word recognition. Appendix A lists the coding categories, with brief descriptions. The meaning-related categories were (a) talk about the literal meaning or immediate content of the story, (b) talk that went beyond the story itself to extend children's knowledge and thinking (nonimmediate talk), and (c) talk about the illustrations that accompany the text. The word recognition categories were (a) strategies parents used to help their children identify unknown words (parental strategic support), and (b) circumstances in which parents provided the children with the identity of an unknown word (parental word provision).

The affective quality of the storybook interactions was coded directly from the videotapes. Ratings were made on a scale of 0 to 3 for child's expression while reading, parent's expression while reading, parent–child physical contact, parent involvement, child involvement, and parent's sensitivity to child's involvement during the interaction. Appendix B shows the behavioral criteria used for these rating categories. Ratings for each dyad were made at three points in time: after the first third of the story had been read, after the second third, and at the end. A mean was calculated based on the three scores. Because of the technical difficulties with the videotapes of 4 interactions, affective measures were available for 57 families only. A composite affective score was created by summing across the categories.

The second author served as transcriber and primary coder of all verbal and affective interactions. At the time of transcription and coding, she was blind to the hypotheses of the study. Reliability of the coding of verbalizations was established by having 20% of the transcripts coded by a second rater (the first author) who was blind to the identities of the dyads. Correlations between the raters were .88, .81, and .92 for talk related to immedi-

ate content, nonimmediate content, and illustrations, respectively, and .94 and .99 for talk related to word recognition strategies and word provision, respectively. Reliability of the affective coding was established by having 20% of the videotapes coded by a third rater who was uninformed of the goals of the study. Correlations between the raters were 1.00 for mother's expression, child's expression, mother's involvement, and mother/child contact, .84 for child's involvement, and .86 for mother's sensitivity to the child's involvement.

RESULTS

The Results section is organized according to the three major questions guiding this investigation: What kinds of things did parents and children talk about during storybook reading? What were the characteristics of the affective atmosphere of the storybook reading? And how did the storybook interactions relate to children's reading achievement and reading activity?

What Kinds of Things Did Parents and Children Talk about during Storybook Reading?

The parent–child dyads differed considerably in how much they talked during the storybook reading and what they talked about. Because there were some extreme scores (e.g., the number of times that a comment related to word recognition was made ranged from 0 to 165), the raw scores were transformed using a log base 10 transformation to normalize the distribution for statistical analyses. Table 2 shows the untransformed raw scores and

Table 2
Mean Frequency of Different Types of Talk and Number of Dyads Contributing As a Function of Reader Responsibility

	Child As Primary Reader			Parent As Primary Reader		
	Raw Frequency *M* (*SD*)	Log Frequency *M* (*SD*)	Dyads	Raw Frequency *M* (*SD*)	Log Frequency *M* (*SD*)	Dyads
Talk Related to Meaning						
Immediate	2.00 (3.44)	0.29 (0.37)	12	1.44 (4.06)	0.20 (0.33)	12
Nonimmediate	3.56 (6.27)	0.41 (0.44)	16	3.09 (4.27)	0.41 (0.41)	21
Illustrations	4.11 (3.64)	0.58 (0.38)	21	4.71 (5.58)	0.55 (0.44)	24
Talk Related to Word Recognition						
Strategies	3.11 (5.79)	0.41 (.37)	20	0.15 (0.61)	0.03 (.13)	2
Word provided	30.15 (29.77)	1.28 (0.48)	27	1.41 (3.89)	0.17 (.34)	10

Table 3
Partial Correlations of Storybook Interaction Talk and Affective Atmosphere with Demographic Variables and Reading Achievement

	Meaning-Related			Word Recognition-Related		
	Immediate	Noninmediate	Illustrations	Strategies	Word Provision	Affective Atmosphere
Maternal education	−.02	.38**	.07	−.22	−.36**	.31*
Income level	.07	.33**	.08	−.14	−.34**	.30*
Ethnicity	−.15	−.09	−.19	−.15	−.09	.18
BRS Grade 1	−.08	.21	−.14	−.28*	−.49***	.18
BRS Grade 3	−.19	.15	−.25	−.29*	−.53***	.12
RCMP Grade 3	−.08	.21	−.22	−.25	−.44***	.14
Affective atmosphere	.23	.42***	.46***	−.27*	−.05	—

Note. Reader responsibility is the covariate. BRS = Woodcock-Johnson Basic Reading Skills, RCMP = Woodcock-Johnson Reading Comprehension. Ethnicity is coded with 0 = African American, 1 = European American. Income level is coded with 0 = low income, 1 = middle income.
* $p < .05$, ** $p < .01$, *** $p < .001$.

standard deviations, along with the log scores and standard deviations, for each type of talk among parent and child readers, separately. The table also shows the number of dyads who contributed comments or questions to each category. The data indicate that talk about the illustrations was the most common type of meaning-related talk, and parental word provision was the more common type of talk involving word recognition.

Group differences in the amounts of talk in each category were examined through a series of 2 × 4 analyses of variance, with reader responsibility and sociocultural group as between-subjects factors. The analyses revealed no effects of reader responsibility on any of the three meaning-related categories. In other words, the amount of talk about illustrations, immediate content, and content that went beyond the immediate context did not differ depending on who served as primary reader. However, talk related to word recognition was significantly less frequent when the parent was the primary reader than when the child participated as a reader, $F(1, 53) = 115.07$, $p = .000$ for parental word provision, and $F(1, 53) = 21.10$, $p = .000$ for parental strategic support. Note the magnitude of this difference: Only 10 of the 34 dyads in which the parent was the primary reader contributed any word provision, and only 2 contributed any strategic talk about word recognition compared with 27 and 20, respectively, of the 27 dyads in which the child was primary reader. The only word recognition talk in the parent-reader dyads occurred if the child took a brief turn at reading.

The analyses of variance revealed but one statistically significant sociocultural group difference: talk involving the nonimmediate content of the story, $F(3, 53) = 3.79$, $p = .015$. Post-hoc analysis using Student-Newman-Keuls procedure revealed that the middle-income European American dyads (log $M = 0.62$, $SD = .47$) engaged in significantly more nonimmediate content-related talk than did low-income European American dyads (log $M = 0.16$, $SD = 0.47$). The other paired comparisons among individual means were not statistically significant.

The relations of storybook talk with demographic factors were also examined correlationally. Reader responsibility was used as a covariate in this and subsequent analyses because the nonrandom distribution of dyads across conditions resulted in systematic differences between groups in children's reading achievement, income level, and maternal education.[2] Table 3 presents the relevant correlations. The frequency of nonimmediate content-related talk was significantly and positively correlated with maternal education and with income level, but not with ethnicity. The frequency with which parents supplied the word for their children was significantly and negatively related to maternal education and income level, but not ethnicity.

[2]Preliminary zero-order correlational analyses were conducted with the full sample and with the two reader-responsibility groups, separately. The overall patterns were generally the same, except the word recognition relations held only in the child-as-reader dyads. For clarity and brevity, only the partial correlations are reported.

Table 3
Partial Correlations of Storybook Interaction Talk and Affective Atmosphere with Demographic Variables and Reading Achievement

	Meaning-Related			Word Recognition-Related		
	Immediate	Nonimmediate	Illustrations	Strategies	Word Provision	Affective Atmosphere
Maternal education	−.02	.38**	.07	−.22	−.36**	.31*
Income level	.07	.33**	.08	−.14	−.34**	.30*
Ethnicity	−.15	−.09	−.19	−.15	−.09	.18
BRS Grade 1	−.08	.21	−.14	−.28*	−.49***	.18
BRS Grade 3	−.19	.15	−.25	−.29*	−.53***	.12
RCMP Grade 3	−.08	.21	−.22	−.25	−.44***	.14
Affective atmosphere	.23	.42***	.46***	−.27*	−.05	—

Note. Reader responsibility is the covariate. BRS = Woodcock-Johnson Basic Reading Skills, RCMP = Woodcock-Johnson Reading Comprehension. Ethnicity is coded with 0 = African American, 1 = European American. Income level is coded with 0 = low income, 1 = middle income.
* $p < .05$, ** $p < .01$, *** $p < .001$.

What Were the Characteristics of the Affective Atmosphere of the Storybook Reading?

Affective quality was first examined in relation to who was doing the reading and sociocultural group membership.[3] A 2 × 4 analysis of variance revealed no differences in the affective rating composite measure as a function of either variable. Regardless of whether parents or children served as readers, the overall affective atmosphere was generally positive. The mean score for the child-as-reader group was 11.34 (SD = 1.96), and the mean score for the parent-as-reader group was 11.72 (SD = 2.29), out of 15 possible. Correlational analyses, with reader responsibility partialled out, revealed that the affective quality of the interactions was more positive when mothers were better educated and from middle-income homes (see Table 3).

How did the different types of talk that occurred during the storybook reading relate to the affective quality of the interaction? As indicated in Table 3, the more talk about nonimmediate content and the more talk about illustrations, the more positive the affective environment. However, the more talk that dealt with strategies for recognizing words, the poorer the affective quality of the interaction.

How Did the Storybook Interactions Relate to Reading Achievement and Reading Activity?

Reading achievement. Relations between storybook interactions and achievement were examined correlationally, again partialling out reader responsibility. As shown in Table 3, the only significant relations involved word recognition talk. Parental provision of the word was negatively related to concurrent Grade 1 performance on the Woodcock-Johnson Basic Reading Skills composite and to subsequent Grade 3 performance on the Basic Reading Skills composite, as well as the Reading Comprehension composite. Parental strategic support was also negatively related to the Grade 1 and Grade 3 Basic Reading Skills. The predicted relation between nonimmediate content talk and subsequent reading comprehension did not emerge. Nor did the affective quality of the interaction relate to reading achievement.

[3]Expression was considered an aspect of the affective atmosphere on the assumption that the storybook experience is more enjoyable if the story is read with expression. The child's expression was highly correlated with his or her reading skill on the Woodcock-Johnson tests taken in Grade 1 (r = .57, p = .003). If a child has trouble decoding the individual words, it is to be expected that he or she would not read expressively. Because the expression measures captured something more than affective quality, two different composites were created. One included the expression measures, based on the mean for parent and child, with an internal consistency reliability alpha of .76. The other measure comprised only the four remaining items, with an internal consistency reliability alpha of .78. All data were analyzed with both composites, and the pattern of results was nearly identical. For ease of exposition, only the results based on the full five-item composite are reported.

Table 4
Partial Correlations of Storybook Interaction Talk and Affective Atmosphere with Home Reading Activities

	Meaning-Related			Word Recognition-Related		
	Immediate	Nonimmediate	Illustrations	Strategies	Word Provision	Affective Atmosphere
Grade 1						
Skills books	.18	.09	.10	.26*	−.03	−.16
Storybooks	−.14	.03	.01	−.20	−.37**	.00
Library visits	.09	.17	.07	−.08	−.25	.30*
Grade 2						
Skills books	.00	−.15	−.13	.08	.21	−.19
Storybooks	−.10	−.07	−.12	.10	−.02	−.07
Chapter books	.02	.26*	.05	−.13	−.18	.28*
Library visits	.07	.19	.17	−.01	−.10	.23
Grade 3						
Skills books	.08	.10	.16	.06	.05	−.21
Storybooks	.04	−.08	.02	−.09	−.14	.00
Chapter books	.08	.28*	.10	.05	−.32*	.33*
Library visits	−.02	.04	.08	.09	−.03	−.04

Note. Reader responsibility is the covariate; * $p < .05$, ** $p < .01$.

Reading activity. Relations between the storybook interactions and reading activity were also examined correlationally, controlling for reader responsibility (see Table 4). Consider first the relations with the home reading activity that took place earlier, when children were in late kindergarten/early Grade 1. The more often the child read basic skills books, the more parents provided strategic support on word recognition strategies. The less storybook reading took place in the home, the more parents told children words they did not know. The more often children visited the library, the more positive the affective environment during the interaction.

To what extent did the interactions relate to subsequent reading activity? Chapter book reading was the one activity that yielded significant associations. The more talk about nonimmediate content and the more positive the affective environment, the more children read these challenging books in Grades 2 and 3. In addition, the more parents told children words they did not know, the less frequently the children read chapter books in Grade 3.

Contributors to growth in Grade 3 reading activity and reading achievement. The data presented in Tables 3 and 4 suggest that the talk that occurs during shared book reading and the affective climate that surrounds the interaction are more closely related to children's home reading activity than to their reading achievement. These patterns suggest that storybook interactions may be related to reading achievement indirectly, via their influence on home reading activity. Two types of home reading activity were, in fact, consistently related to reading achievement, as shown by the zero-order correlations presented in Table 5. The reported frequency

Table 5
Correlations Between the Woodcock-Johnson Reading Tests and Home Reading Activities

	Grade 1 Basic Reading	Grade 3 Basic Reading	Grade 3 Reading Comprehension
Kindergarten/Early Grade 1[a]			
Basic skills books	−.01	−.08	−.18
Storybooks	.32**	.39**	.34**
Library visits	.15	.22	.05
Grade 2			
Basic skills books	−.08	−.14	−.24
Storybooks	−.16	.01	.04
Chapter books	.40**	.53***	.59***
Library visits	.05	.24	.20
Grade 3			
Basic skills books	.10	−.01	−.18
Storybooks	.04	.11	−.05
Chapter books	.44***	.59***	.63***
Library visits	.21	.28*	.14

[a]All data were collected in the spring, except for the home reading activity data of the children from Phase 2 of the sample, which were collected over the summer and into the fall of Grade 1.
* $p < .05$, ** $p < .01$, *** $p < .001$.

of storybook reading when children were in late kindergarten/early Grade 1 was positively related to all three achievement measures, as was the frequency of chapter book reading in Grades 2 and 3.

Two hierarchical regression analyses were conducted to examine the contributions of earlier home experiences to children's reading of chapter books in Grade 3 and to their reading comprehension. The specific variables used as predictors were selected for theoretical reasons, but supplementary analyses confirmed that none of the other variables accounted for significant variance in outcomes. Variables were entered into the equation in four blocks in the sequence they were collected over time. The first block consisted of the Kindergarten/Grade 1 frequency measure of storybook reading, which was selected to control for previous experience with storybook reading. The second block consisted of the Grade 1 Woodcock-Johnson Basic Reading Skills composite. By controlling for word identification skills prior to entering the storybook reading interaction variables, even though they were measured roughly concurrently, one can more accurately assess the contributions of the storybook interactions to *growth* in reading. The third block consisted of the two storybook interaction variables hypothesized to be of particular significance to subsequent development: nonimmediate content-related talk and the affective quality of the interaction. The fourth block consisted of the frequency of reading chapter books in second grade, selected as an indicator of interest in reading challenging materials and/or reading competence. (Although talk involving word recognition was negatively correlated with reading achievement, these interaction variables were not included in the regression analyses because they served as markers that children were having difficulty reading independently and were therefore redundant with the concurrent Woodcock-Johnson test. Indeed, when Grade 1 word recognition skills were partialled out, the correlations between word recognition-related talk and Grade 3 achievement decreased to near zero.)

The top portion of Table 6 shows the results of the regression analysis with frequency of chapter book reading in Grade 3 as the outcome variable. The frequency of reading storybooks at home in late kindergarten/early first grade did not account for significant variance, but children's word recognition skill in Grade 1 accounted for 22% of the variance. Of particular interest is that the affective quality of the observed storybook reading interaction in Grade 1 accounted for 14% of additional variance. The frequency of nonimmediate content-related talk during the observed interaction did not make an independent contribution to Grade 3 reading activity. Chapter book reading in Grade 2 explained an additional 14% of the variance in the same activity a year later.

Recall that nonimmediate talk and affective quality were significantly correlated, even when controlling for reader responsibility, and that both variables were correlated with chapter book reading. The shared variance between the two measures may have reduced the chance of nonimmediate talk being an in-

Table 6
Hierarchical Regressions with Grade 3 Reading Activity and Achievement As Outcome Variables

Step and predictor	R	R^2	R^2 change	F change	Final Beta
Chapter Book Reading					
1. Grade K/1 storybook reading	.15	.02	.02	0.92	−.08
2. Grade 1 Basic Reading Skills	.49	.25	.22	10.93**	.28*
3. Affective atmosphere	.62	.38	.14	7.86**	.30*
4. Nonimmediate content talk	.62	.38	.00	0.10	−.06
5. Grade 2 chapter book reading	.72	.52	.14	9.89**	.44**
Woodcock-Johnson Reading Comprehension					
1. Grade K/1 storybook reading	.40	.16	.16	7.93**	.14
2. Grade 1 Basic Reading Skills	.84	.70	.54	73.02***	.67***
3. Affective atmosphere[a]					−.08
4. Nonimmediate content talk	.84	.70	.00	0.12	.03
5. Grade 2 chapter book reading	.88	.77	.06	9.65**	.28**

[a]This variable did not enter the regression equation as a significant predictor so no data are provided except the beta weight.
* $p < .05$. ** $p < .01$. *** $p < .001$.

dependent predictor of chapter book reading when both variables were entered into the equation simultaneously. To test this possibility, a supplemental regression analysis was performed in which nonimmediate talk was entered into the equation before affective quality. In this case, nonimmediate talk accounted for a nonsignificant 3% of the variance, and affective quality, 11%.

The bottom portion of Table 6 shows the results of the regression analysis with the Woodcock-Johnson Reading Comprehension composite as the outcome variable. Early storybook reading frequency accounted for a significant 16% of the variance when it was forced into the equation first, but the final beta was not significant. The first-grade scores on the Basic Skills composite accounted for an additional 54% of the variance in reading comprehension. The affective quality of the observed interaction and the frequency of nonimmediate talk did not contribute to growth in reading achievement. However, children's reading of chapter books in Grade 2 did account for an additional 6% of the variance in Grade 3 reading comprehension. A very similar pattern of results was obtained when the Grade 3 Basic Reading Skills composite was used as the outcome variable.

Thus, to simplify, this pair of analyses shows that (a) the affective atmosphere of the storybook interactions was predictive of the frequency with which children engaged in chapter book reading in Grade 3, even after the contributions of previous home reading activity and basic reading skills were taken into account; and (b) the frequency of chapter book reading in Grade 2 was predictive of reading comprehension in Grade 3, again controlling for previous home reading activity and basic reading skills.

DISCUSSION

The present study examined how parents and first-grade children interacted during shared storybook reading at home and how these interactions contributed to subsequent reading activity and achievement. The first part of this section considers the results first with respect to the comparisons across reader-responsibility groups and sociocultural groups, and then in terms of the predictive relations with subsequent outcomes. The latter parts address qualifications in interpretation and implications for policy and practice.

Comparisons Across Reader-Responsibility and Sociocultural Groups

The study took advantage of a natural split that arose with respect to who took responsibility for reading to treat the data as a quasi-experiment. It was recognized that the groups were not randomly assigned as to who should take responsibility for reading and, thus, that they may differ in systematic ways. In fact, mothers tended to assume primary responsibility for reading when the child was a poorer reader, as reflected by concurrent word recognition scores on the Woodcock-Johnson. In addition, the mothers who assumed primary responsibility tended to be from lower income homes and to have less education.

Despite these natural confounds, the analyses of variance revealed that the two groups were remarkably similar with respect to the nature and quantity of meaning-related talk that occurred, and with respect to the affective aspects of the interaction. The major distinction was with respect to talk related to the mechanics of reading itself. When parents read, the rare talk coded as word recognition occurred when children took an occasional turn at reading and parents provided assistance on words that were difficult for the child. The evidence that parents did not talk about print when they read storybooks to their children replicates Munsterman and Sonnenschein's (1997) analysis of book reading talk that occurred approximately 18 months earlier among some of these same dyads—those who were recruited during the first phase of the Early Childhood Project. The present study goes beyond previous research with preschoolers to show that parents in this population still do not use shared storybook reading as an opportunity to teach decoding skills when they are reading to children who are now learning to read in school.

When children had primary responsibility for reading, about half of the talk that occurred focused on the words themselves. This talk most often consisted of the parent telling the child a word he/she found difficult, with all parents doing so at least occasionally. However, almost 3/4 of the parents also addressed strategies for recognizing words. Some of the strategies directed attention to the grapho-phonemic aspects of the text, and some to

the meaning of the surrounding context. Given previous evidence that talk about story content can enhance children's vocabulary development (Snow et al., 1998; Whitehurst & Lonigan, 1998), and the present evidence that such talk seems to engender a positive affective climate, it is reassuring that the word recognition talk did not come at the expense of meaning-related talk.

The extent to which parents focused on strategies for word recognition was related to the use of particular kinds of print materials in the home during the previous year. The more parents worked with their child on word recognition strategies, the more frequent the child's experience with basic skills books. This relation provides some assurance that the observed dyadic interaction was representative of the typical patterns of interaction between the parents and children because ABC-types of books lend themselves particularly well to talk about the print. Previous work within the Early Childhood Project revealed that frequency of use of basic skills books when children were in prekindergarten predicted Grade 1 word recognition (Baker, Mackler, Sonnenschein, Serpell, & Fernandez-Fein, 1998). However, in the present study, there was no evidence that such activities contributed to growth in reading achievement beyond the first-grade level.

The design of the Early Childhood Project allowed for an examination of the potential role of sociocultural factors in the socialization of literacy. In an effort to better understand the reasons for differences in reading outcomes among children from different backgrounds, processes within the home have been studied in conjunction with parental beliefs about literacy development (e.g., Sonnenschein et al., 1997; Sonnenschein, Baker, Serpell, & Schmidt, 2000). The present study shows that one important process difference may be the amount and nature of the talk engaged in by families. The pattern of verbal interaction is consistent with the work of Heath (1983), Leseman and de Jong (1998), and others in showing that middle-income mothers and those with more education go beyond the literal story more frequently in their discussions with their children than low-income or less educated mothers. Another important process difference relates to the affective quality of shared reading experiences: Correlational analyses revealed that the affective quality was poorer when mothers had less education and came from low-income backgrounds. These results suggest that mothers who themselves may find reading difficult are less likely to serve as effective models for engaged reading.

Storybook Interactions in Relation to Subsequent Outcomes

Does talk about story content enhance children's literacy development beyond the beginning phases of learning to read? In the present study, the talk that occurred during shared reading was not strongly related to children's reading achievement. Based on theorizing in the literature (Scarborough &

Dobrich, 1994; Snow et al., 1998), it was hypothesized that nonimmediate content talk would predict subsequent reading comprehension. The hypothesis was not supported; nonimmediate talk was not associated with Grade 3 reading comprehension. However, this null finding does not mean there is no merit to the theoretical importance that has been attached to nonimmediate talk. At the least, nonimmediate talk provides for a more stimulating and enjoyable shared reading experience, which fosters the motivation for further reading. This interpretation is supported by the significant correlations of both affective quality and nonimmediate content talk with frequency of chapter book reading in Grades 2 and 3.

Talk about the illustrations was the most frequent type of meaning-related talk overall, consistent with much previous research (e.g., Shapiro, Anderson, & Anderson, 1997). Morrow (1988) proposed that talk about illustrations would enhance subsequent achievement, but the present study did not reveal a significant association. Talk about illustrations was, however, positively related to the affective quality of the interaction. This suggests that talk about the pictures is valuable in creating an enjoyable shared reading experience, but that this type of talk is not sufficient to promote children's reading ability.

The regression analyses indicated that the interactions observed during storybook reading did not contribute to growth in children's reading comprehension. The home experience that was most predictive of subsequent growth was reading chapter books in the second grade. However, the regressions also indicated that one aspect of the storybook interactions, namely the affective atmosphere, did predict children's reading activity in Grade 3. Taken together, the data suggest that the frequency of home exposure to challenging reading materials is a plausible pathway by which qualitative aspects of shared book reading influence reading achievement. Parent–child interactions characterized by a positive affective climate likely foster the motivation in the child to read challenging materials such as chapter books. Such reading, in turn, promotes further growth in reading achievement. Although the sample was too small to test the suggested pathway through structural equation modeling, the patterns of relations provide tentative support.

Qualifications and Limitations in Interpretation

The major limitation of the present study is that shared storybook reading was observed only once. It is important to be cautious in generalizing from the results of a single observation. However, two sources of evidence suggest that affective interaction processes within families are stable over time. First, there was a substantial correlation of .58 between the affective ratings and affective ratings made 18 months previously when 15 of the same

mother–child dyads engaged in shared storybook reading (Munsterman & Sonnenschein, 1997). Second, Leseman and de Jong (1998) also found strong correlations among ratings of socioemotional quality within a sample of multiethnic Dutch families observed when the children were 4, 5, and 6 years old. In addition, Leseman and de Jong (1998) reported several relations similar to those reported here: (a) More literacy opportunities occurred at home when there was a positive socioemotional climate; (b) the more parents talked about the nonimmediate context of the story, the better the socioemotional quality of the interaction; and (c) socioemotional quality was unrelated to subsequent reading comprehension, measured at age 7. These parallels provide for greater confidence in the present data, despite limitations arising from a modest sample size, a single observation of shared reading, and reliance on parental reports of recurrent home reading activities.

One might argue that the poorer affective interactions observed among some dyads reflected the fact that these parents and children seldom read together and were uncomfortable in the situation. The kindergarten/early Grade 1 reading activity data do not support this argument; frequency of earlier storybook reading was unrelated to the affective environment. Going to the library frequently was positively associated with the affective climate that was observed, however. That is, children and parents who have greater access to a variety of books may have more enjoyable reading interactions.

Implications for Policy and Practice

These findings have implications for recommendations as to how parents should help their first-grade children learn to read. For example, the joint position statement of the National Association for the Education of Young Children and the International Reading Association (1998) on developmentally appropriate practice offers the blanket advice that parents of first graders should read to their children and that they should have their children read to them. This study provides evidence that both recommendations should be qualified (see also Baker, Sonnenschein, & Serpell, 1999).

If parents are to read to their children, then they should feel comfortable in that role and should have some knowledge as to what kinds of interactions are likely to be beneficial. The interactions that were observed when mothers had lower education levels were less often characterized by positive affect and by talk that went beyond the immediate story content—two desirable features of shared book reading. This is not to say that any parents should be discouraged from contributing to their children's literacy development but, rather, that other options are possible. Recommen-

dations should be congruent with parental beliefs, practices, and competencies. Communications between home and school must move beyond the one-size-fits-all exhortation, "read to your child" (see Baker, 1999; Sonnenschein & Schmidt, 2000; Serpell, 1997).

Parents who have their children read to them should be aware that devoting effort to teaching their child how to decode words may undermine the affective quality of the interaction. In this study, the more often parents provided such assistance, the lower the affective ratings. Suppose parents balanced skills-related talk with talk about meaning; would the affective climate be improved? To test this possibility post-hoc, further analysis was undertaken of the data provided by the 13 dyads in the child-as-reader group who contributed both nonimmediate content talk and strategic support for word recognition. Within this subsample, the negative correlation of affective climate with the use of strategic support increased to −.89, whereas the correlation with nonimmediate content talk was not only no longer significant, it also changed from positive to negative (−.19). In other words, the negative affect generated when parents try to get their children to decode unknown words far outweighs the positive affect generated by meaning-related talk that extends beyond the text.

Some parents might intentionally decide to sacrifice affective quality for the opportunity to help their children master word recognition strategies. Research does indicate that parental strategic support is more effective in helping children learn to read particular words than is word provision, which does not harm affective quality. Evans, Barraball, and Eberle (1998) examined parental feedback to miscues by their first-grade children in relation to children's ability to recognize words from the story they just read. Children who received feedback focusing on the grapho-phonemic aspects of the word that was misread scored higher on a measure of word recognition administered immediately after the storybook reading than children who were instructed to use picture clues or who were simply told the correct word.

How parents engage in shared book reading or other literacy activities with their children will depend, in part, on their particular goals at that particular time. Nevertheless, they should be advised that negative interactions may arise if they ask their child who is still struggling with basic decoding to read aloud to them. Much of the talk will inevitably be focused around helping the child read the words and not around the content of the story. Yet meaning-related talk is associated with a more enjoyable shared reading experience. A possible compromise approach is to provide the child with a word he or she stumbles over rather than asking the child to decode it him or herself; this will keep the flow of meaning from being disrupted and will maintain a positive affective climate. As indicated in the present study, a positive affective climate contributes to children's reading

of challenging books in future years, which in turn, enhances their reading achievement.

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APPENDIX A

Coding Categories for the Verbal Interactions Occurring During Shared Book Reading

I. Meaning-Related Talk
   a. Talk about the illustrations
      Comments, questions or responses by the child or parent that deal with the pictures in the text.
   b. Immediate content-related talk
      Comments, questions or responses by the child or parent that deal with explicitly stated facts within the story.
   c. Non-immediate content-related talk
      Comments, questions or responses by the child or parent that are not an immediate reference to the text but instead involve inference, predictions, critical thinking, and external references.

II. Talk Related to Word Recognition
   a. Parental strategic support
      Comments, questions, or responses that help child recognize or decode specific words, including references to sounds/letters in the word, to surrounding context, to words that rhyme with target word, to the spelling of the word.
   b. Parental word provision
      Parent provides the word when child hesitates before or during an attempt to read the word or parent corrects the child after he/she has read the word incorrectly

APPENDIX B

Scoring System and Behavioral Criteria for Affective Aspects of the Shared Reading Interaction

1. Reading expression (coded separately for parent and child)
   1 point: monotonous, flat reading; little attention to punctuation
   2 points: some tonal change, but no imitation of character voices; moderate expression
   3 points: expressive, multi-tonal reading; imitation of character voices; expression suggests suspense, surprise, etc.
2. Contact with child
   1 point: no contact; obvious personal space/distance between parent and child
   2 points: sitting close together; may or may not be touching; relaxed atmosphere
   3 points: very close contact; child sitting on lap or parent has arms around child

3. Appearance of involvement (coded separately for parent and child)
   1 point: distracted behavior or little smiling or laughing related to story
   2 points: attending to book most of the time; appears to enjoy story; some laughing or smiling related to story
   3 points: attending to book most/all of the time; appears to enjoy story; a lot of laughing and smiling related to story; talks about story
4. Parent sensitivity to child involvement
   1 point: not sensitive to child's behavior or interest in story
   2 points: displays one or two of the following behaviors: asks child if s/he is enjoying the story; acknowledges child's feelings; attempts to re-capture attention when it wanes; makes eye contact (coded only once)
   3 points: displays one or more of these behaviors on more than three occasions *or* if child scores a 3 on the involvement scale and parent does not intervene