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Affective Dimension of Mother–Infant Picturebook Reading

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Eighty-two mothers with their 44–63-week-old infants were videotaped in the context of picturebook reading. The Strange Situation procedure was applied to assess infant–mother attachment security. The observations of mother and infant behavior support the view of early literacy skills as the outcome of a fundamentally social process. The study shows that the infants' responses gain significance as denotative symbols through responding at books together with the mother, and eventually as the infants' responses grow more mature, through evoking responses and pointing by the mother. These learning/instruction processes depend on the affective dimension of the infant–mother relationship. Attachment security appeared to be related to the distraction/disciplining dimension of sharing a picturebook. The discussion goes into some consequences of learning to read as a social process. © 1997 Society for the Study of School Psychology

Keywords: Reading development, Emergent literacy, Picturebook reading, Attachment security, Mother–infant interaction.

Books contain decontextualised information, that is characters, events, and ideas that are not really present. The reading of books to infants and children may be a main route in becoming literate because it familiarizes them with the representational function of pictures, the written language register, and written symbols (Bus, van IJzendoorn, & Pellegrini, 1995). However, parents may not value bookreading with infants because it is not always rewarding. As a consequence, mothers often postpone picturebook reading until their child is old enough to obviously enjoy the bookreading itself (Lamme & Packer, 1986). The present paper aims at exploring the value of reading with infants and how elementary forms of learning and instruction develop within the context of mother–infant bookreading. In line with the assumption that bookreading is a social process (Bus, 1994; Bus & van IJzendoorn, 1988, 1992, 1995), special attention will be paid to the role of the affective dimension of the mother–infant relationship in sharing picturebooks.

This study focuses on picturebooks—a type of book that is mostly used in

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the early stages of bookreading. Picturebooks may be important in the genesis of symbolization. The pictures may be considered as protosymbols, that is, in contrast to symbols they do not represent a meaning but they directly present one. Protosymbols may be transformed into true symbols by gradual differentiation of vehicle and referential meaning (Werner & Kaplan, 1963). The bookreading paradigm assumes that an increasing understanding of the representational function of pictures emerges from early forms of interaction in which adults "share" with rather than "communicate" messages to children (Bus, 1993, 1994).

Understanding the referential meaning of pictures does not emerge as an individual act, but as a social one: through touching, laughing, and looking at pictures together with the mother, and eventually through gestures, in particular pointing at pictures (Werner & Kaplan, 1963). Touching and reaching may be precursors of pointing and demonstrative vocal forms. Pointing entails not only the invitation to look but also the expectation that the mother will perceive the object in a similar way. Eventually a higher stage is reached at which sharing of pictures is achieved through (non)verbal symbols. The present study aims at describing the emergence of early forms of communication within the context of picturebook reading with preverbal infants.

In preverbal infants a gradual shift may be expected from hitting pages and grabbing the book towards higher levels of referencing such as pointing and using proto-symbols (Murphy, 1978; Sénéchal, Cornell, & Broda, 1995). A study by Murphy (1978) into the nonverbal modes of communication within the context of picturebook reading shows a gradual sophistication in the use of gestures as the infant becomes more competent. The 9-month-old infants hit the pictures in the book and scratched at the pages as if trying to lift the pictures from the page. Murphy (1978) characterizes the behavior of 14-month-old infants as "acting upon the book" rather than looking at it. At this age, page-turning appeared to be the predominant activity. By 20 and 24 months, pointing was a well-established activity coordinated with vocal activity. According to Sénéchal and colleagues (1995) changes in the patterns of visual attention by infants and pointing behavior by parents suggest that infants appreciate the symbolic features of picturebooks by 17 months of age. The looking behavior of the 9-month-old infants suggest that the flat, static representations within the picturebooks only are of superficial interest.

The present study includes infants from 11 to 14 months old. We expect that, at this age, acting upon the book as well as more focused page-turning and referencing in the form of pointing and using (proto)symbols may occur. However, not all responses to the book will be present to the same extent. As children grow older, acting upon books may decrease while page-turning and referencing behavior may increase.

Mothers play an active role to evoke and support picturebook reading

when infants are preverbal. Previous studies showed that mothers engage in what Bruner (1975) aptly called “scaffolding” of infants’ exploration of the (literate) environment. Those activities children are not yet able to do themselves are done with the assistance of the mother. DeLoache and DeMendoza (1987) found support for scaffolding during picturebook reading in a study with 12-, 15-, and 18-month-old infants. With the youngest children, the picturebook serves primarily as a mechanism for “scaffolding” the names of objects, but with somewhat older children, it is used to introduce additional information to the child. Before the emergence of verbal symbols, sharing of pictures seems to be achieved through referencing behavior, such as pointing by the parent. In Murphy’s (1978) study, the frequency of pointing showed a close adaptation to the increasing abilities of the infants. Sénéchal et al. (1995) state that when infants initiated looking at the book, parents immediately followed with pointing to a feature on the page. The present study examined changes in maternal behavior in relation to the shift from acting upon the book to referencing behavior of children. In addition to maternal behavior such as referencing (for example by making sounds or gestures), evoking responses (“What’s that?” or “Touch the catty”), pointing at pictures, and monitoring the child’s responses we focus on controlling behavior.

Because picturebook reading patterns such as looking, touching, pointing and demonstrative vocal forms gain significance in an interpersonal context, the affective dimension of the mother–infant attachment security may influence bookreading. The attachment relationship between children and parents is a relatively enduring, affective relationship between a child and one or more adults with whom he/she regularly interacts. From attachment theory, several hypotheses concerning the effects of infant–parent attachment on the child’s cognitive development can be derived (van IJzendoorn, Dijkstra, & Bus, 1995). From the safety of a secure attachment relationship, children explore unknown aspects of their environment (such as written material) with confidence and without anxiety (Bus, 1993). Insecurely attached children may be less able to derive knowledge and skills from their interaction with the environment because attachment related concerns and anxieties dominate their thoughts and actions (van IJzendoorn & de Ruiter, 1993). Insecure children might show less self-regulatory capacities being inattentive and not initiating responses to the book (Cassidy, 1994). Secure children may feel more free to explore the environment, even if it contains exciting but also somewhat threatening features. Feelings of trust may also imply that the attachment figure is a more effective “teacher” of the child. Trustful and trusted caregivers might succeed better in the teaching/learning process than caregivers who have established an insecure bond with their child.

In a series of studies, we explored the effects of child–mother attachment security on the mother–child interaction within the context of book-

reading (Bus & van IJzendoorn, 1988, 1992, 1995). Our data indeed support the assumption that an insecure child–mother relationship inhibits the frequency and quality of sharing books in the preschool stage (see for reviews: Bus, 1993, 1994). From a cross-sectional study on interactive reading with 18-, 32-, and 66-month-old children it appeared that insecure children are less inclined to share a book with their mother; the children showed less interest in the book; and more disciplining on the side of the mother occurred (Bus & van IJzendoorn, 1988). From a follow-up study with 3-year-olds who differed in the frequency of reading at home it appeared that insecure children are less frequently read to (Bus & van IJzendoorn, 1992, 1995).

The present study is an attempt to replicate these results and to expand the findings to picturebook reading in the preverbal stage. The study explores self-regulatory capacities on the side of the child (staying on the mother's lap during the reading session and being attentive) as well as maternal qualities to share the book in relation to infant–mother attachment security. We expect that insecure children are less attentive and that they are less inclined to stay on the mother's lap during the picturebook reading session than secure children. We also expect that in insecure dyads, mothers may be more inclined to control motor activities and to respond negatively to distracted behavior. This may be particularly true for insecure-avoidant dyads; mothers of insecure-ambivalent infants are indeed less sensitive and responsive than mothers of secure infants, but they do not consistently reject their infant, similar to mothers of avoidant infants (Ainsworth, Blehar, Waters, & Wall, 1978). Insecure-ambivalent mothers are able to respond sensitively but do not always show sensitive responses, while insecure-avoidant mothers are mostly responding insensitively. The present study is the first one to explore specific characteristics of insecure-avoidant, secure, and insecure-ambivalent dyads in the context of sharing a picturebook.

METHOD

Subjects

This study includes preverbal infants ranging in age from 44 to 63 weeks. Originally 85 mother–infant pairs participated. Because of missing data, 3 dyads were dropped from the analyses. Twenty-four infants were 12 months old (44 to 48 weeks), 26 infants were 13 months (49 to 52 weeks), 14 infants were 14 months (53 to 56 weeks) and 18 infants were 15 months (57 to 63 weeks). All children were first-born. The division of the sexes was about equal: 42 boys and 40 girls. The mothers had a mean age of 27.3 years. Scoring their educational level on a scale ranging from 1 (8 to 10 years of education) to 6 (more than 15 years of education) the mean score was 3.82, ranging from 3 to 5.

Procedure

The mothers were invited to the laboratory. The complete session was videotaped and then analyzed. Mother–child pairs were invited to share a simple expository book with thematically-ordered pictures: on each page a setting characteristic for a farm with a one-sentence text. The mothers were asked to read the picturebook in the same way as at home. A chair was offered but mothers were free to sit on the floor if preferred. The sessions lasted 2 to 3 minutes. For the purpose of analysis, the first 2 minutes were coded.

Preceding the reading session, the Strange Situation procedure was applied to assess attachment security. This procedure, consisting of eight episodes, including two separation and two reunion episodes, was applied according to the guidelines of Ainsworth and her colleagues (Ainsworth et al., 1978). The intercoder reliability for classifying dyads into one of the three main attachment categories—A (insecure-avoidant attachment), B (secure attachment), or C (insecure-ambivalent attachment) (see Ainsworth et al., 1978, for details)—was 96% ($n = 25$).

Analysis of the Reading Session

Scales were constructed to score child motor activity and attention, and responses to the book by the child. Attempts to score pointing and verbal responses by the child failed because we did not succeed in differentiating between pointing and random touching, and between making noises and attempts to use labels. The mothers' behavior was scored as didactic (monitoring, pointing, evoking responses, and labelling) and disciplining (controlling motor activity and giving negative feedback). Mother and infant behaviors were scored on the following scales ranging from (1) not occurring to (4) frequently occurring.

Infant behavior.

1. Acting upon the book: banging on the book, hitting pages, touching pictures, reaching at the book, grasping the book, random pointing.
2. Page turning and opening and closing the book.
3. Referencing by using verbal or nonverbal protosymbols (for example: making animal sounds, caressing an animal or making movements which represent an object like horse riding in response to a picture of a horse).
4. Responding to the mothers' questioning and commenting by looking, pointing, gestures, laughing, etc.
5. Attention: showing interest in the book independent of the child's level of responding.
6. Motor activity: staying at the mother's lap.

Mother behavior.

1. Controlling motor activity by putting her arm around the child or keeping the book out of reach.
2. Negative feedback on the child's behavior (for example: "You don't like reading, don't you?" or "Mamma cannot read when you behave like this.")
3. Monitoring how the child is responding by looking at the child's facial expressions.
4. Evoking responses by inserting breaks and by posing questions such as: "Who is that?," "Where are the flowers?," "Touch the doggy," etc.
5. Referencing by using (proto)symbols (making animal sounds, making movements like waving or touching, or labelling). [We decided not to score labelling and other forms of referencing separately because these behaviors were strongly interrelated.]
6. Pointing at pictures.

To assess reliability, two independent coders scored part of the videotapes ($n = 20$). Mean agreement for mothers was .91, ranging from .83 to 1.00. Mean agreement for infants was .93, ranging from .85 to 1.00. All disagreements were discussed and consensus was reached.

Data Analysis

Analysis of variance was applied to test *a priori* contrasts between secure and insecure dyads. Because we expected insecure-avoidant dyads to be more deviating from secure ones than insecure-ambivalent dyads we also tested *a priori* contrasts between insecure-avoidant dyads on the one hand and secure and insecure-ambivalent dyads on the other hand. Insofar variables are significantly correlated with age analysis of covariance was executed. We expected associations between attachment and distraction/disciplining. The other variables were included for exploratory purposes. Therefore, we preferred a bivariate approach. For the statistical analyses the SPSS* programs ONEWAY and ANOVA were applied.

RESULTS

Intercorrelations Between Mother and Infant Behaviors

All scales satisfied psychometric assumptions, although some variables showed some restriction of range. Correlations among infant behaviors were low to moderately high with the exception of the correlation between motor activity and attention ($r = .84$). Acting upon the book was negatively correlated with referencing ($r = -.28$) and page-turning ($r = -.53$). Acting

upon books was negatively correlated with age ($r = -.42$) while referencing was correlated moderately positive with age ($r = .37$). Referencing and acting upon the book appear to represent different levels of responding to the book with acting upon the book preceding referencing by using (proto)symbols. Attention and motor activity went with referencing (τ s were .49 and .38, respectively) and page-turning (τ s were .39 and .38, respectively) but not with acting upon the book (τ s were .05 and .09, respectively). Apparently, children who are more focused on the content are more attentive and more inclined to stay on the mother's lap.

Correlations between referencing, evoking responses, and pointing by the mother were moderately high. This fits with Ninio and Bruner's (1976) finding that mothers follow routines to practice labels. Monitoring was related to pointing ($r = .26$) confirming Sénéchal's (Sénéchal et al., 1995) finding that parents immediately follow with pointing to a feature on the page when an infant initiates looking. Controlling strategies (putting an arm around the child or keeping the book out of reach) and negative feedback were positively correlated ($r = .43$). The negative correlations between these disciplining strategies and didactic strategies suggest that some dyads hardly focus on the book content but most of the time "squabble" about the reading activity. None of the scales is related to age suggesting that mothers use a variety of strategies in spite of the child's level of responding.

Pointing and evoking responses on the side of the mother were positively correlated to responding (τ s were .38 and .34, respectively) and referencing (τ s were .47 and .35, respectively) on the side of the child. Evoking responses by the mother was negatively correlated with children's acting upon the book ($r = -.28$). These results suggest that the mother may improve the child's level of responding by making attempts to evoke responses and by pointing at the pictures. Another interpretation may be that mothers adapt to the child's competencies and that it depends on the child's level of responding whether or not attempts are made to evoke responses. Surprisingly, referencing by the mother did not go with a specific level of responding by the child. This suggests that mothers used labels, gestures or animal sounds even when the child did not show any interest in the book content. Controlling problematic infant behavior was negatively correlated with motor activity ($r = -.56$) and attention ($r = -.51$) on the side of the child. Negative feedback and controlling by the mother were negatively related to referencing by the child (τ s were $-.27$ and $-.41$, respectively) probably because children who respond to the book content are less distracted as well.

Table 1
Mean Scores (Standard Deviations) and Pearson Correlations
for Mother and Infant Behavior and Age

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	Age
Child															
1. Motor Activity	3.1	1.0	-	.84	.09	.38	.20	.38	.09	-.38	-.56	.20	.14	.44	.03
2. Attention	3.0	.9		-	.05	.39	.33	.49	.03	-.28	-.51	.18	.14	.44	.09
3. Acting Upon Book	2.6	1.0			-	-.53	-.22	-.28	-.02	.05	-.03	.20	-.28	.10	-.42
4. Page Turning	1.9	1.0				-	.14	.27	-.05	-.16	-.35	-.04	.29	.12	.19
5. Responding	1.2	.4					-	.63	.14	-.20	-.18	.09	.34	.38	.29
6. Referencing	1.4	.6						-	.08	-.27	-.41	.18	.35	.47	.37
Mother															
7. Monitoring	2.7	.9							-	-.15	-.08	.03	.03	.26	.16
8. Negative Feedback	1.8	.7								-	.43	-.14	-.35	-.30	-.01
9. Controlling	1.6	.8									-	-.26	-.24	-.45	-.07
10. Referencing	3.0	.7										-	.33	.35	-.12
11. Evoking Responses	2.0	.7											-	.23	.18
12. Pointing	2.7	1.0												-	.13
Age ^a	53.4	5.1													

^a in weeks.

$p < .05$ if $r > .21$ or $r < -.21$.

$N = 82$.

Patterns of Picturebook Reading and Infant–Mother Attachment Security

The scales were transformed into z -scores in order to highlight differences between attachment groups. Mean z -scores for insecure-avoidant, secure, and insecure-ambivalent mother–infant dyads are presented in Table 2. Insecure infants were less inclined to stay on the mother's lap and were less attentive during the reading session than secure children. For attention the difference was significant at a $p < .05$ level ($T = -2.21$, $df = 79$, $p < .040$). The three attachment groups differed in referencing and acting upon books. For acting upon books the tested contrasts did not reach significance but for referencing they did. Particularly insecure-avoidant children scored lower on referencing behavior. After correction for age, the contrast between insecure-avoidant dyads on the one hand and secure and insecure-ambivalent dyads on the other was significant, $F(1, 79) = 5.55$, $p < .021$. Mothers did not differ much although they tended to differ in monitoring and disciplining strategies. Particularly mothers of insecure-avoidant infants deviated from the rest. These mothers were more inclined to monitor their child's responses during the reading session ($T = 1.85$, $df = 79$, $p < .084$). They were also inclined to give more negative feedback than mothers of secure and insecure-ambivalent infants ($T = 1.85$, $df = 79$, $p < .069$). In addition, in comparison to secure mothers insecure mothers tended to control motor activity more by putting an arm around the child or by keeping the book out of reach ($T = 1.62$, $df = 79$, $p < .108$).

Table 2
Mean z-Scores for Mother-Infant Behaviors as a Function of Attachment Classification

	Attachment			<i>A priori</i> Contrasts	
	A	B	C	B vs. A/C	A vs. B/C
<i>Child</i>					
Activity ^a	-.10	.17	-.20	-1.40	-.27
Attention ^a	-.31	.24	-.18	-2.09**	-1.11
Acting ^b	-.02	.13	-.22	1.09	.57
Page Turning ^a	-.07	-.05	.13	.36	-.37
Responding ^b	.01	.11	-.17	1.77	.20
Referencing ^b	-.40	.15	-.04	3.14*	5.55**
<i>Mother</i>					
Monitoring ^a	.43	-.04	-.19	.68	1.75*
Negative ^a	.46	-.09	-.13	1.11	1.85*
Controlling ^a	.33	-.18	.06	1.62	1.25
Referencing ^a	.00	.07	-.14	-.55	.10
Evoking ^a	-.05	-.10	.16	.68	-.27
Pointing ^a	.22	.08	-.20	-.30	1.03

A = insecure-avoidant; B = secure; C = insecure-ambivalent.

N: 82; A: n = 12; B: n = 41; C: n = 29.

^a Contrasts based on *T*-values, *df* = 79.

^b Contrasts after correction for age differences, *F*(1, 79).

p* < .10; *p* < .05.

DISCUSSION AND CONCLUSIONS

Bookreading is one of the most important activities for developing the knowledge required for becoming a reader. Meta-analytic results give straightforward support for the hypothesis that parent-child bookreading in the first 6 years of life is related to outcome measures like language growth, emergent literacy, and reading achievement (Bus et al., 1995). The present study shows how children may benefit from an early start; the results extend earlier findings about learning and teaching processes within the context of children's bookreading to picturebook reading with infants.

Preverbal infants show differences in referencing behavior as a function of age. Around the first birthday, infants make a shift from acting upon the book to higher levels of referencing. The younger infants in the sample, 12 to 13 months old, were grasping, touching, reaching, and "eating" the book, whereas the 14- to 15-month-old children were using relatively high levels, such as making sounds or gestures and looking or laughing at the pictures. Older children are also more responding to comments and questions by the mother. The following examples were prototypical for many other dyads in this sample.

Child 1, 46 weeks old, mainly explored the book by putting it in her

mouth, by biting on it, and by seizing it. She hardly showed any sign of recognizing the illustrations in the book by looking at pictures or touching them. The mother was not inhibiting the child's actions. She was supportive and made comments on the pages that were visible: "Are you going to eat Bambi?" or "Look a nice catty, miau." The child did not respond to the mother's referencing.

Child 58, 60 weeks old, made animal sounds and gestures that fit to the content of the picture. For example, mother responded to the picture of a pig saying: "Gnr, gnr, gnr, little pig, little pig." The child answered looking in the book: "Grrrr." The child also responded to questions by the mother. For example, looking at the picture of a horse mother said: "Do you see? Oh, horsie . . . where daddy rides on." In response the child made the movement of horse riding. Mother responded by saying: "Yes, we are going to ride, yes. This is a horse" (pointing). She supported the child when it did not succeed in turning a page. The child also elicited responses from the mother. Later in the session he repeated the horse-riding movement and the mother responded by looking for the picture of the horse while asking: "Do you want to see the horse again?"

Page-turning is not significantly related to age, although there seems to be a slight increase in this type of behavior as children grow older. A few children in the sample focused mainly on page-turning, only now and then paying attention to the pictures by looking at them or by responding to them.

Child 14, 56 weeks old, turned pages during the whole session. The mother allowed her to do so and offered help when the child did not succeed in turning a page. During turning pages, the mother responded to the pictures that became visible when a page was turned, for example: "Where is quack quack . . . There is the little duck." (next page) "Ah, there it is . . . give a kiss, give quack quack a kiss . . ." Sometimes the child seemed to follow the mother, but she was only attentive for a very short period of time. Sometimes the mother stimulated the child to find some picture ("Where is quack quack?") and responded enthusiastically when the child opened the book (accidentally) at the page with the duck.

Though the data are not longitudinal and the age range is small, the cross-sectional differences suggest a growing understanding that books are referential media and that they contain pictures and symbols that stand for things. The behavior of these infants suggests that they are beginning to appreciate the symbolic features of picturebooks. Apparently, the reading development starts at this early, preverbal stage.

The infants' explorations of the picturebook form and content appears to be a fundamentally social process. Infants' responses gain significance as denotative symbols through responding at the book together with the mother. Mothers evoke, support, and extend the referencing behavior of their child by using (proto)symbols such as animal sounds, gestures or

labels, by evoking responses (“Touch the catty”), and by pointing at the pictures. The mothers’ scores on referencing by using (proto)symbols are quite high for the group as a whole and they show such behavior notwithstanding the child’s level of responding. Mothers may use labels, animal sounds, and gestures as a means to focus the child’s attention on the book content. However, there is some evidence that mothers adapt their behavior to the infant’s responses and become more demanding as their infants’ level of referencing is growing more mature; as infants become more responsive to the mothers and as they start to use protosymbols, mothers extend their referencing behavior by pointing at the pictures (see also Murphy, 1976 who reports a similar outcome) and by evoking responses (“caress the baa-lamb”). More than in the previous stage, mothers make attempts to instruct labels through pointing, evoking responses, and labelling at the same time (e.g., Ninio & Bruner, 1978). However, such routines seem to be a consequence of children’s level of responding and they are not—as is suggested by Ninio and Bruner—present from an early age on.

Mother–infant dyads seem to differ in the ability to share a picturebook. In contrast to secure children, the insecure ones are less attentive. At the same time, in insecure dyads mothers are more inclined to control the child’s behavior physically; mothers restrict the infant’s movements and keep the book out of reach. Typical for an insecure dyad is the following example.

From the very beginning of the session *child 42*, 52 weeks old, did not show interest in the book. The child mostly looked at other objects in the environment and made attempts to escape from the mother’s lap. Only rarely did he look at the book or bang on the book. At the start of the session the mother tried to keep the child on her lap by putting her arm around the child. After a while she allowed the child to walk through the room for a while. When she put the child again on her lap he started to cry.

In other respects as well, insecure mothers tend to respond more negatively to their child than secure mothers. Particularly, mothers of insecure-avoidant infants are inclined to give negative feedback to problem behavior. These mothers are also inclined to monitor their child’s behavior more intensely than secure and insecure-ambivalent mothers. Mothers of insecure-avoidant infants may do so because they expect their child to respond negatively and they keep checking their child’s responses to prevent or stop negative behavior. This is in line with Isabella and Belsky’s (1991) finding that mothers of avoidant infants tend to become overstimulating.

These results support the assumption that sharing books depends on the quality of the affective relationship. The findings are in line with the assumption that insecure children show less self-regulatory behavior; they are less willing to explore unknown aspects of their environment, such as picturebooks. The findings also support the outcome of previous studies

that insecure mothers are more inclined to discipline (Bus & van IJzendoorn, 1988, 1995).

Further sequential analyses may highlight whether or not mothers of insecure infants are indeed responding more negatively to their child's behavior. In insecure dyads, mothers may not allow exploration of the book at the level of reaching, grasping, and touching and, as a result, infants may lose their interest in the book. An alternative explanation is that mothers respond to the child's distraction; they have a higher score on disciplining because their children are less attentive. Whatever the causal chain, insecure dyads will be less persistent in bookreading and, as a result, the development of more mature forms of referencing may be hindered. This seems particularly true for insecure-avoidant dyads. Their mothers are responding more negatively toward inattentive behavior than mothers of secure and insecure-ambivalent infants and, probably as a result, insecure-avoidant children lag behind in symbolizing behavior.

Limitations of the Study

Although the outcomes of the present study are promising, most effects are weak, probably as a consequence of this study's design. The results are based on observing mother–infant dyads during one bookreading session of short duration. Analyzing the data, we used four-point scales instead of frequencies, which may have reduced variability as well.

Another limitation of the present study is that we have observed picture-book reading once in a laboratory setting. We feel that standardization of the reading sessions allows for detailed comparisons between the groups, and that by confronting the subjects with a new book, differences in prior experiences with the book to be read from are ruled out. Nevertheless, standardization may have been implemented at the cost of the ecological validity of the design.

Yet another limitation is that the age range in the present study was limited. Longitudinal studies are needed to describe developmental processes in preverbal children in more detail. Sequential analyses may add to a better understanding of the causal relationship between mother and child behavior.

Practical Implications

Since infants start to appreciate the symbolic features of picturebooks by 14 to 15 months of age, several years of parent–preschooler reading may have occurred before the child starts to attend kindergarten. The present results help to understand the aims and means of mother–infant interactions within the context of picturebook reading, and may provide a rationale for interventions at home that would stimulate bookreading activities, starting with infants.

For many mothers picturebook reading to infants is anything but a positive experience; they are not aware that behavior like hitting pages and grabbing books are part of a normal developmental pattern and are not willing to persist in bookreading and adjust their expectations and behavior to their infants' responses. In the Netherlands, several intergenerational programs are developed to stimulate bookreading from infancy on in low literate families with hardly any reading tradition.

Scaffolding learning processes of 4- to 6-year-olds at school may be more effective with programs that are designed to build upon the kind of instruction and discovery that children receive through their informal instruction at home (Sulzby, 1994). Studies of bookreading at home may therefore help with designing appropriate programs in preschool, kindergarten, and probably in early elementary years as well. This study provides evidence that reading is not a process of learning isolated skills but it reinforces the view of learning to read as a fundamentally social process. In the beginning stages, sharing a book is more important than communicating information to the child. This may explain the potential advantages of holistic approaches such as Clay's Reading Recovery program for "at-risk" children in early elementary years; Clay's program emphasizes constructing meaning from print supported by an adult instead of training isolated subskills (Pinnell, DeFord, Bryk, & Seltzer, 1994).

Our studies on book reading also made us aware of the importance of a safe base as a necessary condition for the development of emergent literacy skills. Early learning processes in the domain of literacy are embedded in the affective interpersonal context. Further research is warranted to test the validity of this assumption based on observations of children in preschool age for learning and instruction at school. Programs for young children may only be successful if teachers succeed in creating a safe base for the children (Pianta & Steinberg, 1992; van IJzendoorn & de Ruiter, 1993), which enables them to share books and other products of literacy in an effective way.

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