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DEVELOPMENT OF AN INSTRUMENT FOR MEASURING PARENTAL BELIEFS ABOUT READING ALOUD TO YOUNG CHILDREN[1,2]

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Summary.—This study assessed the psychometric properties of an instrument designed to measure parents' beliefs about the goals and process of reading aloud to young children. 155 parents of children ages 2 to 5 years completed the Parent Reading Belief Inventory. The inventory's items formed a single factor with high scores reflecting beliefs consistent with current theories of language acquisition and emergent literacy. The inventory had acceptable internal consistency (coefficients alpha for the scales ranged from .50 to .85) and short-term test-retest reliability of .79. When parental education and income were controlled, inventory scores remained significantly correlated .36 with self-report measures of parents' own book-reading habits, .40 with children's interest in books, and .30 with children's exposure to joint book-reading activities. Scores also showed significant partial correlations with the observed frequency of parental questions (.65) and responsiveness to children's speech (.41) during book-reading sessions.

Reading aloud to young children may be one of the most beneficial home learning experiences parents provide. This activity contributes to the development of language and emergent literacy skills including vocabulary, story comprehension, and print awareness (Dickinson & Smith, 1992; McCormick & Mason, 1986; Share, Jorm, Maclean, Matthews, & Waterman, 1983; Wells, 1985). Early book-reading is also predictive of later reading performance in the elementary grades (Wells, 1985). Both the frequency of reading aloud and the nature of the interaction that occurs during joint reading are important. Active discussion about the story, particularly discussion that involves open-ended questioning and decontextualized talk, is most strongly associated with children's gains in vocabulary and literacy skills (Dickinson & Smith, 1992; Whitehurst, Falco, Lonigan, Fischel, DeBaryshe, Valdez-Menchaca, & Caulfield, 1988). Reading aloud may also have positive affective consequences by increasing children's interest in books, motivating them to engage in independent book-related play (McCormick & Mason, 1986; Morrow, O'Connor, & Smith, 1990).

Since reading aloud is of significance for children's intellectual develop-

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ment, it is important to understand the determinants of families' book-reading habits. In the past decade, increased attention has been paid to the topic of parental beliefs about childrearing and child development (Goodnow & Collins, 1990; Holden & Edwards, 1989; Miller, 1988; Sigel, 1985). Parents have both distal (arranging the child's social and physical environments) and proximal (direct interaction) influences on their offspring. If beliefs about development influence parents' behavior, then beliefs are an important key to understanding variation in childrearing practices.

Almost no research has been conducted on parents' reading-related beliefs. Despite this lack of data, it is widely assumed that differences in family goals, values, and ideas of appropriate parenting explain much of the variation in families' reading practices across and within cultural and socioeconomic groups (Anderson & Stokes, 1984; Heath, 1983). To study these possible belief-behavior linkages, valid methods for assessing reading-related belief systems must be developed.

The purpose of this study was to provide an initial assessment of the psychometric properties of the Parent Reading Belief Inventory. The inventory measures the extent to which parents endorse tenets consistent with current models of environmental influences on language and emergent literacy (Sulzby & Edwards, 1993; Whitehurst & DeBaryshe, 1989). These tenets are (a) adult-child conversation is a crucial avenue for the acquisition and practice of language skills, (b) literacy awareness begins in the context of everyday activities, well before the onset of formal instruction, (c) children need daily exposure to book-related talk, (d) children should play an active role in discussing the meaning of the books they read, (e) book-reading should be motivating and child-centered, and (f) a focus on meaning is more important than emphasizing code skills in the preschool period. The inventory also measures parents' feelings of self-efficacy in an informal teaching role (Bandura, 1989). Since no validated instruments to measure the domain of reading-related beliefs are currently available, the inventory could be a valuable tool for investigating family influences on language development and emergent literacy.

METHOD

Subjects

Subjects were the parents of 155 children (78 boys, 77 girls) between the ages of 25 and 65 months ($M = 42.9$ mo., $SD = 9.4$). The term parent is used here to indicate the child's primary caretaker; 150 parents were the child's biological mother. Two fathers and three custodial grandmothers or foster mothers also provided data.

The children attended either Head Start or one of four preschool programs located in a medium-sized southeastern city. Four of the schools were

participating in an experimental story-reading program (DeBaryshe & Daly, submitted; Whitehurst, Fischel, DeBaryshe, Arnold, Smith, & Epstein, 1992); the data reported here were collected during the program's baseline period.

The median reported family income was $10,000 to $15,000 per year. This figure may be low; eighteen parents did not report their incomes and these tended to be those with higher reported occupational status. Fifteen percent ($n = 23$) of those surveyed had less than a high school education, 28% had completed high school ($n = 43$), 33% had some college experience ($n = 51$), and 22% had a college or graduate degree ($n = 34$). Three percent ($n = 4$) did not report their educational status. Seventy-seven percent of the respondents were employed ($n = 120$), and 49% were single parents ($n = 76$). Sixty-three percent ($n = 97$) of the subjects were African-American, 36% were European-American ($n = 56$), and 1% Asian-American ($n = 1$).

Measures

Instruments administered to parents included the Parent Reading Belief Inventory and a survey designed to measure family characteristics and literacy practices. The belief inventory was designed for this study; the second questionnaire was based on versions used in prior research (e.g., Whitehurst, *et al.*, 1988). These paper-and-pencil instruments were completed at a group meeting held at the children's schools. (Surveys were administered orally to two parents with minimal reading skills.) Surveys were sent home to parents who could not attend the meeting; these were returned to the classroom teachers. Seven classrooms were randomly selected to participate in more extensive data collection involving audiotape recordings of parent-child home book-reading sessions.

Parent Reading Belief Inventory.—The inventory originally contained 55 items organized into seven subscales (see Table 1). The names and content of these scales are (1) Affect: positive affect associated with reading, (2) Participation: the value placed on children's active verbal participation when reading aloud, (3) Resources: whether limited resources are an obstacle to reading, (4) Efficacy: views on the parents' role as teachers of school-related skills, (5) Knowledge: whether children acquire moral orientations or practical knowledge from books, (6) Environment: the malleability of language development, and (7) Reading Instruction: the appropriateness of direct reading instruction.

Mothers rated the extent to which they endorsed each item on a 4-point scale in Likert format (1 = strongly agree, 2 = agree, 3 = disagree, 4 = strongly disagree). Each item was written with an *a priori* conception of the optimal response, i.e., beliefs consistent with theory and data concerning the enhancement of developmental progress. Questions were divided between those written with positive and negative wordings. Items were scored so a high

TABLE 1
EXAMPLES OF PARENT READING BELIEF INVENTORY ITEMS

Scale	Example of Item Content
Affect	I find it boring or difficult to read to my child.
	Reading aloud is a special time we love to share.
Participation	When we read, I want my child to help me tell the story.
	When we read, we talk about the pictures as much as we tell the story.
Resources	Even if I would like to, I'm just too busy and too tired to read to my child.
	I don't read to my child because there is no room and no quiet place in the house.
Efficacy	As a parent, I play an important role in my child's development.
	When my child goes to school, the teacher will teach my child everything my child needs to know so I don't need to worry.
Knowledge	Reading helps children learn about things they never see in real life.
	My child learns lessons and morals from the stories we read.
Environment	Some children are natural talkers, others are silent. Parents do not have much influence over this.
	Children inherit their language ability from their parents, it's in their genes.
Reading Instruction	I read to my child so he/she will learn the letters and how to read simple sentences.
	My child is too young to learn about reading.

score reflected beliefs that (a) parents are important teachers, (b) children should be active participants in reading sessions, (c) the goals of reading are enjoyment, knowledge, and oral language growth rather than reading instruction *per se*, (d) limited time and material resources should not prevent parents from reading aloud, and (e) language is influenced by environmental stimulation.

Family Survey.—Information on family characteristics and home reading practices was taken from a second survey administered together with the inventory. Parental *education* was obtained by asking respondents to report the highest level of education they had completed. *Parents' reading frequency* was also a single item; parents were asked to rate how often they read for pleasure (from 1 = never/rarely to 4 = daily). Children's *exposure to joint reading* was assessed using the following four items: "How old was your child (in months) when you started to read to him/her?", "How many books does your child own?", "Has your child ever been in a library reading program?", and "How often do you read with your child or look at books or magazines together?". (The first three questions were open-ended; the last item was rated on a scale of 1 = never/rarely to 4 = daily/more.) The four items were converted to z scores and summed to yield a single measure of reading exposure, with high scores indicating greater exposure of a child to joint reading experiences. *Children's interest* in reading was measured with a composite

variable formed from three questions: "How often does your child look at books on his/her own?", "How often does your child ask to be read to?" (both rated from 1 = never/rarely to 4 = daily/more), and "How much does your child enjoy being read to?" (1 = doesn't like to 4 = loves it). High scores on this composite indicated a higher degree of expressed interest in books.

Audiotapes of parent-child reading interaction.—Thirty-two families also made audiotapes of parent-child reading sessions at home. Parents made two tapes over a one-week period; only the second reading session was coded. Two variables were derived from the audiotapes—the rate per minute of *questions* addressed by the parent to the child and parental *responses* to the child's talk. Rater reliabilities for these codes averaged .94.

Results

Item Analysis

The 55 original belief inventory items were grouped into seven *a priori* scales. Coefficients alpha were examined, and items with low item-total correlations that would decrease the over-all alpha by more than .05 were dropped from the scale. The numbers of original items and retained items and coefficients alpha for final scales are shown in Table 2. Five of the seven subscales exhibited adequate internal consistency, i.e., their coefficients alpha were greater than or equal to .60. Two subscales with a small number of items—Reading Instruction and Environment—showed borderline to low coefficients alpha.

TABLE 2
COEFFICIENTS ALPHA AND COMPONENT LOADINGS FOR PARENT READING BELIEF INVENTORY SUBSCALES (N = 155)

Scale	Original No. of Items	Retained No. of Items	Alpha	Loading
Affect	14	11	.85	.88
Participation	15	8	.83	.81
Resources	4	4	.79	.76
Efficacy	9	9	.73	.76
Knowledge	5	5	.82	.64
Environment	2	2	.50	.52
Reading Instruction	6	4	.63	.31

Factor Structure

To examine the factor structure of the inventory, the seven subscale scores were subjected to a principal components analysis with varimax rotation using the SPSS statistical package (Norušis, 1990). A single component emerged (eigenvalue = 3.68), accounting for 52.5% of the variance in subjects' responses. See Table 2 for a report of the component loadings. Because

the inventory has a one-component structure, total scores were computed by summing responses to the 43 items.

Test-Retest Reliability

Parents of children in one school were asked to complete the inventory on two occasions, spaced two to three weeks apart. Of the 25 families 17 returned both surveys. The test-retest correlation for the inventory total score was .79 ($p < .001$).

Criterion-related Validity

Evidence for convergent and divergent criterion-related validity was obtained by correlating total inventory scores with measures of family characteristics and home reading practices. As expected, Parent Reading Belief Inventory scores did not relate to families' ethnic status or children's sex (Kendall *Tau* = −.04 and .05, both ns). Children's age was also unrelated to parental beliefs ($r = .07$, ns).

Inventory scores were significantly related to parental education ($r = .39$, $p < .001$) and family income ($r = .33$, $p < .001$). Bivariate correlations between inventory scores and measures of the home reading environment are shown in Table 3. Partial correlations controlling for the effects of education and family income are also displayed. Results indicate that parental beliefs are robust correlates of all aspects of family literacy. Belief scores were positively and significantly associated with parents' modeling of reading, with the variety and frequency of children's exposure to books, with children's interest in reading, and with parents' actual read-aloud strategies. These effects were above and beyond the influences of economic and educational advantage.

TABLE 3
BIVARIATE AND PARTIAL CORRELATIONS BETWEEN PARENT READING BELIEF INVENTORY TOTAL SCORES AND HOME LITERACY MEASURES

Variable	Bivariate *r*	Partial *r*‡
Parents' Reading Frequency	.36†	.36†
Exposure to Joint Reading	.42†	.30†
Children's Interest	.49†	.40†
Questions	.58†	.65†
Responses	.35*	.41*

*$p < .05$. †$p < .001$.
‡Controlling for parental education and family income.

DISCUSSION

The Parent Reading Belief Inventory appears to be a promising instrument for measuring beliefs about reading aloud to preschool-age children. Over-all, it showed acceptable internal consistency and test-retest reliability. The subscales measuring beliefs about reading instruction and the malleability of language development contain a small number of questions and might

be improved by including additional items. It showed good properties in terms of both convergent and divergent criterion-related validity. As expected, parental beliefs as measured by this instrument were independent of ethnicity and children's age and sex; beliefs showed a moderate relation to social class. More importantly, when parental education and income were controlled, beliefs remained significantly associated with parent-child reading practices and children's attitudes about books. The effects were especially strong for parents' use of questioning strategies during joint reading sessions.

The inventory showed a unitary rather than a multifactor structure, indicating that parents view all aspects of the reading process as related. The mean item score of 3.20 indicates that parents tend to agree but not strongly agree with the views implicit in the inventory. This suggests that parents who score in the average to high range hold beliefs that are compatible with current approaches to language development and emergent literacy. Thus, for most children the belief systems of their parents and teachers will be congruent, increasing the likelihood of continuity in expectations and practices between home and school. In contrast, children of parents who have low scores may find themselves at a double disadvantage. First, there is low correspondence between home and school beliefs. Second, parents who hold less developmentally facilitative beliefs also engage in less stimulating home instruction.

The most striking outcome of this study concerned the data on validation. There was a strong association between reading beliefs and both reported and observed home reading practices. Parents who scored higher on the inventory reported that they read to their children often, owned many books, and established reading practices at an early age. These parents engaged in higher-quality observed interaction with their children, stimulating language skills through frequent questions and verbal feedback. Finally, these parents provided frequent modeling opportunities and reported their children to be more actively interested in books. Of course, appropriate caution must be taken when both beliefs and reading practices are measured by self-report. However, the finding that our observational measures also relate to beliefs adds credence to our claim that these data reflect more than consistency in self-reported characteristics.

Often, the observed relation between parental beliefs and parental behavior is tenuous at best (Holden & Edwards, 1989). This study presents one of the strongest links to date between parental attitudes and actions. Prior studies have typically attempted to correlate global beliefs about child-rearing with observed or reported discipline practices. Our approach was to consider possible links between domain-specific beliefs and directly relevant behaviors. Not surprisingly, positive relations did emerge with this more focused approach.

The practical implications of our data are clear. Since parental beliefs are closely related to parental actions, educators who wish to solicit parental involvement in language and literacy stimulation must consider the beliefs that parents hold. Either literacy programs must be compatible with parents' preexisting beliefs or efforts must be made to provide parents with information that would lead to modified attitudes.

In summary, parental belief systems appear to play an important role in explaining differences in children's home literacy environments. Currently, there is considerable professional and public interest in the issues of literacy and parental involvement in children's education. The Parent Reading Belief Inventory fills a needed gap by providing a reliable and valid tool for assessing reading-related belief systems.

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