

Mothers' Use of Inferential Language and Preschoolers' Subsequent Emergent Literacy

Introduction: The ability to make inferences, or to go beyond the text, is an important component of reading comprehension. For pre-readers, inference making has been studied in the context of mother-child book reading interactions by categorizing mothers' extra-textual utterances (i.e., utterances that go beyond the text in the book) along a continuum of four levels of abstraction, with a lower level representing literal information such as labeling and a higher level representing inferential information such as hypothesizing. Using this classification of four levels of inferences, several researchers have shown that mothers' levels of abstraction tend to correlate with those same levels of abstraction in children's input, and that mothers' inferences predict children's later vocabulary. Additionally, the ability to engage in inferencing has been shown to relate to later reading comprehension. However, researchers have not typically examined how mothers' use of inferential language is related to *pre-readers'* narrative comprehension.

Studying pre-readers' narrative comprehension is relevant as individual differences in literacy skills are in place before a child starts school and predict later reading comprehension. In pre-readers, narrative comprehension is assessed in several ways. In this study, I examined children's story comprehension (i.e., children's answers to questions during an experimenter-read book interaction) and picture-sequencing skills (i.e., children's ability to correctly order a sequence of events). I expect that mothers' extratextual utterances will relate to children's later narrative comprehension skills because it spurs discussion related to the story. It also serves to direct the child's attention to story plot, characters, and vocabulary. Research suggests that interactive discussions during book sharing are more beneficial to children's development of language and literacy skills than simply the amount of book sharing.

Thus, the purpose of this study is to examine the relationship between mothers' use of inferential language during mother-child book reading and children's later narrative comprehension including story comprehension and picture-sequencing skills. Consistent with prior research, I hypothesize that mothers' and children's levels of abstraction will be significantly correlated. Considering the relationship between inference making and comprehension in readers, I also hypothesize that mothers' use of inferential language will

predict how well children perform on narrative comprehension tasks 6 months later (as well as children's vocabulary, which would be consistent with prior research).

Participants: Sixty-nine mother-child dyads were recruited for this study. However, data collection is still ongoing; thus, only the 33 mother-child dyads with complete data from both time points were included. Children were recruited from local preschools, the public library, and campus flyers; they ranged in age from 3 ½ to 5 ½.

Method: Data were collected by observing mothers and their children reading a storybook titled "Mister Peek and the Misunderstanding at the Zoo." Mothers were instructed to read the book to their children as they normally would. Interactions were recorded for later transcription. Six months later, children completed vocabulary, story comprehension, and picture sequencing assessments. Vocabulary scores were based on a standardized assessment of vocabulary—the Peabody Picture Vocabulary Test (PPVT). Children's picture sequencing scores were based on children's ability to sequence 6 pictures. The first picture was fixed and the task was to correctly order the other 5 pictures; scores ranged from 0 to 10. The story comprehension task involved children responding to 10 questions while an experimenter read the children a storybook; scores ranged from 0 to 20.

Coding: All extratextual utterances (i.e., utterances other than the text in the book) were coded into 4 levels of abstraction with Level 1 and Level 2 referring to literal utterances and Level 3 and Level 4 referring to inferential utterances. Level 1: labeling, locating, or noticing an object or character in the story; Level 2: selective analysis or integration of perception, such as describing characteristics of an object or scene; Level 3: reordering perception or inferring, recalling information from a previous page, making comparisons and judgments, or summarizing information from the story or pictures; and Level 4: reasoning about perceptions, such as making predictions, defining words, and offering explanations that go beyond the story. Mother's extratextual utterances were further coded into statements and questions. The coding scheme used in this study was adapted from Hammett, Van Kleeck, Huberty (2003).

Results: As predicted by my first hypothesis, mothers' and children's utterances were significantly correlated at each of the four levels of abstraction (e.g., mothers' Level 4 utterances were significantly correlated with children's Level 4 utterances). For the most part, correlations between mothers' and children's utterances did not cross levels. For example, mothers' Level 4 utterances were only significantly related to children's Level 4 utterances (not Levels 1 through 3).

Analyses did not confirm my second hypothesis that mothers' inferential utterances would predict children's later vocabulary, story comprehension, and picture sequencing scores. To simplify analyses, literal utterances were collapsed (Level 1 and Level 2) and inferential utterances were collapsed (Level 3 and Level 4). Mothers' inferential questions (Level 3 and Level 4) were not significantly related to any of the outcome variables. However, mothers' literal questions (Level 1 and Level 3) were significantly and negatively

correlated with children's vocabulary and story comprehension. The negative correlation between mothers' literal questions and children's story comprehension remained significant even after controlling for children's age and vocabulary. This indicates that the more mothers requested labels or basic perceptual information from children, the poorer children's vocabulary and story comprehension was 6 months later. Neither mothers' literal statements nor inferential statements were significantly related to children's outcomes.

Limitations: One limitation of the current study is the small sample size. It may be that with the full sample, significant correlations will become apparent between mothers' inferential utterances and children's later narrative comprehension. Another limitation is that the children's language and literacy skills were examined 6 months after the mother-child book reading session. Previous studies have found that mothers' inferential talk does not predict children's immediate language skill while studies with 1-year follow-ups find significant results. Researchers argue that it takes children time to internalize these skills. It may be that the intermediate 6-month time-frame was too short for significant relationships to emerge. A final limitation is that this study is correlational. Thus, I cannot argue that mothers' use of literal questions causes children to have poorer vocabulary and story comprehension skills. It may be that children with lower language skills elicit more literal talk from mothers because mothers perceive their children as less competent.