

# Mental State Verb Use in Play by Preschool-Age Children Who Stutter and Their Mothers



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# Mental State Verbs

- Mental state verbs (MSVs) denote internal cognitive states (e.g., think, believe, remember, understand).
- They are more abstract than other types of verbs, such as action verbs and are likely to be embedded in utterances that are more conceptually complex.

“She *forgot* [MSV] his name.”

VS.

“She *said* [action] his name.”

## Purpose of the Study

- To explore the use of MSVs by CWS, CWNS, and their mothers as the dyads interacted in play.
- Through descriptive analysis, to examine the extent to which use of these verbs corresponded with disfluency for the CWS and CWNS, as an indicator of the potential challenge associated with the inward shift in conversation.

# Participants

- 30 CWS, 30 CWNS, and their mothers.
- Groups were pair-matched on age, gender, and SES.
- Children ranged in age from 3;1 to 5;11.
- 34 children (17 CWS and 17 CWNS) were participants at the Indiana University site; the remaining 24 children (12 CWS and 12 CWNS) were participants at the University of Missouri site.
- Overall language testing and receptive and expressive vocabulary testing for all children fell within normal limits.

# Procedure

- battery of language testing as part of a larger project
- 20-30 minute play-based language sample with mothers
- mean length of child utterances produced in the samples was 139.9 (SD = 46.7); the mean length of mothers' utterances was 194.2 (SD = 98.4)

## Analysis: Coding the MSVs

- Step 1: The authors developed a liberal list of verbs that could potentially function as mental state verbs, by consulting the word lists of similar studies from the child language development literature (e.g., Bretherton & Beeghly, 1982; Beeghly et al., 1986; Gelman & Shatz, 1977; Shatz et al., 1983).
- We then reviewed several samples from an earlier data set to determine whether additional words should be added to the list.

# Analysis

- Step 2: We used the KWAL program in CLAN (MacWhinney, 2000) and the command:
  - kwal +t\*CHI +s@msvlist.txt -w3 +w3 +f
- Resulting in the output of each utterance that contained one of the verbs in the list, along with the three utterances before and after the target utterance containing the word.
- Reviewing the utterances immediately before and after the one containing the verb enabled us to use the context to determine whether the word was used as an MSV or another type of mental verb (see figure, left panel).

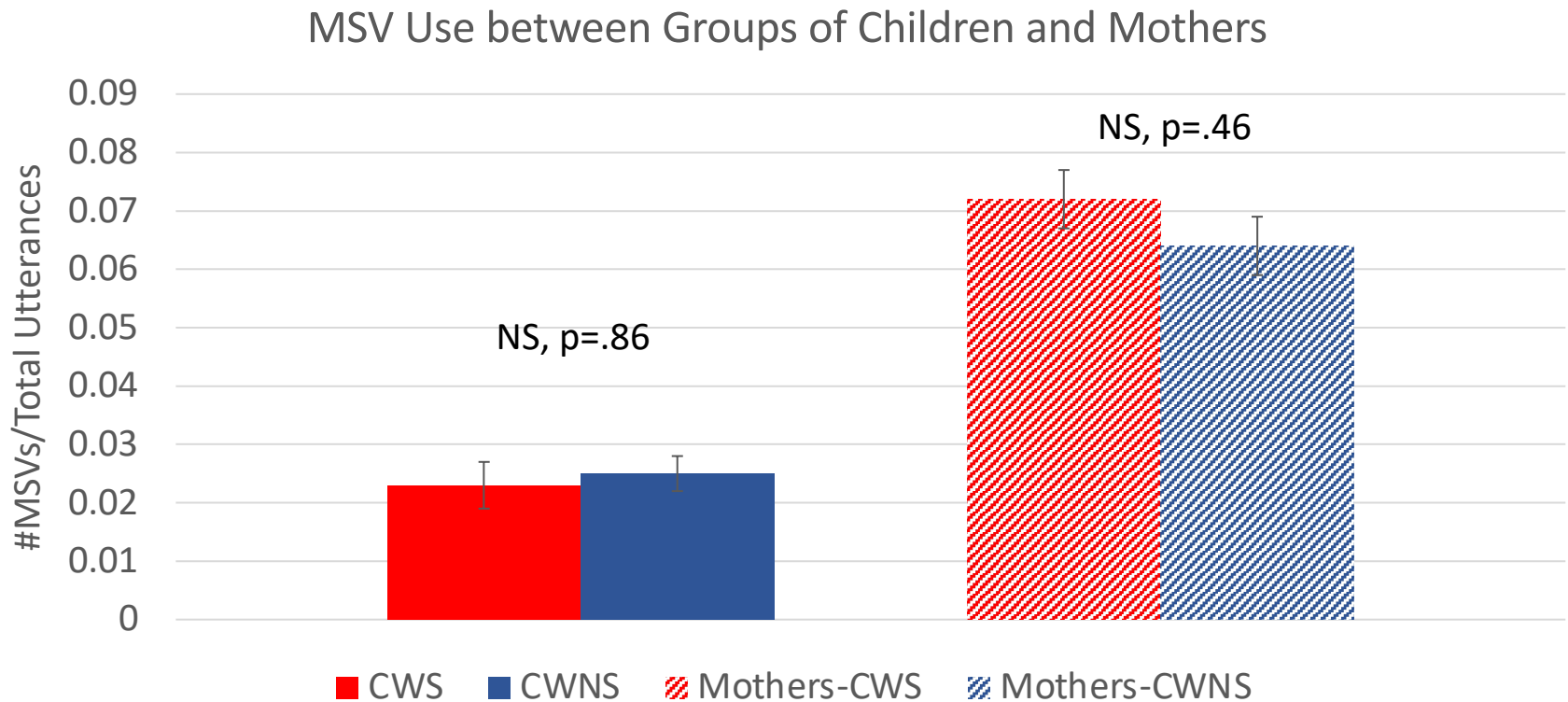
# Analysis

- Step 3: Each occurrence of a target word was then coded independently by two of the authors (LT & LD).
  - 1. the identified verb is used in context as an MSV
  - 2. the identified verb is used as another type of mental verb (e.g., to direct the interaction)
  - 3. the identified verb is not being used in this content as a mental verb at all.
- Codings were then reviewed, and any codings on which there was disagreement were resolved by a third coder (SW).



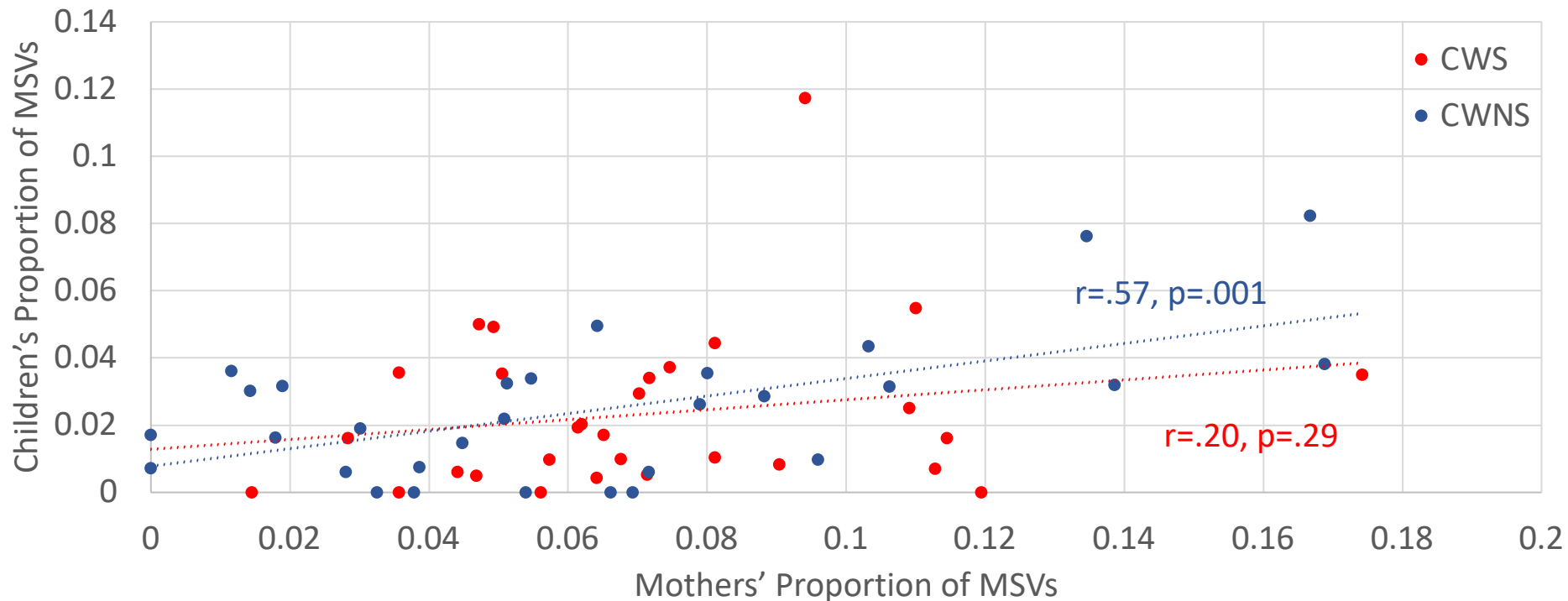
# Results

- Q1. Comparison between Groups



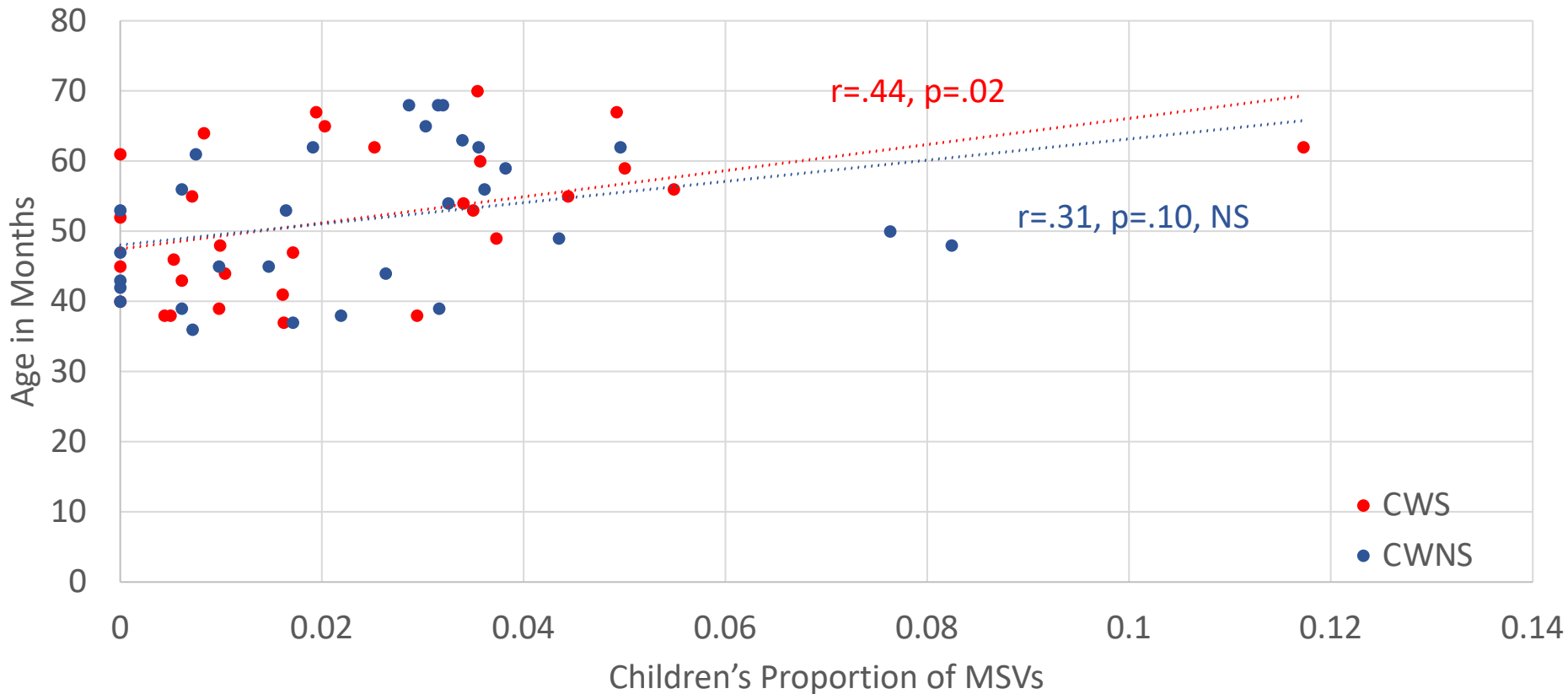
# Results

- Q2. Relation between Children's MSV use and Mothers'



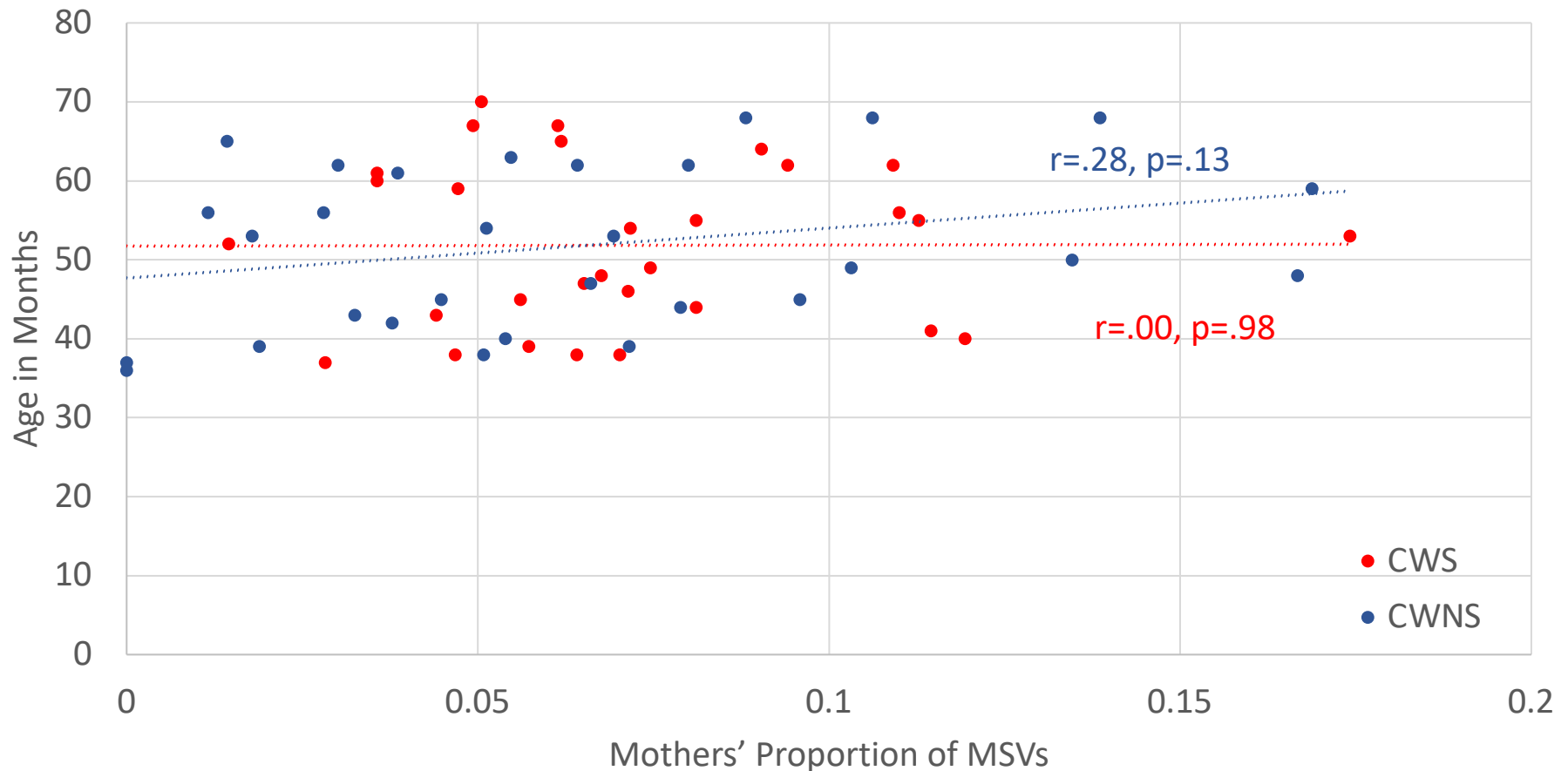
# Results

- Q3. Relation between Children's Age and MSV Use



# Results

- Q3a. Relation between Mothers' MSV Use and Children's Age



# Summary of Results

- CWS and CWNS did not differ in the production of MSVs
  - Mothers produce more MSVs for both groups
- We found a significant relation between mother's use of MSV and CWNS' use
  - This relation was not found between CWS and their mothers
- CWS showed a significant positive relation between age and MSV use
  - the relation between the CWNS group's age and their MSV use did not reach statistical significance
- Neither group showed a significant relation between children's age and mother's MSV use

# Acknowledgments

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- The are also grateful to Megan Harney, who provided valuable assistance in developing this project.
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