# Children's classification of regional dialect

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## Background

- Adults can classify unfamiliar talkers by their regional dialect with above-chance performance (van Bezooijen and Gooskens, 1999; Clopper and Pisoni, 2004).

- 5- and 6-year-olds can distinguish their own speech from foreign-accented speech, but cannot reliably distinguish their own speech variety and a regional variety (Girard, Floccia, & Goslin, 2008; Wagner, Clopper, & Pate, 2014)

- Forced-choice categorization tasks limit participants' responses and do not capture fine-grained differences of individual interpretation.

## Research Question

- How do children classify individual talkers of different dialects in relation to each other, and how do children's ages affect their patterns of talker classification?

## Methods

*Participants*

- Tested in the Language Sciences Lab at COSI in Columbus, Ohio
- 170 native American English speakers, 125 from Midwest:
    - 40 4- & 5-year-olds (20 female)
    - 44 6- & 7-year-olds (24 female)
    - 45 8- & 9-year-olds (22 female)
    - 41 10- & 11-year-olds (18 female)
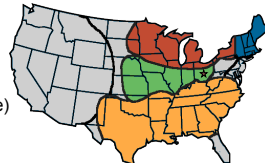
*Materials*

- Sentence: *"She had your dark suit in greasy wash water all year."*
- Talkers were represented with identical smiley face icons
- Talkers: 3 female adults from each of 4 dialect regions of the United States:
    Midland (**MID**), New England (**NE**), North (**NOR**), and South (**SOU**).

*Procedure*

- Listeners were presented with all talker smiley face icons and asked to sort talker icons into groups based on where talkers were from.
- Listeners were able to listen to talkers in any order, and as many times as they desired.
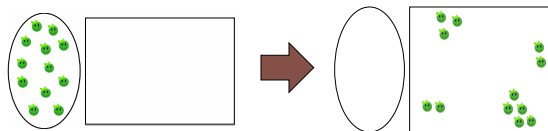


## Results

*Grouping Statistics*

- Single factor ANOVAs revealed age group as significant predictor of talker grouping and overall accuracy.

- Participants in the 4- and 5-year-old age group made significantly fewer groups than all of the older participants, as shown by post-hoc two-sample T-tests (p < .05).

| Age Group | Mean number of groups | Proportion Correct Pairings | Proportion Errors | Difference score (%Correct - %Errors) |
|---|---|---|---|---|
| 4 & 5 yrs | 3.40 (SD=1.92) | 0.45 (0.25) | 0.39 (0.21) | 0.05 (0.14) |
| 6 & 7 yrs | 4.77 (1.87) | 0.31 (0.21) | 0.22 (0.17) | 0.09 (0.14) |
| 8 & 9 yrs | 4.67 (2.15) | 0.42 (0.25) | 0.19 (0.15) | 0.23 (0.21) |
| 10 & 11 yrs | 4.56 (1.80) | 0.39 (0.27) | 0.16 (0.10) | 0.23 (0.26) |

- Difference scores of the two younger age groups were significantly lower than difference scores of the two older age groups as shown by post-hoc two-sample T-tests (p < .05).
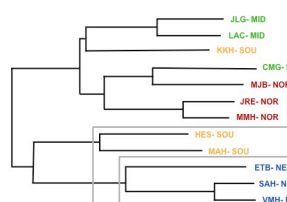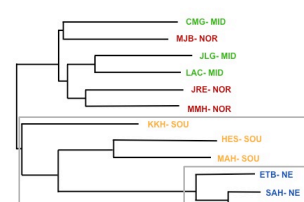
*Cluster Analysis*



4- & 5-year-olds (N=40)
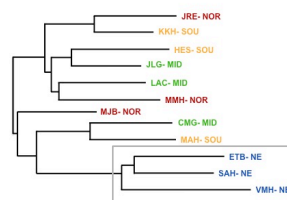
6- & 7-year-olds (N=44)
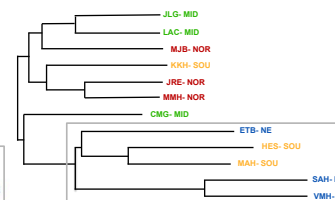
8- & 9-year-olds (N=45)

10- & 11-year-olds (N=41)

## Summary

*Accuracy*

- The 4- and 5-year-olds formed fewer groups, showing that they perceive fewer dialectal differences between talkers of different dialects than older children do.

- Mean listener accuracy improves with age, but begins to level-off at 8 to 9 years old. Still, high schoolers and adults are more accurate with same stimuli than the oldest children in the current study (Yan, Clopper, Wagner, CCBS Retreat 2013).

*Clustering*

- The youngest participants perceived a New England group, with all other talkers grouped together.

- The 6- and 7-year-olds formed two major groups; one consisting of New England and Southern talkers, and the other of Midland and Northern talkers.

- Older participants, ages 8 to 11, distinguished New England talkers from Southern talkers, but formed a combined Midland & Northern group, patterning in the same way as high schoolers and adults (Yan, Clopper, Wagner, CCBS Retreat 2013).

## Discussion

- Results are the first to show that children as young as four have the ability to classify talkers on the basis of dialect.

- Classification is consistent with children's perception of dialect localness (Clopper, McCullough, & Wagner, SRCD Meeting 2015).

- At 4 & 5 years old, children sort-out talkers of the New England dialect region, the least local to Ohio.

- At 6 & 7 years old, children classify talkers with a local vs. non-local distinction.

- Older children combine Midland & Northern talkers into one group, consistent with the perception of those varieties as both local to Ohio.