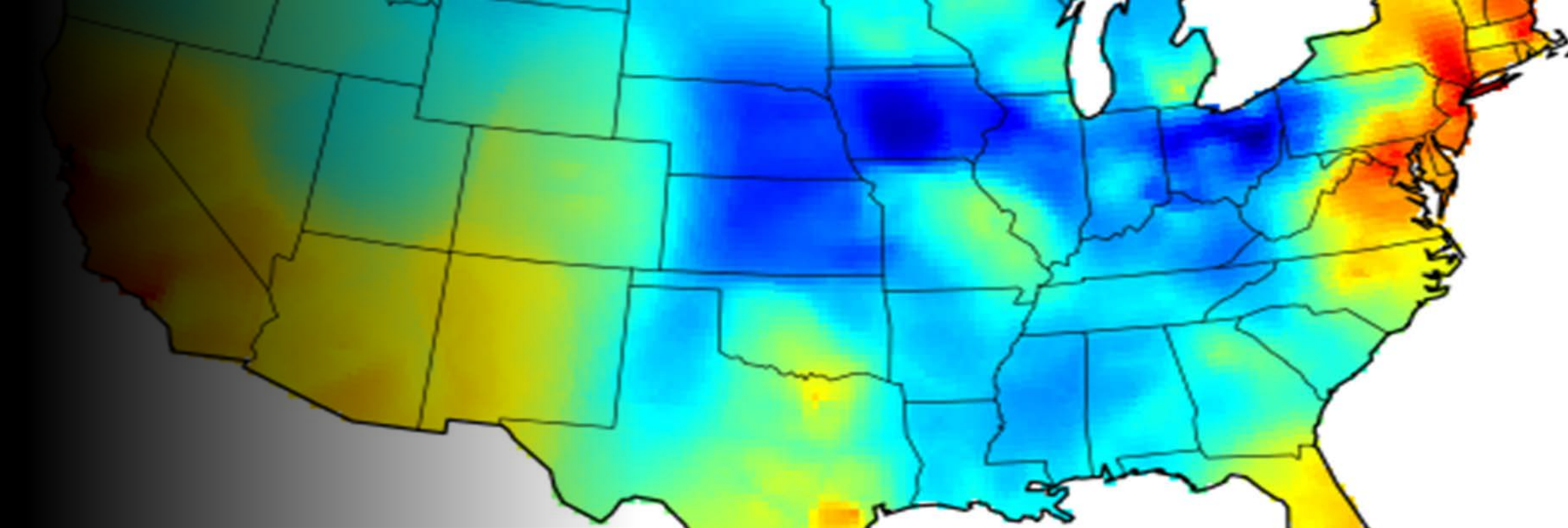


# Dialect perception in children: Within-subject measures of intelligibility, classification, and language attitudes



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## Background

We are interested in how perception of regional dialects develops across the lifespan. Previous research has established a few patterns in different perceptual skills:

### Intelligibility

- For adults, there is an effect of dialect on speech intelligibility in noise; General American talkers are more intelligible than those with regional accents such as Northern and Mid-Atlantic (Clopper and Bradlow, 2008)

### Classification

- Adults can classify unfamiliar talkers by their regional dialect with above chance accuracy (Clopper and Pisoni, 2007; Jones et al, in preparation)

### Attitudes

- Attitudes about dialects can be measured implicitly by having listeners rate individual talkers
- talkers of lower prestige varieties tend to be rated lower in status dimensions, like intelligence, but higher in solidarity dimensions, like friendliness (McCullough, Clopper, and Wagner, in preparation)

In each of these skills, it has been found that younger children (e.g. 5-6 years old) perform differently than older children (e.g. > 10 y.o.)

Generally by adolescence, children start to show adult-like perception performance, though the exact time-course of development varies between studies and skills (Wagner, Clopper, & Pate (2014), McCullough, Clopper, and Wagner (in preparation); McCullough (2015) Kinzler and deJesus, 2013)

## The current study

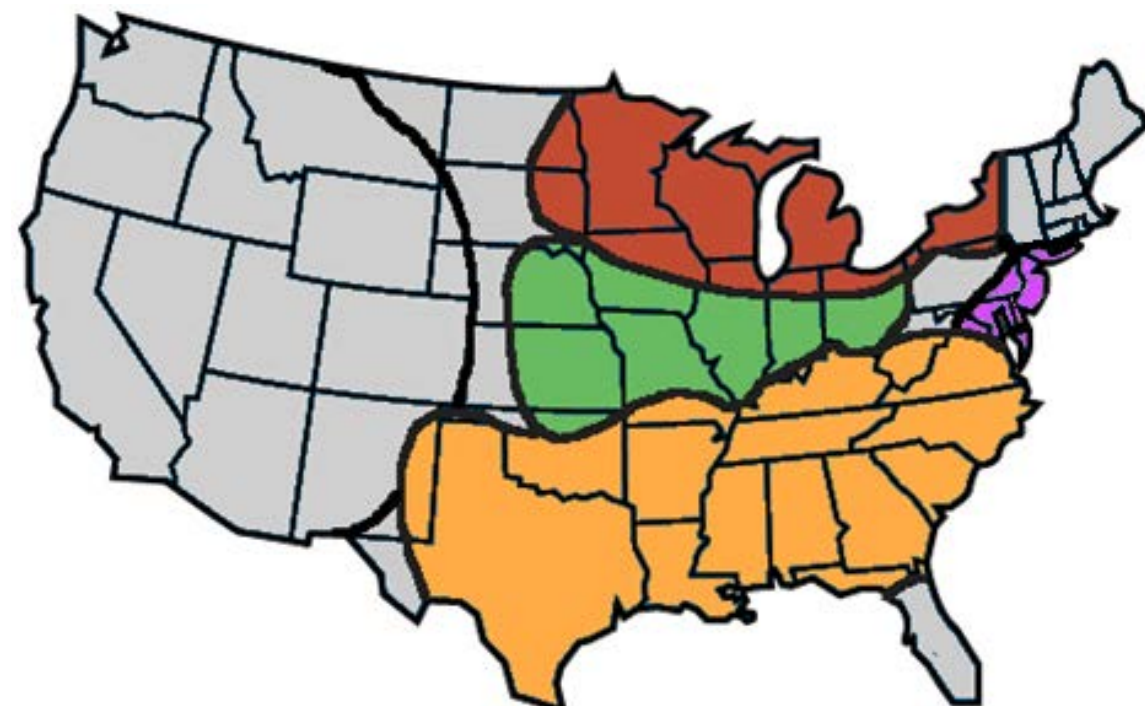
The goal of our current project is to examine how these perceptual skills are connected to each other over the course of development

### Participants

Participants were tested in the Buckeye Language Pod at the Center of Science and Industry (COSI). This preliminary analysis focuses on a subset of the data:  
8-9 year olds (28 participants) and 10-11 year olds (24 participants)

### Stimuli

Recordings of 12 female talkers were used as stimuli, 3 from each of 4 dialect regions: **Midland**, **North**, **Mid-Atlantic**, and **South**. The recordings were taken from the Nationwide Speech Project Corpus (Clopper and Pisoni, 2006)



## Methods

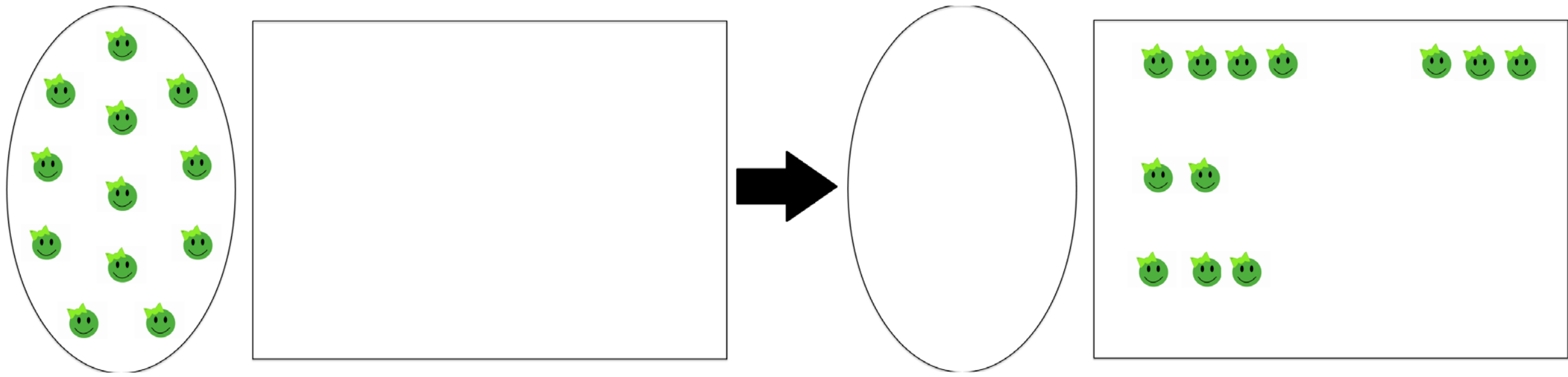
Participants completed three separate experimental tasks in one experimental session:

### Intelligibility in Noise

- Materials: 24 individual words balanced for talker and dialect, presented in noise with signal-to-noise ratio of +6dB
- Procedure: Words were presented one at a time over headphones; participants told the experimenter what word they heard, and the experimenter transcribed each response

### Free Classification

- Materials: Stimuli sentence, “These take the shape of a long round arch, with its path high above, and its two ends apparently beyond the horizon.”
- Procedure: Listeners were presented with identical smiley face icons which each linked to a recording of a different talker reading the sentence. They were asked to sort the icons into groups based on where they sounded like they were from



### Language Attitudes

- Materials: The same stimuli sentence was used as in the classification task; only 2 talkers from each region were included
- Procedure: Participants heard a talker reading the sentence and were asked to rate the talker on a particular trait
- Blocks: There were three blocks of trials; in each block all 8 talkers were rated on one trait:  
Friendliness (“How friendly does the speaker sound?”)  
Locality (“How much does the speaker sound like they’re from Ohio?”)  
Intelligence (“How smart does the speaker sound?”)

## Results

### Free Classification

Classification accuracy was quite poor for this age group

### Language Attitudes

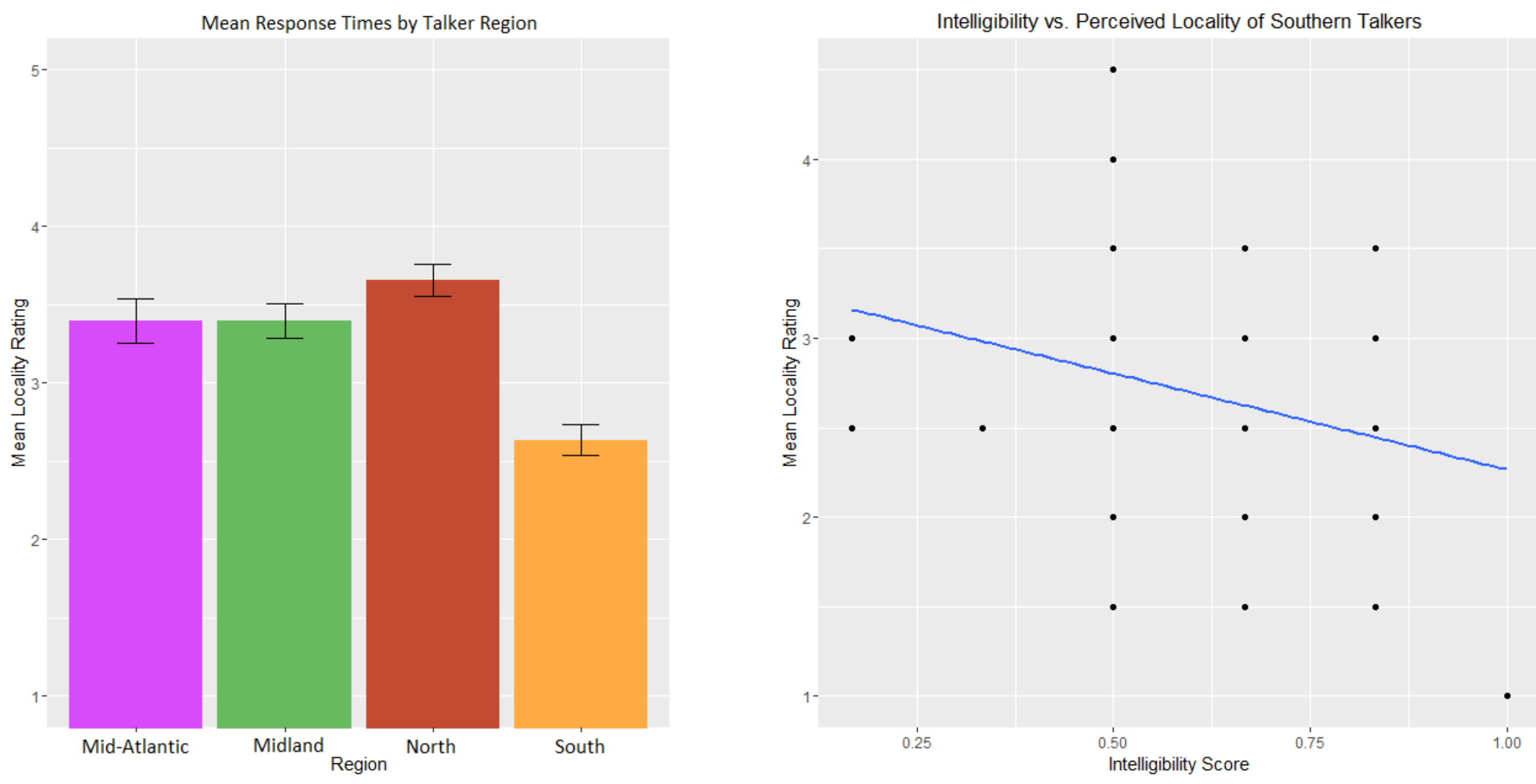
Across all talkers, there were significant correlations between “friendly” and “intelligent”, and “locality” and “intelligent.” Participants who rated the talker set as sounding more intelligent overall also found them friendlier and more Ohioan overall

There were no significant differences in “friendliness” or “intelligence” ratings between regions

## Results Continued

### Locality Judgments & Intelligibility

An ANOVA showed that Southern talkers were rated as being significantly less local than the other talkers ( $p = .01$ )



For Southern talkers, there was a significant negative correlation between participants’ intelligibility scores and locality ratings. Those who were better able to process the speech of the Southern talkers also were more likely to recognize them as sounding non-local.

## Discussion

8 to 11 year olds are not yet showing adult-like dialect-classification or dialect attitude patterns

However, they are able to distinguish Southern accents as being non-local, and this ability correlated with their ability to process words spoken in a Southern accent

Continued analysis will look at data from all participants ages 4-80, to examine the relationships between these perception tasks over the course of development

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