MADI Lab Experiments: Abstracts

(1) Fake it til you make it: The effect of acoustics on a speaker's perceived confidence

Confidence is often expressed bimodally, with auditory and visual speaker cues impacting listeners' perception of confidence, or "knowing" (Jiang & Pell, 2015). Vocal cues -- independent of visual cues -- have been suggested to be particularly salient, and contribute to listeners' perception of speaker confidence (Schroeder & Epley, 2015). Prior research has most often provided subjective descriptions of speaker confidence, ignoring the acoustic correlates impact on listeners' perception of speaker confidence. The current study quantified acoustic correlates of 18 participants' verbal responses to 85 trivia questions (ranging in difficulty from easy to hard), in relation to the speaker's self-ratings of confidence (production study). Additionally, speakers were randomly assigned to either a social or non-social condition to determine if social pressure impacted the production of vocal confidence. Listeners were then asked to rate the level of confidence exhibited by the speaker in the comprehension study. Results indicate that speakers modify their acoustic correlates of confidence, as it relates to social pressure, question difficulty, and accuracy. Interestingly, acoustic correlates and self-perception of confidence were found to reciprocally impact listeners' identification of speaker confidence. Indicating that when pressured socially to "know," speakers are likely to adapt their vocal cues to *sound* more confident, subsequently impacting a listener's ability to detect uncertainty.

(2) Ohio dialect differences: The effect of acoustic cues on perceived talker dialect

This project adds to past research on the evaluation of acoustic differences in regional dialects. Thomas (2001) outlines that various acoustic differences in the regional dialects of Ohio are most characterized by differences in formant frequencies. Though Thomas' work is instrumental in understanding individual differences, it is somewhat narrow in approach. In the current study, we hope to expand the analysis of dialect differences to encompass a range of acoustic cues, such as formant frequencies, vowel duration, and fundamental frequency. In order to add to the speech perception literature, we also evaluate how these cues predict listener perception, More specifically, we evaluated: 1) categorization of speech sounds and 2) categorization of talker dialect region, to determine if listeners make use of the dialect cues produced by speakers. This study is of particular importance because it assesses the role of talker variability in speech comprehension and production, something that is often separated in research.

(3) Effect of Perspective Taking Cues on Sentence Processing

Perspective taking is a key component of successful communication. However, researchers are currently debating whether or not interlocutors (language users) naturally take perspective or only switch when provided with a cue during a language exchange (Brennan & Clark, 1991; Wu & Keysar, 2007). Some suggest that by default interlocutors take an egocentric perspective because it is easier on the cognitive system, but developing language towards one's audience (i.e., audience design or othercentric perspective) is

better for the interaction. Therefore, the point of this study is to help resolve the current argument in the literature regarding an interlocutor's proclivity towards ego- or othercentric perspective taking. In this study, we ask participants to interact in a task based interaction with another person. During this interaction, the participant is asked to consider objects on a display, one of which is hidden or only partially hidden from their conversation partner's view. If the participant is taking their conversation partner's point of view, she should be far less likely to consider objects that are privy to both persons in the interaction. However, if an egocentric perspective is taken, then the participant should be more likely to consider all items on the display, regardless of what her partner is able to see. This study uses eyetracking technology to determine where the participant is looking when her conversation partner is referencing an object.