ACOUSTIC ANALYSES OF THE SARCASTIC TONE OF VOICE
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Introduction
It has been suggested that tone of voice can be used to cue listeners to speakers’ sarcastic intents (Kreutz & Robins, 1995; Cutler, 1976). Recently, researchers have shown that there are specific acoustic parameters, (e.g., pitch, duration and amplitude) that are relevant when comprehending sarcasm (Bryson & Fox Tree, 2003; Rockwell, 2005).

However, there have been some discrepancies in research findings. Rockwell (2005) found that sarcastic statements were louder than nonsarcastic statements, while Bryson and Fox Tree (2005) found the opposite. This project was designed to investigate the acoustic parameters important in the natural production of sarcasm.

Hypotheses
We were interested in addressing these three hypotheses:

Hypothesis 1: The more common ground (Clark & Marshall, 1981) the interlocutors share, the more likely they will be sarcastic with each other.

Hypothesis 2: There will be within-subject differences between friend and sarcastic utterances with regard to acoustic parameters (e.g., pitch, amplitude & duration).

Hypothesis 3: The sarcastic utterances will use interactions and extreme off-color word collocations (Kreutz & Robins, 1993).

Materials
Participants were given three tasks designed to elicit sarcasm in a natural way.

Tasks were randomized between sessions and included commenting on body-dressed celebrities (Herscher, 2004) creating a meal for a person that they hate (Coates, 1991) and discussing bad restaurant experiences.

Procedure
Participants were recruited to the Social Interaction Lab at the School of Audiology and Speech Language Pathology

Participants
24 pairs (12 friend and 12 stranger) were recruited from the Audiology and Psychology departments at the University of Memphis. Potential participants were told that this study was designed to investigate social interaction.

Participants were recorded in a conversational setting in the Social Interaction Lab while engaging in tasks designed to elicit natural sarcasm (see Materials).

Common ground was manipulated to determine whether or not the acoustic parameters were significant.

Naturally-produced sarcastic utterances were compared to sincere/literal utterances containing the same linguistic content produced by the same speaker. This important control has not been attempted previously.

Discussion
Importantly, all sarcastic utterances in our data set were elicited naturally.

We were able to show that common ground affects the amount of sarcastic participants produced. In other words, friends are more sarcastic with each other than with strangers.

Also, we showed that there are differences in acoustic parameters (duration, amplitude) when sarcasm is compared to nonsarcasm.

We included important controls (baseline and manipulations of common ground) that have not been attempted before in this context.

We attempted to address the discrepancies in earlier research with regard to sarcastic versus nonsarcastic utterance duration. While it appears that our results support Rockwell’s findings, these differences are too numerous to make direct comparisons.

More analyses are currently underway to study the sarcastic tone of voice with regard to common ground and also local level (e.g., words, syllables).

References


