

# Study on Speech and Voice Processing at University of Minnesota Looking for Participants

We are looking for participants in a study that will examine how people process speech and voice. The study uses both behavioral and brain measures in the following groups.

**Normal adult groups**, we are looking for participants who:

- Are between the ages of 18-40 years
- Have no history of speech, language, hearing disorder or brain injury
- Are native speakers of American English or can speak English as a second language

**Child groups**, we are looking for participants who:

- \* Are between the ages of 3 ~ 7 years
- \* Have no history of hearing disorders or brain injury
- \* are either typically developing or clinically diagnosed with Autism
- \* Are native speakers of American English

For child participants, parents or legal guardians will be given the information to help make the decision about voluntary participation.

You will be asked to listen to and watch speech and nonspeech stimuli and press a button according to instructions. The adult brain measures will use the functional Magnetic Resonance Imaging (fMRI) and electroencephalography (EEG) techniques. The brain measures for child participants uses magnetoencephalography (MEG) and electroencephalography (EEG). The fMRI study will use facilities at the Center for Magnetic Resonance Research at University of Minnesota. The MEG study will use facilities at Center for Magnetic Source Imaging at United Hospital in St. Paul. The purpose is to examine both time and location of activities in the brain in response to speech and nonspeech. The MEG (children) and fMRI (adults) sessions each take approximately one hour to complete. The EEG recording session (both children and adults) takes approximately two hours. Participation in each session (MEG, fMRI, or EEG) will be paid \$20.

The research protocols follow standard non-invasive procedures that are routinely used in research and clinical settings. There is no direct benefit to you, but the results of the study may provide useful information about how people process speech and voice in the brain. This information could serve as a valuable tool in rehabilitation of persons with speech communication disorders.

If you are interested in learning more about this study, please contact:

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**Participation in this study is entirely voluntary. Thank you very much for your interest.**