Is non-native speech processed in less detail and, if so, why?

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Overview

Previous research indicates that native speakers frequently struggle to understand speech from non-native speakers of the same language. Consequently, native speakers are more likely to judge non-native speakers as less credible and perceive their speech as vague due to their accent.This perception could potentially cause native speakers to pay less attention to the conversation, which leads to specific details of the message being overlooked or misunderstood. The current study investigates a potential mechanism underlying this phenomenon.

Keywords: Accent, Speech processing

Background

Previous research has reported that foreign-accented speech is processed in less detail compared to native-accented speech (Lev-Ari, 2015). One potential explanation for this observation is that foreign-accented speech is more difficult to process because of its higher signal variability.

Another potential explanation is that listeners expect non-native speech to be less reliable and accurate (i.e., speakers are less competent), leading them to process it in less detail.

In the current series of experiments, we contrast these potential accounts by manipulating speaker accent (native vs. non-native) and information about the speaker's expertise (expert vs. non-expert).

If listeners process non-native speech in less detail because of their expectations, then we expect this to be modulated by information about the speaker.

Hypotheses

Study 1: Native speaker (expert vs. non-expert)

Prior knowledge of a native speaker's identity (expert vs. non-expert) will affect the processing of information by a native listener.

Study 2: Non-native speaker (expert vs. non-expert)

Prior knowledge of a non-native speaker's identity (expert vs. non-expert) will affect the processing of information by a native listener.

Method

Figure 1: Procedure

- Participants were randomly assigned to one of two groups: Expert or Non-expert
- All participants listened to the same native-accented (Exp1) or Non-native (Exp2) speaker giving an talk about the topic.
- After listening, participants received a transcript with some words replaced by synonyms. They had to recall the original words.

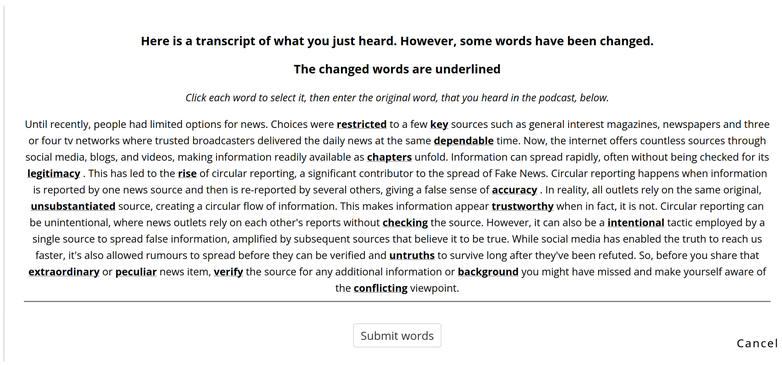
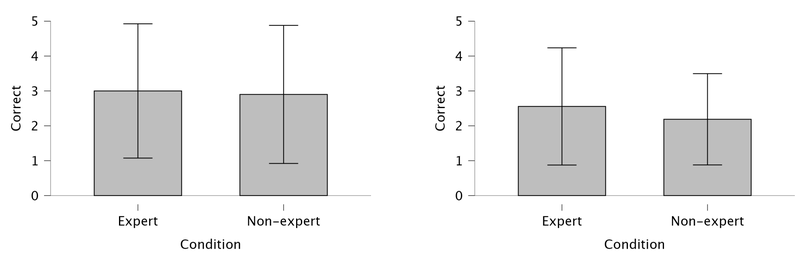


Figure 2: Word replacement memory task

Preliminary results



(a) Native speaker (b) Non-native speaker

Figure 3: Preliminary data from Exp1 and Exp 2

Discussion

The preliminary results indicate that the expert manipulation does not have an effect in the native-speaker condition.

On the other hand, in the non-native speaker condition, the trend indicates that participants remembered more when the speaker was an expert.

The results support the idea that listeners expect non-native speech to be less reliable and accurate (i.e., speakers are less competent), leading them to process it in less detail.