

Facilitating the processing of foreign accent reduces bias against nonnative speakers

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People are more likely to believe things that are easier to process (McGlone & Tofighbakhsh, 2000; Reber & Schwarz, 1999). For example, people are more likely to believe trivia statements when they are written in clearer color contrast (Reber & Schwarz, 1999). This has implications for interactions between native and non-native speakers since foreign-accented speech is harder to process than native speech even when it is fully understood (Munro & Derwing, 1995). Indeed, prior research has shown that people believe information less when it is delivered in a foreign accent rather than a native accent (Lev-Ari & Keysar, 2010), presumably because of the greater processing difficulty. The latter finding, however, has not always been replicated (Stocker, 2017). Furthermore, there is no direct evidence that the bias against non-native speakers stems from greater processing difficulty. Here we show that by exposing people to Polish-accented English we reduce their tendency to distrust information delivered in Polish-accented English. Furthermore, we show that the reduction in bias is fully mediated by improvement in comprehension of Polish-accented speech.

While foreign-accented speech is harder to process (Munro & Derwing, 1995), this difficulty can be alleviated by exposure (Clarke & Garrett, 2004). Furthermore, exposure to several foreign-accented speakers can improve comprehension of other speakers with the same accent (Bradlow & Bent, 2008) and even of speakers with similar accents (Baese-Berk et al., 2013). This suggests that exposing listeners to foreign-accented speech should facilitate their comprehension of that accent, and consequently, reduce their bias against non-native speakers with that accent.

To test whether exposure to accent can reduce the bias against its speakers, two-hundred and twenty native speakers of British English participated in the study. First, participants listened to 8 short stories and answered simple comprehension questions about them. Critically, the stories were told by either native speakers of British English or Polish-accented speakers of English. Next all participants listened to 50 trivia statements (e.g., *An ostrich's eye is bigger than its brain*) and estimated their truth value on a continuous 100-point scale ranging from False to True. Each trivia statement had two versions, one recorded by a native speaker and one by a Polish-accented speaker, but each participant heard only one version of each statement. Statements were presented in random order and each participant heard half of the statements in native accent and half in foreign accent. At the end of the experiment, all participants were tested on their comprehension of Polish-accented English by transcribing a few sentences produced by the Polish-accented speakers.

Participants' truth-ratings were analyzed with a mixed effects regression analysis. Results showed that participants believed statements more when they were produced in a native rather than a foreign accent ($\beta=22.26$, $SE=2.40$, $t=9.29$), but that this effect interacted with Exposure ($\beta=-7.71$, $SE=3.21$, $t=-2.40$), such that participants who were exposed to Polish accent in the Exposure phase showed significantly smaller bias (See Figure 1). Furthermore, participants exposed to Polish accent performed better in the accent comprehension task ($\beta=2.58$, $SE=0.21$, $t=12.36$, $p<0.001$; See Figure 2), and a mediation test using the mediation package in R (Tingley et al., 2014) revealed that the improvement in accent comprehension accounted for 90.1% of the effect of Exposure on truth judgment.

The results of this study show that the relative difficulty of understanding foreign-accented speech leads to believing it less, but that this bias can be reduced by exposure to that foreign accent. This study is the first to provide direct evidence for the role of processing difficulty in the bias against non-native speakers. It thus illustrates how cognitive processes involved in language processing as well as language-based interventions can have social consequences.

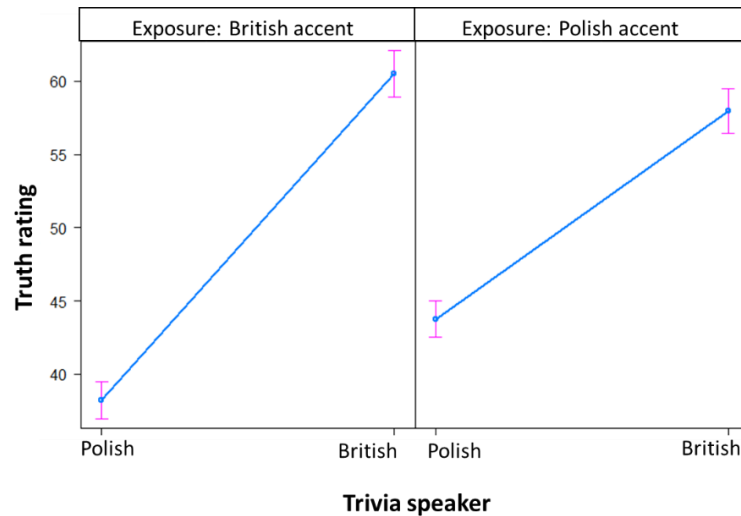


Figure 1

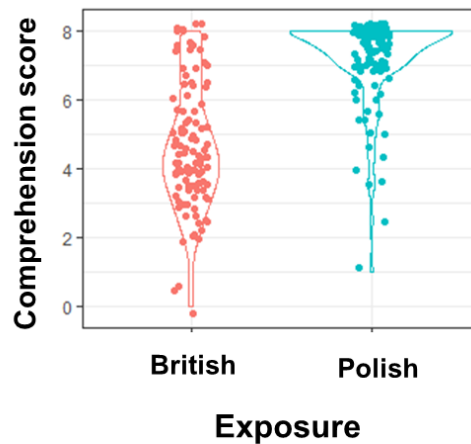


Figure 2

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