

# Whether Foreign Accented Speech Predicts Listeners' Attitude

Angela Dong<sup>1, a</sup>, Yusi Hu<sup>2, b</sup>, Licheng Ren<sup>3, c</sup>, Yunjie Zhou<sup>4, d</sup>

<sup>1</sup>*Barrington High School, Barrington, RI, USA*

<sup>2</sup>*Michigan State University*

<sup>3</sup>*Saint Mary's University, Halifax, Nova Scotia, Canada/Beijing Normal University, Zhuhai, Beijing, China*

<sup>4</sup>*Nanjing Foreign Language School, Nanjing, China*

<sup>a</sup> [angela59859r8@gmail.com](mailto:angela59859r8@gmail.com), <sup>b</sup> [Huyusi@msu.edu](mailto:Huyusi@msu.edu), <sup>c</sup> [1312692444@qq.com](mailto:1312692444@qq.com), <sup>d</sup> [monsoonzhou@163.com](mailto:monsoonzhou@163.com)

## Abstract

Talkers' subjective ratings of talker characteristics influences the listeners' judgement of the talkers, but it is less clear if talkers' accent of their speech influences the listeners' attitude. The present experiment tested the variance accounted for by speakers' different region-based English pronunciation. In this experiment, we will test the listener's differences in the speaker's English pronunciation based on different regions, and determine the listener's English pronunciation in different regions by scoring the social status, education level, friendliness and pleasantness of the talker attitude to discuss the relationship between the listener's attitude and the English pronunciation in different regions.

**keyword:** *English Pronunciation, Native speaker, Bias, Influence, Listener's; attitude*

## 1. Introduction

The purpose of this study is to investigate how different accented speech affects native speakers' perceived talkers' characteristics such as positive or negative. With the development of globalization, multilingualism and multiculturalism, people hold different views of people based on the region they come from. Each region has its particular accent, which can be explicitly identified.

## 2. Background

Some previous researches have tested native American listeners' reaction to the accented speech of non-native speakers from different regions. It turned out that listeners' attitudes toward accents from distinct regions influence their evaluation of both talkers and their speech. Among these studies, the evaluation process of accented speech includes assessing talker's qualities such as education level, social rating, intelligence, reliability, friendliness, pleasantness [1]. However, through these evaluations, it has shown that native American listeners have some extent of bias against foreign accents. For example, Lippi-Green [2] addressed the fact that native Americans often associate accent with intelligence level, which leads to discrimination among many ethnic groups in many occasions in United States. Listeners often considered accented English speech negatively specifically like Mexican American English speech [1, 3] or the speech of Spanish-English Bilinguals [4]. They tend to underestimate the qualities of accented speakers as well as their speech contents. In Lev-Ari and

Keysar [5] findings, listeners were asked to assess the statements of sentences spoken by talkers with a variety of accents, including a native accent. In the end, they rated the statements from native speakers as being more truthful than those from speakers with foreign accents. Usually, the heavier the accent is, the stronger the stereotype towards speakers with specific regional backgrounds is.

Except for the attitude toward the different accents, some studies have hypothesized the listener's attitude toward the accented talkers themselves would also account for their perception of accented-speech. Ingvalson et al. [6] conducted a perception experiment recruiting five non-native English speakers living in the United States to investigate how Native American listeners' attitude toward these five talkers influence their ability to identify the foreign-accented words. Before this perceptive task, Ingvalson et al. [6] adopted a testing way adapted from Pantons and Perkins [7] which makes listeners evaluate accented talkers themselves including five aspects of rating education, class status, pleasantness of the talker's, friendliness, and confidence. The result supported that these listener's ratings of accented talkers were highly correlated with their individual perception performance of identifying words during the accented speech. Specifically, the higher rating of the accented speaker means the higher accuracy of listeners' perception of accented speech.

However, in Ingvalson's experiment, listeners were not told that the talkers were non-native speakers and their nationalities. The extent to which listeners' perception of given accents determine their perception of talkers and their speech is unknown. At the same time, previous studies did not collect adequate data of English accented speech as they only did it for non-native American English accents such as Mexican American English and Spanish American English.

We want to find whether there is a generalization of American bias toward other regional accents, and how different the degrees of bias toward accents that come from distinct regions are. Furthermore, Preston [8] indicated that both accents and culture groups impact listeners' judgment on certain qualities such as how "friendliness" the talkers sound. We would like to take the cultural backgrounds into account and see more details of how the native American listeners' attitude toward accents with different regional backgrounds influence their evaluations of the talkers and the speech. To figure out to what extent different accents shape the listeners' attitudes, we would conduct an experiment informing participants of accents based on the method also adapted from Pantons and Perkins [7]. We would improve our experiment on this point, trying to generalize the sample data on other native English accents like British accents and Australian accents. Furthermore, we would try to discuss a bit of the evaluation results correlated with listeners' attitudes toward speakers' ethnic backgrounds.

### 3. Proposed Study

In this study, we would explore how native American listeners' attitudes towards foreign-accented speakers from specific regions related to accented speech evaluation. Based on previous research by Ingvalson et al. [6] that concluded the higher rating of the listeners' accented speaker, the higher accuracy of their perception of accented speech. We speculate that native Americans would have different opinions and judgments to accented speakers from distinct areas. The correlation of stereotypes between American listeners to foreign speakers may be stronger if the accent is stronger. They may have negative attitudes because of certain stereotypes or bias. Assuming that, they may hold positive attitudes towards certain ethnic groups that have positive relations with the United States somehow, for example, the United Kingdom. It is also possible that there is no correlation between the bias to attitudes. We would try to compare the outcomes presented by the survey regarding their perception of the non-native speakers using tests adapted from Ingvalson et al. [6].

### 4. Method

Nine talkers would be enrolled in total to produce the speech. Seven of them are English as a Second Language (ESL) speakers (N=7); their first languages are Mandarin Chinese, Hindi, Japanese, German, Russian, Spanish, and French. Those languages are selected because of wide use. Talkers were all born outside the United States and immigrated as a teenager. They would self-rate their English-speaking ability as fluent. The other two talkers grew up in British and Australia respectively, who hold natural local accents. Each talker will record fifty conversational lines from the TV series "Friends", which is close to real-life conversation and would not have the complex or professional vocabulary.

In this way, the listeners can understand the context to better focus on accent judgment. The confounding variable of content difference is eliminated, which means that the listeners would not make judgments based on the conversation's content. Their speeches will be recorded to disk using Adobe Audition at 44100 Hz at 16-bit accuracy via a Shure SM10A head-mounted microphone, adapted from Ingvalson et al. [6]. Before the recording process, each talker is granted an opportunity to practice. By doing so, the fluency of their speech is well ensured. In order to minimize the difference between their performance and their natural state, talkers will not be informed of the purpose of these records.

Forty younger adult listeners (Mean age = 40) are recruited from local communities in the Southern and Northern United States as there are differences in North and South American accents, which are our main standard. The sample size is determined about Ingvalson et al. [1], while we double the number to yield a more valid result. In order to motivate them to take this study seriously, we would reward each participant 50 dollars when the research is over. Listeners will fill out a form, explaining what accent they think the talkers have. After that, they are asked to rate four aspects of talkers (education level, economic status, friendliness, and pleasantness of speaking) on a scale of five, with one for not educated at all/poor/not friendly/not pleasantness while five for well-educated/rich/extremely friendly/extremely pleasant.

### 5. Result and Discussion

The experiment will finally horizontally compare every participant's score under four criteria (education level, socioeconomic status, friendliness, and pleasantness of speaking) to find the relationship between the listeners' evaluation towards the speakers and their accents. Besides the horizontal comparison, we will also include the comparison of overall scores between English second language speakers (Group A) and English first language speakers (Group B).

One possible result is that one group is marked with higher scores than the other in every criterion. One pattern is Group A is the one that gets a higher overall score. This result will affirm that native Americans generally get negative evaluations of the English accents' qualities that are combined with other languages' accents. Another pattern is Group B gets a higher score, which means native Americans have more positive evaluation of this kind accent.

Speakers get different scores under every criterion is the result that happens more likely. The higher scores in education level may be caused by the speaker's ability (more prone to American-English accent) presented in fluency, articulation and sentence boundary detection. The higher score in socioeconomic status may largely be caused both by the speaker's high confidence level and the listeners' attitude towards the specific country. The higher scores in friendliness may be caused by the softer accent itself, which is caused by different regions and different mother languages. For example, because of the more strict and

aloof tone of British English, American listeners may rate it as less friendly. Also, because of Japanese syllables' monotony, English spoken by Japanese will naturally sound tougher. Finally, the higher scores in the pleasantness of speaking may be interpreted by the speaker's low volume and amiable tone. The speaker's gender may also influence it; female voices generally have softer timber.

Moreover, listeners may use stricter criteria for Group B than Group A when they rate the education level because of the foreigners' identities of Group A participants. Moreover, differences in listeners' ages may also cause different results. If listeners from younger groups generally rate Group A with a higher score, this means the degree of acceptance of foreign accents among American young people is higher than those older people. Suppose the listeners from younger groups generally rate Group B with a higher score. In that case, this means the degree of acceptance of foreign accents among American young people is lower than those older people. Among those scores, the outlier listener who rates a specific speaker with much higher or lower scores than other listeners may be because of their attitude towards that country or the disposition towards the speaker's voice.

## 6. Conclusion and Future Direction

Suppose there is a strong regression between different accents and the listener's attitude. In that case, we must consider whether the factors contributed to the experimental results are due to the establishment of stereotypes, such as the cultural and historical backgrounds of different countries. If the experiment proves that the talker's accent is not strongly related to the listener's attitude, we should consider its limitations.

One of the limits of this experiment is that attitude is a challenging and abstract variable to define. We only use four questions, including education level, economic status, friendliness, and pleasantness of speaking to measure participants' attitudes towards different accents, which did not include all aspects. Besides, the state of the talker during recording is also an uncontrollable variable. The state here includes the talker's speech rate, intonation, and fluency at the time. These uncontrollable factors can cause differences in the listener's score. For example, a non-native talker has apparent gaps in the recording, and then his score will be lower than other talkers. Another limitation is this study designed to be a single-blind study. The experimenter's preferences will be passed on to the participants to cause bias in the experiment.

There could be many other factors that are impacting listeners' ratings, including gender, talker's speech rate, intonation, and fluency at the time. Further study should consider different control variables while linking listeners' attitudes regarding talkers' accented speech. Although the listener's level of understanding foreign language is not predictable, exposure to an accent could significantly impact the result. Further information should be gathered in this area. Also, when considering the limitation of measuring attitude, you may want to develop a more

integrated rating scale covering all aspects including confidence or refinement. In conclusion, we look forward to furthering efforts in this domain.

## Reference and Links

- [1] Brenna, Eileen & Brenna, John Stephen (1981, July). *Accent Scaling and Language Attitudes: Reactions to Mexican American English Speech*. Retrieved from Research Gate, [https://www.researchgate.net/publication/258165631\\_Accent\\_Scaling\\_and\\_Language\\_Attitudes\\_Reactions\\_to\\_Mexican\\_American\\_English\\_Speech](https://www.researchgate.net/publication/258165631_Accent_Scaling_and_Language_Attitudes_Reactions_to_Mexican_American_English_Speech)
- [2] Luley, Tracy (2014, August 27). *English With an Accent: Language, Ideology, and Discrimination in the United States* Rosina Lippi-Green. New York, NY: Routledge, 2011. Retrieved from Wiley Online Library, <https://onlinelibrary.wiley.com/doi/abs/10.1002/tesj.164>
- [3] Ryan, E. B., & Carranza, M. A. (1975). *Evaluative reactions of adolescents toward speakers of standard English and Mexican American accented English*. Retrieved from Journal of Personality and Social Psychology, 31(5), 855–863 <https://psycnet.apa.org/doiLanding?doi=10.1037%2Fh0076704>
- [4] Ryan, E. B., Carranza, M. A. & Moffie, R.W (1977, July 1). *Reactions Toward Varying Degrees of Accentedness in the Speech of Spanish- English Bilinguals*. Retrieved from Sage Journals, <https://journals.sagepub.com/doi/10.1177/002383097702000308>
- [5] Lev-Ari, Shiri, Keysar, Boaz (2010, May 25). *Why don't we believe non-native speakers? The influence of accent on credibility*. Retrieved from ScienceDirect, <https://www.sciencedirect.com/science/article/abs/pii/S0022103110001459?via%3Dihub>
- [6] Ingvalson, E, Lansford, K, Federova, V, & Fernandez, G. (2017). *Listeners' attitudes toward accented talkers uniquely predicts accented speech perception* [Ebook]. Acoustical Society of America. Retrieved from <https://asa.scitation.org/doi/pdf/10.1121/1.4977583>
- [7] Pantos, Andrew J, Perkins, Andrew W. (2012, October 23). *Measuring Implicit and Explicit Attitudes Toward Foreign Accented Speech*. Retrieved from Sage Journals, <https://journals.sagepub.com/doi/10.1177/0261927X12463005>
- [8] Preston, Dennis R. (1999). *A Language Attitude A*

*Analysis of Regional U S Speech: Is Northern US English  
Not Friendly Enough?* Retrieved from Cuadernos de Fi

lokogia Inglesa, <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.1028.2865&rep=rep1&type=pdf>