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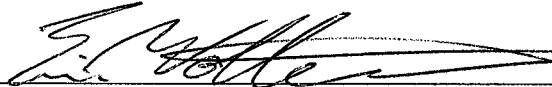
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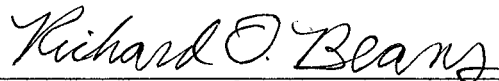
I Can Tell by Your Accent: Accent Perception and Discrimination

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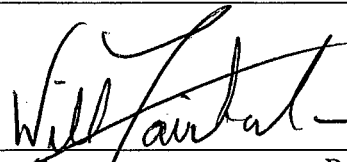


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I Can Tell by Your Accent:

Accent Perception and Discrimination

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Chapter 1: Introduction

As the world becomes more globalized, it is becoming more common for people to be exposed to different types of accents. People assume certain information from a person's accent such as their native language and/or origin geographical region. This is an example of how accent perception plays a part in the social categorization of people (Rakić, Steffens, & Mummendy, 2011). This term refers to how people label others based on the social context information surrounding them. For example, if a person is approached by someone with a Chinese accent, he or she will assume that the other person is similar to other Chinese people he or she has encountered. This person with a Chinese accent has now been placed in a social category based on the information gathered from the initial meeting (Rakić et al., 2011). With this in mind, Munro (2003) found that an average person can recognize an accent within less of a second, or by just someone saying the word "hello." After just a small exposure, the listener will immediately have assumptions about the owner of the accent.

This finding begins to explain how accent and language becomes a part of personal identity. How the world sees someone and how that person sees himself or herself can be affected by the accent that he or she possesses and the language he or she speaks. This is called the ethnolinguistic identity theory (ELIT). According to this theory, accented speech is one of the most crucial indicators of ethnic identity because of how easy it is to recognize (Hansan, Rakić, & Steffens, 2017). It is not necessarily a negative for people to recognize an ethnic identity from listening to an accent. It is the idea that differing accents are commonly associated with discrimination which may lead to accent perception potentially having a negative impact on society.

The problem that people with non-native accents (which refers to accents that are associated with a country that is different than the one people are currently residing in) face is that they are unlike the society of their new country. People have a natural preference for things that are like themselves (Nelson, Signorella, & Botti, 2016). People view themselves positively, and they believe that the aspects of their identity are what is “right” (Nelson et al, 2016). It is comfortable to people to listen to accents that are similar to their own accent. If people are exposed to an accent different than their own, the comfort that comes with similarity is taken away (Nelson et al., 2016). This phenomenon was made apparent while recording brain activity. It has been shown that while listening to an accent that is similar to their own accent (or they are extremely familiar with), there is increased activity in the bilateral amygdalae, right rolandic operculum and anterior cingulum (Besteimeyer, Belin, & Ladd, 2014). However, listening to accents that are unfamiliar decreases activity in these parts of the brain. This explains why differing accents (such as non-native accents) cause people to have different types of reactions. Because of these differing reactions between native and non-native accents, people with non-native accents will also be judged differently in their personal attributes (Besteimeyer et al., 2014).

This is an issue faced by many immigrants who come to the United States in order to establish better lives for themselves. It is possible to find difficulty to find a job due to accent or lack of English comprehension. Discrimination based on accent itself is not necessarily wrong on an employers’ part as long as they can prove that such an accent inhibits an employee’s ability to perform. However, discrimination against an accent is wrong when it is tied to a discrimination against someone’s national origin according to

the Civil Rights Act of 1964 (Nguyen, 1993). Because of this distinction, there have been numerous cases, such as *Zell v. USA* and *Guertin v. Hackerman*, go to court to prove that the discrimination based on accent is wrong in the perspective of the U.S. court system (Nguyen, 1993). This is a difficult process to go through for the person being discriminated against. It is because of issues like these that immigrants turn to speech tutors to improve their English and diminish the strength of their accent. Kim, Wang, Deng, Alvarez and Li (2011) have stated that the less a person has an accent, the less they are seen as a “foreigner” in the new country. The majority culture perceives that an accent has a tie to how well they have mastered the language they are speaking. It is assumed that people with thick non-native accents have more difficulty with the dominant language than people who have accents that are subtle (Kim et al., 2011). The ability to master the dominant language of the country is the first step in becoming a part of the culture. A difficulty speaking the dominant language can be taken as either a refusal or failure to become a part of the culture (Kim et al, 2011).

This perspective is a major hindrance to the process of settling into a new country. To immigrants, obtaining employment is a significant sign that they are achieving social admittance. If they are able to make this conversion in their professional life after moving into a new country, it means they are making successful strides in their settlement process. However, as previously stated, if their accent shows that they have a lack of language mastery, finding employment becomes difficult. Therefore, in the eyes of both the mass population of the new country and immigrants, mastering the dominant language and eliminating of the accent are fundamental keys to acceptance into a new culture (Colic-Peisker & Hlavac, 2014).

However, this understanding is faulty to an extent, because it does not take into account the listeners' familiarity of the accent. A heavy accent is not necessarily equivalent to an incomprehensible accent. Of course, native accents can be understood faster than non-native accents, but some accents can be just as comprehensible if the listener is familiar with them. For this reason, Munro (2003) discusses that the perception of an accent may be dependent on the willingness of the listener to accept differences as it is for the speaker to master the language. Historically, people have pitted the responsibility of accent comprehension on the non-native speaker without considering the responsibility of the listeners that are native to the language (Munro, 2003).

In relation to this, people that cannot reduce or eliminate their accents are placed in the outgroup of the culture. These people are typically ones that have an accent because they learned the non-native language as an adult. It is this group that typically receives most of the negative bias as with respect to accented speech. They may be perceived as lesser than the native speakers of the dominant language. This perception can also be increased when one considers other like sex, ethnicity, and race of the speaker. It is these aspects that show the listeners whether the speaker is a minority and a member of the outgroup. This group jeopardizes the homogeneity of culture which stems from the desire for similarity. Without the ability to reduce their accent and with a lack of accent acceptance, it is incredibly difficult to become a part of the new culture (Nelson et al., 2016).

Failure to acculturate can be detrimental to the psychological well-being to the immigrants placed in the outgroup (Kim et al., 2011). They experience what is called the perpetual foreigner stereotype. This occurs when there is a struggle to accept the

mainstream culture because of their desire to retain their native culture which in turn causes them to always be viewed as a “foreigner.” People who are affected by this stereotype can show signs of depression symptoms due the stress caused by the lack of acculturation. People with non-native accents are aware that they are seen as “foreigners,” therefore, they are aware of the discrimination against them. This discrimination causes these people to have lower self-esteem and depression symptoms due to the lack of acceptance (Kim et al., 2011).

Because of this, many immigrants feel that they are put in a position where they have to give up their cultural identity in order to become a part of the new culture. They understand their accent is a factor that makes their speech incomprehensible to native listeners. However, if they reduce their accent, they are also breaking one of ties they have to their origin country. Momenian (2011) advocates that is unfair to these non-native speakers, because many people take pride in their national origin.

At a certain point, accent elimination may not be attainable depending on when people learn the non-native language. Therefore, acceptance into a new culture may also depend on the willingness of the population to become familiar with non-native accents. This can be difficult considering that accent bias is fairly accepted in societies compared to other types of discrimination. With the perspective that non-native accents lead to communication problems, people can typically justify discriminating against others based on accent. They do not realize that they are undermining their ability to understand accented speech which leads to immigrants feeling pressure to eliminate their accent (Hansen & Dovidio, 2016).

Another reason why accent bias is difficult to confront is because to a certain extent it is implicitly ingrained into society (Selmi, 2018). When it is an implicit bias, it means that it can be unconscious, prevalent, and hard to eliminate out of society. It cannot be controlled whether one develops implicit bias because it does so naturally as people interact with their environment. This is why even people who promote equality for outgroup members can have accent bias themselves without even recognizing it. The existence of accent discrimination (and other types of discrimination) are able to continue because of their status as an implicit bias (Selmi, 2018).

There are circumstances in which accent discrimination is implicit, to an extent. People start to show a preference toward native accents as infants (around ten months old), and this preference is perpetuated when there is a lack of exposure to non-native accents. Without exposure, there is no chance for native listeners to become familiar with non-native accents (Hansen & Dovidio, 2016).

It is suggested by Houshmand, Spanierman, and Tafarodi (2014) that collective awareness to how lack of familiarity to non-native accents can lead to accent discrimination may help with issues related to this circumstance. Currently, most areas where discrimination against accent is confronted in the academic setting and the business setting. It is becoming more common for universities to desire international students. The idea is that with international experience, these students will become more skilled on a global level in their chosen field of study. A major issue that these students face is trouble fitting in with the native students. International students can potentially be subjected to what is referred to as microaggressions due to their status as international students. The term microaggression describes a commonplace (often unintentional)

negative message toward a cultural outgroup that makes said group feel insulted or unwelcomed. An example of this circumstance is when native students would assume that international students are unintelligent due to their difficulty communicating in classroom settings. International students may feel less inclined to stay at their universities due to microaggressions that make them feel unwanted (Houshmand, et al., 2014).

In regard to the business world, accent perception can play an implicit role in the hiring practices of employers. It was not until 1991 that accent discrimination was included in the Civil Rights Act of 1964 through the New Civil Right Act of 1991. Before then, it was a rather common practice to let hiring decision be influenced by accent discrimination. In current times, explicit discrimination based on accent is no longer acceptable in the professional environment. Despite this, managers subconsciously make assumptions about potential employees they encounter. These employers may have different expectations for the people they interview based on the accents they hear. For example, people with southern British accents maybe held to a higher standard because their accents are typically viewed as eloquent. This may be considered unfair by people that have accents with negative expectations associated with them. It hinders their ability to find employment which then also hinders their ability to successfully settle into the new country (Quinn & Petrick, 1993).

The common factor between both of these scenarios in academia and business is there is an emphasis of wanting to expand globally. There is great benefit to globalization being that it offers more opportunities to expand influence on more people than one would if they stayed strictly in their country. It is assumed that if people desire to benefit from globalization that they would want to become familiar with numerous types of

accents. If speakers with native accents are apprehensive toward speakers with non-native accents and claim their speech is incomprehensible, then they will not be able to form positive, global relationships. This instinctual preference for similarity becomes a border between themselves and speakers with non-native. For this reason, awareness to how accent perception interacts with implicit bias could be helpful. It is considered that the more familiar people are with an accent the more they will see it as appealing. It is also considered that this familiarity will increase with the amount of time given to establish it.

Chapter 2: Literature Review

As previously stated, discrimination based on accents used to be explicitly acted upon. It was not until the increase of interaction with speakers with non-native and their voicing of injustice that accent discrimination was seen as an illegal practice in business according to United States law. This is what started the conversation as to what is a business's social responsibility as to the equal treatment of speakers with non-native accents in the U.S. workforce. Court cases such as *Zell v. the United States of American* (1979) and *Guertin v. Hackerman* (1981) established that accent discrimination is unlawful when the discrimination is based on the national origin of the person; however, employers may practice discrimination based on accent if they can prove that the accent of the person will greatly hinder their ability to perform. These practices have significantly reduced the practice of explicit accent discrimination (Quinn & Petrick, 1993; Nguyen, 1993).

Because there is an awareness that accent discrimination can negatively affect the lives of non-native speakers, many of them turn to speech tutors to improve the language mastery and reduce accent. Munro (2003) wrote specifically toward teachers of second languages on the topic of accent stereotyping and linguistic profiling. According to Munro (2003), accent is not necessarily the only factor that makes speech incomprehensible, but familiarity with the accent can also affect comprehensibility. Individuals who are familiar with non-native accents are far more likely to understand what non-native speakers are saying.

Despite this understanding, people still view non-native accents as that which causes trouble with comprehension, because that is the historically popular opinion. It is

for this reason that people with native accents are primed to think that non-native accents are hard to understand. This priming also leads to other profiling that creates a negative perception of speakers with non-native accents. Teachers of English as a second language should be informed of this phenomenon and the many discrimination cases regarding this topic. Teachers can learn what phonetics to focus on when teaching their students, and they can also help to educate others regarding the role of familiarity in understanding non-native accents. When the public is aware of this different perspective, they can critique how the native population treats people with non-native accents (Munro, 2003).

Another author who wrote toward teachers of second languages, Mohammad Momenian (2011), agrees with Munro (2003) about the implicit narrative that they use when they are teaching speakers with non-native accents. Momenian (2011) stated that an accent is a part of cultural identity. From the accent, one can often tell the original nation someone came from, and the traditions they might celebrate. It is often problematic for language teachers to motivate their students to eliminate their accents, so that they can sound more native in their speech. The reason eliminating the accent is problematic is because the person is also severing a tie that he or she has to their original culture that most likely holds significant meaning to them. With this in consideration, Momenian (2011) suggests that language teachers should motivate students to make their speech more comprehensible, not the elimination of accents. This way, there is no conflict between maintaining cultural identity and partaking in a new culture. His statements reflect understanding that heavy accents are not equivalent to incomprehensible accents and that there is a dependence on how familiar a listener is to the accent (Momenian, 2011).

Similar writing by Lev-Ari and Keysar (2010) has also examined how credibility can be affected by accent perception. These authors conducted experiments to find out if accent discrimination affected people's perceptions of information said by non-native speakers. The researchers recorded people of different accents saying commonplace statements for participants to listen and make judgments. After hearing recordings of each statement by one of the speakers, the participants answered whether or not they thought the statement was true or false. Their results showed that statements made by speakers with heavy, non-native accents were considered false significantly more often than people with subtle, non-native accents and people with native accents. These results support the theory that accent perception can influence how people perceive the truthfulness of people with non-native accents. This experiment raises concern because such a phenomenon can be detrimental to those who are affected by accent discrimination (Lev-Ari & Keysar, 2010).

One explanation as to why accent perception can cause different judgements is that the brain reacts differently to different types of accents. This topic was discussed by Bestelmeyer et al. (2014) as they researched to find a neurological explanation for accent discrimination. In their experiment, they studied participants from Scotland and participants from the southern part of England. They had both groups listen to multiple speakers with either a Scottish accent, a southern English accent, or a United States accent (not specified which U.S. accent). These recorded speakers were played in a passive manner as participants had their brain activity recorded by an fMRI machine. After the scan was done, participants were asked what accents they recognized from the various speakers. The results showed that participants from Scotland recognized speakers

with Scottish accents significantly more often than the other speakers, and participants from southern part of England recognized the Scottish accent and southern English accent significantly more often than the United States accent. The fMRI results showed that when participants (either from Scotland or southern England) were listening to a speaker with a familiar accent it increased activity in certain parts of the brain such as the bilateral amygdalae, right rolandic operculum, and anterior cingulum, while listening to unfamiliar accents reduced activities in these parts. These results support the argument that people have different reactions to accents based on familiarity including within the neural activity of the brain (Bestelmeyer et al., 2014).

Another factor influencing accent discrimination is the effect that it has on the people who are discriminated against. Kim et al. (2011) examined the relationship between experiences with discrimination and depression symptoms. They state that a non-native accent can be perceived as an indicator of how “foreign” someone is. People with heavy accents are seen through the perpetual foreigner stereotype because of their lack of a typical U.S accent. They also stated that to some native speakers, the inability to master a language is seen as either a failure or a refusal to partake in the new culture. Therefore, people with heavy non-native accents are more likely to experience acts of discrimination than people who have subtle, non-native accents. Because people with non-native accents feel that their cultural identity is not accepted in their new environment, this may indicate they also experience depressive symptoms because of the circumstances. To test this hypothesis, the researchers sent out surveys to Chinese American adolescents that asked them about their status as a “foreigner” (which having a non-native accent can influence), their experiences with discrimination, and experiences

with depression symptoms. The survey showed a positive correlation between status as a “foreigner” and experiences with discrimination. There was also a positive correlation between experiences with discrimination and experiences with depression symptoms. These results support the idea that accent discrimination has negative effects on the well-being of speakers with non-native accents (Kim et al., 2011).

This phenomenon creates a situation where U.S. citizens with non-native accents feel as if they need to dissociate from their ethnic identity in order to prove their “American identity”. For example, when someone with a non-native accent is answering the question, “where are you from,” it may not always be an acceptable answer to indicate a location from the country they are currently residing (in the perspective of people with native accents). This occurrence was discussed by Huynih, Devos, and Smalarz (2011). They wrote about the psychological adjustment of joining in a new culture. They state that when citizens with non-native accents in the U.S. are labeled as a “perpetual foreigner,” this influences their need for belonging (specifically in popular U.S. culture). They pursue this need by creating what they call an “American identity” and put less emphasis on their ties to their origin culture. The more citizens with non-native accents are denied access into the U.S. culture, the more they are influenced to disassociate with their ethnic identity. The authors emphasize that citizens with non-native accents are aware of the judgement placed on them by citizens with native accents. This awareness influences feelings that come from lack of belongingness. This puts them in a situation where they feel that they must choose between the identity of their current country and the identity of their origin country (Huynih et al, 2011).

According to Huynh et al. (2011) and Kim et al. (2011), there are psychological consequences to the judgements of native speakers based on accent. Therefore, it is important to understand how the perception of accents leads to different types of judgements. Rakić et al. (2011) state that these judgements come from the process of social categorization. They state that after hearing an accent or seeing a quick glimpse of someone, it automatically starts the process of putting someone into a social category based on previous exposure to people with similar accents or physical features. In the first study that they conducted, they used recordings of a German accent paired with a picture of a German man and an Italian accent with a picture of an Italian man to show to participants. Participants took in the stimuli and answered questions such as “Which of one of these men is Italian?” The results show that the participants used both facial features and accent equally to decipher the ethnic categories of the men they saw. The researchers extended this study by using the same experimental structure but using a recording of a heavy Italian accent paired with an image of Italian man and a recording of a subtle Italian accent paired to a different picture of an Italian man. In this other experiment, significantly more participants answered that the man paired with the heavy Italian accent was Italian rather than the one paired with the subtle accent. These findings support ethnolinguistic identity theory which it states that accents are the one of the most recognizable factors of a person’s ethnic identity. When unsure about facial features, participants depend more on accent perception so that they can decipher ethnic categories. This experiment brings a different perspective onto the topic of accent perception because they focus more on listeners with native accents, and how they use

their perceptions of non-native accents, rather than focusing on specifically the speakers (Rakić et al., 2011).

The perception of non-native accents influences listeners with native accents to have certain attitudes about the owners of those accents. Unfortunately, people have negative assumptions about speakers with non-native accents and may act negatively because of this. Houshmand et al. (2014) interviewed international students from East and South Asian countries about their experiences with discrimination at a Canadian university they were attending. It was discovered through the individual interviews that there were six common microaggression types that international students faced during their time at this school. After the interviews, the researchers concluded how often a microaggression happened and what category the reported microaggression belonged to for added context. The interviewed international students stated that they felt “excluded and avoided” by the native students who were attending the university. This microaggression was mentioned by nine of the twelve participants making it the most common and was labeled as a microassault, microinsult, and a microinvalidation. Another microaggression was that some international students felt that they were ridiculed for their accent. This was mentioned by five of the people interviewed and was labeled as a microassault. One student stated that they were rendered invisible or that their input was undesired in class. Two of the students stated that their cultural values and needs were ignored by native people, and this was labeled as a microinvalidation. Three students reported that they felt like their identity to others was dictated by the stereotypes associated with Asian countries which was labeled as a microinsult. The last microaggression mentioned by five students was that there was a lack of funding to help

international students to obtain visas to be in the country. This was labeled as microinvalidation. Although there was a relatively small sample of participants interviewed, it gave an insight into the treatment faced by people who are non-native to the country they are residing (Houshmand et al, 2014).

In order to reduce acts of microaggression, it can be suggested to also discuss the social responsibility among native speakers. To study this topic, Colic-Peisker and Hlavac (2014) sent two different surveys to different groups of cultures in regard to accented speech. The first group were people in Australia that had non-native accents (they are referred to as “non-Anglophone immigrants”) they received a survey which asked about how included they felt in the new society and culture. The second group of people were native Australians of the middle-class (referred to as “Anglo-Australians”), and they received a survey asking about what they thought their role was when it came to the social inclusion of non-Anglophone immigrants. The survey asked both groups questions that related to intermarriage, work relationships, and friendships. The results of this survey found the both groups agreed there seemed to be a barrier between them due to lack of accent comprehension and cultural differences. The survey also showed that the native Australians who reported numerous interactions with non-native Australians were also more likely to agree to statements that said that they are responsible for the social inclusion of non-Anglophone immigrants. This article supports the narrative that native speakers’ familiarity to non-native accents plays a crucial role in the acceptance of non-native people. The more Anglo-Australians opened themselves to relationships with non-Anglophone immigrants, the more accepting they were to include others in their social

circles. The acceptance of non-native speakers is promoted by familiarity and exposure to their accents (Colic-Peisker & Hlavac, 2014).

The impact of familiarity on speech comprehension was tested by Xie, Theodore, and Myers (2017). In their study, they state that speakers with native accents are capable of comprehending differing pronunciations due to non-native accents if they have been exposed to different types of phonetic variations. If a speaker with a non-native accent has difficulty with pronunciation, they can still be understood if the listener has had previous background in the different deviations from the proper pronunciations. This was tested in their experiment to support their hypothesis that participants with prior exposure to non-native speech would comprehend a speaker more than a control group with no previous exposure. They did this by splitting participants into an experimental group and a control group and made each group listen to a speaker with a non-native accent to complete three different tasks: a word-identification task, a category recognition task, and a goodness rating task. The difference between the group was that the experimental group was primed by an exposure to the speaker with a non-native accent before starting each task. The results show that the experimental group had significantly higher ratings in each task than the control group. This supported their hypothesis, and it supports the theory that a listener's familiarity to a non-native accent significantly influences speech comprehension (Xie et al., 2017).

Aside from familiarity, there are other factors that affect the judgement of native speakers when they are exposed to non-native accents. Hansen and Dovidio (2016) state that the ability to process information fluently and the social dominance orientation also influences accent perception and discrimination. Processing fluency refers to how well

people are able to take in information. When people are able to process information fluently, they gain a sense of security, familiarity, and trust for what they have been exposed to. The opposite effect happens when there is a lack of fluency in the processing of information. The other factor, social dominance orientation (SDO), refers a scale of how much people desire dominance over other groups of people. People with high SDO desire to have barriers between social groups, to have a hierarchy of these groups, and to have one group prevail over all other social groups. People with low SDO are the opposite, they desire equal treatment of all social groups despite differences. To test how these factors influences accent perception, the researchers performed an online experiment about hiring recommendations regarding non-native speakers. Participants listened to a thirty second clip of an interview of either a man with a Chinese accent or a man with Latino accent. After hearing the recording, participants answered questions about how likely they would hire the speaker on a 7-point scale. The next set of questions tested participants on how much they remembered from the thirty second clip. This way the researchers know how much information the participants processed from the video. The last set of questions tested the participants' SDO level. It was important to test this at the end so that it did not affect the responses to the other question. The result found that participants with high SDO levels were significantly more likely to find the Latino accent harder to understand than the Chinese accent. It also found that these same participants were significantly more likely to hire the speaker with a Chinese accent over the speaker with a Latino accent. Hansen and Dovidio (2016) speculate that this difference in results happened because participants with high SDO will see a person who is Chinese in a higher stance than the person who is Latino. This study supports that SDO and

processing fluency have an impact on accent perception. It also shows that native speakers can inhibit their own comprehension of accents. For accent discrimination to decrease in society, native speakers should have an understanding of what really hinders their ability to comprehend accented speech (Hansen & Dovidio, 2016).

There are several factors that affect accent perception and discrimination. Nelson et al. (2016) suggests that biological sex also influences the bias native speakers have of people with non-native accents. To test the influence of sex, the researchers had male participants and female participants listen to one of four recordings. The four recordings either had a male speaker with a native English accent, a female speaker with a non-native English accent, a male speaker with a Spanish accent, or a female speaker with a Spanish accent. After listening to one of the recording, the participants answered questions regarding the intelligence and competency of the speakers. The results showed that the female with a Spanish accent had significantly more negative assessments compared to all other speakers recorded. It was also found that male participants gave significantly more negative assessments based on accent discrimination. The researchers also stated that all participants rated the male speakers more positively than female speakers. This suggests that the sex of the participants had more of an influence than the sex of the speakers. The researchers state that there is little known on how sex affects accent perception and discrimination. In order to get a more complete understanding of these topics, subjects like sex, sexual orientation, and other culturally relevant variables should also be investigated with respect to their influence on accent bias (Nelson et al., 2016).

A primary reason accent perception and discrimination is important to understand is because of the vital role it plays in cultural identity. Hansen, Rakić, and Steffens (2017) expanded their research on ethnolinguistic identity theory and social categorization in an experiment of cultural congruency. To test the importance of accent when recognizing cultural identity, participants saw one of four stimuli: a picture of a German man with a audio recording of a German accent, a Turkish man with a Turkish accent, a German man with a Turkish accent, and a Turkish man with a German accent. After receiving the stimuli, the participants rated the speaker on competence and how likeable they were. The hypothesis guiding this study was that participants would depend primarily on accent discrimination to make judgements on the men they saw. Because of this, stimuli that they delivered are seen as incongruent (i.e. German man with Turkish accent and Turkish man with German accent) would receive the most significant evaluations. The results showed that the Turkish man with a German accent received significantly more positive assessments while the German with the Turkish accent received significantly more negative assessments. Along with supporting their hypothesis, these results also supported ELIT when it states that accent is a stronger indicator of cultural identity than facial features (Hansen et al., 2017).

Another aspect to consider about the research by Hansen et al. (2017) is that expectancy played a role in their experiment. When participants were confronted by a supposedly incongruent stimuli, it was unexpected. Hansen et al. (2017) state that unexpected events warrant a negative influence on evaluations. The role of expectancy in accent perception was researched in earlier experiments by Mendes, Blascovich, Hunter, Lickel, and Jost (2007). They state that people have implicit social expectations for

various people groups color their perceptions either positively or negatively depending on their social expectations. For example, if people hear a specific non-native accent, they will expect the speaker to look a certain way. However, when people encounter someone that defies their expectations, they state that a level of certainty has been lost which influences social discomfort similar to being approached by a threat. They hypothesized in their experiments that participants whose social expectation have been defied will show significantly more physiological signs of discomfort during tasks than participants that did not have their expectations defied. This hypothesis was tested in three different experiments. In the first and second experiments, participants were approached by someone who was either White or Latino who expressed that they came from either from a rich or poor socioeconomic background. In the third experiment, participants were approached by someone who was either White or Asian that had an expected accent or a U.S. southern accent. After being confronted by said individuals, they were asked to complete word-finding tasks while their heart rate was recorded, and their behavior was observed. The results showed that people who were approached by someone that defied their social expectations (i.e. the person who was Latino from a rich socioeconomic background or the person who was Asian with a southern accent) had significantly worse results on the tasks and showed significantly more physiological signs of discomfort related to feeling threatened. These results support the idea that accent perception leads to unmet social expectations. This then leads to a loss of certainty and the potential feeling of being threatened in the situation (Mendes et al., 2007).

Throughout the literature, I found that non-native accents cause different perceptions from native speakers than when they hear native accents. Another common

factor throughout this research is the degree to which accent perception effects on communication and judgements is diminished when native speakers have established familiarity with non-native accents. It was also mentioned by Nelson et al. (2016) that sex may influence accent perceptions as well. These will be the key factors that will be examined in the experiment. My hypotheses are that participants will show preference for the accent that is similar to their own over the accents that are not, and that the length of time given to establish familiarity to the accent will lead to more positive judgements.

Chapter 3: Methodology

Participants

110 participants took part in this experiment. All participants are students of Greenville University and were at least 18 years or older. These participants were recruited as part of an extra credit opportunity for a class or were individually approached and asked to participate. Forty-seven participants answered that they were male, and sixty-three participants answered they were female. When asked about race/ethnicity, 73 participants indicated that they are White, 22 participants indicated that they are Black, nine participants indicated that they are Hispanic/Latino, two participants indicated that they are Asian, two participants indicated that they are a race/ethnicity other than the options given, and three participants indicated that they have multiple races/ethnicities. Participants also answered the country they were born in and if English was their primary language. These data points were important because these are potential factors that could influence the results of the experiment. It was also considered to examine speakers with non-native accents separately from speakers with native accents because according to the hypothesis they would identify with a different accent. With this in consideration, 100 participants were born in the North American (United States and Canada), and 10 participants were born in countries located in different continents. One hundred-three participants indicated that English is their primary language, and seven participants indicated a different language as their primary language. During the experiment, five participants indicated that they recognized at least one of the speakers in the recording. However, their data was included in the results despite this factor because it did not have a significant impact on the results.

Materials

In order to conduct this experiment, a recording was made of male voices with different accents reading an article on healthy eating. This article was chosen as reading material for the recording because it was about a neutral topic, it had easy vocabulary, and would not warrant any perceptions that could affect the results. The people who were recorded were asked personally if they would be willing to be recorded for the experiment. They were recorded individually at different times in an isolated room. One of the voices is a native-English speaker from the Midwest of the United States. This recording served as the speaker that will be the most familiar to the main demographic of the participants found at Greenville University. The three other voices were people from different countries whose primary languages are not English. These non-native English speakers are from the countries of Spain, China, and Pakistan respectively, and they have accents that are associated with these countries. Their voices were recorded on a cell phone and then downloaded onto a laptop to be played for participants. The recording was modified into two different versions so that the voices would play for either one minute or five seconds. It was also made to where the voices could be played in a random order for each participant. Earbuds were provided to participants in order to isolate the recording from any background sounds.

A list of questions was also created for participants to answer about the voices they heard. This list asked people to rate different positive traits on a seven-point Likert-scale. Participants rated the voices on how competent, articulate, attractive, inviting, and likeable they sounded. Each point of the Likert-scale had a specific meaning. For example, if rate a “1” it meant extremely unlike the trait, “2” meant moderately unlike the

trait, “3” meant slightly unlike the trait, “4” meant neither unlike the trait or is like the trait, “5” meant slightly like the trait, “6” meant moderately like the trait, and “7” meant extremely like the trait. Each participant gave ratings for each voice they heard.

In addition to the five questions regarding the voices, a demographic question was written for participants to indicate any naturally-occurring variables that could influence the results of the experiment. This demographic questionnaire asked the participants to indicate their sex, race/ethnicity, the country that they were born in, and their primary language if it is not English.

Procedure

Participants were randomly assigned to either listen to the recordings for one minute or five seconds. The order of the voices was also randomly made for each participant to ensure no order effect influenced the results of the experiment. When participants entered the room, they were given a recruitment statement to read. This statement explained the procedure and their rights as a participant. If they agreed to participate after reading this statement, the experiment continued. The participant received a demographic questionnaire to fill out before being given the earbuds to listen to the recordings.

Once the participant had the earbuds in, the recording was played for either one minute or five seconds. After the recording was done, participants filled out the list of questions on the voice they heard. If the participant was confused as to what a word meant (i.e. did not know the word “articulate”) they were given a short explanation of the word when it was needed. This process of listening to a recording and answering the list of five questions was repeated until it was conducted using all four voices. After the

experiment was completed, participants could ask questions about the experiment and ask for any explanations on what was being tested. The participants left the room once they were debriefed.

Chapter 4: Results

Each question was examined individually as its own category (referred to as Competence, Articulation, Attractiveness, Inviting, and Likeable). They were separately analyzed on a scale of 1 to 7 with 3.50 being the midpoint of the scale. The score represents the judgement participants made based on the voice that they heard. Higher scores indicate greater positivity toward the people group represented by the voice, and low scores indicate negativity to the people group represented by the voice. The scores were then averaged to find the result of each category. Another category was created which I called the “Total Positivity” rating, this was the sum of all the scores of each question. The scores range from 5 to 35 with 20 being the midpoint of the scale (with any score under 20 being viewed as a negative score). All categories were evaluated on the main effect of accent and the variables of sex of participant and length of recording. Participants were also separated as either from North America or not from North America and whether the participant primarily spoke English or had a different primary language. It should be taken into consideration that seven participants were not included into the data. Participants who indicated that their primary language was not English were excluded. Their responses could not be evaluated the same as the English-speaking participants, and there was not enough data to have a separate analysis conducted for them.

For the primary analysis, the Total Positivity rating was analyzed using a 2 (Sex of participant) x 2 (Length of recording) x 4 (Accent) Repeated Measures ANOVA using Total Positivity ratings as the dependent variable. This test revealed only a significant main effect of Accent, $F(3, 297) = 58.07, p < .001$. Post-hoc pairwise comparisons

revealed that the four voices were each rated differently from each other. As seen in Figure 1, all participants, regardless of sex or length of recording, rated the U.S. voice ($M = 26.15$, $SE = .56$) most positively, followed by the Spanish voice ($M = 23.53$, $SE = .51$), followed by the Pakistani voice ($M = 20.51$, $SE = .62$), with the lowest Total Positivity rating given to the Chinese voice ($M = 18.27$, $SE = .61$).

To examine patterns of responding to the five questions, each question was subjected to a 2 (Sex of participant) x 2 (Length of recording) x 4 (Accent) Repeated Measures ANOVA. For Competence, the analysis showed a significant main effect of accent $F(3, 297) = 36.36$, $p < .001$, but no significant effect of length of recording or sex. As shown in Figure 2, post-hoc tests revealed that each voice was rated significantly different from each other. Specifically, the U.S. voice ($M = 5.59$, $SE = .14$) was rated as the most competent, followed by the Spanish voice ($M = 5.12$, $SE = .14$), followed by Pakistani voice ($M = 4.59$, $SE = .17$), with the Chinese voice ($M = 4.05$, $SE = .15$) receiving the lowest Competence rating.

For Articulation, the analysis showed a significant main effect of accent $F(3, 297) = 67.12$, $p < .001$, but no significant effect of length of recording or sex. As shown in Figure 3, post-hoc tests revealed that each voice was rated significantly different from each other. Specifically, the U.S. voice ($M = 5.65$, $SE = .14$) was rated as the most articulate, followed by the Spanish voice ($M = 4.67$, $SE = .13$), followed by Pakistani voice ($M = 4.27$, $SE = .15$), with the Chinese voice ($M = 3.40$, $SE = .15$) receiving the lowest Articulation rating.

For Attractiveness, the analysis showed a significant main effect of accent $F(3, 297) = 23.66$, $p < .001$, but no significant effect of length of recording or sex. As shown

in Figure 4, post-hoc tests revealed the U.S. voice ($M = 4.49$, $SE = .14$) and the Spanish voice ($M = 4.48$, $SE = .11$) were not significantly different from each other but were rated significantly higher than the Pakistani voice ($M = 3.82$, $SE = .13$) which was then significantly higher than the Chinese voice ($M = 3.41$, $SE = .12$) on the Attractiveness rating.

For Inviting, the analysis showed a significant main effect of accent $F(3, 297) = 35.15$, $p < .001$, but no significant effect of length of recording or sex. As shown in Figure 5, post-hoc tests revealed that the U.S. voice and the Spanish voice being significantly different from all other accents, but the Pakistani voice and Chinese voice being significantly different from the U.S. and Spanish but not from each other. Specifically, the U.S. voice ($M = 5.16$, $SE = .14$) was rated as the most inviting, followed by the Spanish voice ($M = 4.55$, $SE = .14$), followed by Pakistani voice ($M = 3.70$, $SE = .16$) and the Chinese voice ($M = 3.56$, $SE = .15$) receiving the lowest Inviting rating.

For Likeable, the analysis showed a significant main effect of accent $F(3, 297) = 28.03$, $p < .001$. As shown in Figure 6, post-hoc tests revealed that The U.S. voice and the Spanish voice being significantly different from all other accents, but the Pakistani voice and Chinese voice being significantly different from the U.S. and Spanish but not from each other. Specifically, the U.S. voice ($M = 5.26$, $SE = .14$) was rated as the most likeable, followed by the Spanish voice ($M = 4.71$, $SE = .12$), followed by Pakistani voice ($M = 4.12$, $SE = .15$) and the Chinese voice ($M = 3.85$, $SE = .15$) receiving the lowest Likeable rating. The main effect of accent was modified by a two-way interaction with length of recording, $F(3, 2917) = 4.24$, $p < .01$, which was further modified in a three-way interaction among accent, length of recording, and sex of participant, $F(3, 297) = 2.813$, p

<.05. As shown in Table 1 and Table 2, these interactions reveal minor differences between male and female participants, compared to the main pattern of results, and only in the five-second condition.

Chapter 5: Discussion

One hypothesis for this experiment was that participants would significantly prefer the voice with an accent similar to themselves over the voices with differing accents. The other hypothesis was that the longer participants had to establish familiarity with the accents would lead to significantly higher ratings than the participants that did not. As stated in the results, there was a main effect of accent across all five questions and their total positive response score. In almost all categories, the U.S. voice had the significantly highest rating, the Spanish voice was significantly rated second, the Pakistani voice was significantly rated third, and the Chinese voice was the significantly lowest rated accent in the experiment. The exceptions to this pattern were the question on attractiveness where the U.S. voice and the Spanish voice did not have a significant difference between them (but they were both still significantly rated higher than the Pakistani voice and the Chinese voice) and the questions on invitingness and likeability where the Pakistani voice and the Chinese voice did not have a significant difference between them (but they both still had significantly lower ratings than the U.S. voice and Spanish voice). The results also supported the hypothesis that people will rate a speaker whose accent is familiar to theirs more positively than accents that are unfamiliar to them (i.e. the U.S. speaker have the most significantly highest ratings in a study where participants were predominantly from the United States).

For the majority of the results, there was no significant effect of length of recording or sex of participant in the Total Positivity rating or other categories. The only exception to this is the change in pattern in the question rating likeability where the pattern was modified by a two-way and three-way interaction between variables. These

results retain the null hypothesis that listening to a recording for longer period of time (and gaining familiarity with the voice) will not influence higher ratings.

During this experiment, there were errors and limitations which I confronted throughout the process. The limitations that were discovered were that the design of the experiment made testing variables obvious, the possibility of a voice being recognized, the varying comfort levels of English of the people who recorded the voices, the lack of consideration of participants who are multilingual (i.e. participants that may know three or more languages), and the lack of inclusion of non-native English speakers as participants. If this experiment was repeated, I would suggest to taking these factors into consideration in the hopes that this would improve the experimental design.

One way this study could be expanded is to use the experiment with participants with non-native accents. When examining the data of the seven participants that indicated they had a primary language that was not English (i.e. the participants that were taken out of the final results), there was a pattern where they would rate the U.S. speaker either higher or equal to the speaker that had the same primary language as them (i.e. the participant that indicated Chinese as their primary language rated the U.S. voice higher than the Chinese voice). It would be interesting to see if this pattern would appear in significant data and to look into the implications of what that would mean. It could lead to more discussion on non-native speakers view themselves compared to native speakers.

Another way this study could be expanded is to repeat this experimental design, but with different sub-categories of native English speakers from the same country. For example, the person recorded as the U.S. voice is from the Midwest of the United States. Therefore, this could be used in an experiment where this speaker is compared to a

speaker from the East Coast, West Coast, and the Southern states. This could test how much familiarity effects our judgments even when listening to speakers all from the same country.

If there was access to a larger sample of a population, this study could be repeated with the added variable of female speakers recorded for participants to hear. In earlier research, it was indicated that female speakers were rated lower than male speakers of the same accent. This supported the hypothesis that there is an interaction with sex bias and accent discrimination where people prefer male, native speakers over female, non-native speakers (Nelson et al, 2016, pp. 166-185). This could be tested again to see if said experiment would yield similar results to different types of accents.

Something that was also not included in this experiment was how expectancy and uncertainty may be influence the results of this study. Similar to the study by Bestmeyer et al. (2014), This variable could be done by monitoring heart rate and/or brain activity as the experiment is being conducted. This could track whether there are significant differences in physiological responses between the native speaker and the non-native speakers. Along with this, there could be specific orders in which people listen to the different specific speakers. It could be monitored whether changing from one accent to other leads to different levels uncertainty and different physiological patterns. This factor could replace the time-of-recording value in the experiment design to see if there are more significant interactions between accent and certainty.

Monitoring brain activity could demonstrate how each accent affects the different parts of the brain as they listen to the recording. It could be suggested to monitor activity in the frontal lobe as participants make their judgements on the recording surveys.

Potentially, it could be determined if there is a difference in brain activity based on whether participants are listening to a native speaker or a non-native speaker.

Referring back to the results of this experiment, in almost all categories, the U.S. voice was rated significantly higher than all other speakers that come from different countries (the only exception being the attractiveness question). These results support the idea that native speakers have a more positive response to the voice of another native speaker than to the voice of a non-native speaker. It is important to point out that the majority of the ratings for the other voices were above the midpoint (meaning that they were positive ratings). There are a few exceptions, but for the most part all voices viewed positively by the participants. This means that the results may indicate more of a preference for the U.S. voice rather than accent discrimination to the other non-native voices. This may have been because the participants had prior exposure to the non-native accents that were featured in the experiment. This led to the accent variable to have less of an impact than if they did not as much exposure to non-native accents.

As for the other voices recorded for this experiment, the voice with the Spanish accent was rated second only to the U.S. voice in practically all of the tests. A possible reason as to why this happened is that there is a relatively decent-sized Spanish speaking community in the University that this experiment was conducted. It is more likely that the participants have been exposed to a Spanish voice more than the Chinese voice and the Pakistani voice. Participants could have possibly had time to establish familiarity to accents related to Spanish before taking part in the experiment. If this is the case, it supports the statement that perception of English proficiency is closely related to listener

familiarity to the accent. People could still have an accent without their speech being seen as unfavorable or incomprehensible.

The Spanish voice was also the only voice to have an equal rating to the U.S. voice on one of the categories (attractiveness). This potentially means that people make different types of assumptions solely based on the accent of the voice. It may be that participants had preconceived notions about the Spanish voice that lead to them giving it a higher rating on Attractiveness. This supports the idea that accent perception has an influence on judgements.

In the case of the Pakistani voice, it was rated third over the Chinese voice (four times out of the six tests that were conducted). It was assumed that this voice would be rated the lowest considering prejudice some U.S. citizens have towards people from Pakistan. As said by Hansen et al. (2017) and Rakic' et al. (2010), a person's ethnolinguistic identity is perceived by their accent. People will use this information and insinuate certain things about others based on how they feel about the people of the geographical area. It could be assumed that the Pakistani voice was rated lower than the U.S. voice and Spanish voice because how people perceived his culture. However, it is more likely that the Pakistani voice was rated lower because participants may have had less exposure to this particular accent.

As for the Chinese voice, this accent was rated the lowest out of all the voices. Even in cases in which there was no significance between this voice and the Pakistani voice, the pattern continued to where the Chinese voice was still the lowest score (the only exception being the two-way and three-way interaction). It was also the only voice that had scores that were below the midpoint of the scales (i.e. Total Positivity rating,

Attractiveness, and Articulation). There are several possibilities as to why this happened in the experiment. It could be assumed that participants were the least familiar with this type of accent which affected how they rated it compared to the other speakers. Because the participants may have not been used to this type of non-native accent, they had a harder time understanding the voice. It could be that participants had different perspectives on the Chinese voice that lead them to have different judgments on it than the other voices. Another influence is that each speaker that was recorded had different ways of pronouncing the words in the script. Non-native speakers have different sounds in the English language that are more difficult for them than others depending on the language that they are used to. It could be possible that the Chinese voice was rated lower in the categories because the person recorded had more difficulty reading the script than the other people recorded. Despite the effort to pick a script that would be easy for people whose primary language is not English, this possibility should be taken into consideration.

In the results, there were really no significant results based on the amount of time the person heard the recording. The assumption that people who listened to the recording for one minute would give higher ratings than people who only heard the recording for five seconds. This assumption was based on the theory that time to establish familiarity and the addition of context (i.e. listening to the accent while the participant hears the information of the article) would influence the ratings to be higher for all voices. It was also assumed that participants' initial responses would be different than when they had more time process the voice (Momenian, 2011; Munro, 2003). This was not the case, and there were even some patterns in some of the data in which the longer that people listened

to the speaker the lower their ratings were. It is possible that one minute was not enough time to become familiar with the voice or the accent that was featured. The original length of the recording was three minutes before it was modified. This means that the participants were not given the entire context of what the voices were talking about. It is also possible that having more time to listen to the voices would have a negative influence instead of a positive one. Having to listen to an accent that is unfamiliar for a longer period of time, may have had a negative effect because they could not understand the voice. Participants who only had five seconds to listen to the recording could not have had this experience since it was cut off after the first sentence.

There were also not any significant results based on sex of participant in the experiment as well. In other research, the authors found significant differences in ratings based on sex of speaker that was recorded. This supported that there was a relationship between perceptions based on accent and perceptions based on sex (Nelson et al, 2016). However, the results of this experiment contradict with idea since sex of participant had no significant effect. Although, this could possibly mean that people have differing perceptions of men and women, but their perceptions are not influenced based on their personal sex.

The main pattern in which the voices were rated were modified by a two-way interaction of accent and length of recording and additionally modified by a three-way interaction between accent, length of recording, and sex of participant in one category (Likeable). It is unclear to what this means because the results were not as descriptive for these interactions as they were for the main effects. Because for the lack of clarity, it is difficult to make assumptions as to why these interactions occurred. It is also interesting

that these interactions only happened for the Likeable category. It may be possible that this question had a different sense of subjectivity that was not present in the other categories which led to these interactions.

Outside of the experimental results, it should be considered that these judgements based on accent perception happen in other scenarios other than a manipulated scenario. If research continually supports that native English speakers show preferences towards themselves (in multiple categories) compared to non-native English speakers, this supports that there is an added difficulty to becoming a part of a new culture; especially if in the new environment has a dominant language that is unlike one's primary language. This creates a barrier of communication between native and non-native speakers and makes it harder to integrate culture communities together.

If people stay with this implicit tendency, it may lead to difficulty in integrating the different social groups of a country. There is nothing inherently wrong with enjoying one's own culture, it is another case when it causes negative affects the lives and the well-being of other people. Although the results did not indicate any strong sense of discrimination based on accent, awareness of how perception lead to different judgements should still be emphasized. Preferences toward native accents over non-native accents could also potentially lead to different types of negative situations.

Chapter 6: Conclusion

If it is desired to welcome more diversity into the U.S. society, the issue of preferences based on accent perception should be addressed. In current times, explicit accent discrimination is now seen as morally wrong, but now effort should be made to bring more awareness to implicit bias regarding accented speech and how it hinders the ability to have a more integrated society. If people want to have more involvement in globalization, it could be considered native speakers to confront accent preferences based on accent perception.

To achieve this, one recommendation is to put less emphasis on accent elimination and to focus more on establishing listener familiarity. One could assume that if people with native accents put effort into exposing themselves to different types of languages and spoke to people with non-native accents more often that they would establish familiarity. Establishing this would not only change the perception of the accent, but it would also change the neural function that processes the perceived accents. This would mean that accent perception would have less influence in their judgements of other people. Once people are comfortable with non-native accents, they will focus on different context of conversation to create a more accurate judgement of the person.

It is also recommended to not see English proficiency as an indication of positive individual attributes. A person's ability to express themselves in English is not necessarily an equivalent to their actual abilities. If people with a non-native accent are given the opportunity to express themselves in their primary language, it would be definitely be an easier task to do so. The difficulty of translation can vary depending on what stage of life the new language was acquired. Therefore, the ability for people with

non-native to express themselves in English should be seen as more of an indication on how well they have mastered the language instead of their personal capabilities.

Along with more awareness of accent perception and discrimination and more effort to establish familiarity to different accents, there is also potential to confront the issues that come from social expectation. If people become more familiar with different types of people with varying accents, this could possibly influence there to be less uncertainty in social interactions. People with have more experiences that will broaden their social expectations making it less likely for them to feel threatened in a social interaction. Confronting this issue would help to lessen the barriers between people with native accents and people with non-native accents and promote a more integrated culture.

Another recommendation to consider is that the process of social categorization does not give people all information about the identities of others. Indeed, there are certain aspects of people that can be assumed in regard to their cultural origin. Assumption based on previous information do not give a holistic view of the identity of others. In order to make judgements on personal aspects, more context should be added to have a more accurate perception. Although it is natural to make judgements based on the initial information, it should be considered that there is more to be known about people than just their first impression.

It should also be considered that social categorization and judgements based on accents prolong the influence of the perpetual foreigner stereotype. Even in situations where non-native speakers have lived in their new countries for years, they are still seen as “foreigners” because their accent represents a different geographical location. Despite establishing a new life in the new culture, they are still viewed similarly as to when they

originally immigrated. This stereotype creates barriers between people with native accents and people with non-native accents and makes it difficult for them to be fully assimilate with a new culture. Unless people are aware of accent perception and social categorization, they cannot confront the perpetual foreigner stereotype and how it influences people with native accents not to see people with non-native accents as occupying the same social status as themselves.

The different types of social groups that are created when the perpetual foreigner stereotype is enforced should be examined. It should also be examined what types of people are seen as the native citizens of the United States (i.e. the ingroup of the country) and who are seen as the non-native citizens (i.e. the outgroup of the country). This may lead to more awareness to how implicit bias forces society into different categories that can be difficult to integrate. If people are continually labeled as “foreigners” despite their many efforts to integrate with the new culture, it may be due to an unwillingness to recognize how social categorization leads to people being forced into ingroups and outgroups.

This discussion of different types of social groups also includes separating people based on their ethnolinguistic identity. This phenomenon is indicated by how different voices in the experiment had significantly different ratings based on accents. The way that the voices were ranked by the participants in experiments may potentially be the way that they are ranked in actual social situations. These types of ratings are dependent on previously discussed factors such as exposure to people from a specific culture or how the society of the native speakers view the country that the non-native speakers are from. If diversity is a goal for society, the society should examine how these perceptions lead to

the perception of the current social hierarchy structure. More information on accent perception could lead to better interactions between people with native accents and people with non-native accents, which in turn could lead to a dismantlement of separated social groups. This would lead to a more diverse and integrated culture.

As stated throughout this research, the intent of this study was to show that there is a significant difference in how people perceive different types of accents. Because the hypothesis on the difference in accent perception was supported, it also supports that this phenomenon happens in society. More awareness to this topic may lead to more action that could be taken to confront issues that accent perception causes.

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Appendices

I. FIGURES

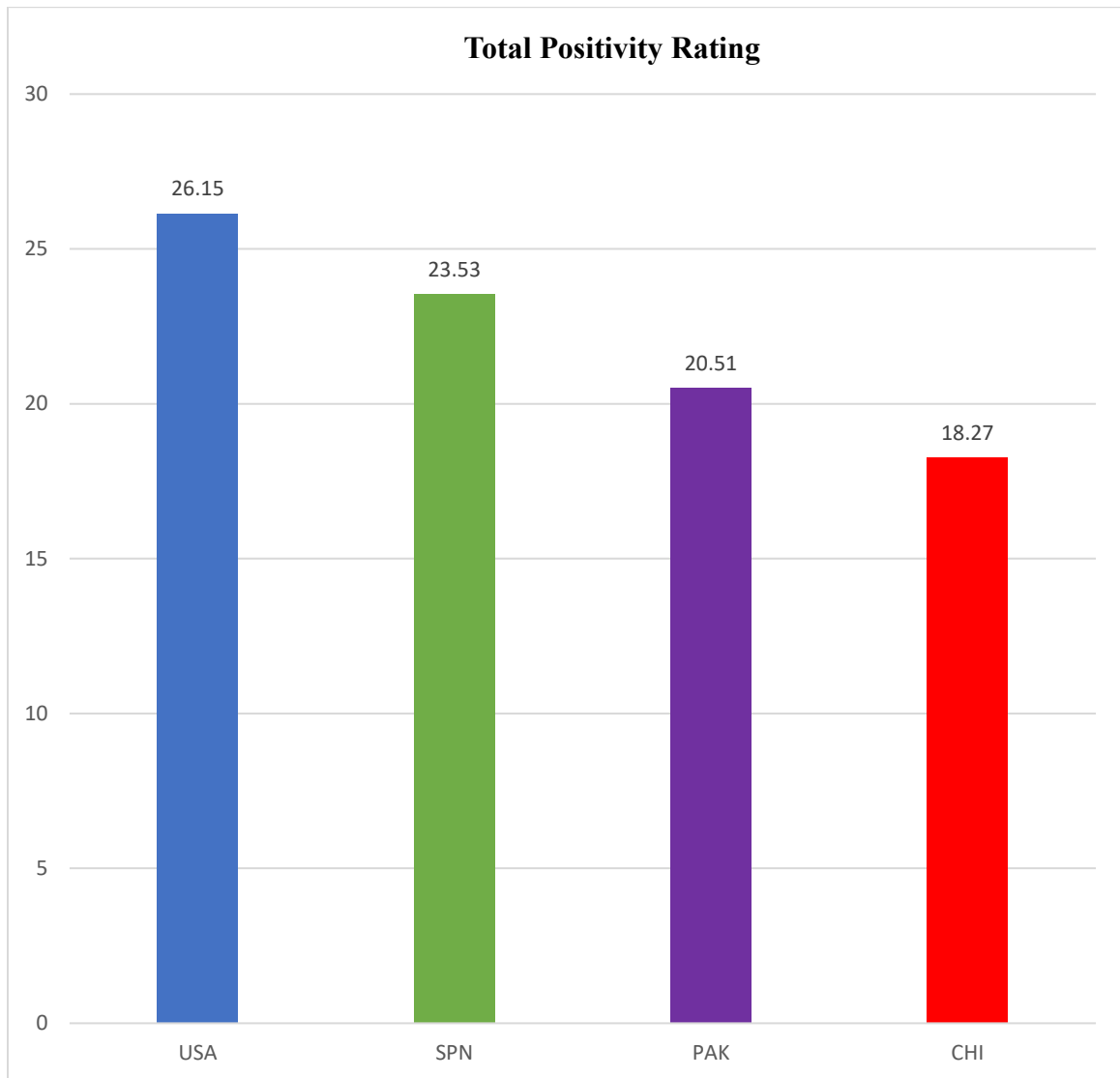


Figure 1. The means for the total positivity ratings based on the main effect of accent.

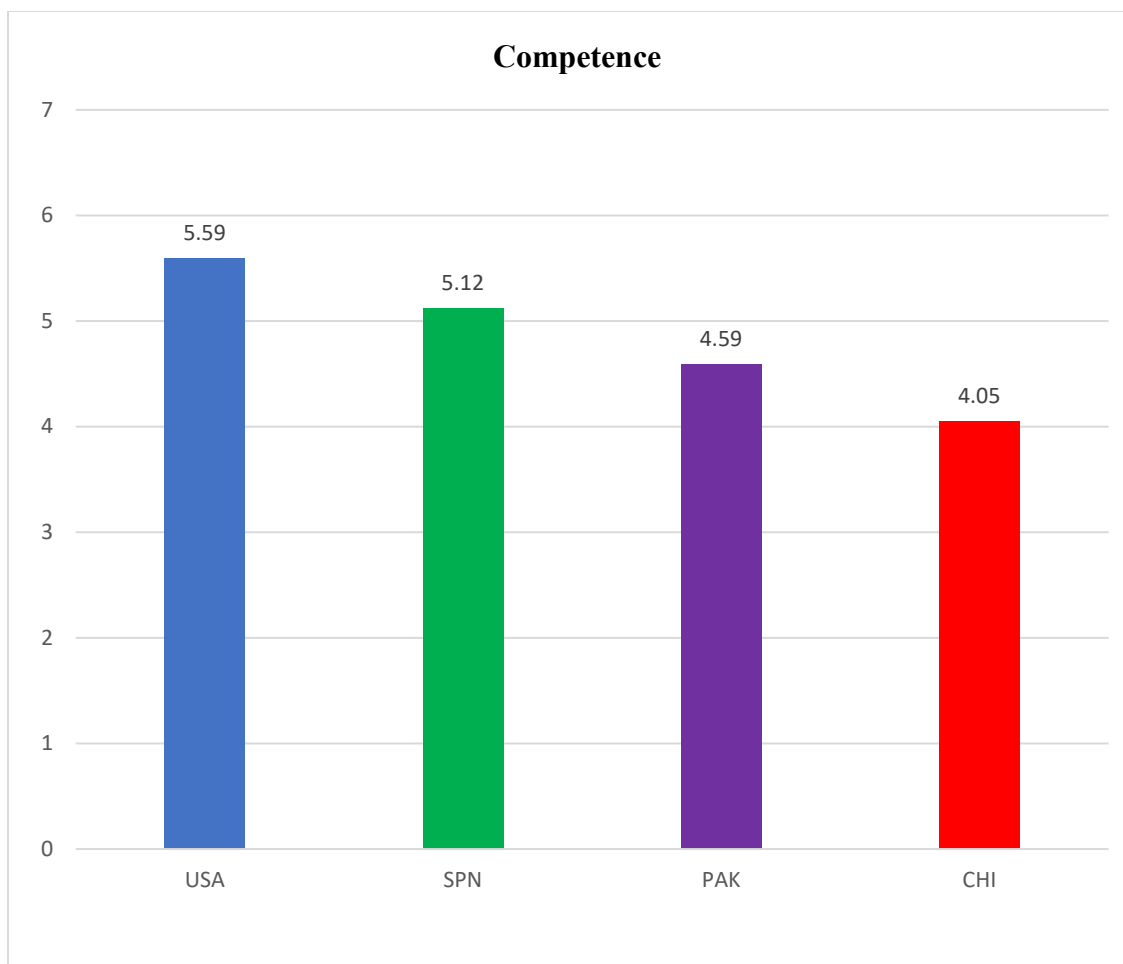


Figure 2. The mean ratings of competence based on the main effect of accent.

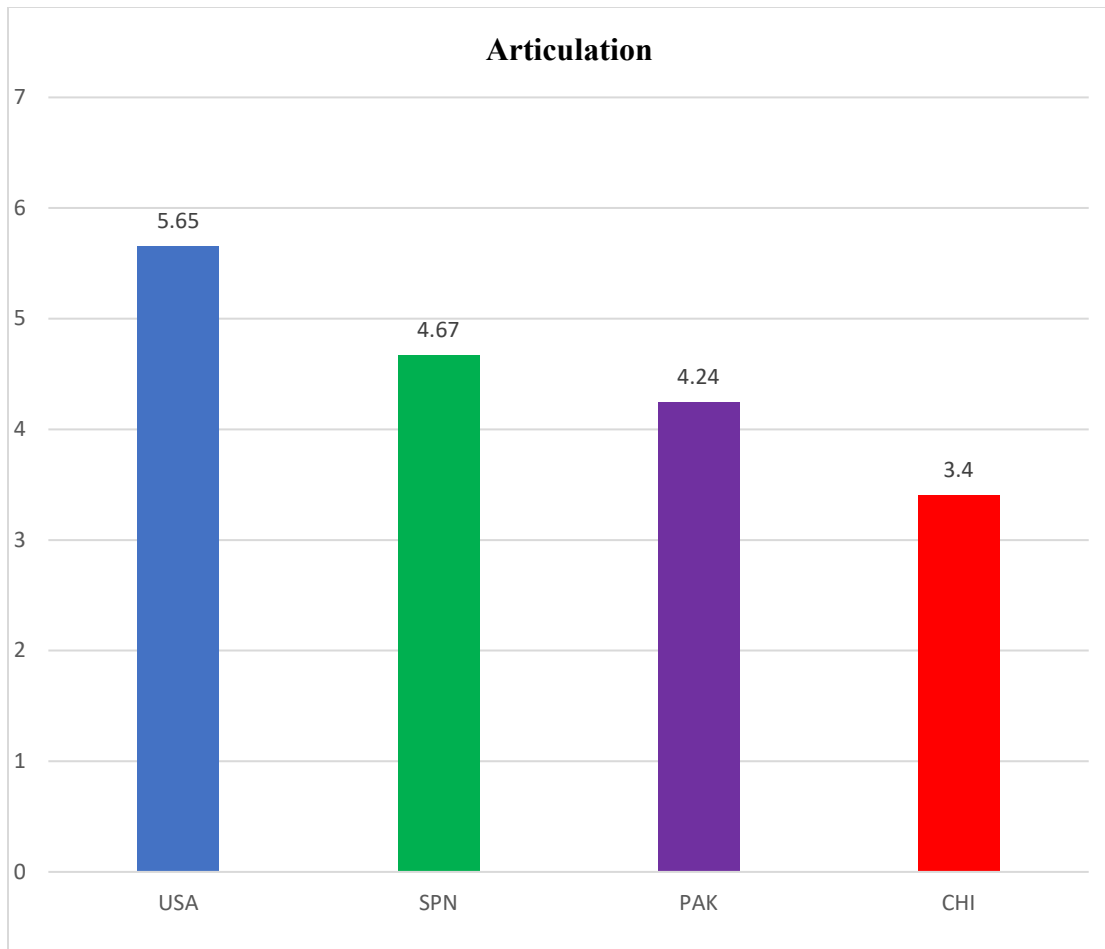


Figure 3. The means of the ratings given based on the main effect of accent.

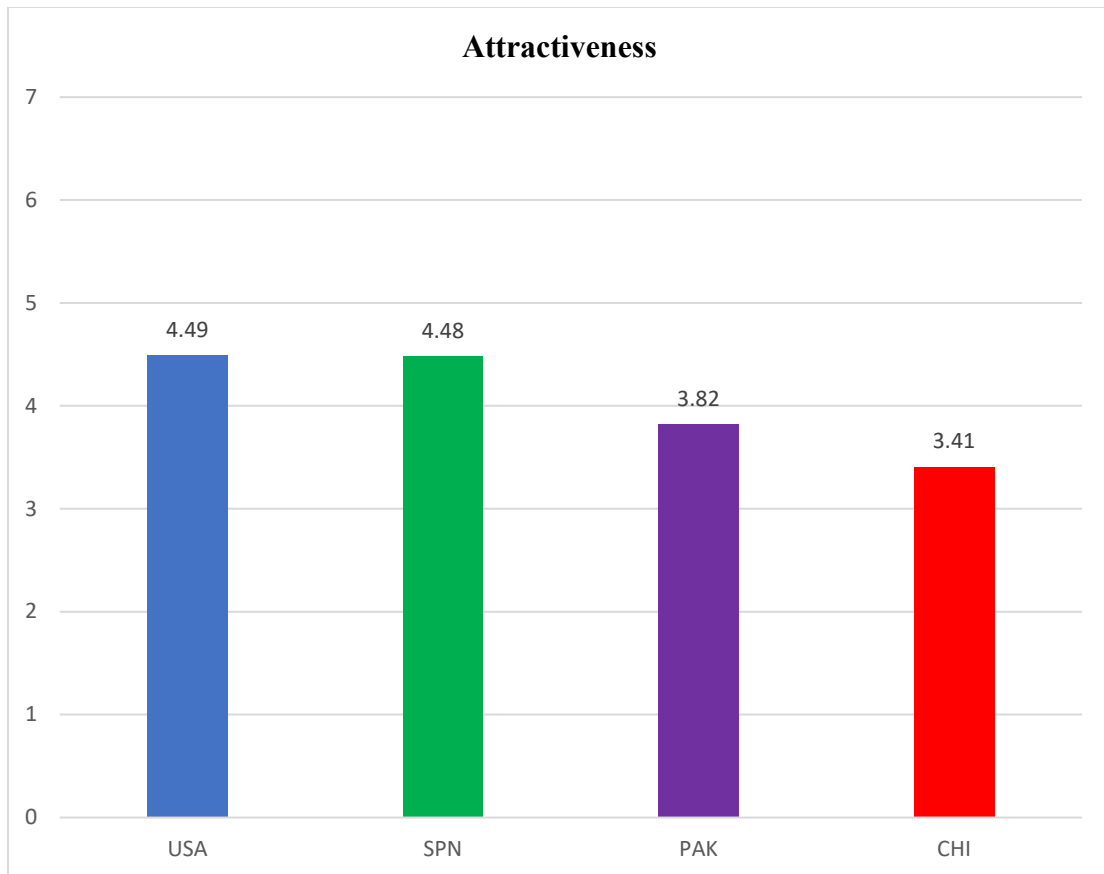


Figure 4. The means of the given ratings of attractiveness based on the main effect of accent.

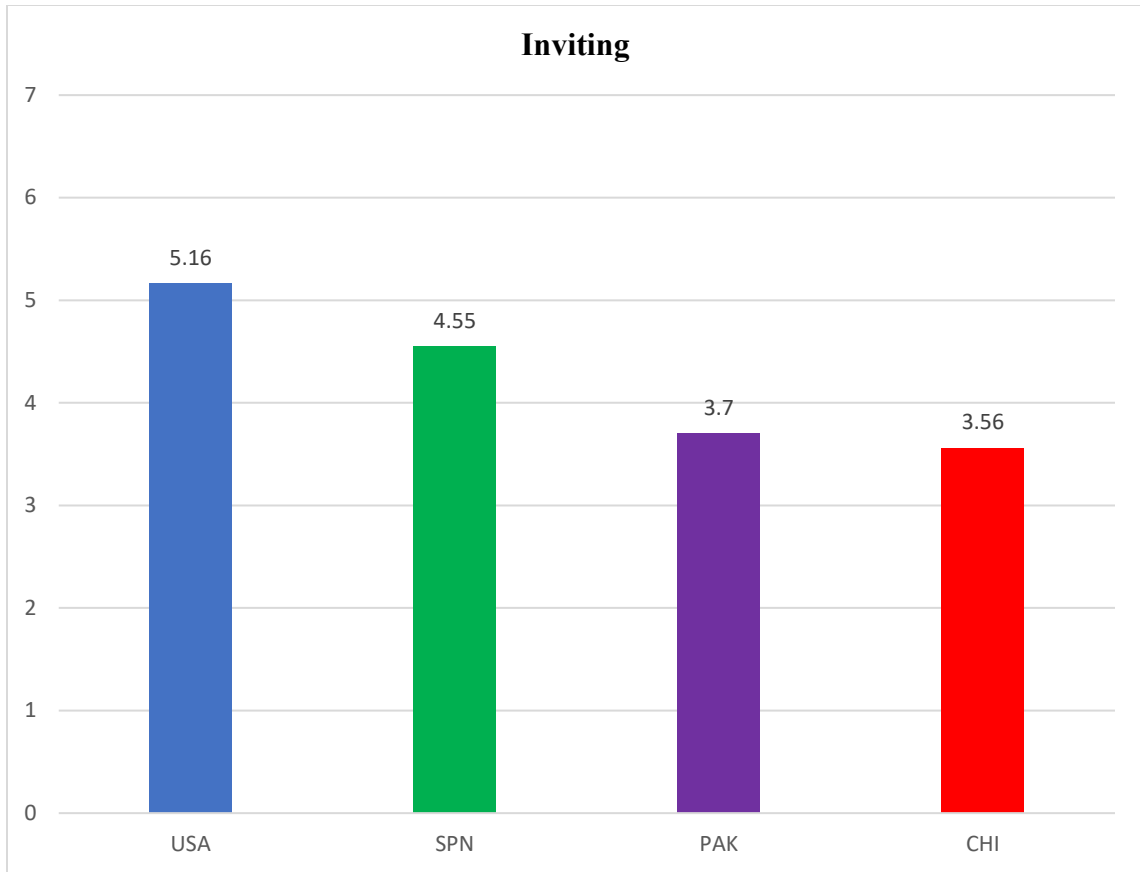


Figure 5. The means of the given ratings of how inviting the was based the main effect of accent.

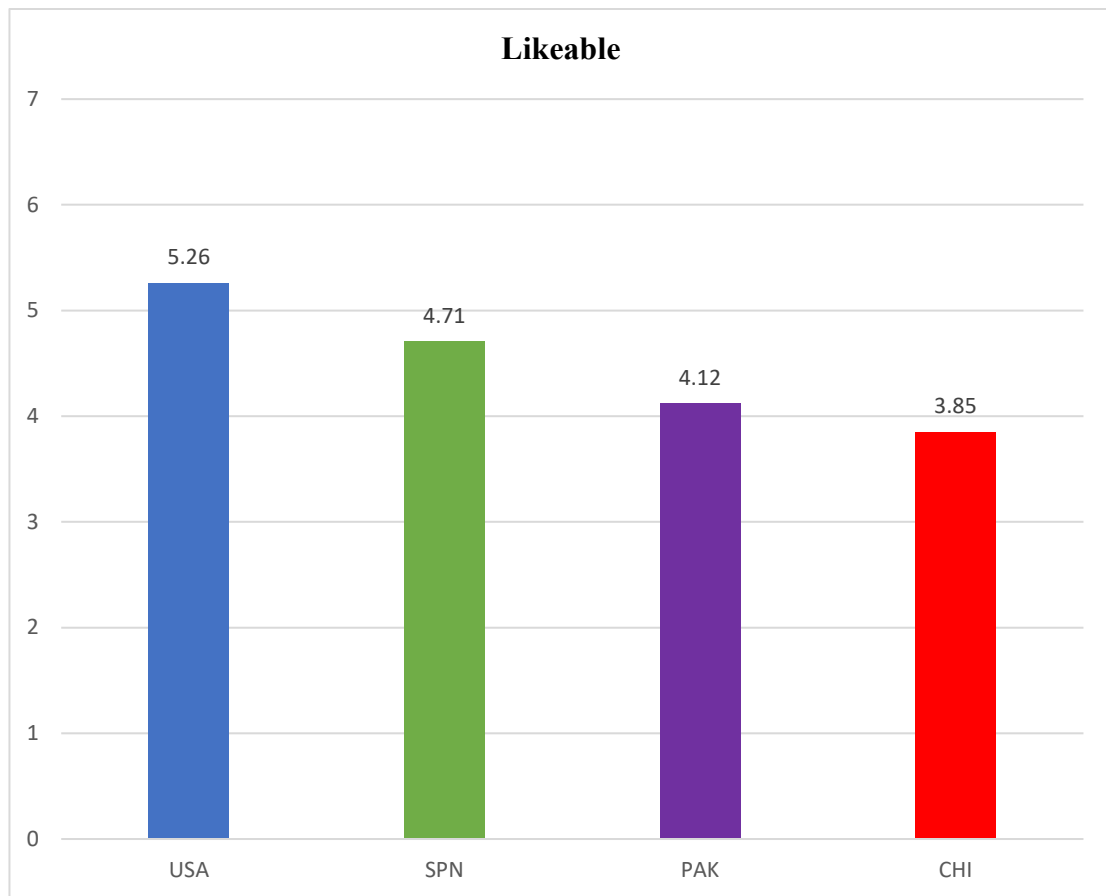


Figure 6. The means of the given ratings on how likeable the speaker was based on the main effect of accent.

II. Tables

Table 1.

Likeable Category: Two-way Interaction Between Accent and Length of Recording

One Minute	Five Seconds
U.S. Voice ($M = 5.11, SE = .20$)	U.S. Voice ($M = 5.40, SE = .20$)
Spanish Voice ($M = 4.82, SE = .16$)	Spanish Voice ($M = 4.61, SE = .16$)
Chinese Voice ($M = 3.96, SE = .21$)	Pakistani Voice ($M = 4.52, SE = .21$)
Pakistani Voice ($M = 3.73, SE = .21$)	Chinese Voice ($M = 3.74, SE = .22$)

Note. These are the results of a 2 (Sex of participant) x 2 (Length of Recording) x 4 (Accent) Repeated measures ANOVA on the Likeable category. It shows a two-way interaction between accent and length of recording, $F(3,297) = 4.23, p < .01$, that show a minor difference between one minute condition and five seconds condition. A post-hoc test was conducted to find significance between the voices, but it did not yield results.

Table 2.

Likeable Category: Three-way Interaction Between Accent, Length of Recording, and Sex of Participant

Male		Female	
<u>One Minute</u>	<u>Five Seconds</u>	<u>One Minute</u>	<u>Five Seconds</u>
U.S. Voice	U.S. Voice	U.S. Voice	U.S. Voice
Spanish Voice	Pakistan Voice	Spanish Voice	Spanish Voice
Chinese Voice	Chinese Voice	Chinese Voice	Pakistan Voice
Pakistan Voice	Spanish Voice	Pakistan Voice	Chinese Voice

Note. These are the results of a 2 (Sex of participant) x 2 (Length of Recording) x 4 (Accent) Repeated measures ANOVA on the Likeable category. It shows a two-way interaction between accent and length of recording, $F(3,297) = 2.813, p < .05$, that shows a minor difference between male and female participants, but only on the five-second condition. A post-hoc test was conducted to find significance between the voices, but it did not yield results.