The Association between Ethnic Group Affiliation and the Ratings of Comprehensibility, Intelligibility, Accentedness, and Acceptability

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Abstract

Previous research has shown that there is a relationship between language and identity, and thus the present study focuses on ethnic group affiliation (EGA) as a part of one’s ethnic group identity and its association with speech constructs (i.e., intelligibility, comprehensibility, accentedness, and acceptability). EGA scores were collected through an online questionnaire and the speech data were evaluated globally using a 9-point Likert scale. Contrary to the findings of previous research on the relationship between EGA and the aforementioned speech constructs, the present study did not find any significant correlations between speakers’ EGA scores and their ratings on the four speech constructs at least in a non-conflictual college context. Furthermore, there was also no relationship between the non-native speakers’ daily use of language and their EGA scores. Similarly, the listeners’ EGA scores also did not correlate significantly with the way they evaluated the speech samples. The only exception in this correlation was the relationship between language-related EGA and the accentedness scores. Finally, the study also points to a trend where a new generation of native speakers of English tend to score non-native speech less harshly especially as regards accentedness.

Keywords: ethnic group affiliation, intelligibility, comprehensibility, accentedness, acceptability

Introduction

The moment we open our mouths and start speaking, we start giving clues about ourselves as to our linguistic background, political and social beliefs, social status, and how we position ourselves with regard to, for instance, gender roles in a given society. What is more, the current literature, further complicating the issue, suggests that positioning takes place on micro, meso, and macro levels with or without our awareness (Anderson, 2009), and that it is possible to assume positions that are in conflict with one another (Kayi-Aydar, 2015). This is why research on language learners would only depict a black and white picture of language
learners’ experience if it were not to involve the learner as an organic system with numerous dimensions and the social context where the learning is happening. Within this framework, learners’ failure to acquire certain speech patterns can be explored in a wider sense instead of relating it to, for instance, the lack of motivation on their part. To elaborate, learners may be, even subconsciously, trying to preserve their identities by not speaking the language as the native speakers around them do in order to distance themselves from that social group (Sung, 2016).

On the contrary, depending on their situated social context, language learners might also be willing to manipulate the way they speak their second or foreign language to sound native-like in an effort to build better rapport with native speakers around them. Although the current literature argues against aiming for native-like speech (e.g., Thomson, 2018), some learners still aspire to speak like native speakers (Derwing, 2003; Goodwin, 2014; Timmis, 2002), as will be discussed in-depth in the literature review. What this tells language teachers is that when a learner excels or fails at pronouncing words in their target language, it should not be considered mere existence of hard work or its lack thereof. Therefore, partially replicating the Gatbonton, Trofimovich, and Segalowitz’s (2011) study, the present study will explore the possible relationship between one’s ethnic group affiliation (EGA) as one of the social factors at play during language learning and their scores on intelligibility, comprehensibility, accentedness, and acceptability (hereafter “the four speech constructs”). Considering how learners affiliate themselves with their own ethnic group and the target language group, language teachers should be able to make more holistic rather than impressionistic judgments about their learners’ performance regarding pronunciation.

The unique contribution of this study also relates to the fact that previous research in this domain (Gatbonton, Trofimovich, Magid, 2005; Gatbonton et al., 2011) has focused on Francophone speakers of English in Montréal, Québec, where there is tension between English and French, creating a conflictual environment, as they also highlight in their studies. The present study, in contrast, aims to investigate the possible correlation between the EGA scores of international students who came the United States of their own volition and their ratings on the four speech constructs, complementing previous research in this regard. Although I acknowledge the multitude of factors that come into play when looking into the social aspect of language learning as discussed earlier, the international students in the present study are not expected to feel that their native language is under a threat, unlike the participants in the previous studies. Moreover, similar studies (e.g., Gordon, 2012; Lybeck, 2002; Polat & Schallert, 2013) in the past either looked into pronunciation without referring to the four speech constructs that the present study employs or they simply focused on accentedness in connection with social or psychological factors. Therefore, it should be interesting to see how the results of this study complement its precedents by incorporating the aforementioned speech constructs and ethnic group affiliation as one of the sociopsychological factors.
Literature Review

The Four Speech Constructs

As more and more studies have shown that native-like proficiency for adult learners particularly in terms of pronunciation is not easily achievable (Abrahamsson & Hyltenstam, 2009), and it is the case only for a handful of exceptional language learners (Marx, 2002; Scovel, 2000), it has become necessary that a new yardstick be created for language learners instead of comparing their performance with that of native speakers. Isaacs (2014) also emphasizes that a new benchmark for assessing learners’ pronunciation is called for, and for the past decade a number of more easily attainable goals have been put forward in the literature. One of the major concepts in this regard is intelligibility. Derwing and Munro (2015) maintain that “when [...] an utterance is intelligible, [...] listeners can understand the speaker’s intended message.” (p.1). To illustrate better, intelligibility has more to do with the end product of the utterance, whether or not the message has been conveyed to the interlocutor; it does not put emphasis on the process. On the other hand, comprehensibility is more about “the amount of effort that must be put in to understanding speech” (Derwing & Munro, 2015, p.3). These constructs, as can be understood from their definitions, are both impressionistic and listener-dependent.

Another important concept that is worth mentioning for the purposes of the present study is accentedness, which can be described as “how different a pattern of speech sounds compared to the local variety” (Derwing & Munro, 2009, p. 478). This definition points to the fact that accentedness is not only about non-native speech varieties; it also concerns distinct native speech patterns and goes beyond (non)nativeness. All of these speech constructs mentioned so far are only partially dependent on one another, which lays the groundwork for the argument that learners can be intelligible without sounding like native speakers. Yet, accentedness could be one of the most socially oriented concepts among others since it can affect how language learners present themselves in social life - whether or not they are accepted by the native speakers they interact with on a daily basis. Being accepted by other speakers, native or non-native, around the language learner is related to the last construct that the present study focuses on: acceptability. As Derwing and Munro (2015) explain, “accent, like physical appearance, often evokes and immediate reaction, some aspects of which may be subconscious.” (p.135). This immediate reaction may result in listeners’ accepting the speaker and maintaining the dialog or terminating the conversation due to the stereotypes that the listeners might have. Szpyra-Kozłowska (2015) defines acceptability as whether or not the interlocutors are irritated by how the speaker speaks the language. Consequently, it is likely that the further away the speaker’s accent is from the accent of the listener, the lower the level of acceptability could be. Therefore, learners’ performance on these speech constructs affects and is affected by the sociopsychological factors in their context.

Pronunciation and Sociopsychological Factors

Sociopsychological factors include but are not limited to social status, political beliefs, learner background, [un]willingness to sound like a native speaker and their relationship with pronunciation have been, to a certain degree, explored in the literature. Most studies
highlighted the relationship between learners’ identification with the target community and its effect on their pronunciation in general or sometimes more specifically on the accentedness of their speech. For example, Lybeck (2002) looked into the relationship between her participants’ willingness to connect and identify with their target culture and their pronunciation skills and found out that the more willing the participants were to integrate into the target culture, the closer they were to becoming native-like (pronunciation accuracy of 80%). The participants who felt that they did not belong to the target culture were less successful in turn. Similarly, in his qualitative study, Gordon (2012) highlights the influence of ‘extra-linguistic’ (motivational and identity-related) factors on English learners’ pronunciation. He interprets his Thai participant’s desire and reluctance (apparent ambivalence) towards acquiring a native-like accent as a matter of the participant’s strong affiliation with his ethnic group.

In another study, Polat and Schallert (2013) focused specifically on Kurdish speakers’ degree of accentedness in Turkish and how the social and political context influences language learners’ performance. Corroborating the findings of earlier studies, they also revealed that the more the participants identified with the target culture (Turkish culture), the less accented their speech was. Thus, they also posit that positively associating or affiliating oneself with the target language community can pave the way for a pattern of speech that is less marked by one’s native language. As can be seen from the examples above, social and psychological factors do affect language learner’s performance on pronunciation in most cases and how learners position themselves between their native and target language groups could be influential. Although these studies do not overtly mention ethnic group affiliation, the framework they used pivots around social identity, which can be linked to how learners affiliate themselves to their native and/or target ethnic group.

Social identity pertains to how one positions themselves in a given society and the social and psychological proximity between the individual and the social/ethnic group into which they were born. In this vein, how one speaks a language could be one of the many ways of realizing the individual’s unique position in society. For instance, when Labov (1963) studied the residents of Martha’s Vineyard, he found out that the divergence with respect to the pronunciation of certain diphthongs could be explained by how participants in the study defined themselves within the larger society on the island. The more the participants felt a connection with the island, the more centralized their diphthongs were; in opposition, the ambivalence that the younger generation felt towards staying on the island manifested itself in their less pronounced centralization of their diphthongs (as cited in Wardhaugh & Fuller, 2017). The study reveals that identity is not a concept that is free of the influence of the community that one lives in or belongs to. Likewise, Norton (2000) defines identity as “how a person understands his or her relationship to the world, how that relationship is constructed across time and space, and how the person understands possibilities for the future” (p.5). This definition also stresses the relationship of the person to their environment while at the same time introducing the influence it might have on the individual’s future. The second part of this definition, which includes the implications of one’s identity for their future, becomes even more crucial particularly when one considers English as a second language (ESL) and English as a foreign language (EFL) learners who generally learn English for living and working in their target countries (the former) and increase their job prospects in the future
Thus, learners are also very likely to position themselves in close proximity to either their native or target ethnic group, and in turn, build stronger affiliations with either or both of these groups depending on their individual goals in language learning.

The Role of Ethnic Group Affiliation in Language Learning

As the way one speaks their language can be manipulated to reap different kinds of social benefits such as sounding more prestigious, establishing solidarity, and so forth, similar ideology can also factor into how closely connected one feels toward their ethnic group that they were born into. In this context, Trofimovich and Truseva (2015) explain ethnic groups as “learners’ own (ancestral) ethnic group and one or more target language (L2) communities” (p. 235). This perspective brings forth the historical connection that the individual has to their native social group along with their target community. By drawing on this, they expound on ethnic identity and cast it into three main elements: (a) criticality of the group membership to the individual, (b) pride of being a member of the group, and (c) the strength of the ties with the group. To elucidate, if individuals feel proud of the achievements and/or the history of their group and believe that being a member of this group brings them benefits, they will keep their ties with the group strong, which will result in a relatively higher ethnic affiliation. This affiliation, as other sociopsychological factors mentioned earlier, exerts influence on the language learning process, thus the main focus of the present study.

For example, Gatbonton, Trofimovich, and Magid (2005) investigated the relationship between the level of ethnic group affiliation (EGA) and accents in two studies, finding that heavily accented speakers were invariably assigned higher levels of EGA by their peers regardless of the learning context: conflictual or non-conflictual. Their first attempt to explore this phenomenon took place in Montreál (conflictual context due to the strife between the Anglophones and the Francophones) and the second one involved Chinese college students studying in Montreál. The only difference was that in the former context where participants might have seen English as a threat to their identity, they opted for heavily accented speakers when they were asked to choose one speaker as the leader of a group consisting of mono-ethnic group members. In the latter scenario, it was revealed that Chinese participants chose the non-accented speakers to be the group leader regardless of the structure of the group (mono-ethnic or bi-ethnic).

In the first of these two studies, the researchers evaluated their participants’ level of EGA simply by using a questionnaire which included four pro-Anglophone and four pro-Francophone statements. The participants agreed or disagreed with the given statements on a 7-point Likert scale. In the EGA questionnaire of the second study, however, five themes manifested: pride in being a part of the ethnic group, defending the honor of the ethnic group, participating in the community affairs of the ethnic group, supporting the culture of the ethnic group, and finally, entrusting one’s problems to a person from the same ethnic group.

Based on the findings of the two studies above, six years later a similar study was conducted by Gatbonton, Trofimovich, and Segalowitz (2011) in Montreál in order to unearth the effects of high or low EGA on a specific segmental feature in Francophone learners of English. This time, a more sophisticated questionnaire was employed; participants’ level of EGA was
investigated under four categories: Core EGA (general pride about the group), Group ID EGA (strength of identification with the group coupled with a positive orientation toward the L2 group), Political EGA (support for the group’s political aspirations), and finally Language EGA (belief in the importance of language in defining identity). Using this questionnaire, the speakers evaluated themselves as to their EGA and their recordings were presented to native speakers of English to be judged in relation to their accuracy in pronunciation. In line with earlier research, the results showed that the higher EGA scores the speakers had, the lower their pronunciation accuracy scores were. Although the results of this particular study may lead one to believe that if learners strongly affiliate themselves with their native ethnic group, their performance on the four speech constructs will be lower in turn. However, the present study approaches these results warily because (a) the new non-conflictual environment could be counterintuitive for such a significant relationship and (b) seeking a causal relationship between the speech constructs and EGA ratings can be erroneous because low or high EGA ratings may lead to other consequences that play a role on learners’ performance on the four speech constructs.

Confirming this hypothesis, in a review of earlier EGA studies, Segalowitz, Gatbonton, and Trofimovich (2009) suggested that social factors may be influential in learners’ forming their speech patterns (e.g., aiming for native-like speech yet, one should be cautious about seeking causal relationship. The way language learners position themselves in their social context due to their affiliations may influence the number of occasions they engage with other speakers of their target language, thus hindering their progress or helping them become more proficient. This could mean that instead of looking for a causal relationship between the EGA scores of participants and their ratings on the four speech constructs, it would be wiser to explore the possible correlation in between. Therefore, the present study seeks to expand on the previous studies by investigating the following questions:

1) What is the relationship between speakers’ EGA scores and their intelligibility, comprehensibility, accentedness, acceptability ratings assigned by naïve listeners?

2) What is the relationship between listeners’ own EGA scores and their ratings of speakers?

3) What is the relationship between speakers’ EGA and the amount of language use in their daily lives?

4) Is there a relationship between speakers’ EGA scores and their ‘self-ratings’ on their intelligibility, comprehensibility, accentedness, acceptability ratings?

**Method**

**Participants**

Prior to conducting research with the following human participants, an application to the Institutional Review Board (IRB) was made and all materials used in the present study including the informed consent forms for participants were approved by the same Board.
Speakers. Initially 26 participants completed the online questionnaire; however, four of them did not contact the researcher to provide the audio data. Therefore, the data from these speakers were discarded. Out of the 22 participants (female= 14, male= 8), 18 of them were international students studying at an American university and three of them (all male) were working as professors in the STEM field. The speakers represented a wide variety of native languages (L1): Arabic 1, Bengali 1, Indonesian 1, Persian 1, Portuguese 3, Russian 4, Spanish 5, Thai 1, Turkish 4, and Vietnamese 1. All speakers also attested that they shared the same L1 with their parents or primary caregivers from their childhood, and all learned English in an EFL context starting at various ages. The mean age of onset for these participants was 11.27 (the earliest being at the age of 4 and the latest at the age of 17). The level of English proficiency was obtained in the form of self-report. Apart from one of the participants who rated their proficiency as intermediate, all participants rated themselves as upper-intermediate or above (4= upper-intermediate, 12= advanced, 5= native-like). In order to cross-check these self-reports, one of the background questions elicited either IELTS or TOEFL speaking scores. Three participants did not report their scores and the mean IELTS and TOEFL scores of 19 speakers were 7.28 out of 9 and 26.69 out of 30 respectively.

Except for the five L1 Spanish speakers (1 Venezuelan, 1 Spanish, and 3 Colombian), the ethnic group identification of the 17 speakers accorded with their L1 background (i.e. 4 L1 Turkish participants identified their ethnicity as Turkish, and 4 Russian L1 participants identified their ethnicity as Russian) although “other” option was provided in the background questionnaire in case any one of the ethnicities were inadvertently not included. Moreover, all the speakers were born and raised in their first country of citizenship. However, the majority of the participants (n=16) reported to have studied and/or worked in an English-speaking country prior to their arrival in the USA. For these speakers, the mean time spent abroad was 19.77 months (min= 10 months, max=96 months).

Listeners. Fifty-three (female=35, male=18) listeners were recruited among L1 English undergraduate college students at the same American university who had little or no training in linguistics, meaning that they were naïve listeners. The choice to include naïve listeners instead of language teachers was to ensure that the results obtained from the proposed study are more relatable to the real world since, for instance, the general familiarity of language teachers with non-native accents could create a certain bias in the study (Winke, Gass, & Myford, 2012). The mean age among participants was 19.4. Apart from the two participants who were born in Canada and the Philippines but raised in the USA, all listeners were born and raised in the USA and they share the same native language (English) with their parents or primary caregivers. The data collected from listeners whose parents had a different native language such as in the case of heritage speakers were excluded from the study. Among the 53 participants only five of them spent time abroad (mean=21.6 weeks). The listeners were asked to rate the amount of time they spent spend in their daily lives with non-native speakers of English on a 5-point scale and the mean value was 2.4 (1=never, 5=always).

Materials and Instruments

Questionnaires. By adapting the EGA questionnaire from Gatbonton et al. (2011), two questionnaires were created: One to obtain speakers’ EGA scores and background
information and one to obtain listeners’ EGA scores as well as their ratings of speakers’ comprehensibility, intelligibility, accentedness, and acceptability. The adaptation was called for due to the difference between the contexts of the original study and the present one. Prior to the actual study, both the speaker and the listener questionnaires were piloted by a randomly selected group of listeners (eight participants) and speakers (five participants) from the same population as targeted by the present study. Accordingly, some changes were made on both questionnaires. First, the background questions in the first section of both questionnaires were changed to a certain degree to fit the new research context and new questions were added to elicit more data as to the background of both speakers and listeners. New questions included ones that ask about the language learning background together with the level of proficiency of the participants. Second, the questions that were not relevant to the context of the proposed study such as the ones that asked about being a Québécois or living in Québec were excluded from the adapted versions of both questionnaires. The final version of the speaker questionnaire was comprised of three sections: the EGA Section (consisting of Core EGA [nine questions], Group ID EGA [10 questions], Political EGA [four questions], and Language EGA [five questions] sections), Language Use Section, and the Background Section. Both questionnaires included a section which explained the meaning of comprehensibility, intelligibility, accentedness, and acceptability to the participants. Because the listeners were asked to listen to 22 speech samples, three brief reminders as to the meaning of these constructs were added to ensure reliable ratings.

To compare the results with the listener ratings, the speaker questionnaire also included a section where the speakers are asked to evaluate themselves on a 9-point Likert scale with regard to the speech constructs. This was added to the speaker questionnaire in order to cross-check and compare with listeners’ ratings and possibly explore any relationship between speakers’ EGA scores and their self-evaluation. The 9-point Likert scale was kept in order to follow the Gatbonton et al.’s (2011) study closely. For the statements in the listeners’ EGA Questionnaire, the phrases such as “...in my own country”, “...in my culture” from the speaker questionnaire were changed to “...in the USA” or “...in the US culture” for the listener questionnaire. Both questionnaires in their entirety can be found in Appendices A and B. These two questionnaires along with the reading text were piloted with L1 and L2 speakers of English. As a result of the piloting phase, brief written training was added for the listeners as to the meaning of the speech constructs focused on in the present study.

Speaking Task. Due to the fact that talking about certain topics such as politics, religion, and so forth could put undue strain on speakers, an everyday topic was chosen for the speaking task in order not to confound the findings of the present study. Therefore, after having completed the online questionnaire, each speaker was asked to speak for around 30 seconds about how they spent their most recent vacation.

Procedures

Twenty-two speech files were obtained from the speakers. All of the speakers in the present study were asked to complete the online questionnaire prior to obtaining their recordings. After they were briefed about how the process would go, all the speakers were asked to talk for approximately 30 seconds – as has been the case in previous research (Crowther,
Trofimovich, Saito, & Isaacs, 2014; Munro & Derwing, 1999) about a recent vacation experience they have had. Although Derwing and Munro (1997) contended that the length of the speech files does not play a crucial role, the present study aimed for 30 seconds for practical purposes – not to exhaust the listeners and compromise the reliability of the ratings. The mean length for the speech files is 32.95 seconds with a standard deviation of 3.59 seconds. After the speech data were obtained, to ensure anonymity, the speakers were assigned tags such as Speaker 1, Speaker 2, and so forth that matched the labels they were given for the EGA questionnaire.

These audio files were incorporated into the listener instrument created on the Qualtrics Survey Tool to be presented to the listeners along with the EGA questions and a section that elicits demographic information. Data from both the speaker and the listener questionnaires were submitted to SPSS and JASP for analysis.

**Analysis**

**Instrument Validation**

To begin with, scores for the six negatively keyed items in the questionnaires were reversed, and reliability analyses were run for each subconstruct. For each subconstruct, McDonald’s $\omega$ was reported instead of Cronbach’s $\alpha$ since it may not be the optimal method for reporting reliability of the instruments measuring relatively abstract concepts (McNeish, 2017). The present study explores one such abstract construct (ethnic group affiliation), and therefore McDonald’s $\omega$ is deemed to be more appropriate in the present context. However, due to its prevalence in the field of applied linguistics, $\alpha$ values are also given in square brackets right after the $\omega$ values.

For speakers, the items in the Core EGA subconstruct were found to be highly reliable (McDonald’s $\omega = .88 [\alpha = .87]$). As for the Group ID EGA, one of the items (item #8) was found to be negatively correlated to the rest of the items; thus, it was taken out of the questionnaire, raising the reliability as high as $\alpha = 80$. Similarly, for the Language EGA and Political EGA, one item (item #5 and item #2, respectively) from each of these subconstructs was taken out due to low item-rest correlation. As a result, the McDonald’s $\omega$ values for each of these subconstructs was $\omega = .68$. On the other hand, $\alpha$ values for these two constructs differed from each other. After the omission of negatively correlated items from these sub-categories Political EGA had a $\alpha$ value of $\alpha = .67$ and the Language EGA was $\omega = .63$.

For listeners, two items from the Group ID EGA (item #8 and #4) and one item (item #4) from the Language EGA were discarded. Following this, the reliability for each construct was found to be very strong (Plonsky & Derrick, 2016) (McDonald’s $\omega$ values for each construct were as follows: Core EGA $\omega = .93 [\alpha = .92]$, Group ID EGA $\omega = .82 [\alpha = .82 ]$, Political EGA $\omega = .88 [\alpha = .87 ]$, and Language EGA $\omega = .80 [\alpha = .77]$).
Normality Checks

Following the reliability checks, both the speaker and the listener data were checked for normality. The descriptive statistics for the four subconstructs from the Speaker Questionnaire can be seen in Table 1. For each subconstruct, the distribution of data demonstrated normality; the mean and the median values for each subconstruct were very close to each other with the exception of the Language EGA where the mean is 3.7 and the median is 4.2. Similarly, the standard deviation for each value was almost the same except for the Language EGA.

Table 1. Descriptive Statistics for the EGA subconstructs (Speakers)

<table>
<thead>
<tr>
<th>Subconstruct</th>
<th>Mean (SD)</th>
<th>Median</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core</td>
<td>6.8 (1.3)</td>
<td>6.9</td>
<td>4.6</td>
<td>8.9</td>
</tr>
<tr>
<td>Group ID</td>
<td>6.3 (1.4)</td>
<td>6.0</td>
<td>3.8</td>
<td>8.8</td>
</tr>
<tr>
<td>Political</td>
<td>4.4 (1.3)</td>
<td>4.3</td>
<td>1.3</td>
<td>7.3</td>
</tr>
<tr>
<td>Language</td>
<td>3.7 (1.6)</td>
<td>4.2</td>
<td>1.5</td>
<td>8.2</td>
</tr>
</tbody>
</table>

The descriptive statistics for the listener data can be seen in Table 2. For all the means obtained from the subconstructs, the mean and the median value was very close; however, Core EGA and Language EGA subconstructs yielded negative skewness, -0.47 and -0.27 respectively. Q-Q plots showing normality for these subconstructs can be seen in Appendix D together with the boxplots for each subconstruct for listeners.

Table 2. Descriptive Statistics for the EGA subconstructs (Listeners)

<table>
<thead>
<tr>
<th>Subconstruct</th>
<th>Mean (SD)</th>
<th>Median</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core</td>
<td>6.5 (1.6)</td>
<td>6.6</td>
<td>2.3</td>
<td>9.0</td>
</tr>
<tr>
<td>Group ID</td>
<td>6.1 (1.4)</td>
<td>6.3</td>
<td>3.0</td>
<td>8.9</td>
</tr>
<tr>
<td>Political</td>
<td>4.2 (1.9)</td>
<td>4.0</td>
<td>1.0</td>
<td>8.8</td>
</tr>
<tr>
<td>Language</td>
<td>4.8 (2.0)</td>
<td>5.0</td>
<td>1.0</td>
<td>9.0</td>
</tr>
</tbody>
</table>

Following the reliability tests and the normality checks for the instruments, correlation analyses were run in order to explore the relationship between all the main variables of the present study. After calculating the mean values for these variables, the scores were submitted to Pearson’s correlation tests.

Results

Firstly, the present study is interested in exploring the relationship between speakers’ EGA scores and the ratings of their speech by undergraduate students whose native language is English regarding intelligibility, comprehensibility, accentedness, and acceptability. According to the Pearson correlation test, no substantial or statistically significant
Correlations were observed between the speakers’ EGA scores and the speech constructs on which they were rated by the native English participants in the study. The results can be found in Table 3.

Table 3. Pearson Correlation Test Results – Speakers’ EGA Scores and their ratings on the four speech constructs.

<table>
<thead>
<tr>
<th></th>
<th>Intelligibility (p value)</th>
<th>Comprehensibility (p value)</th>
<th>Accentedness (p value)</th>
<th>Acceptability (p value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core</td>
<td>-.059 (.793)</td>
<td>-.072 (.751)</td>
<td>-.094 (.678)</td>
<td>.012 (.956)</td>
</tr>
<tr>
<td>Group ID</td>
<td>-.076 (.737)</td>
<td>-.034 (.882)</td>
<td>.153 (.497)</td>
<td>-.002 (.994)</td>
</tr>
<tr>
<td>Political</td>
<td>.083 (.712)</td>
<td>.004 (.987)</td>
<td>.167 (.457)</td>
<td>.105 (.643)</td>
</tr>
<tr>
<td>Language</td>
<td>.124 (.582)</td>
<td>.159 (.479)</td>
<td>-.141 (.531)</td>
<td>.093 (.680)</td>
</tr>
</tbody>
</table>

Although it was not one of the initial research questions that the present study aimed to answer, the speakers’ Core EGA scores were found to be moderately correlated with the Group ID and the Political EGA scores as can be seen in Table 4.

Table 4. Correlation coefficients for Core EGA

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>mean</th>
<th>SD</th>
<th>r</th>
<th>p</th>
<th>r²</th>
<th>CIs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group ID</td>
<td>22</td>
<td>6.28</td>
<td>1.41</td>
<td>.532</td>
<td>.011</td>
<td>.28</td>
<td>.78, .14</td>
</tr>
<tr>
<td>Political EGA</td>
<td>22</td>
<td>4.42</td>
<td>1.60</td>
<td>.624</td>
<td>.002</td>
<td>.38</td>
<td>.83, .28</td>
</tr>
</tbody>
</table>

In order to answer the second research question, the means of the listeners’ EGA scores and their ratings were submitted to Pearson correlation. No significant correlation was found except for accentedness and Language EGA scores as shown in Table 5. For Language EGA scores and the ratings of accentedness, the effect size ($r^2$) was .09, which means that 9 percent of variance in this regard can be explained with the relationship between these two variables.

Table 5. Pearson Correlation Test Results – Listeners’ EGA Scores and their ratings of speakers

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<tr>
<th></th>
<th>Intelligibility (p value)</th>
<th>Comprehensibility (p value)</th>
<th>Accentedness (p value)</th>
<th>Acceptability (p value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core</td>
<td>-.036 (.797)</td>
<td>-.045 (.751)</td>
<td>-.028 (.844)</td>
<td>-.037 (.793)</td>
</tr>
<tr>
<td>Group ID</td>
<td>-.026 (.853)</td>
<td>-.041 (.773)</td>
<td>.024 (.864)</td>
<td>-.067 (.635)</td>
</tr>
<tr>
<td>Political</td>
<td>-.146 (.296)</td>
<td>-.179 (.200)</td>
<td>-.083 (.555)</td>
<td>-.225 (.106)</td>
</tr>
<tr>
<td>Language</td>
<td>-.161 (.249)</td>
<td>-.082 (.562)</td>
<td>.303* (.027)</td>
<td>-.037 (.791)</td>
</tr>
</tbody>
</table>

* significant at p < .05
Thirdly, the relationship between the speakers’ EGA scores and the amount of language use was explored through another Pearson correlation analysis. As can be seen in Table 6, no significant correlation was found.

Table 6. Correlation between Language use and EGA Scores

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>mean</th>
<th>SD</th>
<th>r</th>
<th>p</th>
<th>r²</th>
<th>CIs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core EGA</td>
<td>22</td>
<td>6.5</td>
<td>1.6</td>
<td>-.03</td>
<td>.88</td>
<td>.001</td>
<td>.39, -.45</td>
</tr>
<tr>
<td>Group ID EGA</td>
<td>22</td>
<td>6.1</td>
<td>1.4</td>
<td>.07</td>
<td>.77</td>
<td>.004</td>
<td>.47, -.37</td>
</tr>
<tr>
<td>Political EGA</td>
<td>22</td>
<td>4.2</td>
<td>1.9</td>
<td>.25</td>
<td>.26</td>
<td>.06</td>
<td>.61, -.19</td>
</tr>
<tr>
<td>Language EGA</td>
<td>22</td>
<td>4.8</td>
<td>2.0</td>
<td>.14</td>
<td>.52</td>
<td>.02</td>
<td>.53, -.30</td>
</tr>
</tbody>
</table>

Finally, the relationship between the speakers’ EGA scores and their self-ratings were investigated. Similar to the previous results, no significant relationship was found between these two variables. Below, Table 7 depicts the statistical values for this relationship.

Table 7. Correlation Between Speakers’ EGA Scores and their self-ratings on the speech constructs

<table>
<thead>
<tr>
<th></th>
<th>Intelligibility (p value)</th>
<th>Comprehensibility (p value)</th>
<th>Accentedness (p value)</th>
<th>Acceptability (p value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core</td>
<td>-.075 (.738)</td>
<td>-.083 (.713)</td>
<td>.089 (.693)</td>
<td>.020 (.929)</td>
</tr>
<tr>
<td>Group ID</td>
<td>-.088 (.698)</td>
<td>-.056 (.806)</td>
<td>.143 (.525)</td>
<td>-.021 (.927)</td>
</tr>
<tr>
<td>Political</td>
<td>.066 (.771)</td>
<td>-.001 (.996)</td>
<td>.155 (.492)</td>
<td>.117 (.604)</td>
</tr>
<tr>
<td>Language</td>
<td>-.109 (.630)</td>
<td>-.163 (.467)</td>
<td>-.139 (.536)</td>
<td>.099 (.660)</td>
</tr>
</tbody>
</table>

Discussion

The results obtained from the present study have shown no significant relationship regarding both the speakers’ and the listeners’ EGA scores and their ratings on the four speech constructs. Therefore, the results of the present study do not align with the findings of previous studies where the researchers found a relationship between EGA scores and accentedness (Gatbonton et al., 2005) or EGA scores and pronunciation accuracy (Gatbonton et al., 2011). The only significant relationship observed was between the listeners’ language EGA scores and their ratings of the speakers on accentedness, $r=.303, p=.027$, the effect size ($r^2$) being .09. Since the correlation coefficient is positive, it can be suggested that the higher a listener’s score on Language EGA, the more likely they could be rating a speaker as more accented. In other words, it can be extrapolated from these findings that native speakers are likely to pay attention to the accent of their interlocutor (non-native English speakers in the case of the present study) when they believe that there is an interplay between language and identity. However, this finding needs to be interpreted with caution as the effect size is fairly small (Plonsky & Oswald, 2014).
Furthermore, the fact that not much of a relationship was found concerning EGA scores and the ratings on the speech constructs may be explained in a few possible ways. First, as shown in Table 1, the speakers scored the highest on Core EGA and Group ID EGA (means were 6.8 and 6.3 respectively), whereas their scores on Political and Language EGA were rather low (means were 4.4 and 3.7 respectively). This could be due to the fact that the speakers in this study came to the US of their own volition to improve their linguistic skills in English while completing their academic studies, maintaining their connection to their ethnic group. Similarly, their own political views on international events did not exert any influence on their language learning. The fact that they scored the lowest on Language EGA also demonstrates that they do not necessarily affiliate their personal identities with the way they speak English, divorcing their pursuit in language learning from their ethnic identity.

On the other hand, the mean EGA scores of the listeners in the present study is somewhat different from the speakers. The naïve native English speakers who were mostly freshman college students also scored the highest on Core and Group ID EGA, while scoring relatively lower on Political and Language EGA. However, their lowest score came from the Political EGA subconstruct unlike the speakers who scored the lowest on Language EGA. This can be attributed to the fact that these freshmen were possibly not as adamant in their political stance regarding international events, and they could be more welcoming and open-minded when it comes to non-native speech. The means for each speech construct support this suggestion as can be seen in Table 8.

### Table 8. Descriptive Statistics for the Listeners’ Scores on the Speech Constructs

<table>
<thead>
<tr>
<th></th>
<th>Mean (SD)</th>
<th>Median</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intelligibility</td>
<td>6.7 (1.4)</td>
<td>6.5</td>
<td>3.6</td>
<td>9.0</td>
</tr>
<tr>
<td>Comprehensibility</td>
<td>6.6 (1.3)</td>
<td>6.5</td>
<td>3.3</td>
<td>8.9</td>
</tr>
<tr>
<td>Accentedness</td>
<td>5.1 (1.1)</td>
<td>5.2</td>
<td>2.6</td>
<td>7.4</td>
</tr>
<tr>
<td>Acceptability</td>
<td>6.9 (1.3)</td>
<td>6.9</td>
<td>3.7</td>
<td>9.0</td>
</tr>
</tbody>
</table>

The lowest mean value comes from the scores on accentedness and the highest ones are coming from intelligibility and acceptability. Although the present study was not able to produce any strong relationship between the EGA scores and the scores on the speech constructs, it might be promising in that it points to the possibility that the new generation of native English speakers, at least the ones participated in this study, might be perceiving non-native speech more intelligible and more acceptable. It can also be noted that the lowest mean in accentedness also supports this idea. Previous studies (Derwing & Munro, 1997; Munro & Derwing, 1999) have shown that accent is generally more harshly rated than other speech constructs such as intelligibility and comprehensibility; however, the listeners in this study were very lenient with their accentedness ratings. This might also be attributed to the fact that at least some of these freshmen were taking English Composition courses from international graduate student assistants, which might have created an environment conducive to them being exposed to different accents and speech patterns.
Conclusion

The present study set out to replicate previous research that studied the relationship between ethnic group affiliation and pronunciation accuracy in a conflict-free environment. Even though no significant relationship was found in general, with the exception of the listeners’ Language EGA scores and their ratings on accentedness of the speakers, it is quite interesting to observe the attitude of freshman college students in an American context. The present study revealed that the EGA scores of the speakers were not related in any statistically meaningful way to their speech patterns. This might tell us that language learners in this ESL context aspire to become proficient English speakers no matter how low or high they score on the EGA questionnaire. Their expected gains from mastering English may be trumping their concerns over weakening the bond with their respective ethnic group. This could be good news for language teachers in this context because they are not likely to observe resistance from their learners. Yet, they should still be aware of the individual differences of their learners and address their needs on a case by case basis.

Moreover, the EGA scores of the native English speakers who rated the non-native speech samples were not correlated with their ratings either. Therefore, it can be suggested that in a non-conflictual environment where there is no apparent strife between two groups of ethnicities, non-native English speakers do not relate their way of speaking to their identities. Similarly, native speakers of English do not evaluate non-native speech in a critical manner. This positive behavior might also lead to native speakers’ becoming more accepting of non-native speech. As mentioned earlier, this could be due to the fact that the new generation is more exposed to global English, thus resulting in more leniency as regards their linguistic expectations from others. Another explanation could be that taking courses from non-native speakers of English is exposing them to a great variety of speech patterns and in turn leading them to develop a positive sense towards different accents as suggested by some previous studies (Adedeji, 2014; Huang, 2013).

One should keep in mind that the listeners in this study are all freshman college students and this can be considered as one of the limitations. Since the reliability of the questionnaire items was found to be quite high, future studies could utilize a similar questionnaire and choose a different group of listeners to compare with the results of the present study as well as others (e.g., Gatbonton et al., 2011). In addition, the findings of the present study may not be generalized to other similar contexts due to the limited number of participants. Moreover, future studies can also employ semi-structured interviews as one of the qualitative methods to dig deeper into the issue. Even though the statistical information obtained from the present study suggests that speakers’ and listeners’ EGA scores do not play a crucial role in determining the scores on the four speech constructs, such qualitative data could help us understand if the context is solely responsible for the results, or perhaps there are other elements that need to be considered.

As a final note, the mobility of people all around world is on the rise as well as the number of people who are speaking English as their second, third, or even fourth language. Therefore, more research on the effects of social factors is warranted as these factors are closely linked to the speech perception of native speakers. Although a causal relationship should not be
drawn, this study implies that native listeners’ exposure to foreign speech may result in more positive judgment of language learners. Thanks to this positive attitude on listeners’ end, language learners may feel that their identity is not threatened and regardless of their EGA scores they could be willing to increase their proficiency in all speech constructs.

About the Author

Oguzhan Tekin is currently a PhD student and a research assistant at Concordia University, Montréal, specializing in Applied Linguistics. He taught English composition to freshmen for two years during his master’s at Northern Arizona University. Previously, he taught English in Turkey for three years at university level. His main research interests lie in language and identity, speech production and perception, as well as social aspects of language learning and teaching.

References


Appendix A

Speaker Questionnaire

Part 1: Background Information

Where are you from? ____________

What ethnic group do you consider yourself to be a member of? ____

What is your native language? ___________

Age: _______   Sex: ____________

Do you share the same native language with your parents or primary caregivers from your childhood? If not, please specify____

Were you born and raised in your first country of citizenship? Yes____ No____ (Please explain)____

Have you ever worked or studied abroad? If yes, how long? ______________

How long have you been learning English? ___

At what age did you start learning English? ___

What is your level of English proficiency? (Self-evaluation) ___________

Have you ever taken an English proficiency test? Which one? What is your speaking score? ___________

How would you rate your English according to the following constructs?

Definition of the constructs

Intelligibility: how much do you think native and non-native speakers of English understand your intended message. For example, you mean to say fourteen but they understand it as forty.

(1= they generally misunderstand me, 9= they always understand me)

Comprehensibility: the relative ease or difficulty people experience when they listen to your speech.
(1= they understand your intended message but they need to listen very carefully and maybe ask for clarification, 9= they understand you very easily without much need for repetition or constant attention.)

**Accentedness:** how much do you think you carry the traces of your native language speech patterns? For example, if your native language is Turkish, do you speak English with a Turkish accent?

(1= little or no accent, 9= very accented.)

**Acceptability:** how acceptable your speech is to native or non-native speakers of English around you? For example, if you are teaching native or non-native students, how accepting are they of the way you speak? What about your co-workers?

(1= not acceptable, 9=very acceptable)

1) I think my speech is
not really intelligible 1 2 3 4 5 6 7 8 9 very intelligible

2) I think my speech is
not really comprehensible 1 2 3 4 5 6 7 8 9 very comprehensible

3) I think my speech is
not really accented 1 2 3 4 5 6 7 8 9 heavily accented

4) I think my speech is
not really acceptable 1 2 3 4 5 6 7 8 9 very acceptable

**Part 2: CORE EGA**

Indicate the degree to which each of these statements accurately reflects what you feel.

(1= disagree completely, 9= agree completely)

1 I am proud of being a member of my ethnic group. 1 2 3 4 5 6 7 8 9

2 I am familiar with the accomplishments of my ethnic group. 1 2 3 4 5 6 7 8 9

3 I am proud of the accomplishments of my ethnic group. 1 2 3 4 5 6 7 8 9

4 I make an effort to know the history of my ethnic group. 1 2 3 4 5 6 7 8 9
I am ready to defend the honor of my ethnic group when it is questioned. 

I restrain myself from criticizing my ethnic group even if there is basis for criticism.

I am proud to have been born a member of my ethnic group.

I feel very proud to see symbols of my ethnic group (e.g., a flag) displayed around me.

I am very proud to be able to speak the language of my ethnic group.

PART 3: GROUP ID EGA

Please indicate how much you agree with each of the following statements.

(1= disagree completely, 9= agree completely)

1. I do not necessarily affiliate myself with the culture and traditions of my ethnic group.

2. I celebrate and take pride in the national holidays of my ethnic group.

3. When abroad for a longer period of time, I try to get in touch with people from my ethnic group who are also there.

4. When abroad for a longer period of time, I prefer to go to the restaurants that serve the traditional cuisine of my ethnic group.

5. No matter where I am, I should be a good representative of the cultural system of my ethnic group.

6. No matter where I am, I should be a good representative of the belief system of my ethnic group.

7. When abroad, I enjoy teaching others the culture of my ethnic group.

8. I am a world citizen. I can adapt myself to any culture or tradition as long as it makes sense to me.

9. When abroad for a longer time, I try to avoid interacting with people from my ethnic group who are also there.
When abroad for a longer period of time, I do not pay much attention to the holidays and celebrations of my ethnic group.

PART 4: POLITICAL EGA

Please indicate how much you agree with each of the following statements.

(1= disagree completely, 9= agree completely)

1 The language and culture of my ethnic group have to be preserved at all costs.  
2 Signboards of shops, restaurants, etc. in commercial and public places where my ethnic group is the majority should be in my native language only.
3 I support the political stance of my ethnic group on international affairs.
4 When a new concept is introduced, related terminology must be translated into my native language instead of using the foreign terminology for it.

PART 5: LANGUAGE EGA

Please indicate how much you agree with each of the following statements.

(1= disagree completely, 9= agree completely)

1 The way I speak English (with a native-speaker accent or not) influences my personal identity.
2 If I try to speak English with a native-speaker accent, this might mean betraying my original ethnic or cultural identity.
3 I should maintain my own accent when I speak English to preserve my personal identity.
4 How I speak English does not exert any influence on my personal identity.
5 If I could, I would like to speak with different accents when I speak English as it would help me create a different persona or identity.

PART 5: LANGUAGE USE
1. Estimate how much you currently use English in each of the following situations.

a) During your classes

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

b) In school but outside the classroom (e.g., during breaks between classes, lunch and coffee breaks)

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

c) Outside school but not in your home (e.g., in stores, bars, recreation areas, after-school workplace)

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

d) At home (both spoken and in written such as text messages, etc.)

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

2. Estimate how much you currently use English with each of these people.

a) With your family

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

b) With your close friends

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

c) With your classmates (who are not close friends)

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

d) With your teachers / professors

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

e) With service people (e.g., janitors, secretaries, cafeteria clerks) in your school

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

f) With people in your neighborhood (e.g., shopkeepers, bartenders, waiter/waitresses, bus/train drivers; post office workers, banks)

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
g) With your co-workers (if you work. *If you don't work, please leave blank*)

0%  10%  20%  30%  40%  50%  60%  70%  80%  90%  100%

h) With strangers (e.g., people you meet on the street, in buses whom you don’t know and don’t need to know)

0%  10%  20%  30%  40%  50%  60%  70%  80%  90%  100%
Appendix B

Listener Questionnaire

PART 1:

Where are you from? Please specify country and city. __________

Age: ____  Sex: ____

What is your native language? __________

Are you currently learning any other languages? Please specify with your level:
_____________
(ex. Spanish- beginner)

Have you ever worked or studied abroad? For how long? ________________.

Have you ever traveled abroad? ________.

How often do you interact with non-native speakers of English? __________.

Do you have any non-native English speaker friends? If yes, how many hours a day or week do you spend with them? ______________.

Part 2: CORE EGA

Indicate the degree to which each of these statements accurately reflects what you feel.

(1= disagree completely, 9= agree completely)

1 I am proud of being an American citizen. 1 2 3 4 5 6 7 8 9

2 I am extremely familiar with the accomplishments of the USA. 1 2 3 4 5 6 7 8 9

3 I am proud of the achievements of the USA. 1 2 3 4 5 6 7 8 9

4 I make an effort to know the history of the USA. 1 2 3 4 5 6 7 8 9

5 I am ready to defend the honor of the USA when it is at stake. 1 2 3 4 5 6 7 8 9

6 I restrain myself from criticizing the USA even if there is basis for the criticism. 1 2 3 4 5 6 7 8 9

7 I am proud to have been born a member of the USA. 1 2 3 4 5 6 7 8 9
8 I feel very proud to see symbols of the USA (e.g., a flag) displayed around me. 1 2 3 4 5 6 7 8 9

9 I am very proud to be able to speak English, which is the language of the majority in the USA. 1 2 3 4 5 6 7 8 9

PART 3: GROUP ID EGA

Please indicate how much you agree with each of the following statements.

(1= disagree completely, 9= agree completely)

1 I do not necessarily affiliate myself with the US culture and traditions. 1 2 3 4 5 6 7 8 9

2 I celebrate and take pride in the national holidays of the USA. 1 2 3 4 5 6 7 8 9

3 When abroad for a longer period of time, I try to get in touch with other Americans there. 1 2 3 4 5 6 7 8 9

4 When abroad for a longer period of time, I prefer to go to the restaurants that serve American food. 1 2 3 4 5 6 7 8 9

5 No matter where I am, I should be a good representative of the US culture system. 1 2 3 4 5 6 7 8 9

6 No matter where I am, I should be a good representative of the US belief system. 1 2 3 4 5 6 7 8 9

7 When abroad, I enjoy teaching others the US culture. 1 2 3 4 5 6 7 8 9

8 I am a world citizen. I can adapt myself to any culture or tradition as long as it makes sense to me. 1 2 3 4 5 6 7 8 9

9 When abroad for a longer period of time, I try to avoid making contact with other Americans there. 1 2 3 4 5 6 7 8 9

10 When abroad for a longer period of time, I do not pay much attention to the national holidays in the USA 1 2 3 4 5 6 7 8 9

PART 4: POLITICAL EGA

Please indicate how much you agree with each of the following statements.

(1= disagree completely, 9= agree completely)

1 The language and culture in the USA have to be preserved at all costs. 1 2 3 4 5 6 7 8 9
Signboards of shops, restaurants, etc. in commercial and public places in the USA should be in English only.

I support the political stance of the US on international affairs.

When a new concept is introduced, related terminology must be translated into English instead of using the foreign terminology for it.

PART 5: LANGUAGE EGA

Please indicate how much you agree with each of the following statements.

(1= disagree completely, 9= agree completely)

1. The way I speak English (with a local Accent – New York Accent, Southern Accent, etc.- or a standard accent) influences my personal identity. 1 2 3 4 5 6 7 8 9

2. If I try to speak English with a standard English accent, this might mean betraying my original cultural identity. 1 2 3 4 5 6 7 8 9

3. I should maintain my own local accent when I speak English to preserve my personal identity. 1 2 3 4 5 6 7 8 9

4. How I speak English does not exert any influence on my personal identity. 1 2 3 4 5 6 7 8 9

Definition of the constructs

Intelligibility: Whether or not the message was conveyed. How much did you understand the speech? Did you understand everything the speaker said or were there any parts you did not understand? (1= I did not understand what the speaker said, 9= I understood everything the speaker said)

Comprehensibility: The relative ease or difficulty you experienced when you listened to this speaker. How difficult or easy was it for you to understand the speaker? (1= I might have understood the speaker, but I had to pay a lot of attention and it was very difficult, 9= I understood the speaker easily without putting in much effort.)

Accentedness: How similar was the speech pattern of this speaker to yours? Did he or she have a foreign or a different local accent? Differences in speech patterns can result from a different native language background (Spanish, Indian, etc., or other regional differences in one country such as New York accent) (1= very little or no accent, 9= heavily accented)
Acceptability: How acceptable is this person’s speech? Does it somehow irritate you? Would you be willing to listen to this person’s speech for a long duration, for example, in the capacity of your teacher, or a friend? (1=not acceptable, 9=very acceptable)

Audio File

1) I think this person’s speech is
not intelligible 1 2 3 4 5 6 7 8 9 very intelligible
2) I think this person’s speech is
not comprehensible 1 2 3 4 5 6 7 8 9 very comprehensible
3) I think this person’s speech is
not accented 1 2 3 4 5 6 7 8 9 heavily accented
4) I think this person’s speech is
not acceptable 1 2 3 4 5 6 7 8 9 very acceptable
Appendix C

Normality Checks for EGA Constructs (Speakers)
Appendix D

Normality Checks for EGA Constructs (Listeners)

Normal Q-Q Plot of Language EGA (Listeners)

Normal Q-Q Plot of Core EGA (Listeners)

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