

○ LISTENING BETWEEN THE LINES: SOCIAL ASSUMPTIONS AROUND FOREIGN ACCENTS

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This paper investigates the effect of listener attitudes on the ability to understand a foreign (non-Australian) accent. The research focuses on individual listener characteristics, such as attitude and frequency of contact with accented speakers, rather than speech production. Data was collected through a web-based survey and analysis employed both quantitative and qualitative methodologies. Correlation was found between a negative attitude toward other ethnicities and ability to correctly transcribe foreign-accented speech, with a stronger correlation between a negative attitude and comprehensibility. Qualitative analysis of participant comments highlighted discrepancies in attitude testing methods and indicated that an accent can inspire many assumptions, the most common being that foreign-accented speakers have a lower level of education than Australian-accented speakers. The results suggest that future research in this area should always try to account for individual participant characteristics.

KEY WORDS: accent, comprehensibility, intelligibility, listener characteristics, attitudes

INTRODUCTION

Spoken communication is a shared event between a speaker and a listener (Munro & Derwing, 1995a; Powers, Schedl, Leung & Butler, 1999). The act of communicating involves multiple participants working in concert, yet the majority of studies of accented speech and intelligibility or comprehensibility concentrate solely on speech production in an ongoing attempt to define a baseline for understandable speech. In these studies the role of the listener is largely overlooked. The current study seeks to address the issue of whether listener attitude plays a role in the comprehensibility of foreign-accented speech.

BACKGROUND

Listeners are highly sensitive to speech patterns that differ from those used in the speech community (Munro & Derwing, 2008). Research has established that a range of factors can affect listeners' perceptions regarding the strength of a foreign accent in L2 (Flege, Munro & Mackay, 1995), including the attitudes of the listener (Flege & Fletcher, 1992). Some research into the listener has concentrated on NNS listeners in ELF (English as a lingua franca) contexts (cf. Field, 2005; Jenkins, 2000; Pickering, 2006). Other research, the present study included, centres on NS listeners (Lindemann, 2002; Van Wijngaarden, Steeneken & Houtgast, 2002) and NNS speakers.

Prior to presenting some of the research on accent and intelligibility it is useful to establish the ways that some key terms have been used in the literature. Throughout this paper we draw on definitions of accent and intelligibility as provided by Munro and Derwing (1995b), as follows: *intelligibility* is defined as the extent to which an utterance is actually understood; *comprehensibility* reflects the listeners' perceptions of difficulty in understanding an utterance; *accentedness* refers to listeners' perceptions of how strong the speakers' foreign accent is. Additionally, we rely on Mueller's (1986) definition of *attitude* representing a learned feeling or belief toward an object (person, group, or thing) that causes a person to act consistently (negatively or positively) toward that object.

Lippi-Green (1997) has extensively researched the disadvantages of a foreign accent in the United States. She provides evidence that, among other things, stereotypical representations of non-standard accents that are reinforced by various institutions (media, politics) leaves those that speak with a foreign accent at a disadvantage (this also, of course, applies to non-standard native accents but that discussion is beyond the scope of this paper). Accent-related disadvantage, particularly in employment and educational contexts, has also come to the fore in the work of researchers examining the English-only movement (Barker, Giles, Noels, Duck, Hecht & Clément, 2001). This disadvantage, however, is likely to be beyond the control of the speaker. If a listener is not motivated to understand a foreign-accented speaker because of prejudices against what an accent signifies (such as race or ethnicity) then a speaker has little chance of altering this. Lippi-Green has taken the concept of 'listener burden' into the muddy waters of individual listener characteristics, while others have shown that there will be less favorable listener ratings for speakers of lower prestige languages, for example Vietnamese versus European French, or Chinese versus Spanish (Clarke, 2000; Clarke & Garrett, 2002).

In an attempt to discover a link between listener irritation and speaker intelligibility, Gynan (1985) uses the principle of an error hierarchy to investigate which factors are most salient when examining irritation toward or comprehensibility of non-native speech. He found that for the beginner level language learner morphological errors were deemed more salient than phonological errors, though neither type of error proved to be more irritating than the other. There was no significant error hierarchy found for the intermediate learner. He concludes that in pedagogical arenas it is reasonable to concentrate on morphology and syntax more than phonology at a beginner level, but past this level there is no set of errors deemed to be more salient to suggest any particular pedagogical focus.

An underlying assumption in Gynan's study of irritation is that, even when non-native speech is entirely understood, irritation may be associated with a negative response from a native listener. Whilst Gynan touches on the idea that irritation is a subjective, evaluative listening process he only considers the possibility of irritation being caused by phonological,

morphological or syntactical errors and does not account for listeners' individual characteristics which could quite logically effect their judgements.

Fayer and Krasinski (1987) also investigated notions of irritability and intelligibility. They also recognised the importance of listener participation and compare responses of native and non-native listeners. The participants for this study were native English speakers and native Spanish speakers. The participants listened to recordings of ESL speakers and rated their intelligibility, pronunciation, grammar, intonation, frequency of wrong words, voice quality and hesitations on 5 point Likert scales. An important aspect of this research is the definition of *irritation* as consisting of two distinct parts, distraction and annoyance. Participants also judged if any of the above segments distracted them (from the message) or annoyed them in any way. So, even though Fayer and Krasinski (1987) focused on the listener and recognise there may be non-linguistic reasons for irritation, the communicative burden was still very much placed on the speaker. The only reasons for irritation available to the participants are linguistic reasons (with the possible exception of voice quality). They found that non-native listeners judged the speakers more harshly than did the native English listeners. They also found that pronunciation and hesitation rated highly amongst both groups of listeners as most distracting.

Munro and Derwing (1995a) noticed that utterances that were perfectly transcribed by native listeners were judged by the same listeners as being difficult to understand. This led to a second study investigating processing time of foreign-accented speech and how this effected listener judgements on accent, intelligibility and comprehensibility. Munro and Derwing (1995b) found evidence that accent itself did not necessarily affect understanding of L2 speech.

The major conclusion reached by Munro and Derwing was that foreign accent is not necessarily a barrier to communication but that increased processing time may influence listeners to judge an accent as less comprehensible. Munro and Derwing have raised many interesting points with this study. Firstly, accent does not necessarily impede communication. So if accent isn't impeding intelligibility we return again to the question of *why* non-native speaker communication is impeded. Also, the relationship between accent and comprehensibility varies greatly across individual listeners, which suggests that individual listener characteristics are affecting these judgements.

Munro and Derwing (1995b) also discuss the results of pronunciation studies that attempt to discover the most salient aspect of speech in terms of (mis)communication. When compared, the results of these studies appear contradictory and suggest no clear path for further research into reasons behind incomprehensibility in L2 speech. Individuals of course contain multitudes of characteristics and it is necessary to explore which of these may be affecting judgements of comprehensibility and therefore effective native speaker non-native speaker communication.

The finding that accent itself does not necessarily impede communication leads us again to question what the salient factors are that serve as barriers in native speaker non-native speaker communication. Perhaps it is time to turn to the role of the listener and look at individual listener characteristics and how they may impede communication. The particular listener characteristic we are concerned with here is that of attitude.

Lindemann (2003) examined the reactions of native English listeners to Korean-accented English speech, investigating attitudinal characteristic of listeners and how it affects their judgements of both intelligibility and comprehensibility of foreign accented speech. Koreans are considered to be both stigmatized and a small minority in the United States, often being mistaken as Chinese. Lindemann (2003) carried out a verbal guise test using 5 Korean-accented English speakers, 5 native English speakers and 39 native English listeners. A 101 word passage, presented as an answering machine message for a doctor's surgery, was recorded by each of the speakers. Listeners were instructed to rate each speaker on a 7 point Likert scale for 12 qualities: *intelligence, success, ambition, laziness, education, incompetence, friendly, likeable, helpful, unkind, insincere* and *aloof*. Three additional language related judgements were also asked for: *appropriate to hire for message, nice to listen to and speaks poorly*.

Lindemann found that participants had trouble determining the language background of speakers, with only 8% identifying a Korean background (other responses include Asian 23%, Chinese 18%, Indian, 16% and Japanese 13%). Overall, she concluded that non-native speakers are not necessarily stigmatised because of their particular language background but perhaps solely because they are non-native speakers.

A previous study by the same researcher looks even more directly at the effect of attitude on comprehensibility. Lindemann (2002) uses both qualitative and quantitative methods in an effort to discover what effect, if any, native speaker attitude has on their comprehensibility of non-native speaker speech. Through quantitative analysis Lindemann showed a direct relationship between attitude and perceived success of interactions (comprehensibility).

Lindemann's (2002) study provides a solid qualitative analysis identifying two general strategies used by native speakers with negative attitudes. The first strategy she labeled 'avoidance' in which the native speakers failed to provide the necessary feedback to the non-native speakers to complete the task successfully. The second strategy is termed 'problematising the non-native speakers' contribution' which two of the negative attitude native speakers used, which eventuated in successful completion (but not in *perceived* successful completion) of the task. Lindemann concluded that native speaker attitudes towards native speakers of Korean are clearly relevant to interaction between the two groups. She linked her findings from a suggestion by Lippi-Green to assert that not only does attitude affect comprehensibility but it is the native speakers' choice of strategies that mediate exchanges.

Lindemann's methodology in the 2002 study highlights the need for research in this area to use both qualitative and quantitative instruments for data collection. Qualitative analysis is missing from the majority of research that considers listener roles in communication. This is surprising, and illuminates a large gap in the literature. Quantitative research alone does not delve far enough into individual communication strategies to draw convincing conclusions about the basis for using said strategies. This is not to suggest that quantitative analysis has no rewards, but it does suggest that the rewards that are offered by quantitative analysis can be richer and broader when combined with qualitative methods.

In an Australian context, Zielinski (2006, 2008) has investigated intelligibility in terms of NS listeners. Zielinski (2006) adds to the field by identifying what particular phonological features render speech unintelligible to NS listeners. She reports that intelligibility is often affected by a combination of factors; the non-standard production of both suprasegmental and segmental features in the speech signal, and also how these interact with listener processing strategies.

All of these studies provide an interesting history of research into accented speech. With the exception of Lindemann, they all concentrate on quantitative analysis - which addresses some questions, but raises many more. While quantitative analysis is crucial it needs to be considered with qualitative methodologies in an attempt to address both the *what* and the *why* of (mis)communication.

RESEARCH QUESTIONS

The studies outlined above direct our attention toward the listener, but they focus on what particular things the speaker does to cause such irritation. The current study is more concerned with why differences may cause irritation. We consider the possibility that irritation may not always be related to the effort to understand accented speech, or to non-standard speech production, but may stem from individual affective factors. This does not suggest that non-native English speakers do not carry any communicative burden, but rather to suggest that in some circumstances where communication breaks down there are reasons completely beyond the speakers' control.

This study aims to examine if listener attitude plays a role in the comprehensibility of foreign (non-Australian) accented speech. To address this area in an Australian setting the following questions will be investigated:

- i. Is there any relationship between attitude toward other ethnic groups and intelligibility of L2 accented speech?
- ii. Is there any relationship between contact with other ethnic groups and intelligibility of L2 accented speech?

- iii. Is there any relationship between attitude toward other ethnic groups and comprehensibility of L2 accented speech?
- iv. Is there any relationship between contact with other ethnic groups and comprehensibility of L2 accented speech?
- v. What social assumptions do listeners make about speakers on the basis of accent?

We have explored the previous research into the area of language attitudes and assumptions and reported on interesting outcomes and potential shortfalls of these studies. The largest gap in the literature is the lack of qualitative analysis of results. In effect, we have interesting answers but insufficient questions. We have the *what* but not the *why*. The following section details the methodology for the current study which hopes to address some of these shortcomings.

METHODOLOGY

OVERVIEW OF STUDY

This study used a web-based data collection process. The study was designed to encompass both quantitative and qualitative methods of data analysis. Participants filled in surveys, completed transcription tasks and made judgments and comments regarding the speakers. This was all done online at www.whowhyhow.com. The website was designed to force a response before participants could move onto the next section, though they could exit the study at any time by closing the web page. Participants answered biographical questions before completing the attitude and contact surveys. They then listened to, and transcribed, pre-recorded sentences spoken by three women with different accents. After each set of transcriptions participants recorded their impressions of the speaker.

SPEAKERS

The first speaker heard by participants spoke with a recognisable Australian accent, similar to that heard on FM drive time radio. This accent was placed first to help determine the listening ability of the participants. Since communication entails listening as much as speaking, it then follows that listening skills should also be investigated in this study. As the data analysed was only gathered from Australian residents who speak English at home it was considered reasonable that the Australian accent would be the most familiar and easiest to understand. Native speakers have been used as a yardstick in a number of accent studies (Anderson-Hsieh, Johnson & Koehler, 1992; Powers et al., 1999). This also helped to group participants according to their listening ability (this is explained fully in the scoring procedure section of this report).

The second speaker was a Vietnamese ESL teacher, who had been studying in Melbourne for 8 months. She had also lived in Australia previously. The third speaker was a Chinese born

Australian who had lived in Australia for 14 years, and worked in the service industry where the majority of communication took place in English.

PARTICIPANTS

Participants for the study were self-selected, by way of answering an advertisement which was placed in cafes, on public notice boards and other public places around Victoria. Only participants who reported residing in Australia and speaking English at home were used in the data analysis.

MATERIALS

Survey 1

The first survey of the study, answered on a 6 point Likert scale, attempted to uncover participants' attitudes towards other ethnic groups. It consisted of a list of 18 statements such as *I am proud of Australia's multicultural society*, and *It is too easy to immigrate to Australia* (see Appendix 1) and participants were asked to indicate the level of their agreement or disagreement with each statement. The survey proved to be internally consistent, with a reported Cronbach alpha coefficient of .88, meaning that each item is measuring the same factor.

Survey 2

The second short survey (6 questions) elicited information about the degree of contact participants had with foreign accented speech in different situations, and also which particular language backgrounds (if applicable) that they had the most contact with. See Appendix 2 for a full copy of the Contact survey.

Transcription task

The third part of the study required participants to transcribe recorded speech. Three female speakers were recorded, one Australian born, one Vietnamese born and one Chinese born. Each speaker recorded four sentences. Each sentence consisted of a single clause, took around three seconds to produce, and was a nonsensical or untrue statement, such as *It often snows in Darwin* and *Giraffes fly very well* (see Appendix 3 for a full written copy of the recorded sentences). The reason for the sentences being nonsensical was to avoid participants making assumptions, or guessing, what the speakers were saying.

After listening to each speaker, participants were required to rate, on a 5 point scale, the speakers' English skills, and also the strength of their accent and how easy they found the speaker to understand. (See Appendix 4 for a full copy of the rating scales). They were also asked to describe the speaker in their own words, and given the opportunity to add further comments. The website would not allow participants to click through to the next page

without making a comment. If they clicked next without typing anything in the comment box a prompt would appear asking them to respond before continuing, though they could type *no comment* or *NA* etc and they would be taken through to the next screen.

PROCEDURES

Internet data collection

Web-based data collection can encourage honesty due to the anonymous nature of the internet (McCoy, Marks, Jr, Carr & Mbrika, 2004). Using the internet as a research tool, whilst convenient, can also be problematic. The nature of the survey conducted for this study relies almost wholly on self-reporting and the data is unverifiable. Also, the researcher is unaware of the particular conditions under which each participant completes the survey. In a larger scale study, however, this constraint could be remedied by asking participants to complete the survey in a computer laboratory provided by the researchers.

Scoring Procedure

For the purpose of quantitative analysis each participant was given a number of scores. For example, a participant who indicated strong agreement with the statement *Immigrants have enabled Australia to prosper* was assigned 1 point, and a participant who indicated strong disagreement was assigned 6 points. A score between 1 and 3 on any of the statements indicated a positive attitude toward immigrants and immigration. Similarly, a score between 4 and 6 indicated a negative attitude. Based on their total score for each of the 18 attitude statements participants were placed into one of two attitude groupings, *negative* or *positive*.

Possible scores for the contact survey ranged from 0 (for absolutely no contact) to 30 for daily contact in all areas of life. Frequency of contact was gathered for work, family, school, community, and recreational arenas. Participants were able to choose NA if they did not participate in that arena (did not work, for example).

Each transcribed sentence had a best possible score of 2 for perfect transcription, 1 for partly correct (some words correct) or 0 for totally incorrect (no words correct). Participants were then assigned a score for each speaker with 8 being the highest and 0 the lowest. The process of separating the scores by speaker has a dual purpose. The first, and most obvious, purpose is for comparison of correct transcription between the speakers, also taking into account the attitude and contact scores. The second purpose relates to the recognition of listeners necessarily carrying some of the communicative burden. As the first speaker has an Australian accent, and participants were Australian residents who spoke English at home, it was assumed that this would be the most familiar and recognisable accent. Scoring of the first speaker therefore also indicated the general listening ability of the individual participants. Participants who scored 6 and above for the Australian accented speaker were grouped as 'good' listeners, and those who scored below 6 were grouped as 'bad' listeners. Grouping participants in this way helps to

ensure that the results from the data analysis are based on reasons of attitude or familiarity and not another random variable (such as listening ability).

Each of the participant-rated areas was also assigned a 'score'. The rating for the speaker's English skills was 5 (for Very Good) to 1 (for Very Bad). Strength of accent rating was 5 (for No Accent) to 1 (for Very Strong). Lastly comprehensibility was scored as 5 (for Not at all difficult to understand) to 1 (for Impossible to understand).

The data were normally distributed, so Pearson correlation was used. Statistical data analysis was only run on participants who were deemed 'good' listeners ($N = 151$), but qualitative analysis took all participants into account. Justification for this decision is drawn from the nature of the analysis. Quantitative analysis requires strict control of intervening variables (such as listening skills). Qualitative analysis, however, looks at the comments made by participants. The opinions of all participants are considered important, regardless of their listening ability.

RESULTS AND DISCUSSION

Determining if Australian listeners allow their attitude toward other ethnicities to effect their perception of whether communication is comprehensible was a multi-faceted process. Quantitative analysis revealed some weak correlation between attitude and comprehensibility ratings with respect to the first four research questions:

- i. Is there any relationship between attitude toward other ethnic groups and intelligibility of L2 accented speech?
- ii. Is there any relationship between contact with other ethnic groups and intelligibility of L2 accented speech?
- iii. Is there any relationship between attitude toward other ethnic groups and comprehensibility of L2 accented speech?
- iv. Is there any relationship between contact with other ethnic groups and comprehensibility of L2 accented speech?

In the following section the results of quantitative analysis are presented and discussed.

QUANTITATIVE RESULTS AND DISCUSSION

Results indicate that there is some relationship between attitude and ability to accurately transcribe accented speech (intelligibility). Correlations appeared between the negative attitude group and low combined transcription scores ($r = .229$, $N = 151$, $p < .01$) for both non-Australian accented speakers.

These results suggest that some lexical misunderstanding (incorrect transcription of sentences) of accented speech could arise from a listener's negative attitude, not necessarily

from a speaker's (non-standard) production. These results differ from Lindemann's (2002) finding that intelligibility is not affected by a negative attitude. The discrepancy could perhaps be explained by the number of participants. Lindemann's analysis used data collected from 12 participants and the current study has data from 151 participants. We see from this study's result that intelligibility can be impeded by a listener's negative attitude, though the correlation is weak. The importance of this implication is reliant on the particular context of native speaker non-native speaker communication. In some situations, job interviews or medical consultations for example, the impact of unintelligible speech could be quite severe. Intelligibility is in part affected by a listener's attitude and beyond a speaker's control; therefore it is important that this issue be addressed. Of course any approach to addressing individual judgements and attitudes will be necessarily complex and we need further evidence of this phenomenon to provide a valid starting point.

Correlations were apparent between the negative attitude group and low combined comprehensibility scores ($r=.291$, $N=151$, $p<.01$) for both non-Australian accented speakers. There is a weak but significant correlation between a negative attitude and listeners perceiving accented speech as being difficult or impossible to understand.

These results suggest that even in circumstances where an utterance has been understood, a negative attitude may result in a listener feeling that they haven't actually understood. This supports the conclusions of Munro and Derwing (1995b) that even when an utterance is perfectly understood (transcribed) the listener may not feel that they have understood an utterance. A negative attitude that results in a *perceived* lack of understanding more than an *actual* lack of understanding, as we see here, suggests that Australian residents with negative attitudes may use similar problematising strategies as found by Lindemann (2002) in her study of the effect of attitude on NS – NNS communication. The possibility of a listener feeling that they have misunderstood a speaker due to the listener's attitude could have grave consequences for an accented speaker. Again, this is reliant on individual situations, but as it is the individual that we are concerned with it is important to explore this further despite the difficulty in doing so. The above results are concerned with *what* questions similar to the research by Munro and Derwing (1995b) and Lindemann (2003). We have not yet addressed any *why* questions, or accounted for other variables that may be confounding these results. Perhaps this phenomenon could have arisen out of a listener's inexperience in conversing with accented speakers, rather than their negative attitude.

Weak correlations appeared between the negative attitude group and low contact scores ($r=.305$, $N=151$, $p<.01$). There is some significant correlation between infrequent contact with accented speakers and negative attitudes towards other ethnic groups. It is important to point out that the positive attitude group does not correlate with high contact scores. So, while in some cases infrequent contact may have some relationship with a negative attitude, frequent contact does not necessarily result in a positive attitude. This is important as the

make up of Australian society is resulting in growing contact between different cultures; unfortunately contact alone is not enough to change people's attitudes toward other ethnicities. Australia needs structured and officially sanctioned educational programs to build awareness and respect for different ethnicities. These results provide some reasoning, some *why*, as to the basis of negative attitudes. In some cases a negative attitude could stem simply from a lack of contact, a fear of the unknown. This fear, as we saw in the introduction, is commonly reinforced through public discourse. We see that frequency of contact can have some bearing on (negative) attitude, but this raises yet another question regarding whether or not contact aids in comprehensibility?

There is no significant correlation between frequent contact with accented speakers and perceived understanding of accented speech. These results also reflect the findings of Munro and Derwing (1995b) who found that contact with accented speakers does not necessarily improve listeners' perceived ability to understand such accented speakers.

Many other factors could be interfering in the last two analyses. The language background of speakers whom the participants have frequent contact with could be very different from the language backgrounds of the speakers recorded in this study. Also, participants could have a reasonably high contact score but still not take part in extended conversations on a social level. High contact scores may have been given for everyday contact consisting of short, necessary interactions through work, or service encounters etc. In addition, we should consider the possibility that frequent contact with accented speakers is not necessarily going to reverse a negative attitude. We also need to consider the judgements that listeners make regarding accents and whether attitude has any effect on those judgements, which brings us to the last group of judgement related research questions.

QUALITATIVE RESULTS AND DISCUSSION

Qualitative results indicate that listeners make a range of social assumptions on the basis of accent, as indicated in the findings relating to the fifth research question:

- i. What social assumptions do listeners make about speakers on the basis of accent?

Several participants commented that the content of the statements produced by the second and third speakers did not make sense. What is interesting about this is that the same participants did not make similar comments in regards to the first speaker, who has a standard Australian accent. Many participants also made similar comments about the first speaker's statements, but only one of these participants repeated the comment for the second speaker. Participants that displayed this tendency shared no other similarities and were not necessarily included in the negative attitude group. This raises a few issues. Firstly, it could indicate support for Gynan's (1985) suggestion that irritation caused by one factor encourages irritation in all other factors in terms of listener attitude. To clarify, let us take the example of Participant 135. Participant 135 has a positive attitude grouping but makes no

mention of the Australian born speaker making no sense (the comment made is *literate, well-spoken female*). For the two non-Australian born speakers, however, the sentences making no sense drew comment. Perhaps the irritation caused by an accent prompted Participant 135's irritation at the nonsensical sentences. It would be fair to counter that perhaps the nonsensical sentences prompted irritation with the accent but as no such irritation was reported for the Australian born speaker we can assume that this is not the case.

This trend also highlights the difficulty in designing accurate measures of attitude, for some of these respondents displayed quite positive attitudes towards other ethnic groups but their comments indicate that this measure may not be accurate. The difficulty in this is determining whether the discrepancy is borne from the instrument design or from individual participants censoring or denying their honest responses. The argument that the discrepancy lies with individual participants can be strengthened by looking at the responses to statements 8 and 15 on the attitude survey.

For example, Statement 8, *Asians are bad drivers*, and Statement 15, *Asians are hardworking*, both generalize across an entire population and satisfy criteria for being racist assumptions since they are founded on stereotypes. Therefore, we could assume that if a participant disagreed with one statement then they should disagree with the other. The results show, however, that this is not the case. Inconsistency can sometimes be as telling as consistency. Interestingly though, those who strongly agreed that Asians are bad drivers, also were more likely to have a negative attitude score ($r=.487$, $N=151$, $p<.01$). Future studies need to make further provisions to achieve more accurate attitude measures. Perhaps more clandestine instruments are required to reduce the possibility of people answering in a way considered politically correct, but that is not necessarily a true reflection of their attitudes. We also need to consider the possibility that individual listeners feel justified making certain assumptions but not others, perhaps because of personal experience, or the prevalence of particular stereotypes in public discourse.

Further argument for qualitative assessment of attitudes is provided by closer inspection of individual data sets. It is impractical to review the comments for each of the 158 participants so this discussion identifies a select few to illustrate the need for consideration of individual characteristics when analysing any sort of judgment based data. Participant 95, for example, a 25 year old tertiary educated female living in the city, made the following comments when asked to describe the speakers:

- First speaker: *Female, 30s educated.*
- Second speaker: *Female, 30s, lived in Australia for about a decade, works in a job that requires interaction with Australians so had to learn the language. Might work in a Vietnamese restaurant.*
- Third speaker: *Female, late 20s, came to Australia to work a blue collar job, did not finish high school in China.*

Participant 95 displayed a positive attitude and reported daily contact with accented speech. She correctly identified the language backgrounds of all three speakers (a rare occurrence with this data set, only 2% of participants managed this) but goes on to make quite specific assumptions regarding the speakers (none of which are correct apart from the gender). This also raises considerations about the validity of self-reporting attitude, but more importantly highlights the potential disadvantage accented speakers might experience when communicating with some Australian residents. Participant 95 gives a clear example of the assumptions that can be made on the basis of accent alone. It could be argued that the instrument design encouraged assumptions, but the many participants who provided answers consisting of comments like *Female, probably not born in Australia* (Participant 36) and *Clear, but with an accent* (Participant 116) do much to counter this claim.

Perhaps the most striking area for assumptions that is revealed by qualitative analysis is that of the education level of the speakers. Around 8% of the positive attitude group and 17% of the negative attitude group described the first (Australian born) speaker as *educated*, *well educated* or *tertiary educated*. Participants were following the instruction *If you had to describe this speaker, what would you say*. At no point were they asked to speculate on the education level for any of the speakers. Similar comments for the accented speakers appeared far less frequently, especially amongst the positive attitude grouping where less than 1% assumed a high education level for either accented speaker. Interestingly 10% of the negative attitude group speculated that the second speaker was educated, but no-one in the negative attitude group voiced such assumptions about the third speaker. This analysis provides some indication of what an accent may signify to some people regardless of their attitude toward other ethnicities, namely that a standard Australian accent signifies a higher level of education than a non-standard accent. These assumptions are, not surprisingly, untrue - as the Australian accented speaker used has the lowest education level of the three speakers recorded for this study.

Qualitative analysis has revealed that even when people self-report a positive attitude toward other ethnicities they may still make particular assumptions regarding a speaker's characteristics based solely on a speaker's accent. In terms of Australian democracy this could have far reaching implications for some Australian citizens, especially those that speak English with a non-standard accent. It's also important to remember that quantitative analysis did not reveal this tendency and therefore reinforces the need for both qualitative and quantitative research in this area. It is also important that researchers recognise communication as a cooperative process that relies not only on the production skills of a speaker, but also on the listening ability and individual characteristics of the listener.

CONCLUSION

The findings of this study indicate that a listener's attitude can influence their perceived comprehensibility of accented speech. In this study this is only true for a small section of the participants, but it should be remembered that all the participants in this study were asked by the researcher to take part, or had self-elected to take part. This assumes a relatively high motivation level and participants were engaged with the task of understanding. As Morton, Munro and Derwing (2005) have noted, in real life situations the motivation may not be as high for those with a negative attitude.

This study employed both quantitative and qualitative research methods when looking at affective variables such as attitude, and highlights the need for such methodological combination in further research. Also important is the recognition of differences in individuals' listening skills. All studies concerned with the comprehensibility or intelligibility of language learners' speech production should take efforts to control this variable, especially those studies with smaller numbers of participants. Results from this study provide enough evidence to encourage further research into the arena of accents and disadvantage.

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APPENDIX 1 – ATTITUDE SURVEY

I feel comfortable with people from different ethnic backgrounds.

Strongly agree ☐ Agree ☐ Slightly Agree ☐ Partly Disagree ☐ Disagree ☐ Strongly Disagree ☐

People of Anglo descent enjoy a privileged position in Australian society.

Strongly agree ☐ Agree ☐ Slightly Agree ☐ Partly Disagree ☐ Disagree ☐ Strongly Disagree ☐

There is racial prejudice in Australia.

Strongly agree ☐ Agree ☐ Slightly Agree ☐ Partly Disagree ☐ Disagree ☐ Strongly Disagree ☐

Australia makes too many concessions for immigrants.

Strongly agree ☐ Agree ☐ Slightly Agree ☐ Partly Disagree ☐ Disagree ☐ Strongly Disagree ☐

It is a bad idea for people of different ethnic backgrounds to marry.

Strongly agree ☐ Agree ☐ Slightly Agree ☐ Partly Disagree ☐ Disagree ☐ Strongly Disagree ☐

I am proud of Australia's multicultural society.

Strongly agree ☐ Agree ☐ Slightly Agree ☐ Partly Disagree ☐ Disagree ☐ Strongly Disagree ☐

Multiculturalism promotes tolerance in Australian communities.

Strongly agree ☐ Agree ☐ Slightly Agree ☐ Partly Disagree ☐ Disagree ☐ Strongly Disagree ☐

Asians are bad drivers.

Strongly agree ☐ Agree ☐ Slightly Agree ☐ Partly Disagree ☐ Disagree ☐ Strongly Disagree ☐

Some races are culturally superior to others.

Strongly agree ☐ Agree ☐ Slightly Agree ☐ Partly Disagree ☐ Disagree ☐ Strongly Disagree ☐

ARTICLES

New immigrants to Australia should learn to adapt to Australian culture.

Strongly agree ☐ Agree ☐ Slightly Agree ☐ Partly Disagree ☐ Disagree ☐ Strongly Disagree ☐

Immigrants have enabled Australia to prosper.

Strongly agree ☐ Agree ☐ Slightly Agree ☐ Partly Disagree ☐ Disagree ☐ Strongly Disagree ☐

Australian culture is weakened by different ethnic groups sticking to their old ways.

Strongly agree ☐ Agree ☐ Slightly Agree ☐ Partly Disagree ☐ Disagree ☐ Strongly Disagree ☐

There are certain ethnic groups which do not fit into Australian society.

Strongly agree ☐ Agree ☐ Slightly Agree ☐ Partly Disagree ☐ Disagree ☐ Strongly Disagree ☐

Immigrants to Australia should raise their children as culturally Australian.

Strongly agree ☐ Agree ☐ Slightly Agree ☐ Partly Disagree ☐ Disagree ☐ Strongly Disagree ☐

Asians are hardworking.

Strongly agree ☐ Agree ☐ Slightly Agree ☐ Partly Disagree ☐ Disagree ☐ Strongly Disagree ☐

It is too easy to immigrate to Australia.

Strongly agree ☐ Agree ☐ Slightly Agree ☐ Partly Disagree ☐ Disagree ☐ Strongly Disagree ☐

Multiculturalism creates national disunity.

Strongly agree ☐ Agree ☐ Slightly Agree ☐ Partly Disagree ☐ Disagree ☐ Strongly Disagree ☐

Multiculturalism fosters the spread of extremism in Australia.

Strongly agree ☐ Agree ☐ Slightly Agree ☐ Partly Disagree ☐ Disagree ☐ Strongly Disagree ☐

APPENDIX 2 – CONTACT SURVEY

In the following situations, how often do you converse with people from non-English speaking backgrounds?:

At work

Every day ☐ Often ☐ Sometimes ☐ Hardly ever ☐ Never ☐ NA ☐

At school

Every day ☐ Often ☐ Sometimes ☐ Hardly ever ☐ Never ☐ NA ☐

Socially

Every day ☐ Often ☐ Sometimes ☐ Hardly ever ☐ Never ☐ NA ☐

Sporting and Recreational activities

Every day ☐ Often ☐ Sometimes ☐ Hardly ever ☐ Never ☐ NA ☐

Community events

Every day ☐ Often ☐ Sometimes ☐ Hardly ever ☐ Never ☐ NA ☐

Family functions

Every day ☐ Often ☐ Sometimes ☐ Hardly ever ☐ Never ☐ NA ☐

Please list the language backgrounds that apply most.

APPENDIX 3 – SENTENCES RECORDED FOR TRANSCRIPTION.

First speaker:

It often snows in Darwin.

A tonne equals six kilos.

The sun sets at dawn.

Four is more than eight.

Second speaker:

Giraffes fly very well.

Victoria is an island.

People hear with their knees.

Smoking helps you breathe.

Third Speaker:

Koalas eat red meat.

Brazil is in Europe.

May has twelve weeks.

Lollies spoil your feet.

APPENDIX 4 – RATING SCALES

How would you rate this speakers' English skills?

Very good ☐ Good ☐ Average ☐ Bad ☐ Very bad ☐

How strong was this person's foreign (non-Australian) accent?

Very strong ☐ Strong ☐ Somewhat strong ☐ Not very strong ☐ No Accent ☐

How difficult was it to understand this speaker?

Impossible ☐ Very difficult ☐ Difficult ☐ A little difficult ☐ Not at all difficult ☐

What language background do you think this speaker has? (eg. Australian, French, Japanese)

If you had to describe this speaker, what would you say?

Is there anything else you would like to add?