Investigating the Influence of Listener Attitudes and Expectations on the Intelligibility of Hindi English

More than just a medium to convey regular semantic information, communicating with spoken language involves a social dynamic between and among individuals. These individuals' linguistic 'performance' reflect cultural norms, beliefs, and attitudes. Some of these norms, beliefs, and attitudes concern how we regard groups of people. The effect of these beliefs on communication can be surprisingly pervasive. Nonlinguistic factors--such as attitudes and expectations about language groups, accents, and ethnicity--have consistently been reported to influence judgments pertaining to speaker attributes and intelligibility (Babel et al., 2014; Kang and Rubin, 2009; Lambert et al., 1960; Lippi-Green, 1997; McGowan, 2015).

The focus of this UROP grant builds upon these ideas and attempts to examine the influence of listener attitudes on the perception of Hindi-influenced speech. An important starting point to this inquiry is situated in prior research that has found connections between accentedness and speaker evaluation. A useful example of this relationship is presented by Rubin (1992), who examined students' judgements of nonnative English speaking teaching assistants (NNSTAs). The study presented the same speech sample to participants: a short lecture recorded by a native speaker of English with a standard accent. However, when the lecture was presented with an image of an East Asian individual, listeners reported hearing a nonnative accent and performed worse in comprehension tasks than when they were presented with the same lecture paired with a picture of a white individual. Moreover, a study done by Babel et al. (2014) suggests that stereotypicality, rather than perceptual fluency, is more significantly linked to attractiveness. This association between how prototypical a voice sounds and how attractively it is perceived could be linked to how readily that voice is understood. In other words, because processing fluency on its own has a more nuanced effect on attractiveness than stereotypes, it is

possible that these variables could also have more of an impact on vocal intelligibility than just processing fluency alone (Babel and McGuire, 2014). It is not surprising, then, that the potential non-stereotypicality of foreign accents is also often associated with negative personal evaluations and low intelligibility (Flege, 1984).

The study that I am proposing is novel in that a considerable body of literature covers the influence of accents on intelligibility and on listener attitudes and expectations, but comparatively little research has been done on whether attitudes and expectations affect intelligibility. We are attempting to fill in this gap-- the central objective to our research then is twofold: 1) To what extent, if any, do listener attitudes about South Asians influence intelligibility of Hindi English? 2) Is there a correlation between explicit and implicit attitudes about South Asians and speech intelligibility of Hindi English? To measure these objectives, we will assess participants in three ways: an Implicit Association Test (IAT); an intelligibility task using visual primes and speech in noise; and an ethnographic interview to acquire qualitative data about potential stereotypes, communicative practices with nonnative speakers, and other overarching themes related to language attitudes.

Speech stimulus materials will consist of selected Hindi English and American English sentences originally collected by Jocelyn Hardman in the Buckeye GTA corpus, as described in Hardman and McCullough (2010). These utterances will be used in an intelligibility task wherein we will ask participants to transcribe the sentences to the best of their capability. Visual primes will be used alongside the sentences. Photos of Caucasian and South Asian individuals were taken or voluntarily sent in by colleagues, friends, and family. The selected photographs are intended to represent the wide variety of appearances and features that exist within the two ethnic groups. The visual stimuli used in the intelligibility task will be different from the stimuli

used in the Implicit Association Test in order to account for the effects of familiarity on speech perception.

Because we have developed the literature review, methodology, and procedure throughout the duration of the Multicultural Summer Research Opportunities Program, we will spend six months running 30 subject trials; gathering, collecting, and analyzing data; and presenting these findings at the Acoustic Society of America's Spring 2018 conference, to be held in Minneapolis in May, 2018. To break this down further, two months will be spent collecting data from subjects, three months will be spent analyzing the data, and one month will be spent writing the conference paper. Dr. Munson's expertise in sociolinguistics, speech perception, and speech production has substantially informed the methodology and framework of the proposed study. His knowledge on the subject, and our ongoing collaborative efforts in his *Learning to Talk Lab*, will be invaluable during the project's data collection and analysis phase.

In sum, the potential implications of this study could then inform the growing body of literature regarding the ways in which socioindexical factors influence speech perception. Drawing from previous research, we predict that individuals who harbor negative attitudes and harmful stereotypes about South Asians will perceive Hindi English as less intelligible. If this is the case, the implication that the listener plays a critical role in assessing the intelligibility nonnative speech may shift the way we think of interactions, programs, and coursework regarding L2 speech all together. Although communication is a reciprocal process, the responsibility to be understood is often carried by the nonnative speaker. However, the onus of effectively and clearly exchanging spoken language should also be borne by the listener--it is our hope that this proposal will create a foundational platform to further explore this notion.

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