The role of imagination in attending to variant frequency

Ashley Hesson, *University of Michigan*
Suzanne Evans Wagner, *Michigan State University*

Sociolinguists have long acknowledged that individuals differ in their propensities to perceive variation. In Labov et al.'s (2011) perception model-- the sociolinguistic monitor-- effective perceivers are able to both recognize variable frequencies and interpret their social meaning. The relative contributions of individuals' frequency tracking ability and social interpretive skills to these tasks, however, have yet to be fully characterized. The present study decomposes the sociolinguistic monitor into its constituent tasks. In doing so, we identify the measurable characteristics that may be associated with superior potential to perceive sociolinguistic variation.

104 native English-speaking US students assessed a speaker's suitability for a newscaster job. Using a seven-point scale of perceived professionalism, they rated her 'auditions': a read passage presented in seven conditions (Labov et al.'s exact stimuli). Proportion of non-standard [ɪn] versus standard [ɪŋ] was manipulated in each condition. Participants also completed the Autism Quotient (AQ) questionnaire (Baron-Cohen et al. 2001), a validated measure of cognitive processing style among non-Autism Spectrum individuals. The AQ evaluates abilities in Social interaction, Communication, Attention Switching (e.g. alternating between tasks), Attention to Detail (e.g. noticing patterns), and Imagination (e.g. engaging in pretend scenarios).

As in Labov et al's study, participants exhibited a logarithmic response: dramatic downgrades in speaker professionalism scores with increasing proportions of [ɪn] up to [ɪn]=30%, after which professionalism scores plateaued (Figure 1). Participants' Attention to Detail (p=0.01) and Imagination scores (p<0.01) significantly predicted fit to an overall logarithmic curve. Breaking the curve into linear sections represented by [ɪn]=0-30% and [ɪn]=30-100%, Attention to Detail was the only predictor of linear fit in the [ɪn]=0-30% range (p<0.01), while both Imagination and an interaction between Imagination and female gender significantly predicted linear fit in the [ɪn]=30-100% range. We propose that Imagination is required to generate mental models of the speaker, while Attention to Detail tracks the linguistic features that conflict with these models. Listeners primarily engage their tracking abilities when marked-variant frequencies are relatively low, presenting as anomalies in their original mental representation of the speaker as a newscaster. At higher frequencies, variant tracking becomes less relevant and can be backgrounded in favor of using socio-imaginative abilities to rework the mental model of the speaker. Females in our sample seemed to be particularly adept at this later task.

To facilitate further identification of demographic and group tendencies, discrimination scores were used to identify the AQ questions that differentiated participants with definitively logarithmic response curves. 13 questions produced a 10% or greater difference in logarithmic fit in our sample, of which the majority (n=9) measured Attention to Detail and Imagination. We propose that use of the 13 highly discriminant AQ questions -- or of similar questions specifically generated for sociolinguistic

perception research -- may uncover additional individual and group determinants of perceptive ability, facilitating the identification of those likely to perceive and potentially transmit sociolinguistic variation.
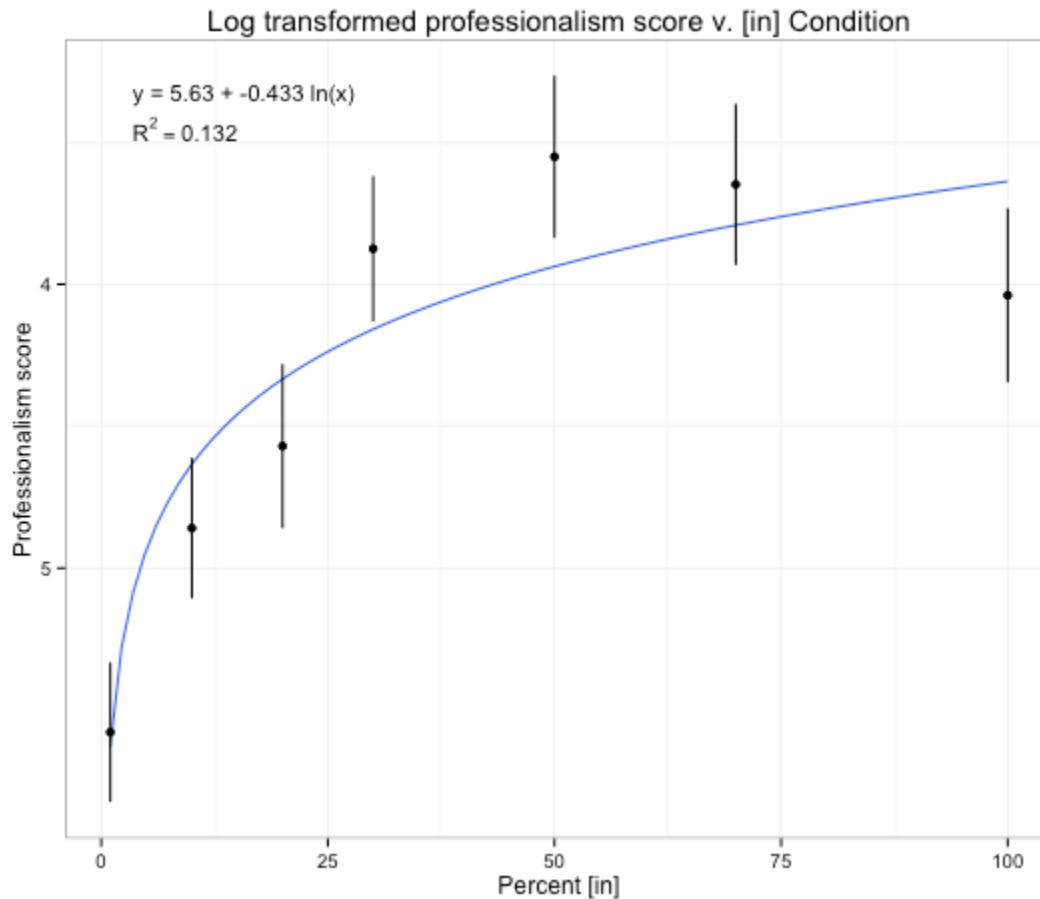

Figure 1. Professionalism score means by [ɪn] frequency across 7 conditions: [ɪn]=0%, [ɪn]=10%, [ɪn]=20%, [ɪn]=30%, [ɪn]=50%, [ɪn]=70%, and [ɪn]=100%.

References

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