Morphosyntax plays a unique role in listeners' expectations about minoritized language

Zachary Maher[1,2], Jan Edwards[2], and Jared Novick[2] [1]*Penn State,* [2]*University of Maryland*

How do listeners differentially use social and linguistic information to guide morphosyntactic processing? Previous work has shown that listeners adapt to morphosyntactic variation caused by a number of speaker-related factors including L2 status[1], and status as a speaker of a particular dialect[2,3]. Moreover, listeners form mental models of others' grammars, rather than broadly anticipating anomalies; for example, participants anticipate that a speaker of African American Language (AAL) might use regularized subject-verb agreement (*They was happy*), while a speaker of Mainstream American English (MAE) would not[4]. In previous studies, non-linguistic social information was not present, but recent work on sociolinguistic attitudes has found that Black speakers face similar social judgments regardless of whether they use stigmatized grammatical features[5]. Therefore, in the present study, we test whether listeners' linguistic expectations are driven by social information about the speaker—which is often gleaned through language—or by linguistic information about the speaker's dialect.

Method

Participants (n=174) were recruited via Prolific. They were likely monodialectal speakers of MAE, based on the following self-reported demographic characteristics: white, higher socioeconomic status, from the U.S, and speaking English as a first language. Participants completed a sociolinguistic repetition task[6] where they transcribed a sentence. Subject-verb agreement (SVA) was acoustically ambiguous due to a segmentation ambiguity (*He sit[s] still*) or white noise masking (*The boys w[NOISE] running*). Thus, participants needed to rely on their model of the speaker's grammar to transcribe either regularized SVA (*He sit*) or MAE SVA (*He sits*). Each participant heard sentences from two voices, and each voice was paired with an image of a face[7]. Filler items established each voice's grammar using other AAL grammatical phenomena (e.g., *Can't nobody do it* for AAL; *Nobody can do it* for MAE). All participants heard a female MAE speaker paired with an image of a white woman. The second voice/image pair (guise) was always male and manipulated between participants. There was a 2x2 design of dialect (AAL grammar, MAE grammar) by racialization (image of a Black man, image of a white man). Additionally, we included a guise using the Black image, where the AAL speaker, who was bidialectal, recorded the same sentences using MAE grammar.

Results

Participants were more likely to transcribe regularized SVA for the male speaker when the voice used AAL grammar, regardless of the image paired with the voice (Fig. 1). This was statistically confirmed using a logistic mixed effects model of the male guises, where guise was dummy-coded, the white MAE guise was the reference condition, and participant- and item-level random intercepts were included. Only the Black image/AAL grammar and White image/AAL grammar conditions were statistically significant ($p<0.001$).

Discussion

Replicating previous results, listeners predicted that speakers of AAL will use regularized subject-verb agreement, even when these listeners do not themselves speak AAL. This effect was driven by the presence of AAL morphosyntax, not simply the speaker's race; without direct evidence about AAL morphosyntax, participants did not transcribe with regularized subject-verb agreement, even in the strong case where audio clips from the same African American speaker were paired with an image of a Black man. Conversely, when audio clips used AAL morphosyntax, participants transcribed regularized SVA even when the speaker was racialized as white. (This should be treated cautiously, since this guise represented a rare scenario that participants still associated with Black communities.) While these findings suggest a unique role for morphosyntactic information in guiding listeners' expectations, more work will be needed to determine how this interacts with listeners' judgments about speakers, as well as their readiness to adapt to unambiguous grammatical differences coming from a racially minoritized speaker.

References

1. Gibson, E., Tan, C., Futrell, R., Mahowald, K., Konieczny, L., Hemforth, B., and Fedorenko, E. (2017). Don't Underestimate the Benefits of Being Misunderstood. Psychological Science, 28(6):703–712.
2. Squires, L. (2014). Processing, Evaluation, Knowledge: Testing the Perception of English Subject- Verb Agreement Variation. Journal of English Linguistics, 42(2):144–172.
3. Weissler, R. E. and Brennan, J. R. (2020). How do Listeners Form Grammatical Expectations to African American Language? U. Penn Working Papers in Linguistics, 25(2).
4. King, S., Vaughn, C., & Dunbar, A. (2022). Dialect on Trial: Raciolinguistic ideologies in perceptions of AAVE and MAE codeswitching. University of Pennsylvania Working Papers in Linguistics, 28(2), 7.
5. Maher, Z., J. Edwards, and J. Novick (2023). They know who speak this way: Knowledge of variation in listeners with different experiences of African American Language. Annual Conference on Human Sentence Processing. University of Pittsburgh. Pittsburgh, PA.
6. Buson, L., Nardy, A., Muller, D., and Chevrot, J. P. (2018). The Sociolinguistic Repetition Task: A New Paradigm for Exploring the Cognitive Coherence of Language Varieties. Topics in Cognitive Science, 10(4):803–817.
7. Ma, D. S., Correll, J., & Wittenbrink, B. (2015). The Chicago face database: A free stimulus set of faces and norming data. Behavior research methods, 47, 1122-1135

Fig. 1: Proportion of participants' transcriptions of regularized subject-verb agreement (*He sit still*), relative to transcriptions using MAE subject-verb agreement (*He sits still*). Semi-transparent points represent participant-level means, and error bars represent 95% confidence intervals, calculated based on participant-level means. Comparisons between male guises correspond to fixed effects as described in the text, and within-guise pairwise comparisons reflect estimated marginal means from a separate model using Tukey family-wise adjustment.