

## Persona-based information and automatic linguistic perception: Evidence from TRAP-backing

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Studies have shown that perceived macro-social categories like age (Drager 2011), class (Hay et al. 2005) and location of origin (Niedzielski 1999), can influence perception of linguistic variables. Other work in sociolinguistics has demonstrated that variables can index multiple social meanings (e.g. Campbell-Kibler 2011), often associable with personae that are more specific or complex than macro-social categories. This paper brings together these lines of inquiry, testing how *persona*-based social information influences automatic linguistic behavior. Findings indicate that persona-based information can have an equally strong, if not stronger, effect on linguistic perception than information about macro-social categories.

Two experiments drew stimuli from one sociolinguistic variable: backed and lowered TRAP vowel. By virtue of this feature's patterning in the California Vowel Shift (e.g. Kennedy & Grama 2012), non-pre-nasal TRAP-backing has social meanings related to macro-social Californian location of origin, as well as to Californian types like the Valley Girl persona. The feature has separately been associated with professional, formal personae (e.g. Podesva et al. 2012). This study tests how these social meanings of TRAP-backing influence listener expectations in linguistic perception.

In Experiment 1, listeners categorized auditory words as either containing a TRAP vowel (e.g. "sack") or a LOT vowel ("sock"). Stimuli consisted of 9-step continua synthesized from three TRAP-LOT minimal pairs produced by a U.S. English speaker. Pre-task, listeners were either told that the speaker was from California (macro-social information), the speaker "has been described as" a Valley Girl, or a Business Professional (persona-based information), or they were not given any speaker information (baseline). A mixed-effects model showed that listeners in both the macro-social and persona-based information conditions were significantly more likely to respond to a given token as TRAP than listeners in the baseline condition. The effect was strongest in the Business Professional condition ( $p=0.000711$ ), as compared to the California ( $p=0.0134$ ) and Valley Girl ( $p=0.0196$ ) conditions. Top-down information related to TRAP-backing's social meanings lead listeners to *expect* TRAP-backing, and crucially, this effect was strongest in a persona-based social information condition.

Experiment 2 used an eye-tracking paradigm (following Koops, 2008) to test effects at an earlier stage of processing. Listeners were again given California, Valley Girl, Business Professional, or no speaker information. Listeners heard ambiguous steps from Experiment 1 TRAP-LOT continua, and were shown orthographic words corresponding to TRAP and LOT options, along with two distractor words, in corners of a screen. They were told to click on which word they heard. Eye movements were tracked to measure competition between TRAP and LOT options *before* the decision. Participants were faster to fixate on a TRAP word in the social meaning conditions than in the baseline condition, indicating that TRAP-backing's corresponding social meanings influence listeners at very early and automatic stages of perception.

These studies demonstrate listener knowledge of the link between TRAP-backing and its multiple social meanings, confirming that social information has an influence on linguistic perception. Furthermore, these studies show that persona-based information can have an even stronger effect than information about macro-social categories, even at very early stages of perception.

## References

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