Socially-mediated linguistic convergence can drive perception of social proximity

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Convergence in dialogue

Convergence observed at multiple levels:

> **Phonetic accommodation:** People adapt their speech to be more similar to that of a speaker they have prior exposure to [1-3].

> **Lexical entrainment:** People in dialogue converge on uniform lexical expressions to use with each other [4-6].

> **Syntactic priming:** People adapt the syntactic structures they use to align with structures used by their interlocutor [7-10].

"pill bug" "French press" "boombox"
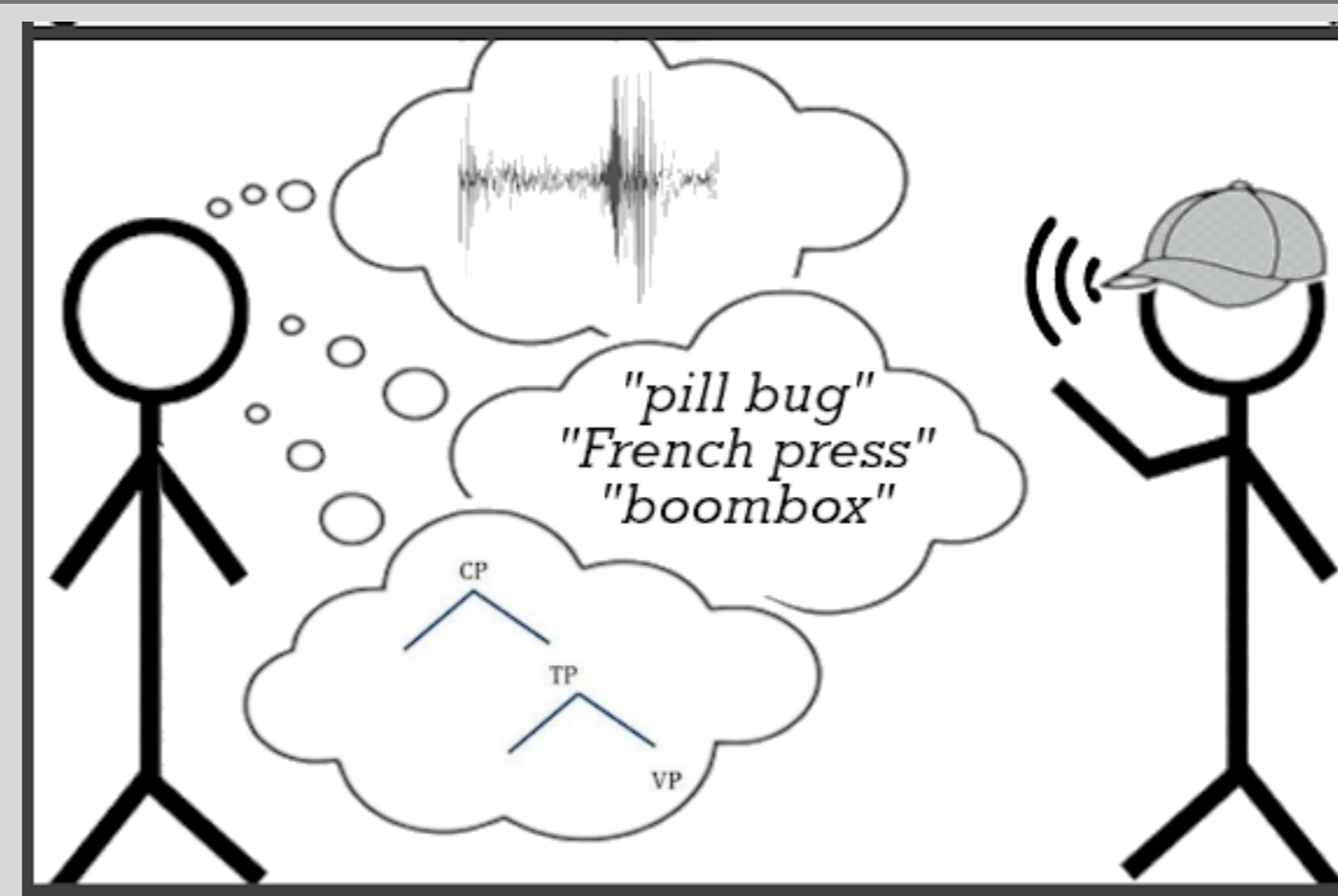
Explanations:

> **A *social* explanation:** Convergence mediated by listeners' **perceptions of speaker characteristics** such as the attractiveness of their voice, or the typicality of their accent; driven by e.g. the listener wanting to increase their similarity to an 'in-group', socially well-positioned individual [11-13].

> **A *cognitive* explanation:** Convergence driven by automatic processes that detect speech characteristics like typicality, distinctiveness [14]; **automatic alignment processes** motivated by communicative efficiency [15]

Questions: >Does a listener's adaptation of **syntactic forms** they produce depend on their perceptions about/stance toward their interlocutor wrt **social proximity**?

> Are native speaker effects separable from socially-driven convergence?
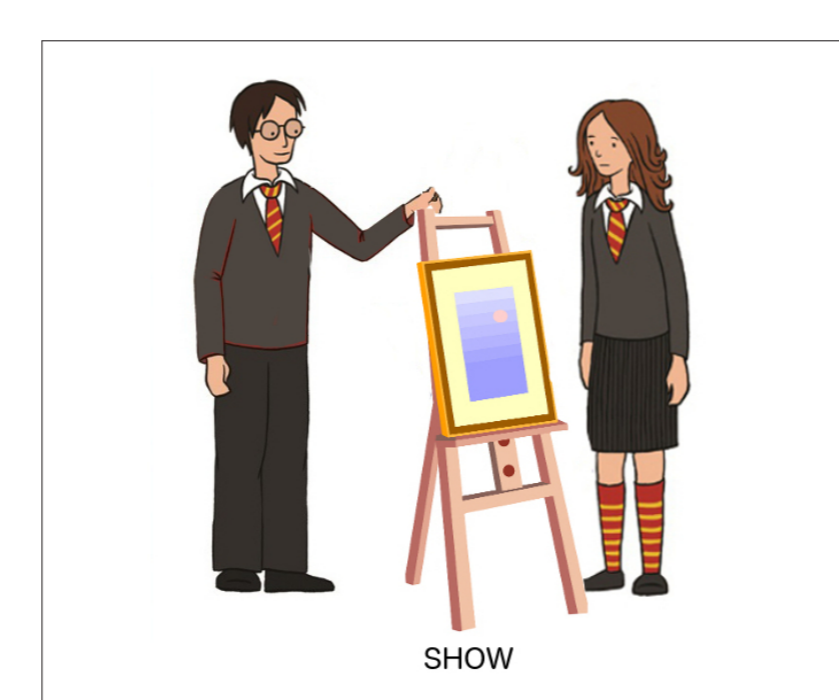
Syntactic priming as a measure of convergence

> Syntactic priming: producing one syntactic alternant over another → more likely to produce that form again on a subsequent utterance [7, 9, 16-19, a.o.]

> Here, we use **extent of structural priming as a measure of convergence** with an interlocutor in a dialogue task

> Participants played a "picture matching" game with a confederate, which involved taking turns to describe scenes depicting ditransitive events using the verb provided. Confederates consistently used DO forms.

On **Respond trials**, participants saw a picture on the screen, and heard the confederate describe a picture that either matched/mismatched with the display. They indicated whether their picture matched/mismatched, including a description of their picture:

REPORT

Confederate: *"Luna reported Hermione the accident."*

Participant: *"Yes, Luna reported Hermione the accident."/"No, Ron reported the accident to Hermione."*

On **Describe trials**, the roles were reversed, and the participant described their picture first. The confederate then gave a match or mismatch response.

SHOW

Participant: *"Harry showed the painting to Hermione."*

Confederate: *"Yes, Harry showed Hermione the painting."/"No, Luna showed Hermione the painting."*

Verb type was manipulated within participants:

> **Alternating verbs** participate in the dative alternation in English (1a-b).

> **Non-alternating verbs** are only grammatical in the prepositional dative form in English (2a), but permit the double object (DO) word order in Spanish, creating anomalous sentences in English (2b).

1 (a) *Harry offered Ron coffee.*   **[Double object]**
   (b) *Harry offered coffee to Ron.*   **[Prep. dative]**

2 (a) **Hermione described Luna the monument.*   **[DO]**
   (b) *Hermione described the monument to Luna.*   **[PD]**

> Unaggregated responses were fitted with separate mixed-effects regression models predicting DO responses (see below), with maximal random effects structures for subject and item. Fixed effects were removed from the model using stepwise model comparison if they did not improve model fit.

Exp 1: Disentangling nativeness and social proximity

Previous work: people tend to converge more with **native speakers** than non-native speakers [19] — but native speaker status bound to align with perceived social proximity in native English speaker participants

Exp 1:
> **non-native participants** (L1 Spanish)
> confederates: **native BrE, non-native (L1 Spanish), non-native (L1 Slovak)**

Questions:
> Does perceived **social proximity** lead to greater convergence when not aligned with native speaker status?
> Do native speaker status and social proximity have independent effects on convergence?

In addition to verb PD-bias, predictors included participants' ratings from a post-test survey about their interlocutor (e.g. likely to have similar interests, native speaker status).

> **Alternating verbs** more effective primes than non-alternating ($\beta = -1.7$, SE=.49, $p < .001$)
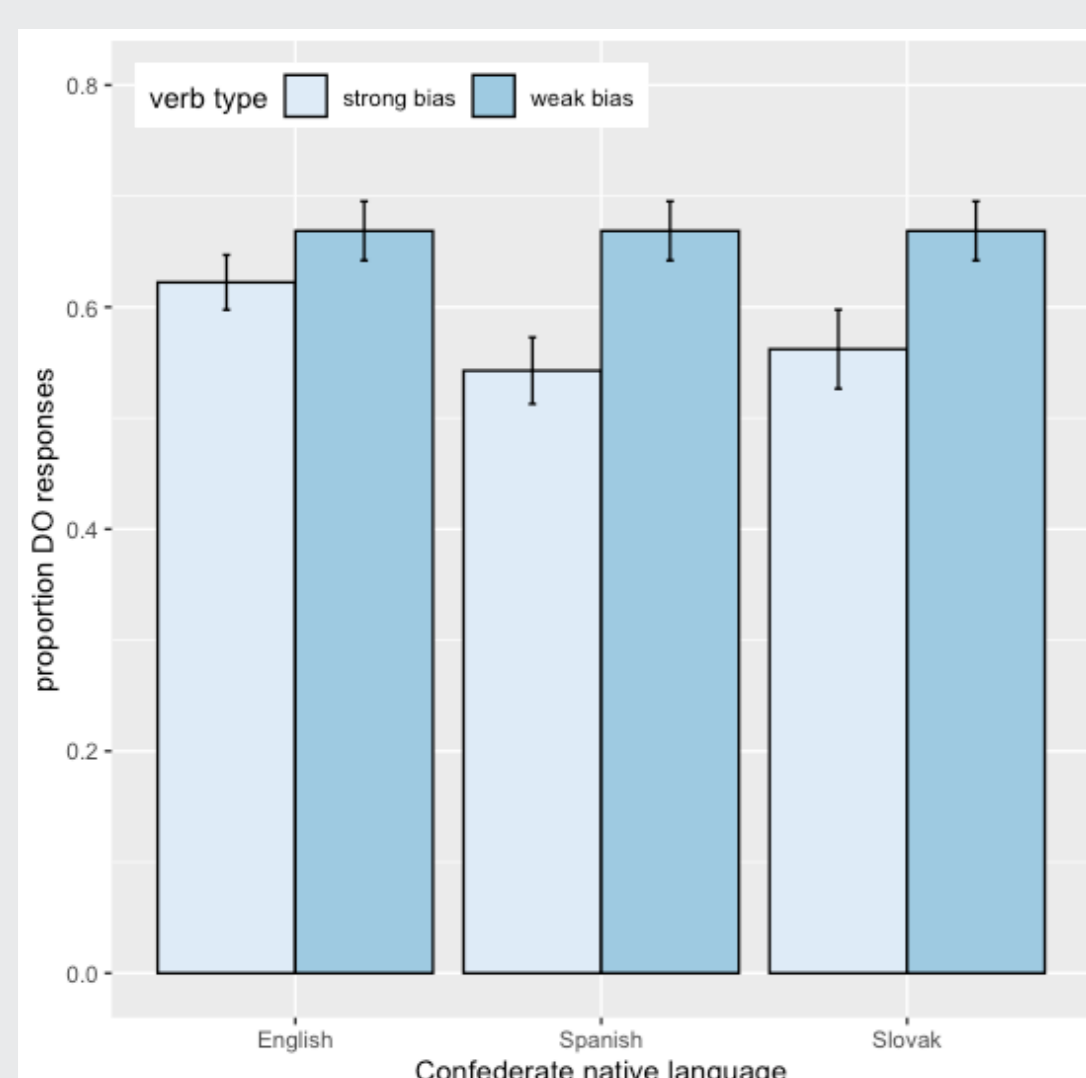
> More convergence with:

Native than non-native interlocutors ($\beta = .45$, SE=.17, $p = .007$)

Similar interests ($\beta = .61$, SE=.18, $p < .001$)

> **Verb type:Nativeness** ($\beta = .36$, SE=.17, $p = .03$): As certainty that interlocutor is a native speaker increased, less penalty for using DO form with strongly PD-biased verbs

> **Verb type:Similar interests** ($\beta = -.56$, SE=.26, $p = .03$): As verbs became more strongly PD-biased, convergence boost associated with higher shared interests ratings weakened

> **Native speaker status**, perceived social proximity independently increase convergence

> Anomalous DO sentences judged as less ill-formed when a confederate perceived as native-like says them — consistent with prior findings that nativeness mediates convergence

> Participants became less willing to produce DO sentences as they became increasingly anomalous

Exp 2: Cross-dialectal convergence

Exp 2:
> participants: native British English speakers
> confederates: **South-East England, Ireland** (County Cork)

Question:
> Are there even social proximity effects in the absence of native speaker differences?
> Do interlocutors' perceptions of their social proximity shift as a result of playing this 45-minute game together?
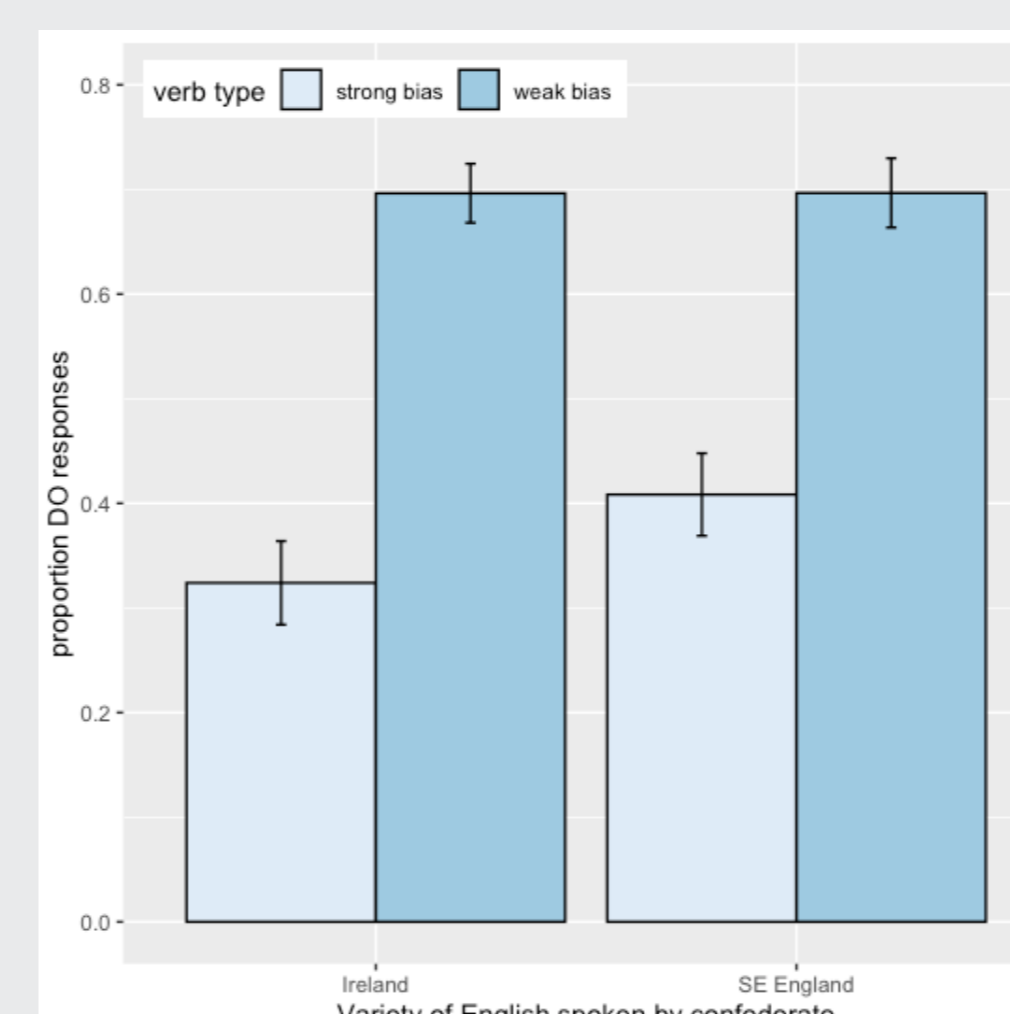
Pre-test — Verbal guise task
> interpersonal similarity ratings (e.g. likely to have similar backgrounds)
> participants marked a map with their hometown, their estimate of the speaker's hometown (map distance)

Post-test — inter-personal similarity questions

> **Alternating verbs** were more effective primes than non-alternating ones ($\beta = -7.64$, SE=1.02, $p < .001$)

> **Verb type:Map distance** interaction ($\beta = .33$, SE=.17, $p < .001$) Interlocutors perceived to have hometowns closer to the participant were penalised less for anomalous DO sentences

> Marginal **Verb type:Similar backgrounds** ($\beta = .33$, SE=.17, $p = .05$) As perception of shared background increased, less penalty for anomalous DO sentences

Comparing **pretest v. posttest** interpersonal similarity ratings by least/greatest increase in convergence (first to last third of trials).

Participants with **least increase...**   ...**greatest increase** in convergence
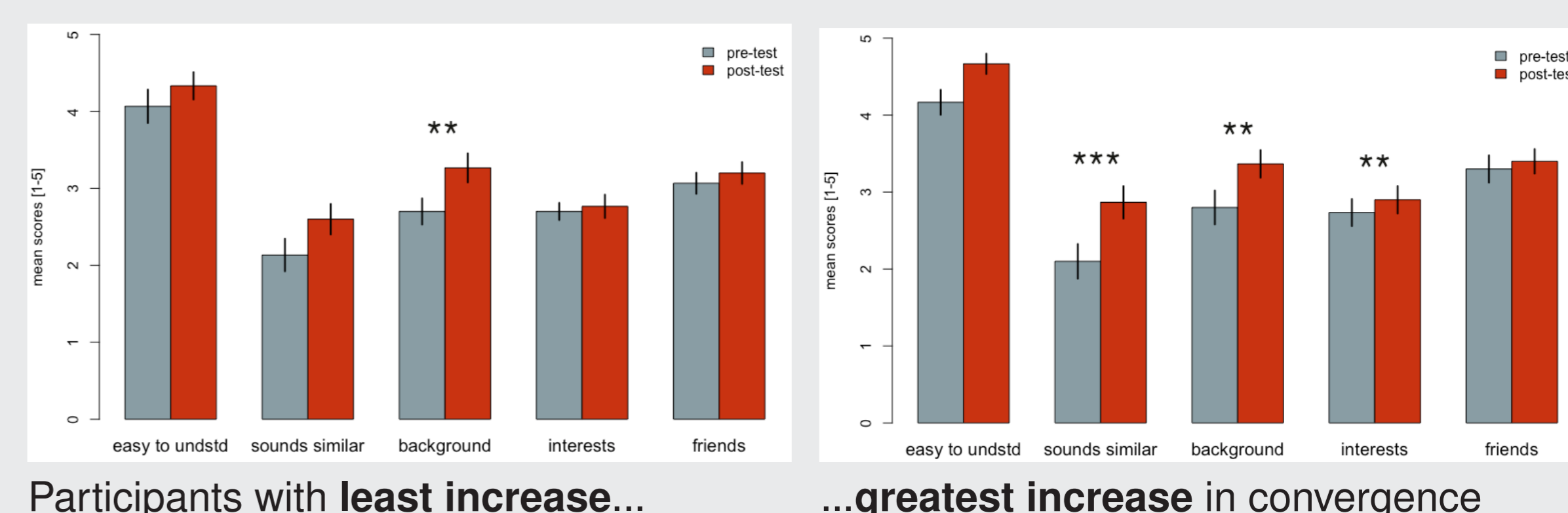
> Evidence for **social proximity effects in the absence of native speaker differences**/across regional varieties of British English

> Participants who showed greatest convergence with their interlocutors also show a greater breadth of **increase in measures of perceived inter-personal similarity**

Two independent drivers of structural convergence

Competence: Listeners adapt more to speakers they perceived to have native competence, reflecting level of certainty about acceptability judgements.

> Cf. Brehm, et al. (2018): ungrammaticality more likely to be interpreted as misperception for typical native speakers than for native speakers with atypical dialects, L2 speakers.

Social proximity: Listeners adapt more to speakers they perceived to be socially similar to themselves.

> Cf. Babel (2010): At least phonetic alignment is sensitive to social signalling pressures. Also: Familiar-sounding speakers are socially preferred (Babel & McGuire 2015).

> Branigan et al. (2011): Socially-mediated convergence need not involve high-level reasoning (though it might).

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