Sprachwissenschaftliche Tagung
für Promotionsstudierende

Discourse completion tasks meet virtual reality: A standalone researcher's new best friend?

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Overview

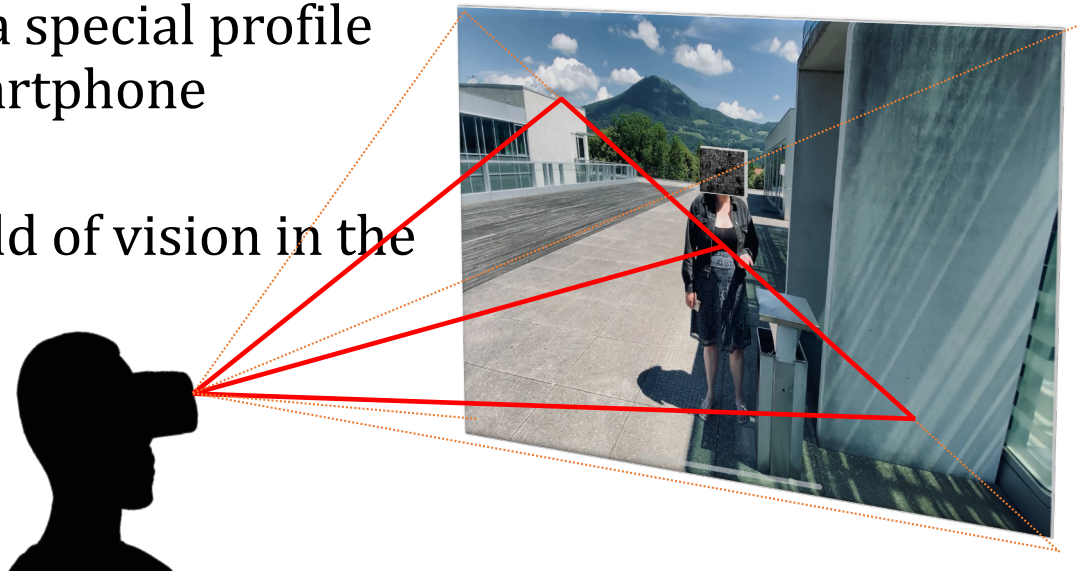
- Virtual reality: An elicitation instrument in development
- Pilot results
- Methodological discussion points

Virtual reality: An elicitation instrument in development

- Goal:
  - Elicitation of mechanisms e.g. linguistic convergence
    (and intersituational varietal behavior, not discussed here)
- Why?
  - Relevant sub-competence in sociolinguistic competence for second language learners

Virtual reality: Configurations

- Configuration: VR Shinecon (model: FIYAPOO) headset for smartphones
- Smartphone: iPhone 11 with a 6.06” full HD screen, 4 GB RAM and a gyroscope sensor
- Software: VRPlayer with a special profile created for a headset-smartphone combination
- ~ 180° videos; ~ 140° field of vision in the VR headset



VR Discourse completion task example

VR oral dialogue construction discourse completion task
(variation of dialogue construction DCT; cf. Bardovi-Harlig and Hartford 1993)

(a) Contextual information
(b) Dialogue is initiated by the interlocutor
(c) Participants are free to respond verbally

VR Set 1: Dialect-speaking interlocutor

Contextual information: [NAME] is from the countryside in Upper Austria where everyone speaks dialect with one another. She is now living in Salzburg and struggles to judge where and with whom she should speak dialect and High German. She would like to ask for your advice.

[Dialogue initiation]

Hey, guad dasst do bist! Um, du i hob a Frog an di (..). Also i bin jo vom Lond, und wir redn eigentlich NUR Dialekt miteinanda. (..) Und, in Soizburg (…) is des gonz onders. Und i wa:s einfach ned (…) Wonn soi i Hochdeitsch redn, und wonn soi i Dialekt redn? Wa:ßt du des?

[Hey, good that you're here! Um, I have a question for you (..). Well, I'm from the countryside and we really speak ONLY dialect with each other. (…) And, in Salzburg (..), it is really different. And I just don't know (…) when should I speak High German, and when should I speak dialect. Do you know?]

[Participant response]

Oisa mainst, dass i::, zum Beispüü, auf da Uni Hochdeitsch redn soit?

[So do you think that I::, for example, should speak High German at the university?]

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Contextual information

(a) exclude chances of accidental accommodation to instructions provided in (standard) German;

(b) ensure participant understanding of the social and situational context notes;

(c) reduce risks of power asymmetry

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[Participant response]

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Dialogue initiation by interlocutor
(a) dialogue initiated by a dialect/standard German-speaking interlocutor
(b) repeat situational/social information
(c) goal: elicit mechanisms of linguistic convergence

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[Participant response]

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Participant verbal response
(a) mechanisms of linguistic convergence to the variety of the interlocutor?

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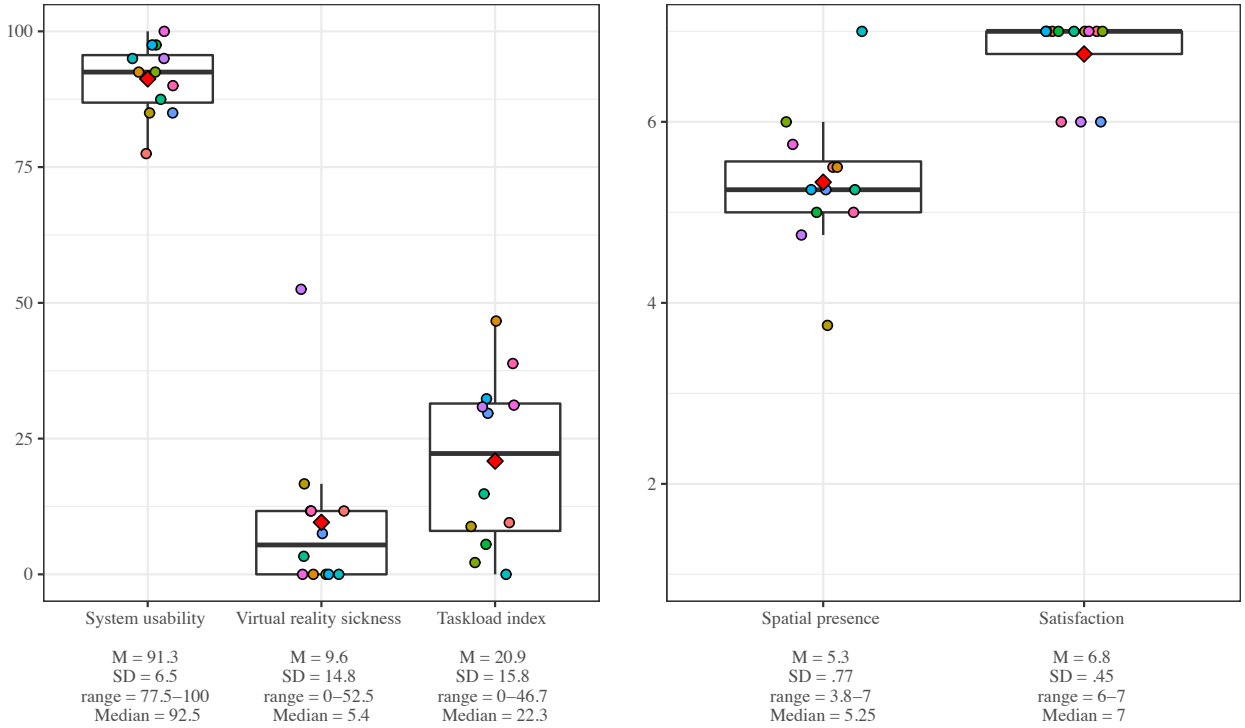
Follow-up, thematically similar question

(a) goal: elicitate mechanisms of linguistic convergence

Pilot results

User Experience

- 12 participants
- Overall high system usability
- Low reports of VR sickness and workload
- Moderate reports of spatial presence
- High rates of satisfaction



Retrospective interviews

High sense of spatial detachment	Realistic involvement in the VR conversations
"It was pretty easy to suppress the fact that you [the researcher] were sitting there" (Lusia, 01:05)	"It [the conversation] happened very naturally in the environment, as if you weren't somehow posed, but it was rather a real conversation in this situation" (Lars, 01:05)
Lack of total spatial dissociation	**Emotional involvement**
"It [the VR] was good enough and convincing enough that I didn't […] consciously […] think it wasn't real. […] [I]t wasn't like that now I thought I happened to be somewhere else – more of an in-between" (Leo, 00:20)	"I actually really enjoyed it – it's something friendly, something light" (Leonie, 01:24)

Accommodative behavior: Participants

- Nine speakers from Bavarian-speaking Austrian
  - range=24–28 years
  - *M*=25.8 years
  - *SD*=1.2, 7 women

- subjective receptive and productive proficiency in:
  - standard German (range=5–6, *M*=5.7, *SD*=0.43)
  - dialect (range=5.5–6, *M*=5.9, *SD*=0.2)

Coding the speech data

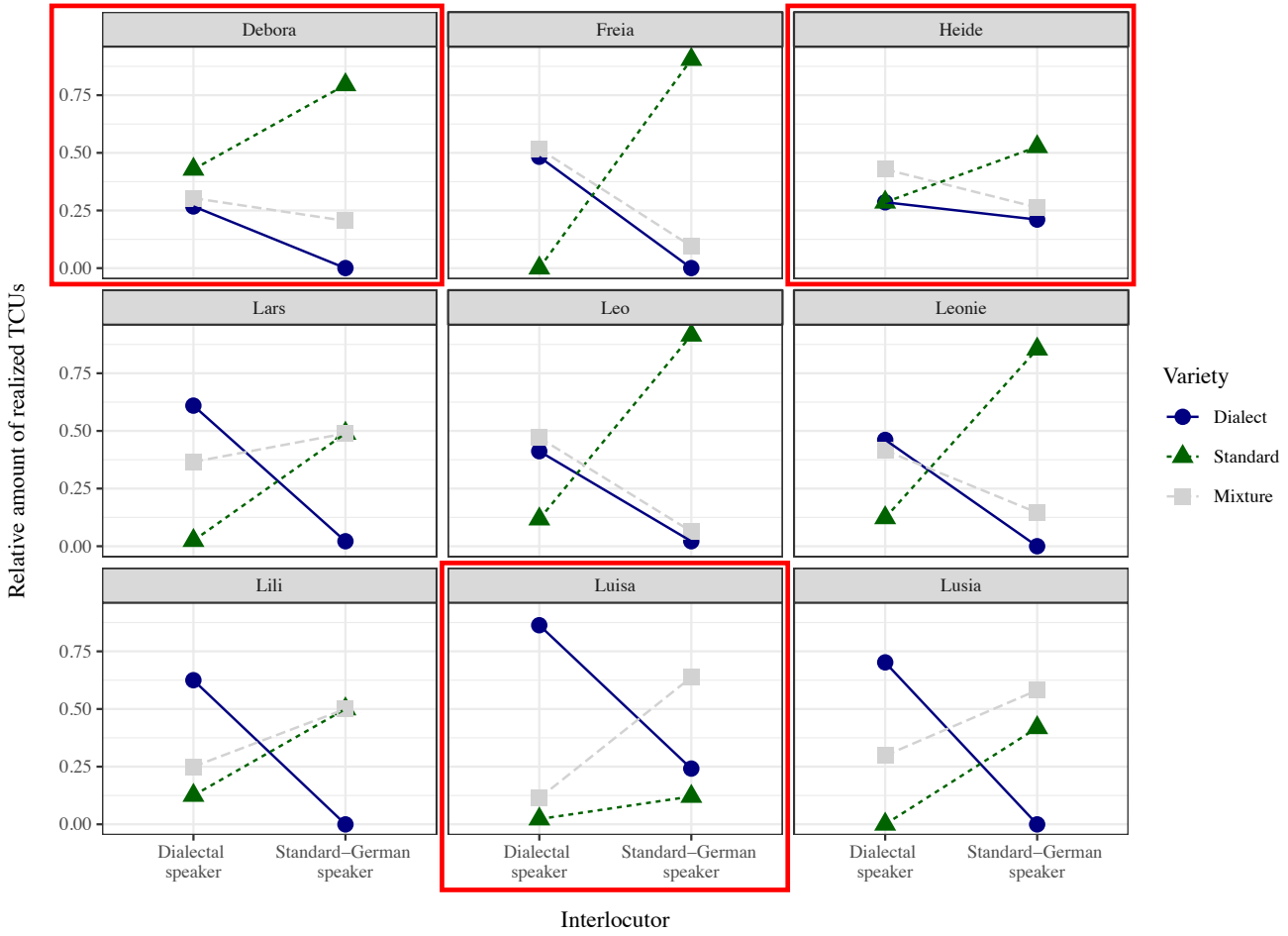
- Data segmented into TCUs (turn constructional units), i.e. "a potentially complete turn" (Selting 2000: 480) using ELAN (ELAN 2021)
- TCU considered to be an "interactionally relevant unit" (Kaiser forthcoming: 9). Advantages to this method discussed in (Kaiser 2019, 2020, forthcoming; Kaiser/Kasberger 2020; Kaiser/Ender 2021)
- Each word coded as (a) "standard language", (b) "dialect" or (c) "mixed"
- Each TCU, on the basis of the word-level coding, coded as
  - "standard language" (standard language and mixture words)
  - "dialect" (dialect and mixture words)
  - "mixed" (standard/dialect/mixture words; standard/dialect words or simply mixture words)

i	**red**	**grundsätzlich**	**immer**	**DOnn**	**Dialekt (.)**	**wonn**	**i**	**des**	**gefühl**	**hob (.)**	**mei**	**gegenüber**	**verstEHt**	**des**
Dialect	*Mixture*	*Mixture*	*Mixture*	*Dialect*	*Mixture*	*Dialect*	*Dialect*	*Dialect*	*Mixture*	*Dialect*	*Dialect*	*Mixture*	*Mixture*	*Dialect*

Lusia Kapper Transcript, Pos. 8

Intra-individual varietal behavior

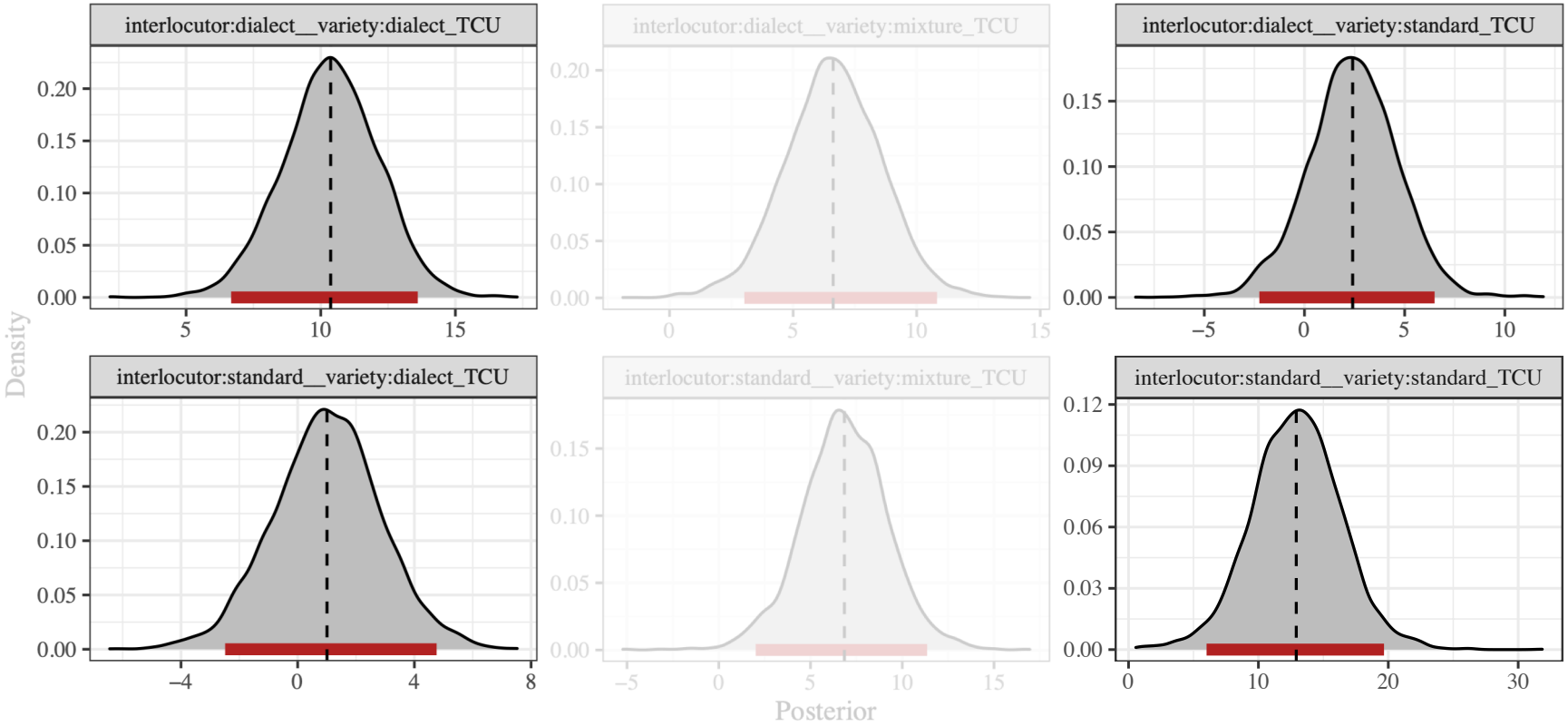
- Overall tendency to accommodate
- Several 'outlier' varietal behaviors, namely…



Accommodative behavior: Data analysis

- Fitted Bayesian hierarchical linear model for a factorial design to TCU count as a function of dummy-coded factors `interlocutor` (ref. level dialect interlocutor) and `variety` (ref. level dialectal) and their two-way
- Maximal random effects structure justified by the design
- Default priors of the `brms` package

Posterior density of cell means




```
formula = TCU ~ interlocutor * variety +
  (1 | participant) + (1 | VRSet)
  (0 + interlocutor * variety | participant)
```

Posterior probability of the following hypotheses

Dialect TCUs w/ dialect interlocutor > dialect TCUs w/ standard interlocutor

- $\mathbb{E}(\mu_{dial,\ dial.spk} - \mu_{dial,\ std.spk}) = 9.36$
- CI = [4.56, 13.9]
- $P(\delta > 0) = 1$

Model and data support this hypothesis

Mixture TCUs w/ dialect interlocutor > mixture TCUs w/ standard interlocutor

- $\mathbb{E}(\mu_{mix,\ dial.spk} - \mu_{mix,\ std.spk}) = -0.23$
- CI = [-5.67, 5.08]
- $P(\delta > 0) = 0.48$

Model and data do NOT support this hypothesis

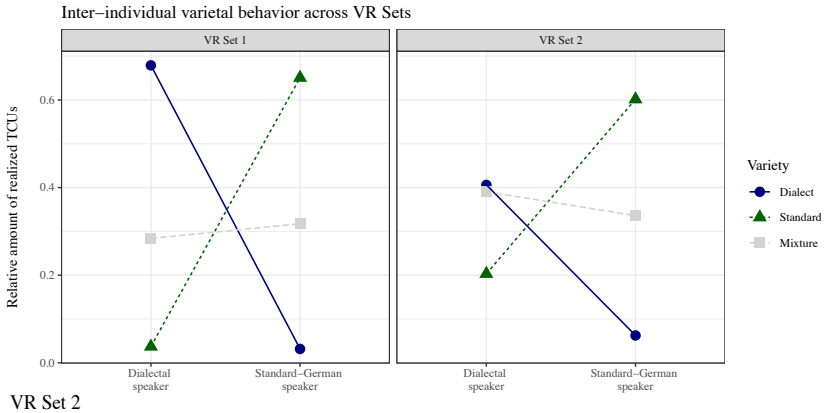
Standard TCUs w/ standard interlocutor > standard TCUs w/ dialect interlocutor

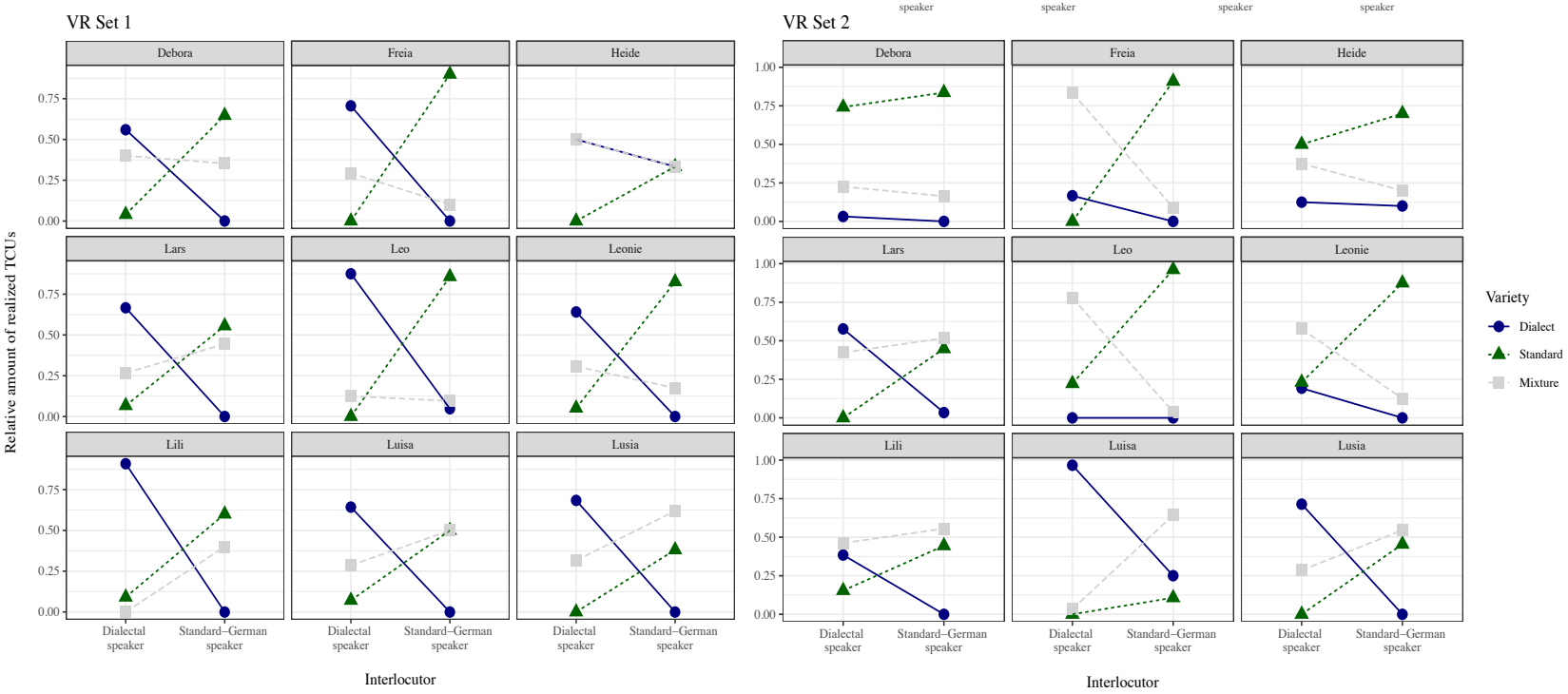
- $\mathbb{E}(\mu_{std,\ std.spk} - \mu_{std,\ dial.spk}) = 10.51$
- CI = [4.03, 17.65]
- $P(\delta > 0) = 0.99$

Model and data support this hypothesis

But…

Differences between interactional situations





Methodological discussion topics

Speaker presence across VR sets	Overall topics in the VR sets

• Presence of one speaker (and their variety) primes the varietal behavior of the participants. What to do, what to do…?	• Topics dominated by questions on dialect vs. standard German – according to Labov, questions on language provoke 'careful speech'
	  • Positive: quickly gather qualitative information
	  • Negative: too careful attention to speech

Segmenting the speech data	**Questions/comments?**
• TCUs in adult speech not as unambiguous as alleged in e.g. Kaiser (2019, 2020) – many subjective decisions in the analysis. Other methods? AS-unit (Foster et al. 2000)?	• Further questions, comments (concerns?)

Thank you for your interest

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Data and R code available under:
https://osf.io/jrfp3/?view_only=f09f1102e73f4866b0edfadb1d45ca80