The pragmatic status of strong exhaustive readings of embedded questions

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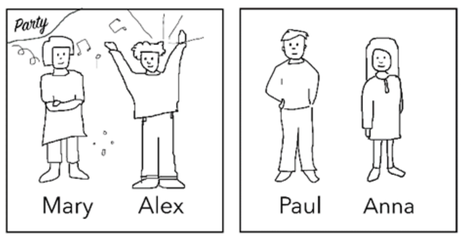
1 Exhaustive readings of embedded questions

(1) Ali knows [who danced at the party].



Evaluation world

Strong (SE) Only Mary and Alex danced.

Intermediate (IE) Mary and Alex danced + no false beliefs about others.

Weak (WE) Mary and Alex danced.

Views in the literature

- SE reading is hard coded in question semantics (Groenendijk & Stokhof 1984)
- SE reading is the only interpretation for questions embedded under *know* (Heim 1994)
- IE readings are available for question embedded under speech act verbs. (Klinedinst & Rothschild 2011)
- IE readings are availabe for questions embedded under *know*, SE is a pragmatic inference (Uegaki 2015)
  - Experiments by Cremers & Chemla (2016) and Cremers et al. (2017): similar acceptance rate for SE and IE readings of questions embedded under *know*

2 Research goal

Compare the 'status' of the strong SE inference for the cognitive-factive verb *wissen* (*know*) and the speech act verb *erzählen* (*tell*) using a contradictions test.

- Is the inference drawn?
- If so, to what extent?

SE inference:

(2) Ali knows who danced at the party. → Ali knows who didn't dance the party.
(3) Ali told Kim who danced at the party. → Ali told Kim who didn't dance at the party.

Contradictions test

(4) Ali knows who danced at the party, but he does not know who didn't dance.
(5) Ali told Kim who danced at the party, but he did not tell her who didn't dance.

3 Method

- Lab-experiment
- Participants had to judge whether the target sentences were contradictory (*widersprüchlich*) or non-contradictory (*nicht widersprüchlich*)
- Design: 2 (verb: *erzählen* [*tell*], *wissen* [*know*]) x 2 (predicate: same, different)
- 24 items, 48 fillers

Set-up

- Story about six female flatmates and their friend Jannick
- Different activities on a long weekend
- Four thematic blocks: games night, house renovation, Christmas party, funfair (randomized)
- 4 items, 8 fillers per block (randomized)

Sample items

- same predicate: negated SE reading
- If judged as contradictory → SE inference is drawn

(6) a. **[know, same]**
Jannick weiß, wer von den Mitbewohnerinnen Cocktails gemixt hat, aber er weiß nicht, dass Emma und Franzi keine Cocktails gemixt haben.
Jannick knows who out of the flatmates mixed a cocktail, but he doesn't know that Emma and Franzi didn't mix any cocktails.

b. **[tell, same]**
Jannick hat später erzählt, wer von den Mitbewohnerinnen Cocktails gemixt hat, aber er hat nicht erzählt, dass Emma und Franzi keine Cocktails gemixt haben.
Jannick told later on who out of the flatmates mixed a cocktail, but he didn't tell that Emma and Franzi didn't mix any cocktails.

- Different predicate: always non-contradictory
- Positive baseline

(7) a. **[know, different]**
Jannick weiß, wer von den Mitbewohnerinnnen Cocktails gemixt hat, aber er weiß nicht, dass Emma und Franzi keine Mojitos gemixt haben.
Jannick knows who out of the flatmates mixed a cocktail, but he doesn't know that Emma and Franzi didn't mix any mojitos.

b. **[tell, different]**
Jannick hat später erzählt, wer von den Mitbewohnerinnen Cocktails gemixt hat, aber er hat nicht erzählt, dass Emma und Franzi keine Mojitos gemixt haben.
Jannick told later on who out of the flatmates mixed a cocktail, but he didn't tell that Emma and Franzi didn't mix any mojitos.

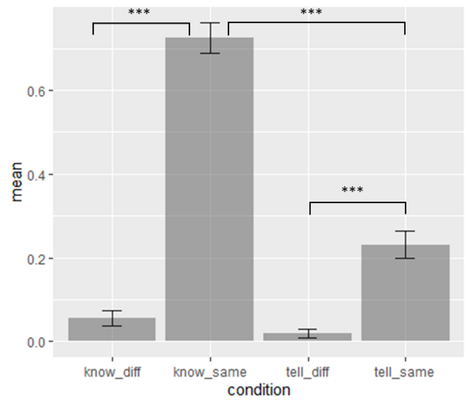
Fillers

- structurally similar to test items
- 50 % know, 50 % tell, 50 % contradictory, 50% non-contradictory

4 Results

- 40 participants (between age of 19 and 49, median: 23)
- no exclusions

- Test items: 'contradictory' judgments by condition

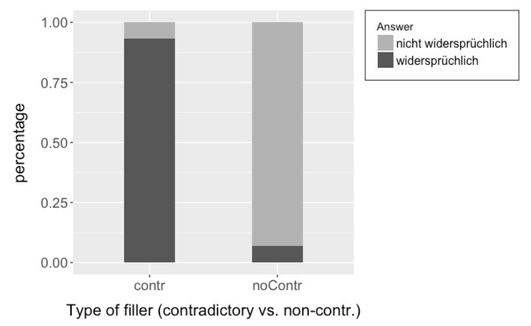


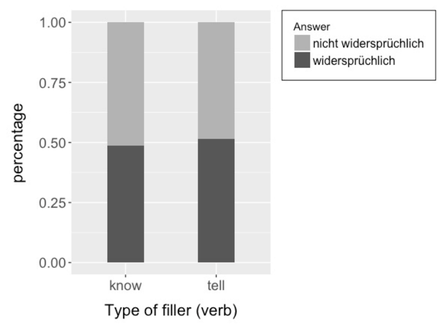
Statistical analysis

Model: glmer(response ~ condition + (1|subject), family="binomial") (*lme4* [Bates et al. 2015])

Tukey post-hoc test for significant differences between conditions (*multcomp* [Hothorn et. al 2008])

- Fillers:





5 Discussion: *wissen* vs. *erzählen*

***Wissen* (*know*)**

- High proportion of contradictory judgements suggest SE reading is the most prominent (for most people)
- The extent to which the SE inference is drawn is more in line with ‚classical' judgments from the literature than with experimental results by Cremers & Chemla (2016) and Cremers et al. (2017)
- Still, for some people IE interpretations are possible.

***Erzählen* (*tell*)**

- Low proportion of SE inference is in line with most judgements from the literature
- SE also seems possible, but less prominent

Status of SE reading

- Cannot be hard-coded in question semantics (contra Groenendijk & Stokhof 1984)
- Is not the only interpretation of questions embedded under *know* (pace e.g. Heim 1994)
- However, it seems to be the default interpretation for those questions (contra Cremers & Chemla 2016)

6 Discussion: PARV

Observation by Theiler et al. (2018): internal vs. external knowledge ascriptions

(8) Context: Ali believes the exhaustive answer, but he is not aware that he knows the exhaustive answer.
a. Ali knows who danced at the party.
b. #Ali: „I know who danced at the party."

- Theiler et al. stipulate two different lexical entries for know
- Alternative approach to account for the SE reading (Onea, p.c.):

(9) **Principle of attitude verification (PARV)**
In the lack of further evidence, assume that if the utterance „S has the attitude X" is true, S is in a state of mind that allows her to truthfully utter: „I have the attitude X"

- PARV describes what we can prototypically assume in a situation in which a speaker utters a statement like (8a)
- Accounts for default status of SE readings of questions embedded under *know*.

References

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