Embedded V2: Assertion, Presupposition, and the Syntax of Embedded Context Updates

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Introduction

Embedding Assertion?

PRESUPPOSITION and ASSERTION are argued to provide the semantic-pragmatic underpinnings for a range of complementation patterns, for example:

Main Clause Syntax [MCS]

- Topicalization: ***A little bit of rain**, Mary doesn't mind.*
- Speech act adverbs: *Mary **honestly** doesn't mind the rain.*
- V-to-C movement [EV2] *Peter **hat** gewonnen (***hat**).*

— Available/obligatory in unembedded contexts

— Possible in **certain** embedded contexts

Theoretical claim: MCS is possible in ASSERTIVE contexts

⇒ Left-periphery encoding Topic, Focus, Illocutionary Force, etc.

[FORCE [TOP [WH [FOC [TOP [FIN [IP]]]]]]] [Rizzi 1997, 2001, a.o.]

[Since Emonds 1970; Hooper and Thompson 1973; Rizzi 1997; Speas and Tenny 2003; Tenny and Speas 2004. Also Kiparsky and Kiparsky 1970; Andersson 1975; Hooper 1975; Green 1976; Maki et al. 1999; Bhatt and Yoon 1992; Den Besten 1983; Wechsler 1991; Holmberg and Platzack 1991; Hegarty 1992; De Haan 2001; Zanuttini and Portner 2003; Emonds 2004; Truckenbrodt 2006, 2009; Heycock 2006; Heycock et al. 2010; Aelbrecht et al. 2012; Julien 2009, 2015; Wiklund 2010; Bentzen 2010; Woods 2015, 2016; Gärtner and Michaelis 2010; Wiklund et al. 2009; Bianchi and Frascarelli 2009; Jensen and Christensen 2013; Djärv et al. 2017; Kastner 2015; Haegeman and Ürögdi 2010; De Cuba and Ürögdi 2009; Haegeman 2012, 2014; Holmberg 2015; De Cuba 2017a,b; Jiménez-Fernández and Miyagawa 2014; Miyagawa 2017; Caplan and Djärv 2019; Jacob 2018, a.o.]

Embedded MCS: & Assertive Attitudes

Assertion-based analyses of MCS-licensing are supported by the observation that there is variation in the availability of MCS, depending on the (type of) embedding predicate:

(1) Hans glaubt, Peter **hat** gewonnen.
Hans thinks, Peter **has** won.
'Hans thinks that Peter won.' ✓ASSERT P; ✓EV2

(2) *Hans {glaubt nicht, bezweifelt}, Peter **hat** gewonnen.
Hans {thinks not, doubts}, Peter **has** won.
'Hans {doesn't think, doubts} that Peter won.' ✗ASSERT P; *EV2

Theoretical perspective:

- "Assertive" verbs (e.g. *say, think*) license extended, ASSERTIVE, CPs
- "Non-assertive" verbs (e.g. *don't say, doubt*) embed smaller clauses

[Since Kiparsky and Kiparsky 1970; Hooper and Thompson 1973]

Today

Questions:

- What notion of ASSERTION is relevant to the syntax?
  (Classically multi-faceted pragmatic notion. . .)
- What is the role of the embedding verb? Selection, licensing. . .
- What role does PRESUPPOSITION (factivity) play?
  (The other side of the discourse dynamic coin. . .)

Answers: (from 2 new large-scale quantitative studies)

- The dimension of ASSERTION relevant to licensing of *certain types of* MCS is Discourse Novelty (~ GIVENNESS à Schwarzschild 1999);
- MCS not a homogeneous set of constructions (in terms of licensing);
- No general ban on MCS and Discourse Novelty under factive verbs.

Road Map

1. Pragmatic underpinnings of the syntactic theory
2. Predictions from the pragmatics & problems for the interface
3. Corpus study: Swedish embedded V2
4. Cross-linguistic acceptability/inference study
5. Conclusions

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Theoretical Background: Pragmatic underpinnings

Understanding embedded ASSERTION

At the core of this issue are FACTIVE attitude verbs, including:

Predicates of cognition:

Mary { *discovered* / *realized* / *noticed* } that Lisa got the job.

Predicates of emotive states:

Mary { *resents* / *appreciates* / *likes* } that Lisa got the job.

What is FACTIVITY?

Mary { *believes* / *knows* } that it's raining.

Intuitively, both *believe* & *know* ASSERT something about **Mary** and her beliefs
— namely, that it's raining

They differ, however, in terms of the **speaker's** commitments!

✓ Mary **believes** that [$_P$ it's raining], but it's actually not. [Non-factive]

✗ Mary **knows** that [$_P$ it's raining], but it's actually not. [Factive]

Since Stalnaker 1974, 1978 and Heim 1982, 1983:

— *know*, unlike *believe*, PRESUPPOSES that it's raining
— more broadly: factives (*resent, discover*, etc.) PRESUPPOSE that p=1

What are PRESUPPOSITIONS?

On the Stalnaker-Heim model of discourse dynamics:

ASSERTION & PRESUPPOSITION are modelled and understood in terms of Common Ground [CG] updates;

CG ≈ the propositions mutually accepted by all discourse participants

S = Mary **resents** that Lisa got the job. [Factive]

ASSERTION of S (A): Mary's ☹ attitude towards Lisa getting the job

— A is presented as new information / attempt to update the CG with A
A = **truth-conditional** content of S

PRESUPPOSITION of S (PS): Lisa got the job

— PS = **definedness condition** on the context-update/T-cond function of S
#S (ill-defined) in a context where PS is not commonly assumed (CG)

⇒ **ASSERTION–PRESUPPOSITION dichotomy**

[Since Karttunen 1971, 1974; Stalnaker 1974, 1978; Heim 1992. E.g. Simons 2007; Simons, Tonhauser, Beaver, and Roberts 2010; Simons, Beaver, Roberts, and Tonhauser 2017; Anand and Hacquard 2009; Beaver 2010; Abrusán 2011, 2016; Tonhauser, Beaver, Roberts, and Simons 2013; Anand and Hacquard 2014; Anand, Grimshaw, and Hacquard 2019; Tonhauser 2016, among many others.]

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Predictions & problems from the interface

Predictions: Embedded Assertion & Factivity

Given the ASSERTION–PRESUPPOSITION dichotomy of the Stalnaker-Heim model, we expect that propositions embedded under factive verbs cannot be ASSERTED (as they are required to already be Common Ground).

Borne out for other presupposition triggers, e.g. *return*:

S = Guess what! Lisa **returned** Philly.

Test for presupposed content: it projects from under negation

Lisa **didn't return** Philly. $\not\rightsquigarrow A_S$ = Lisa went to Philly

$\rightsquigarrow PS_S$ = Lisa has previously been to Philly.

— CANNOT be used to ASSERT that L has previously been!

▷ Expect FACTIVE PRESUPPOSITIONS to behave the same!

Predictions: Factivity & Main Clause Syntax

If MCS is licensed by ASSERTION: Factives should not allow embedded MCS

Prediction potentially borne out. . . ?

Empirical claim 1: ✗MCS under *all* factive verbs:

*John realized that this book, Mary read. [✗Cog.Factive]
*John regrets/resents that this book, Mary read. [✗Emo.Factive]

[E.g. Maki, Kaiser, and Ochi 1999; Hegarty 1992; Haegeman and Ürögdi 2010; De Cuba and Ürögdi 2009; De Cuba and Ürögdi 2010; Haegeman 2012, 2014; Kastner 2015; De Cuba 2017a,a]

Empirical issue: Conflicting empirical claims

Unfortunately, the empirical picture is a lot more complicated!

Empirical claim 2: ✓MCS under *some* factives:

The scout discovered that beyond the hill, stood a large fortress. [✓Cog]
*The scout appreciated that beyond the hill, stood a large fortress. [✗Emo]

[Since Hooper and Thompson 1973]

Empirical claim 3: ✓MCS under *all* factives:

I am glad that this unrewarding job, she's finally decided to give up. [✗Emo]

[Bianchi and Frascarelli 2009]

Spoiler: there is some truth to both of these claims...

Getting around the problem of factivity

Factives present a theoretical challenge for authors who adopt the empirical position that (at least some) factives allow MCS!

Possible solution:

On the Stalnaker-Heim model of discourse dynamics, asserting an *unembedded* sentence is typically taken to involve:

(i) p is offered as new information (update CG) → at odds with factivity
(ii) speaker is committed to p → compatible with factivity

To circumvent the issue of factivity and the CG status of p (i), several authors have pointed to the *second* dimension of assertion (ii) being relevant to MCS

⇒ **Theoretical claim:** MCS is licensed by commitment to p (ii)

[E.g. Truckenbrodt 2006; Wiklund 2010; Julien 2015; Woods 2016]

▷ Whose commitment to p matters for it to count as ASSERTED?
. . . the speaker's? the attitude holder's?

— we'll come back to this issue

Alternative route

1. The relevant dimension of ASSERTION is in fact Discourse Novelty
2. Reject the Common Ground model of factivity

Next: empirical support for this alternative from two large scale quantitative studies

- Corpus study (Swedish embedded V2)
- Judgement/inference experiment (4 MCS across 3 languages)

Corpus Study:
Swedish Embedded V2

Licensing Embedded V2: Corpus Study

Joint work with Spencer Caplan at UPenn (Caplan and Djärv 2019; Glossa)

Data: Automatically extracted usage data from a large Swedish corpus

- Språkbanken (12,873,778 words) [Borin et al. 2012]
  - Series of large-scale Swedish text corpora with automatically assigned part-of-speech tag information (not parsed)
- Algorithm to automatically and deterministically classify sentences as EV2 or V-*in situ*
  - Relying on the relative ordering of the finite verb & NEG, e.g.

(3)

Han	sa	att	han	**gillar**$_2$	inte	**gillar**$_{In-Situ}$	regn.
he	said	that	he	likes	not	likes	rain

'He said that he doesn't like rain.'

- Verbs were manually tagged for lexical class (à la Hooper and Thompson 1973); includes **factive** vs. **non-factive** dimension
- Genres and styles range from blogs and online forums, to newspapers, to government and academic texts.

Implementation

From this we output statistics for each lemma:

- Proportion of cases which show EV2 or *in situ* order
- Lexical class of matrix verb (e.g. factivity), polarity information
- Control for factors such as frequency (overall, matrix, embedded), conditional probability events (e.g. matrix introducing embedded/EV2 clause, embedded predicate surfacing in embedded clause/with EV2 order), genre information, year, etc.

(More details in Appendix)

[All code is available on Github: Documentation is on-going, so please feel free to contact us if you'd like to use or modify the code-base!]

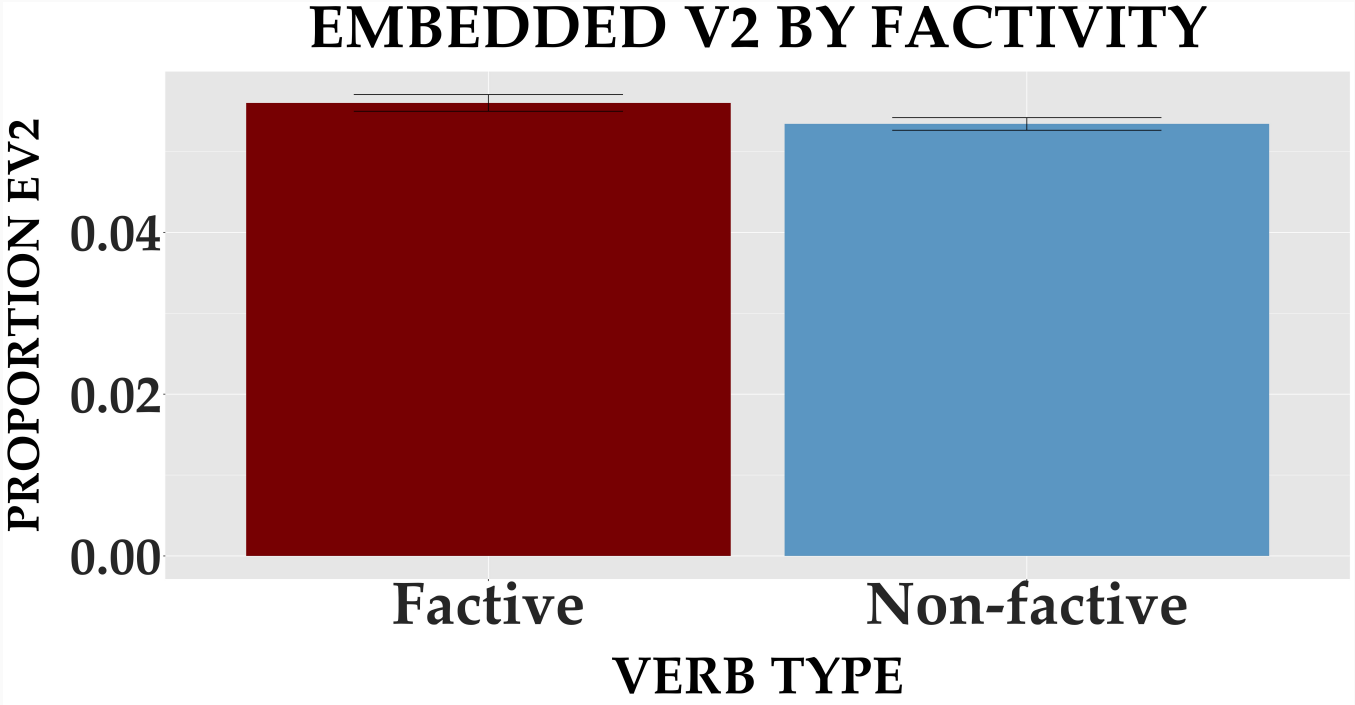
Question 1

Is there an effect of FACTIVITY *on the rates of Embedded V2?*

Results 1: Embedded V2 and Factivity

No effect of factivity on rates of Embedded V2

factive = **non-factive** [W=748, p= 0.6949]



Licensing Embedded V2: Factivity and Assertion

We do, however, observe a contrast in the rates of EV2 *among* **factive** verbs:

- ✓EV2 under **discover**, **say**, **think**
- ✗EV2 under **resent**, **doubt**

This interesting observation lead us to develop a new hypothesis:

➢ The predicate classes that allow vs. disallow EV2 are distinguished in terms of **discourse novelty** (embedded context update)

This idea is motivated by observations of the following kind:

(4) [Out of the blue:] *Guess what* — / *You know what* —

a. ✓John **said/thinks** that Lisa got fired! ⟶ ✓ Discourse New
b. ✓John **discovered** that Lisa got fired! ⟶ ✓ Discourse New
c. #John **resents/doubts** that Lisa got fired! ⟶ ✗ Discourse New

Licensing Embedded V2: Discourse Novelty

NB: Can't measure the context in a corpus of this magnitude

To test our hypothesis we used the observation that under **Negation**, verbs like **say** and **think** lose their ability to introduce Discourse New information:

(5) [Out of the blue:] *Guess what* — / *You know what* —

a. #John **didn't say/think** that Anna likes Bill.

b. #John **resents/doubts** that Anna likes Bill.

⟶ ✗ Discourse New

Prediction: [**not say**, **not think** = **resent**] ≺ **say**, **think**

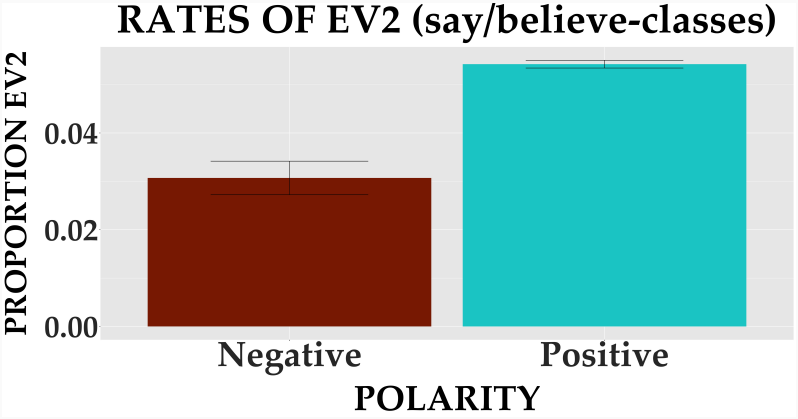
✗Emb. V2 ✓Emb. V2

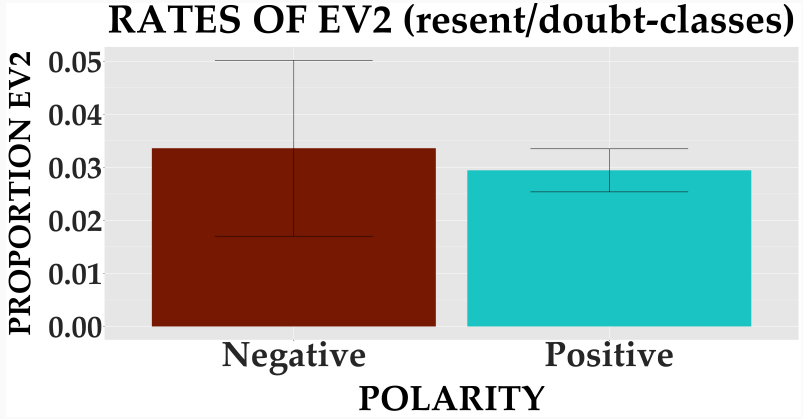
Results 2: Embedded V2 and Negation Interaction

.

Large effect for *say/think*-verbs: **Pos** > **Neg** [W=749, p=0.0076]

Not a general effect (cf. *resent/doubt*): **Pos** = **Neg** [W=133, p=0.7322]





- Supports our hypothesis that EV2 is licensed by Discourse Novelty
- Effect of negation speaks against a selection-based account

[Wiklund et al. 2009; Kastner 2015]

Questions

1. Do these results generalize beyond (Swedish) Embedded V2?
   - Variable judgements suggests possible variation among languages and/or MCS (e.g. Swedish EV2 vs. German EV2 vs. English topicalization, etc.)
2. Effect of negation on *say/think* is predicted on both Discourse Novelty and Commitment to p based ASSERTION accounts:

(6) Hans glaubt/*glaubt nicht/*bezweifelt, Peter **hat** gewonnen.
Hans thinks/thinks not/doubts, Peter **has** won.
'Hans thinks/doesn't think/doubts that Peter won.'

— *Need data from a wider range of contexts to tease these apart!*

Next: Experimental study designed to address these questions

- ~~Corpus study (Swedish embedded V2)~~
- Judgement/inference experiment (4 MCS across 3 languages)

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Cross-linguistic Acceptability & Inference Study

Quantitative comparative approach (Djärv 2019a,b)

Predict acceptability of 4 MCS in 3 languages from 3 notions of ASSERTION:
— by predicate (type) and polarity

- ▷ p is Discourse New [E.g. Caplan and Djärv 2019]
- ▷ Attitude Holder commitment to p [E.g. Truckenbrodt 2006; Julien 2015]
- ▷ Speaker commitment to p [E.g. Wiklund 2010; Woods 2016]

- **Comparisons by language and type of MCS:**

Types of MCS	**Languages**		
Speech Act Adverbs	English	German	Swedish
Embedded V2	–	German	Swedish
Topicalization (Object DP)	English	—	—
Scene Setting Adverbs	English	—	—
Unmarked Control Sentences	English	German	Swedish

- First large-scale comparative study of its kind! **1,272 participants**

Method (overview)

For a set of sentences – varied by type of MCS (as above): [40 critical items]

1. Collect ratings for each proposed notion of ASSERTION; [±ASSERT P]

   (i) Attitude holder commitment to p
   (ii) Speaker commitment to p
   (iii) Discourse Novelty of p

2. Collect judgements of acceptability for each type of MCS; [✓S — ✗S]

3. Use ASSERTION scores (1) to predict MCS acceptability scores (2)

Stimuli (brief overview)

1. 20 English unmarked sentences

   e.g. *Mary said that Lisa didn't mind a little bit of rain.*

2. Translated into German and Swedish

   e.g. *Maria sa att Lisa* ***inte brydde sig*** *om lite regn.*

3. Varied by type of MCS

   e.g. *Mary said that a little bit of rain, Lisa didn't mind.*

   e.g. *Maria sa att Lisa* ***brydde sig inte*** *om lite regn.*

4. Vary the presence & type of embedding:

— 20 attitude verbs; 5 classes (incl. both emotive and cognitive factives)

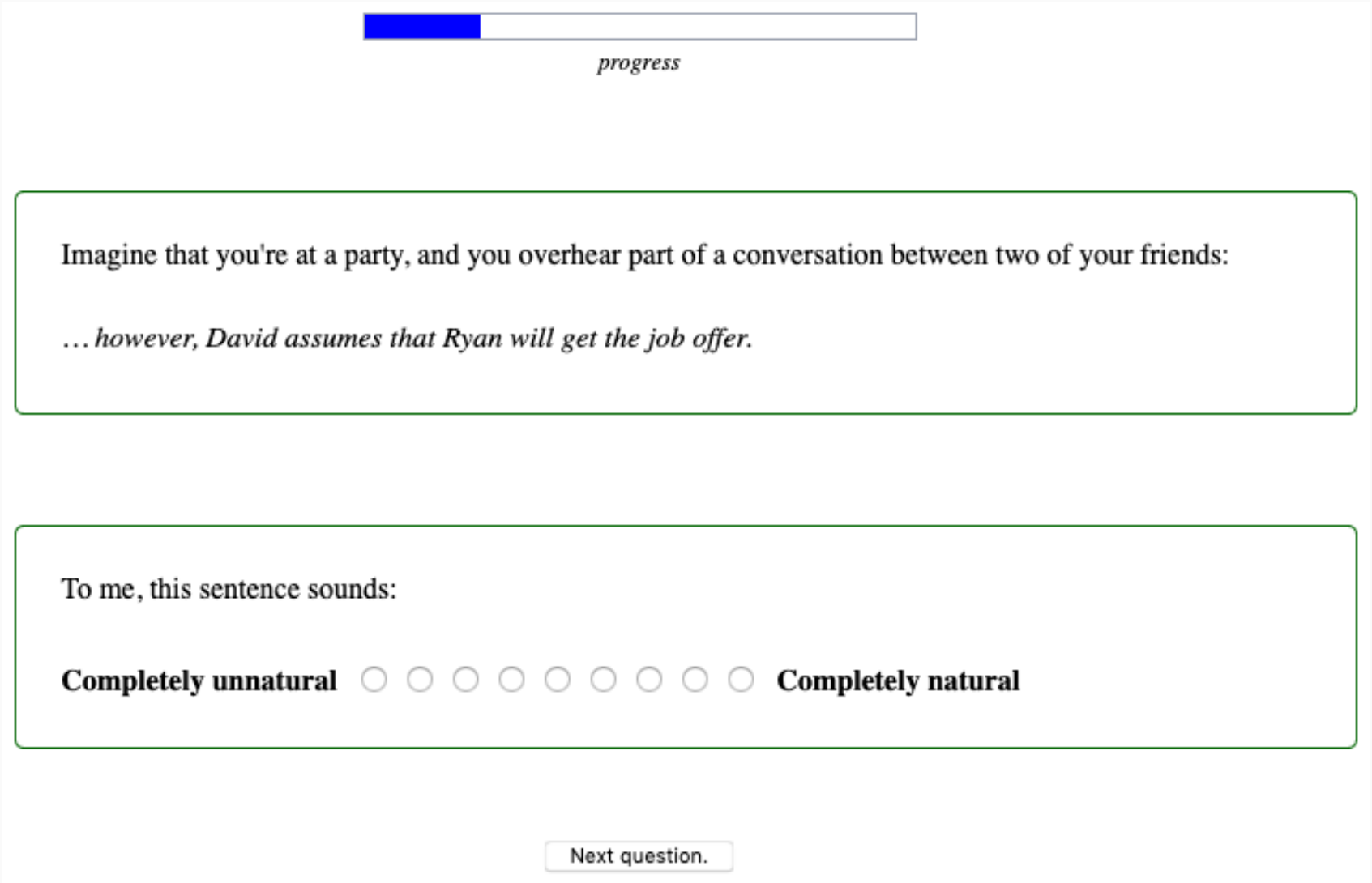
— 2 polarities (e.g. *say, didn't say*)

→ 40 critical items

+ 36 unembedded & other controls

[Please ask me about other methodological choices: base-lines, statistics, etc.]

Task: Measuring acceptability of MCS



Task: Measuring Attitude Holder commitment to p

Imagine that you're at a party, and you overhear part of a conversation between your friends, Sally and Rory.

Rory says:

… however, Sophia maintains that Tammy doesn't like the landlady.

As far as Sophia is concerned, Tammy doesn't like the landlady.

No ○ ○ ○ ○ ○ ○ ○ ○ ○ **Yes**

Maybe

Task: Measuring Speaker commitment to p

Imagine that you're at a party, and you overhear part of a conversation between your friends, Sally and Rory.

Sally says:

…however, Sophia maintains that Tammy doesn't like the landlady.

As far as Sally is concerned, Tammy doesn't like the landlady.

No ○ ○ ○ ○ ○ ○ ○ ○ ○ **Yes**

Maybe

Task: Measuring discourse status of p (old vs. new)

Imagine that you're at a party, and you overhear part of a conversation between your friends, Sally and Rory.

Sally says:

…however, Sophia maintains that Tammy doesn't like the landlady.

It is likely ○ ○ ○ ○ ○ ○ ○ ○ ○ **not likely**

that Sally and Rory have previously talked about Tammy not liking the landlady.

Selected results from German

Predicting Embedded V2 from:

Discourse Novelty of p
Attitude holder commitment to p
Speaker commitment to p

by embedding predicate and polarity

Each of the 3 measures are empirically motivated
for the same 40 critical items [N=132]

Previous claims about ASSERTION & polarity

Recall from above:

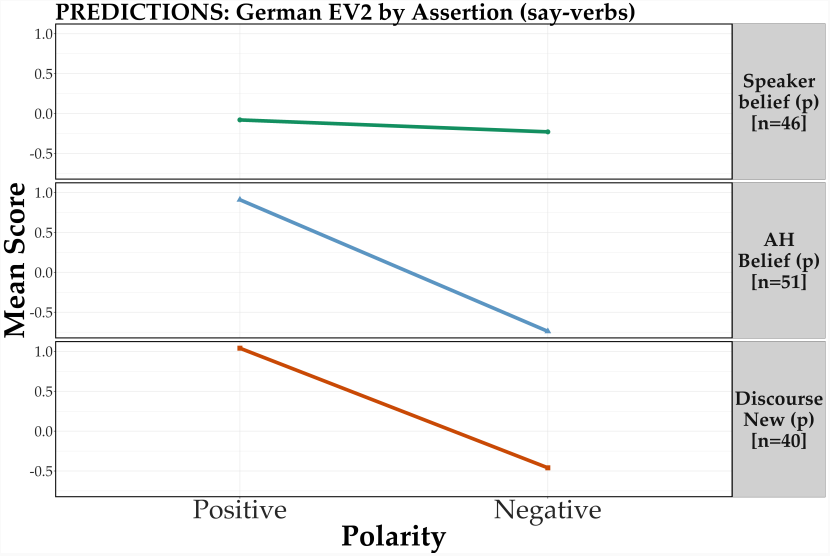
(7) Hans glaubt, Peter **hat** gewonnen.
Hans thinks, Peter **has** won.
'Hans thinks that Peter won.' ✓ASSERT P; ✓EV2

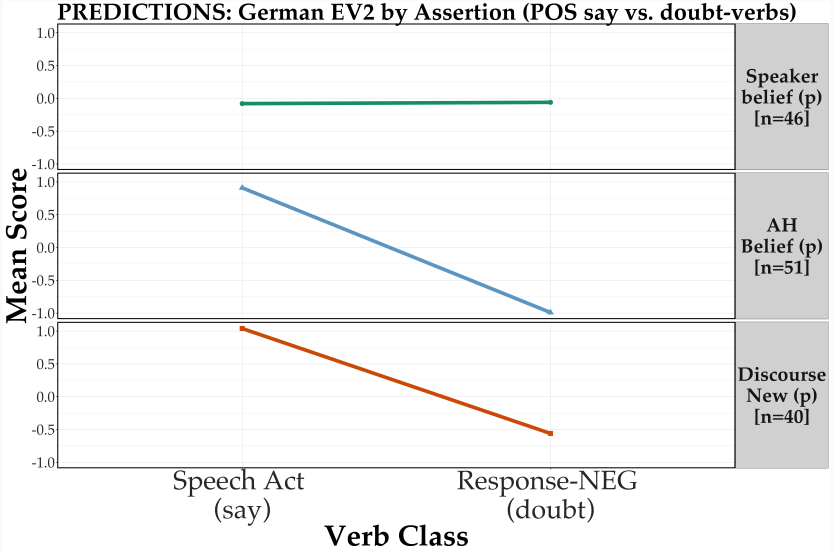
(8) *Hans {glaubt nicht, bezweifelt}, Peter **hat** gewonnen.
Hans {thinks not, doubts}, Peter **has** won.
'Hans {doesn't think, doubts} that Peter won.' ✗ASSERT P; *EV2

Effect of negation on "assertive" predicates (*say, think*) due to...

⇒ Negating a commitment to p-context? [E.g. Truckenbrodt 2006; Woods 2016]
⇒ Disabling discourse novelty? [Caplan and Djärv 2019]

Predictions of ASSERTION scores: effect of negation



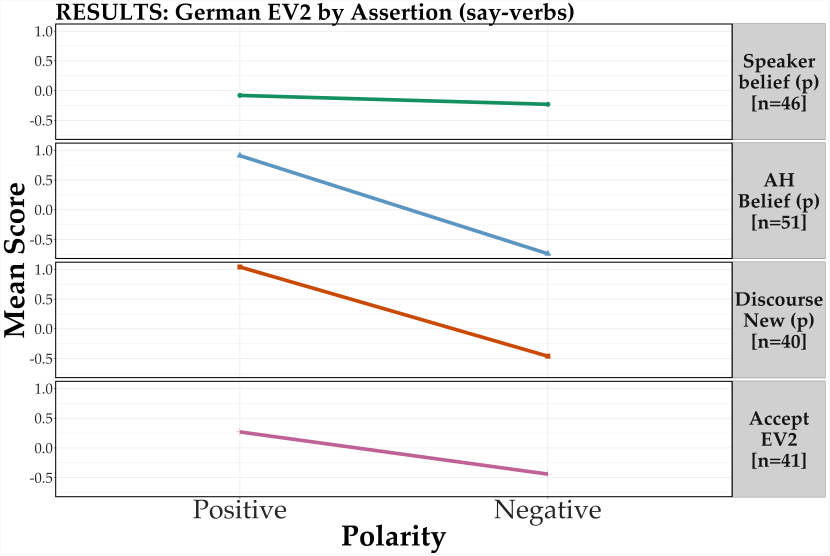


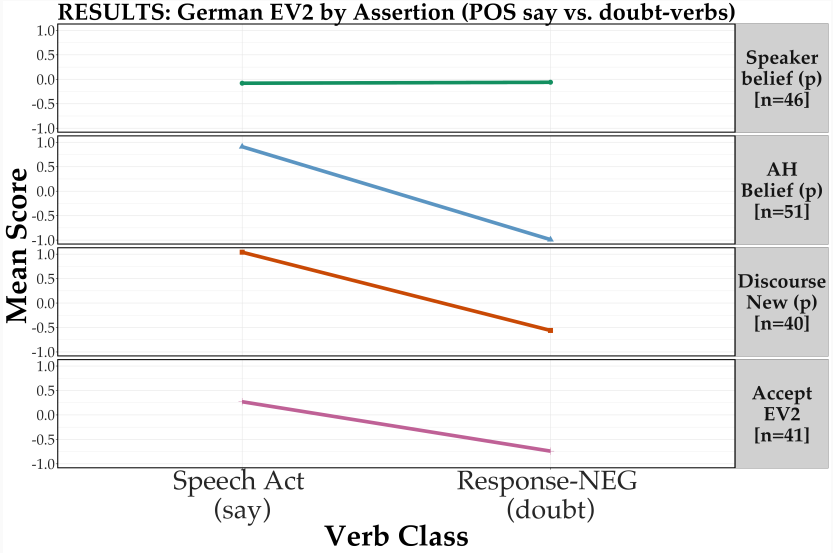
▷ Attitude Holder commitment & Discourse Novelty make the same predictions for EV2 in these conditions

✓EV2 under *say, claim*
✗EV2 under *not say, not claim*
✗EV2 under *doubt, deny*

▷ Speaker commitment predict no contrast

Results: effect of negation





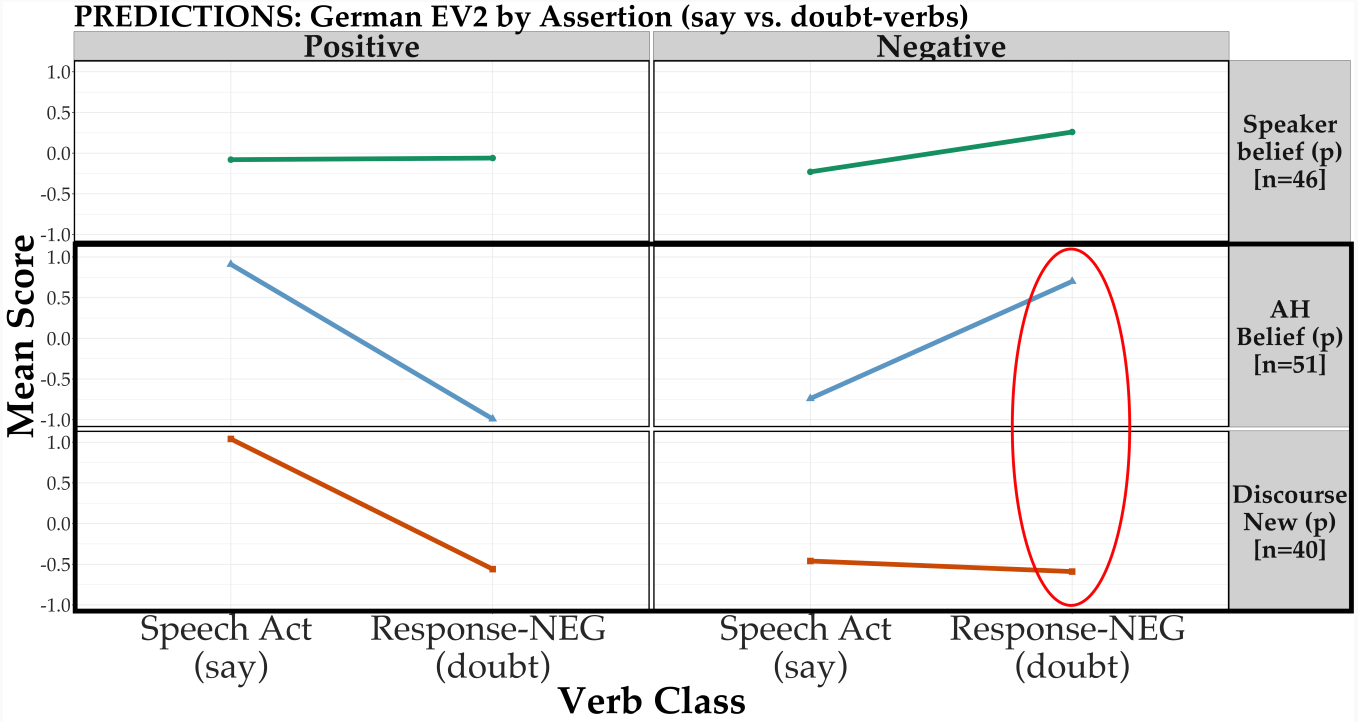
[EV2 responses are residualized z-scores: focus on the direction of the effect]

Attitude Holder commitment & Discourse Novelty make the same ACCURATE predictions for EV2 in these conditions:

✓EV2 under *say, claim*
✗EV2 under *not say, not claim*
✗EV2 under *doubt, deny*

✗ Speaker commitment to p: predictions are not borne out

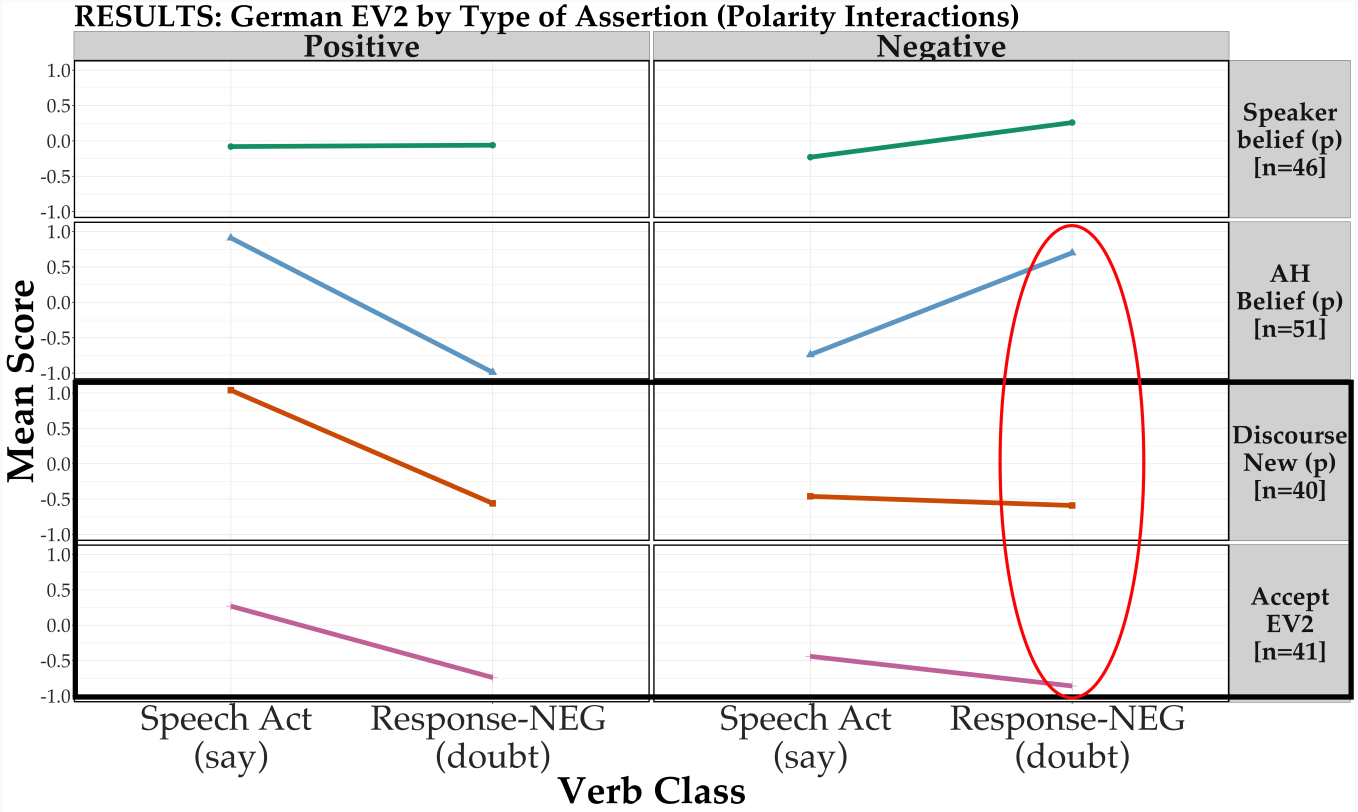
Predictions of ASSERTION scores: polarity INTERACTIONS



Predictions of Attitude Holder commitment & Discourse Novelty come apart when **crossing** verb class and polarity:

- AH commitment — ✓EV2 under *not doubt, not deny* [cf. Wiklund 2010]
- Discourse Novelty — ✗EV2 under *not doubt, not deny*

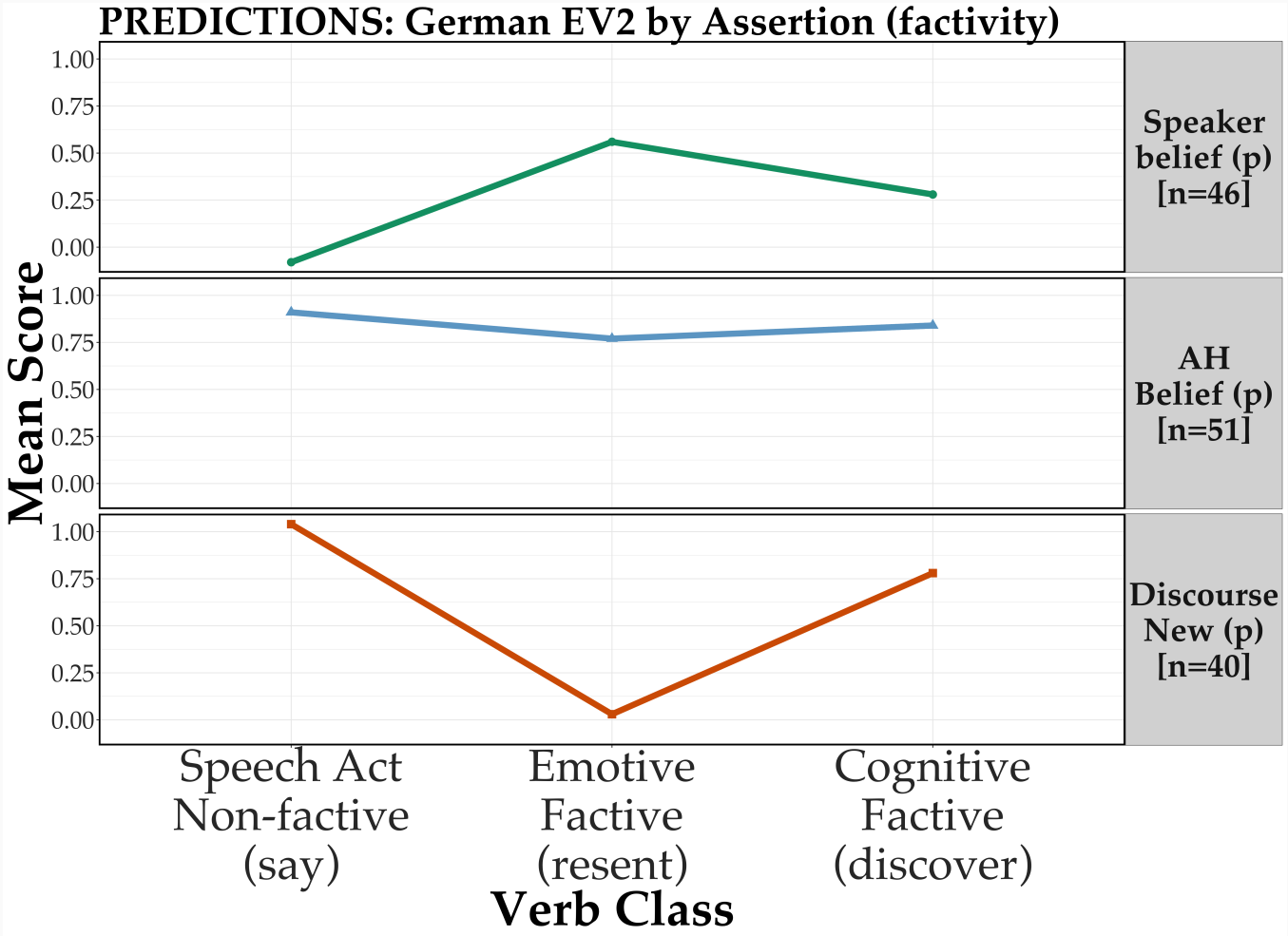
Results: polarity INTERACTIONS



Polarity × Verb Class interaction supports **Discourse Novelty** as the relevant dimension for licensing EV2

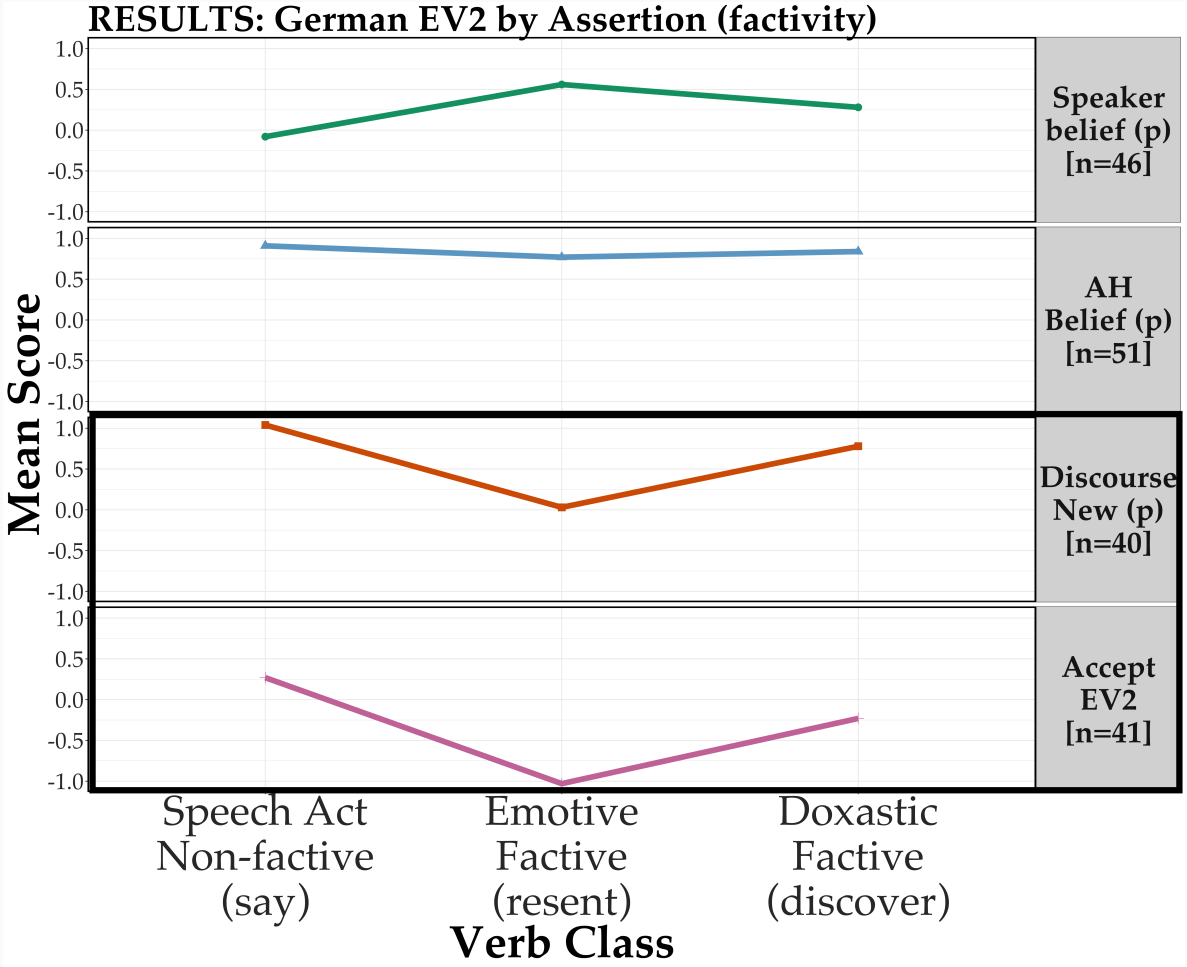
✗EV2 under *not doubt, not deny*

Assertion vs. Factivity: Predictions



- Speaker commitment — Asymmetry: *resent* > *say*, *discover*
- AH commitment — ✓EV2 across verb types (*say*, *resent*, *discover*)
- Discourse Novelty — Asymmetry: *resent* < *say*, *discover*

Assertion vs. Factivity: Results



- Asymmetry: *resent* < *say*, *discover*

  — in line with predictions of Discourse Novelty

Other relevant findings (brief overview)

- German EV2 patterns like Swedish EV2 in this regard; see also:

  [Caplan and Djärv 2019; corpus study]

  [Djärv, Heycock, and Rohde 2017; judgement data]

  (Data in the Appendix)

- The other types of MCS investigated showed no sensitivity to either:
  — type of assertion
  — type of embedding predicate
  — polarity of the matrix clause (Data in the Appendix)

- No evidence for variability in the pragmatics of verbs underlying variation across MCP/languages (EV2 vs. other MCS)
  — pragmatic inferences of verb (classes) are remarkably robust!

  (Data in the Appendix)

- No evidence of inter-speaker variation underlying conflicting empirical claims for any of the types of MCS investigated

  (Data in the Appendix)

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Conclusions

Summary: Main Findings

- EV2 is available in contexts that license p as Discourse New information
  — Commitment to p based analyses vastly over-generate the types of contexts that are predicted to license EV2

- Effect of matrix negation speaks against selection playing a role

- No general ban on EV2 — or Discourse Novelty — under factives:
  ✓EV2 & Discourse New (p) under cognitive factives
  ✗EV2 & Discourse New (p) under emotive factives

Analytical claims (brief summary)

- The dimension of ASSERTION relevant to V-to-C (V2) licensing is whether p is NEW ~ GIVEN (i.e. p has a linguistic or contextually entailed antecedent; à Schwarzschild 1999);
  - ▷ e.g. {*say, think, realize*} vs. {*doubt, admit, resent*}

- This is problematic for the Stalnaker-Heim model of FACTIVITY:
— Common Ground [CG] status entails GIVENNESS
— if factives PRESUPPOSE p (p is CG), they should not allow p to be ASSERTED (in the sense of p being used to update the context)

- For an novel account of factivity: see Djärv 2019a [dissertation plug!]
— no reference to the Common Ground status of p itself
— (projective) p=1 inference analysed as an EVIDENTIAL presupposition

Thank you all for listening!

And thanks to...

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Methods, continued

Experimental set up: two discourse contexts

Maximize Contrast:

Imagine that you're at a party, and you overhear part of a conversation between your friends, Bill and Jack.

Jack says:

...however, Anne says that Lisa broke up with the guy she's been dating!

Maximize Discourse New:

Two friends, Bill and Jack, run into each other.

Jack says:

Guess what! I just talked to Anne, and she says that Lisa broke up with the guy she's been dating!

▷ The type of context had no effect on the results

Embedded V2

(9) German (Woods 2016, p. 220)

a. Hans glaubt, Peter **hat** gewonnen.
Hans thinks, Peter has won.
'Hans thinks that Peter won.' V2

b. Hans glaubt dass Peter gewonnen **hat**.
Hans thinks that Peter won has.
'Hans thinks that Peter won.' In-situ

(10) Swedish (Wiklund et al. 2009, p. 1929)

a. Kristine sa att han **fick** inte.
Kristine said that he was.allowed not.
'Kristine said that he wasn't allowed to.' V2

b. Kristine sa att han inte **fick**.
Kristine said that he not was.allowed.
'Kristine said that he wasn't allowed to.' In-situ

MCS variations I

(11) Unmarked

a. Anna said that Lisa got fired. Eng

b. Anna hat gesagt, dass Lisa gefeuert **wurde**.
Anna has said that Lisa fired was
'Anna said that Lisa got fired.' Ger

c. Anna sa att Lisa inte **har** fått sparken.
Anna said that Lisa not has got fired
'Anna said that Lisa didn't get fired.' Sw

(12) Verb Second

a. Anna hat gesagt Lisa **wurde** gefeuert.
Anna has said Lisa was fired
'Anna said that Lisa got fired.' Ger

b. Anna sa att Lisa **har** inte fått sparken.
Anna said that Lisa has not got fired
'Anna said that Lisa didn't get fired.' Sw

MCS variations II

(13) Speech Act Adverbs

a. Anna said that Lisa **honestly** got fired.

b. Anna hat gesagt, dass Lisa **offen gestanden** gefeuert wurde.
Anna has said that Lisa frankly.said fired was
'Anna said that Lisa, to be frank, got fired.' Ger

c. Anna sa att Lisa **ärligt talat** fått sparken.
Anna said that Lisa honestly speaking got fired
'Anna said that Lisa, to be frank, got fired.' Sw

(14) Topicalization Eng
Anna said that **the people he lived with**, Tom didn't like.

(15) Scene Setting Adverbs Eng
Anna said that **in college**, Tom didn't like the people he lived with.

Verbs

Verb Class	English	German	Swedish
Speech Act Verbs (A)	*say* *mention* *tell me* *claim*	*sagen* *erwähnen* *mir erzählen* *behaupten*	*säga* *nämna* *berätta* *hävda*
Doxastic Non-factives (B)	*believe* *assume* *reckon* *guess/suppose*	*glauben* *annehmen* *meinen* *vermuten*	*tro* *anta* *förmoda* *gissa*
Response verbs (C)	*accept* *admit* *doubt* *deny*	*akzeptieren* *zugeben* *bezweifeln* *aleugnen*	*acceptera* *erkänna* *vivla* *förneka*
Emotive Factives (D)	*appreciate* *resent* *love* *hate*	*gefallen* *missfallen* *lieben* *hassen*	*uppskatta* *avsky* *älska* *hata*
Doxastic Factives (E)	*discover* *find out* *notice* *hear*	*entdecken* *herausfinden* *merken* *hören*	*upptäcka* *få veta* *märka* *få höra*

Group design / Latin square counterbalancing

(16) Example Item 1

Gr1. Anna **said** that Mary got the job.

Gr2. Anna **didn't say** that Mary got the job.

(17) Example Item 2

Gr2. Mel **said** that Lisa ignored the people at the party.

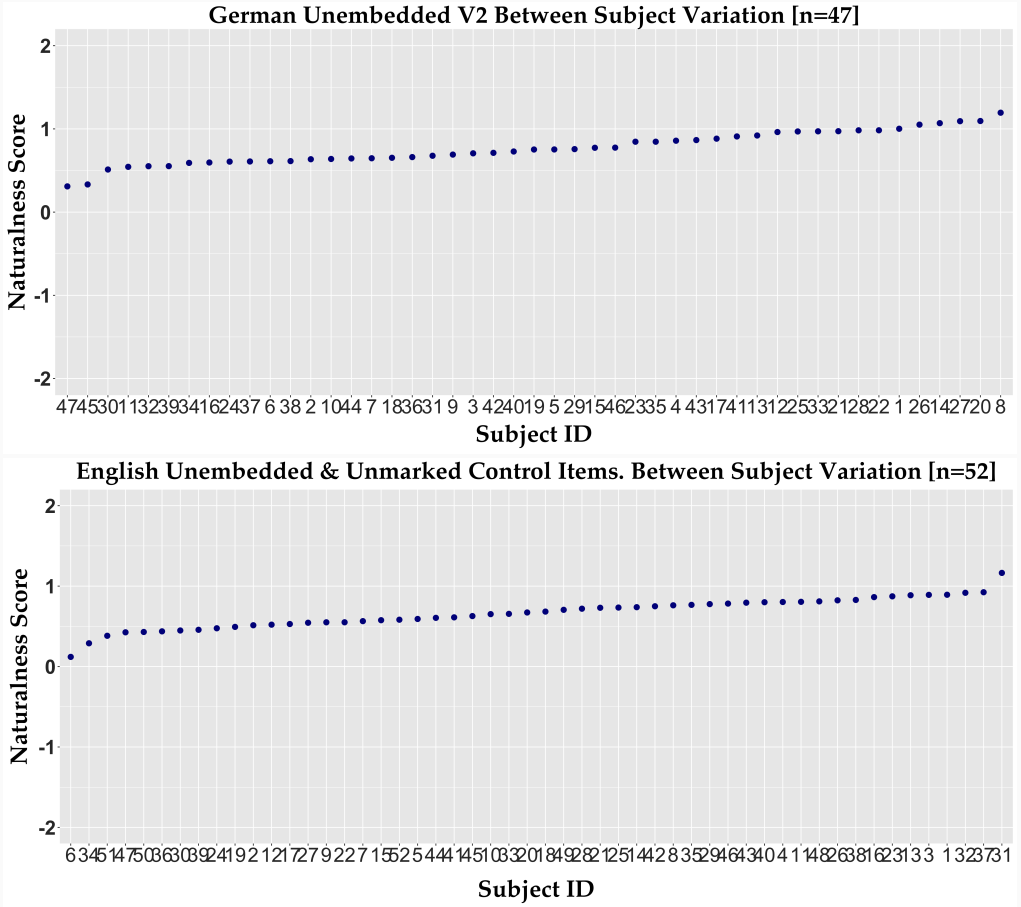
Gr1. Mel **didn't say** that Lisa ignored the people at the party.

Participants (by experimental variation)

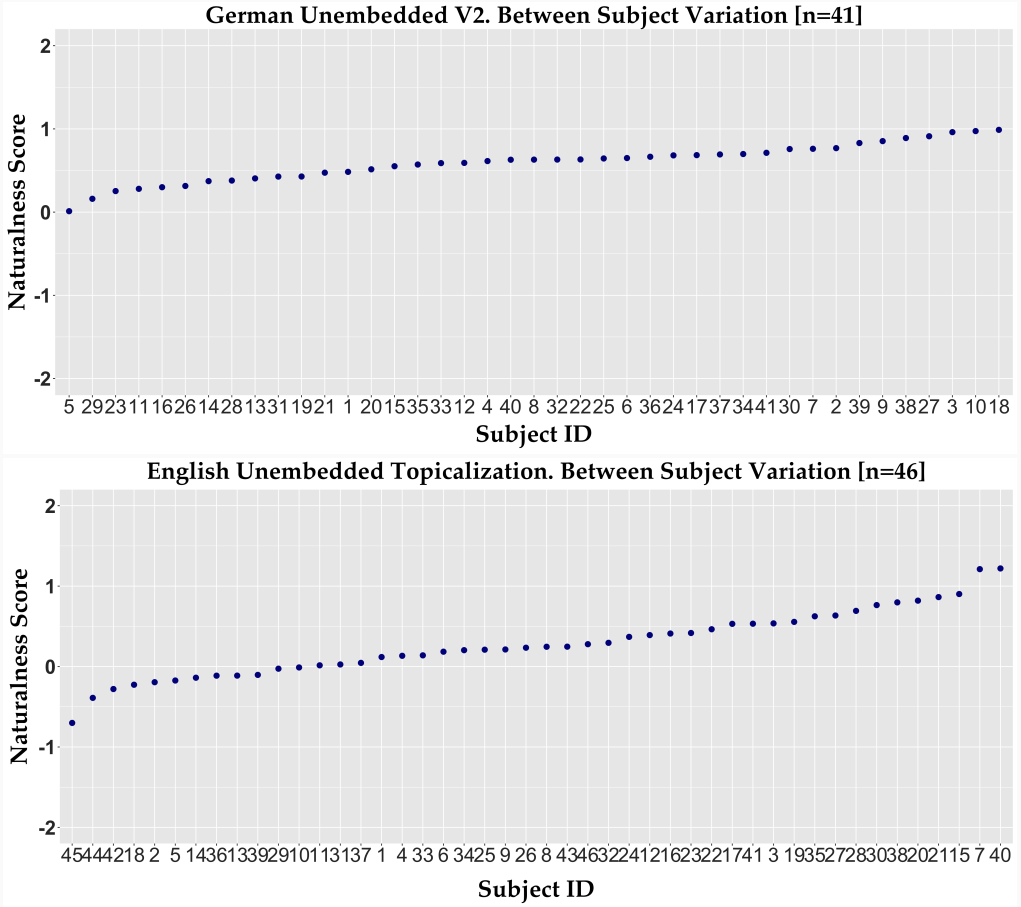
Language	Measure	N pre-exclusion	N removed	N post-exclusion
English MaxNew	Unm	55	6	49
	Top	63	5	58
	Scene.Adv	77	4	73
	SpAct.Adv	50	7	43
	AHbel	61	2	59
	SpBel	61	1	60
	DiscNew	61	6	55
	Total N	428	31	397
English MaxContr	Unm	56	4	52
	Top	62	16	46
	Scene.Adv	62	7	55
	SpAct.Adv	58	4	54
	AHbel	53	3	50
	SpBel	61	4	57
	DiscNew	65	10	55
	Total N	417	48	369
German	Unm	48	1	47
	SpAct.Adv	50	2	48
	V2	44	3	41
	AHbel	51	0	51
	SpBel	47	1	46
	DiscNew	45	5	40
	Total N	285	12	273
Swedish	Unm	34	5	29
	SpAct.Adv	20	7	13
	V2	33	12	21
	AHbel	14	0	14
	SpBel	24	1	23
	DiscNew	17	1	16
	Grand Total N	142	26	116
Total N		1,272	117	1,155

Inter-speaker variation?

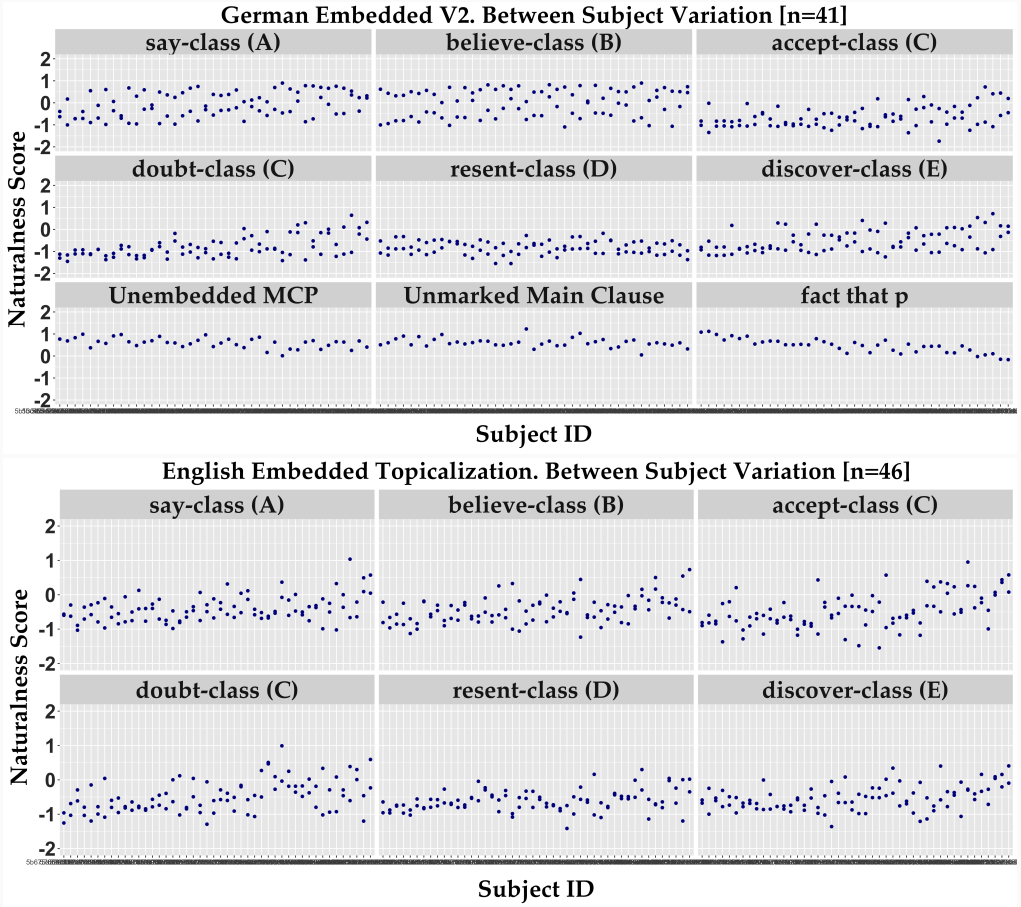
Scores by-participant: Unmarked UNEMB. (Eng)



Scores by-participant: V2/Topz UNEMB. (Ger, Eng)

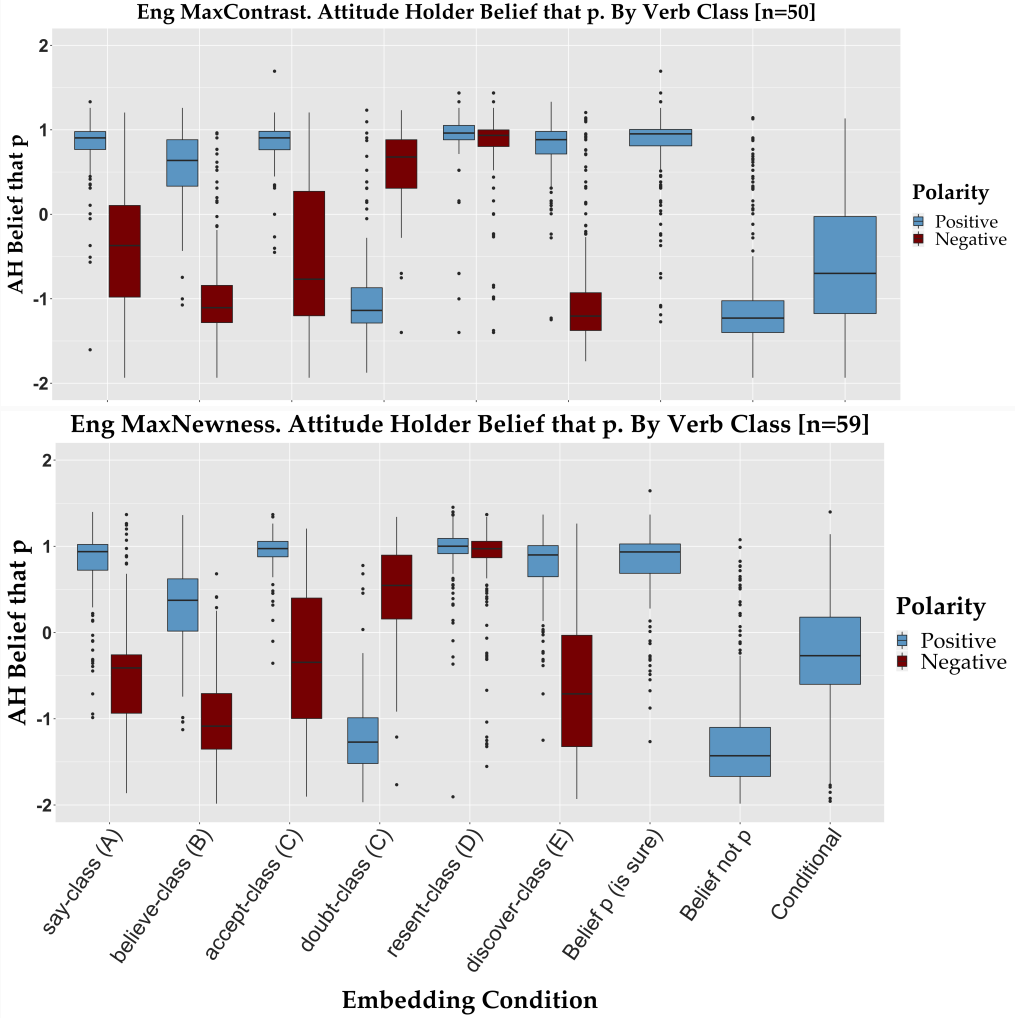


Scores by-participant: V2/Topz EMB. (Ger, Eng)

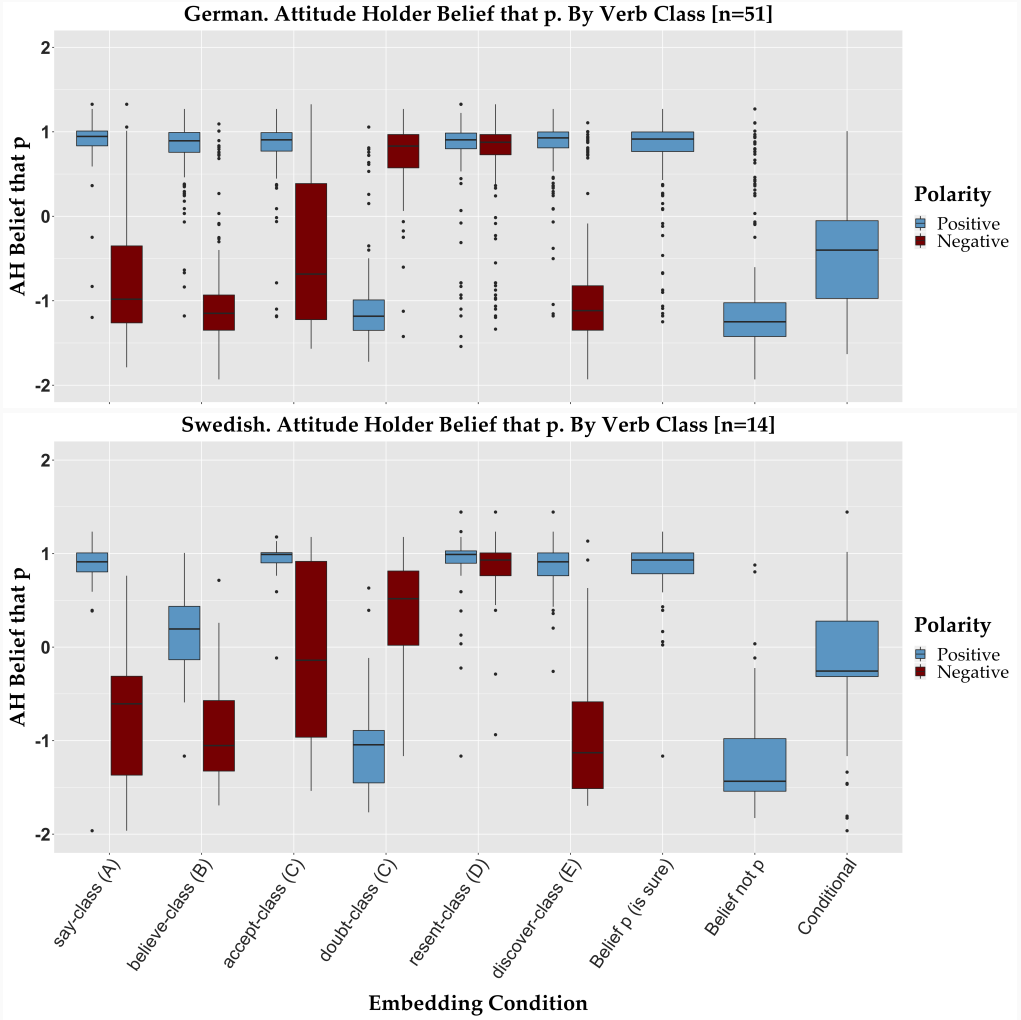


Results Assertion, continued

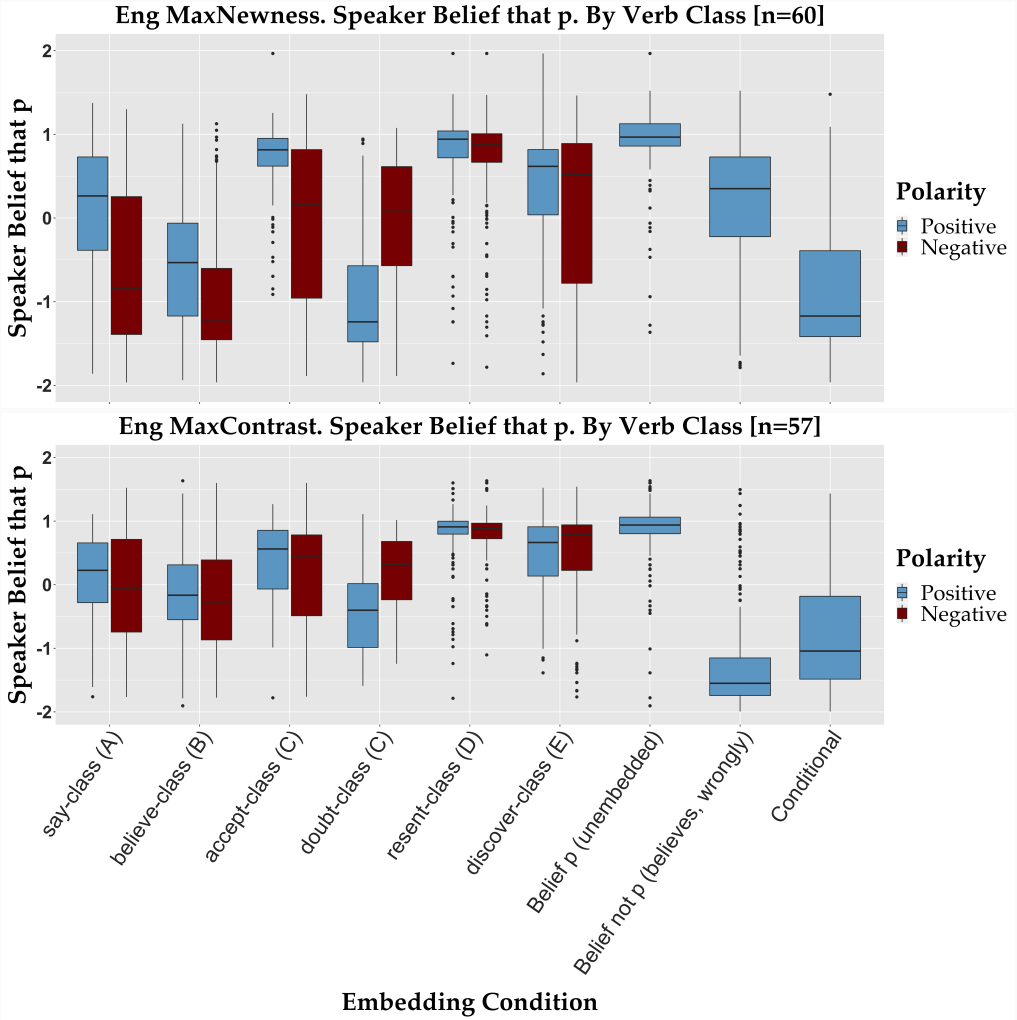
Assertion across verbs/polarity: AH belief (Eng)



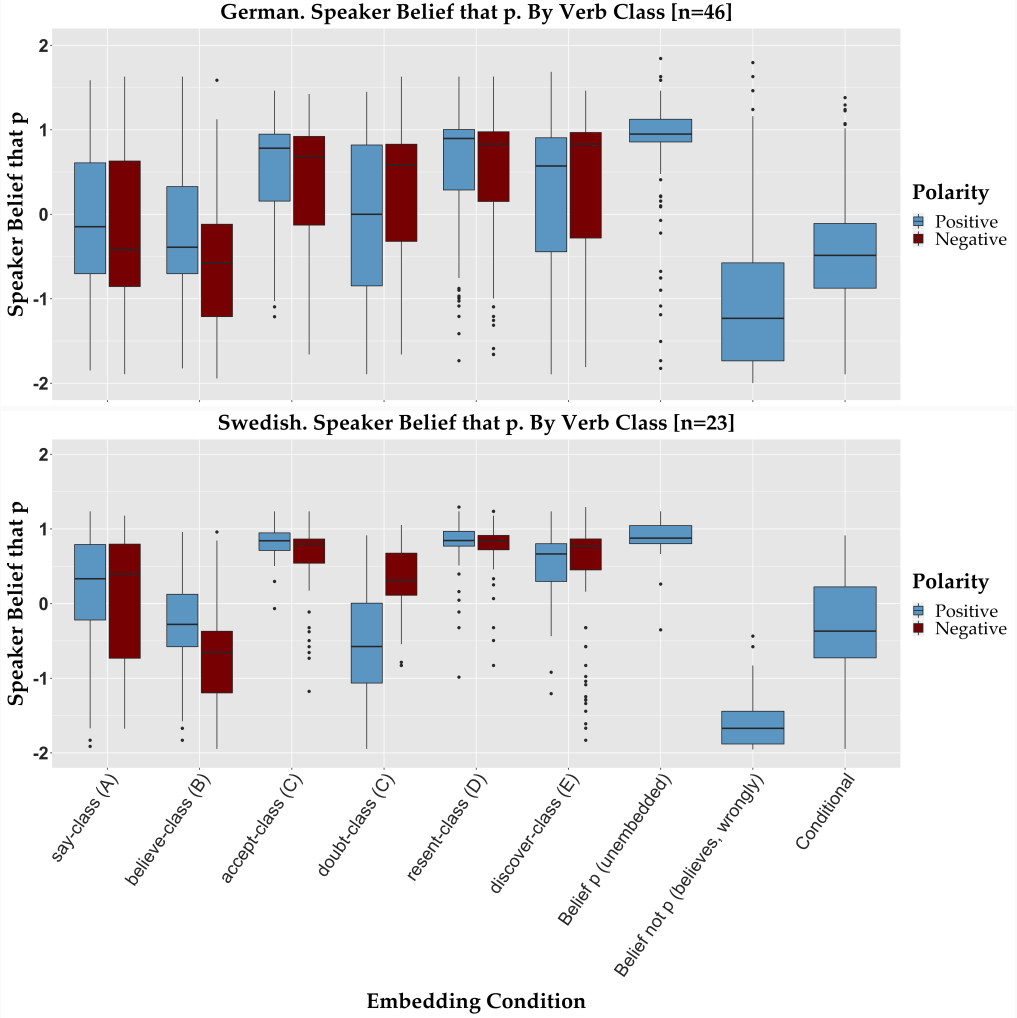
Assertion across verbs/polarity: AH belief (Ger, Sw)



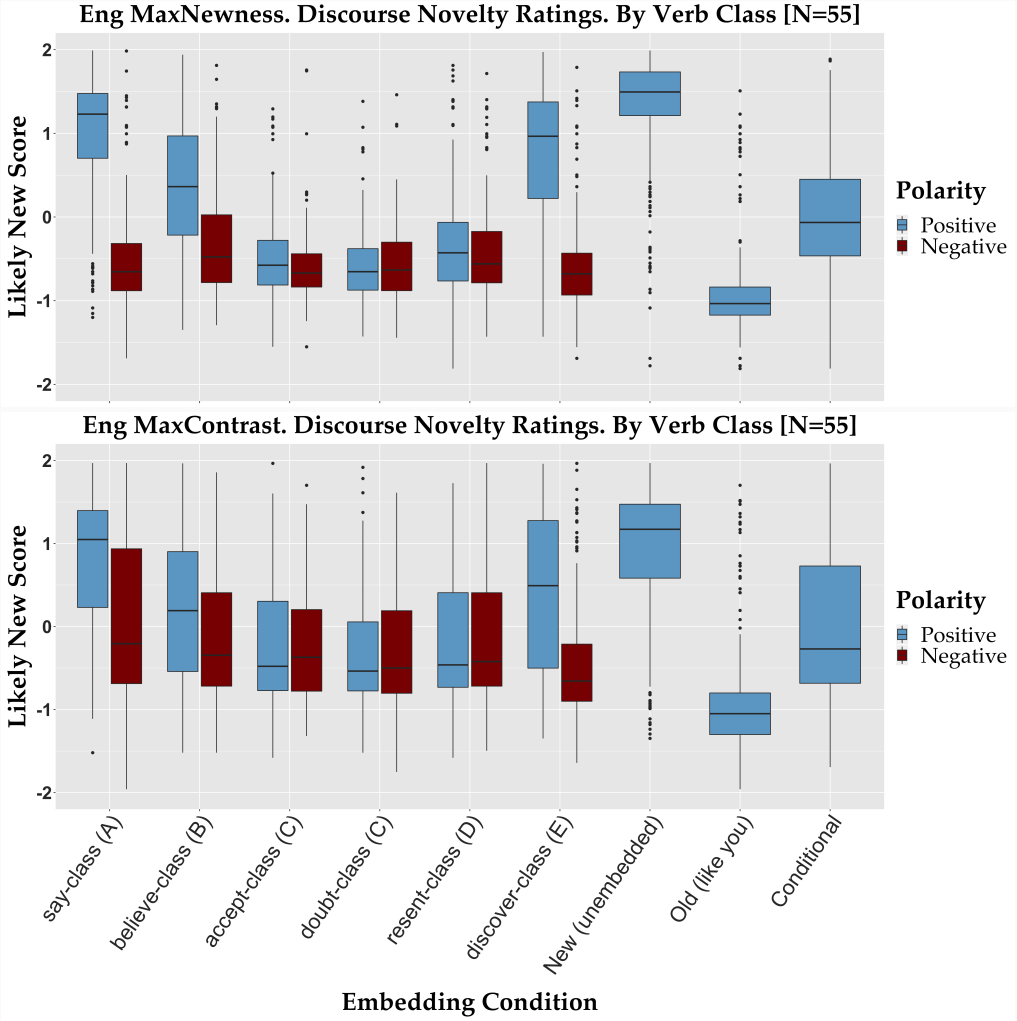
Assertion across verbs/polarity: Speaker belief (Eng)



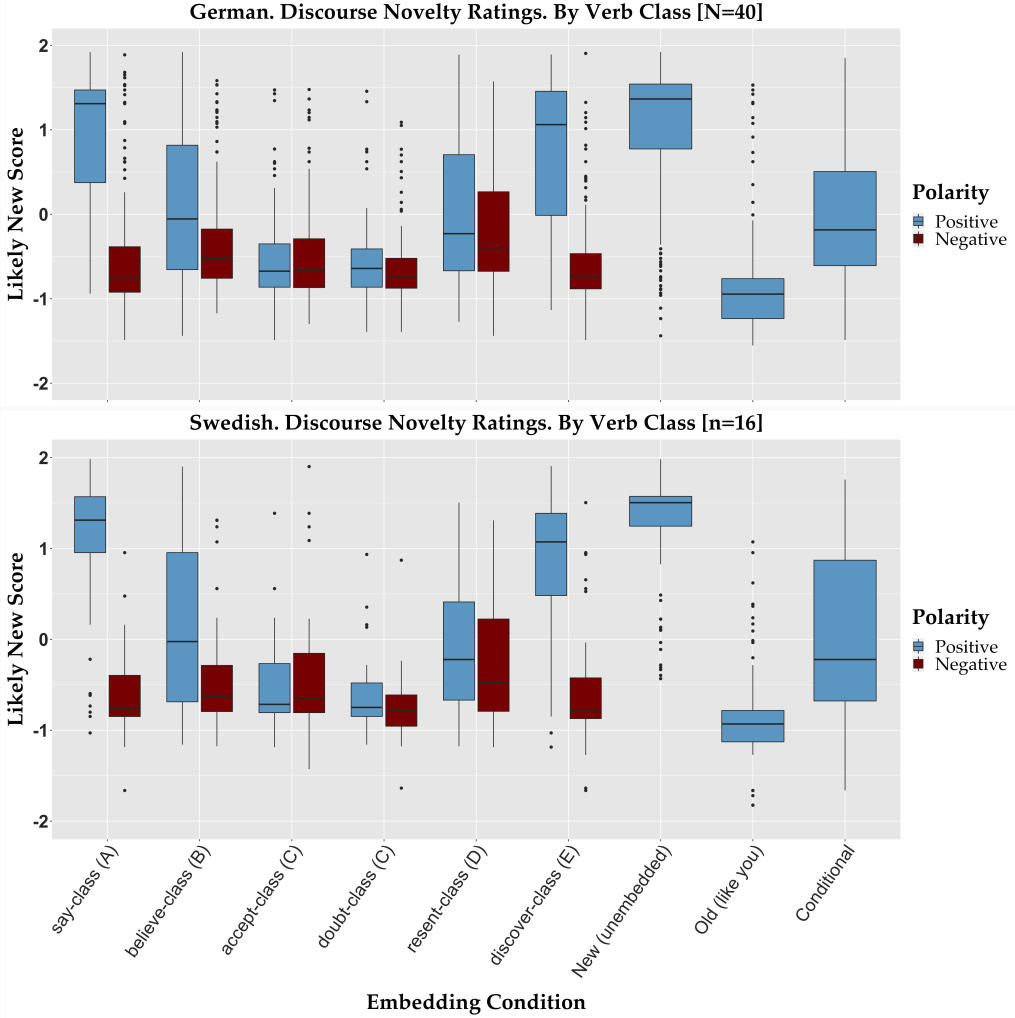
Assertion across verbs/polarity: Speaker belief (Ger, Sw)



Assertion across verbs/polarity: discourse novelty (Eng)

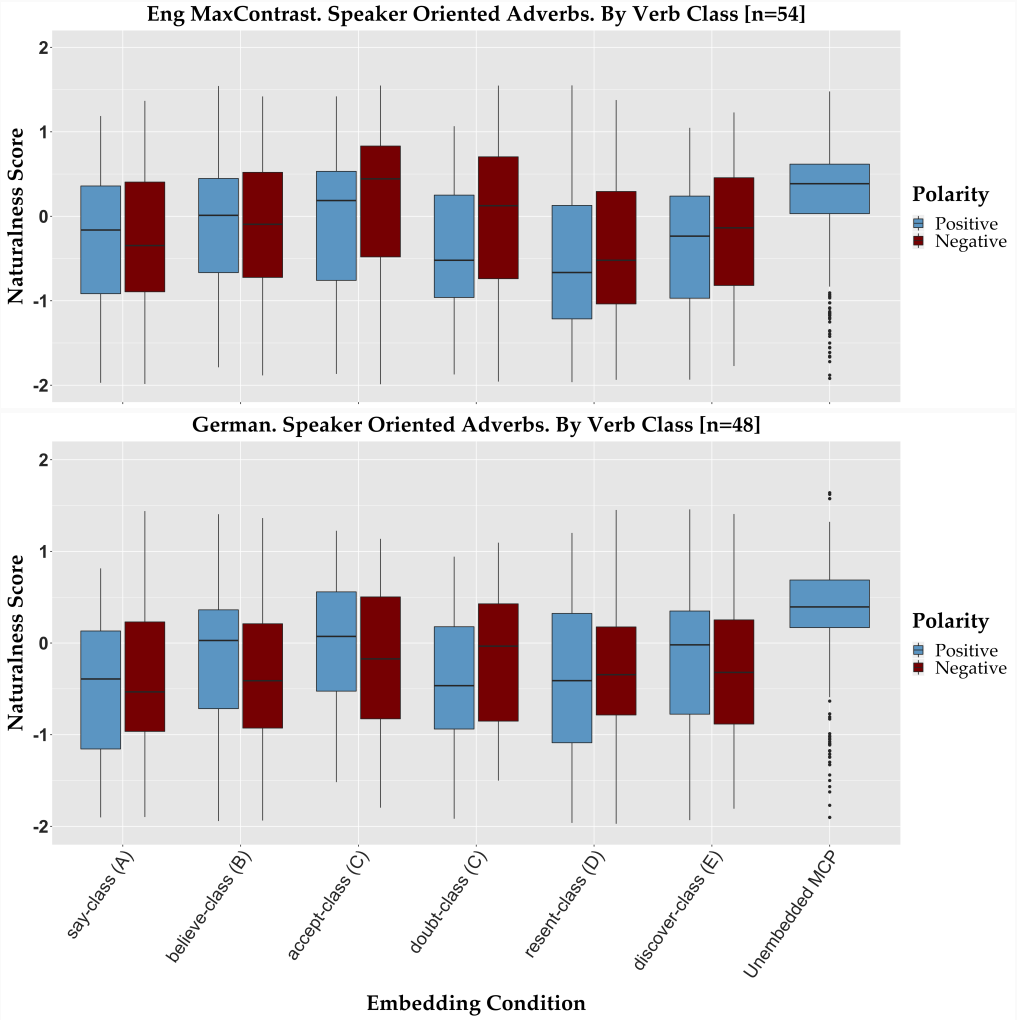


Assertion across verbs/polarity: discourse novelty (Ger, Sw)

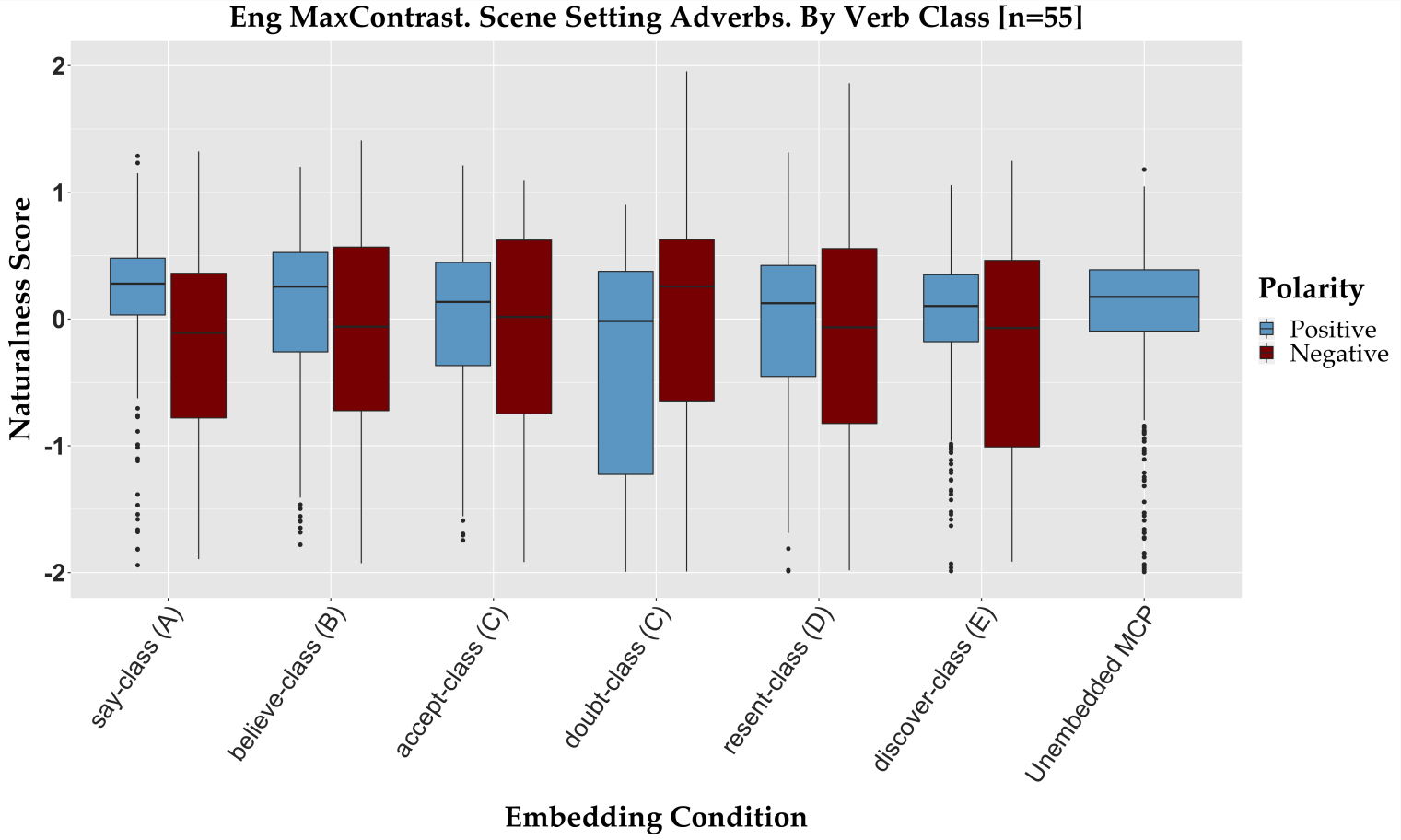


Results MCP, continued

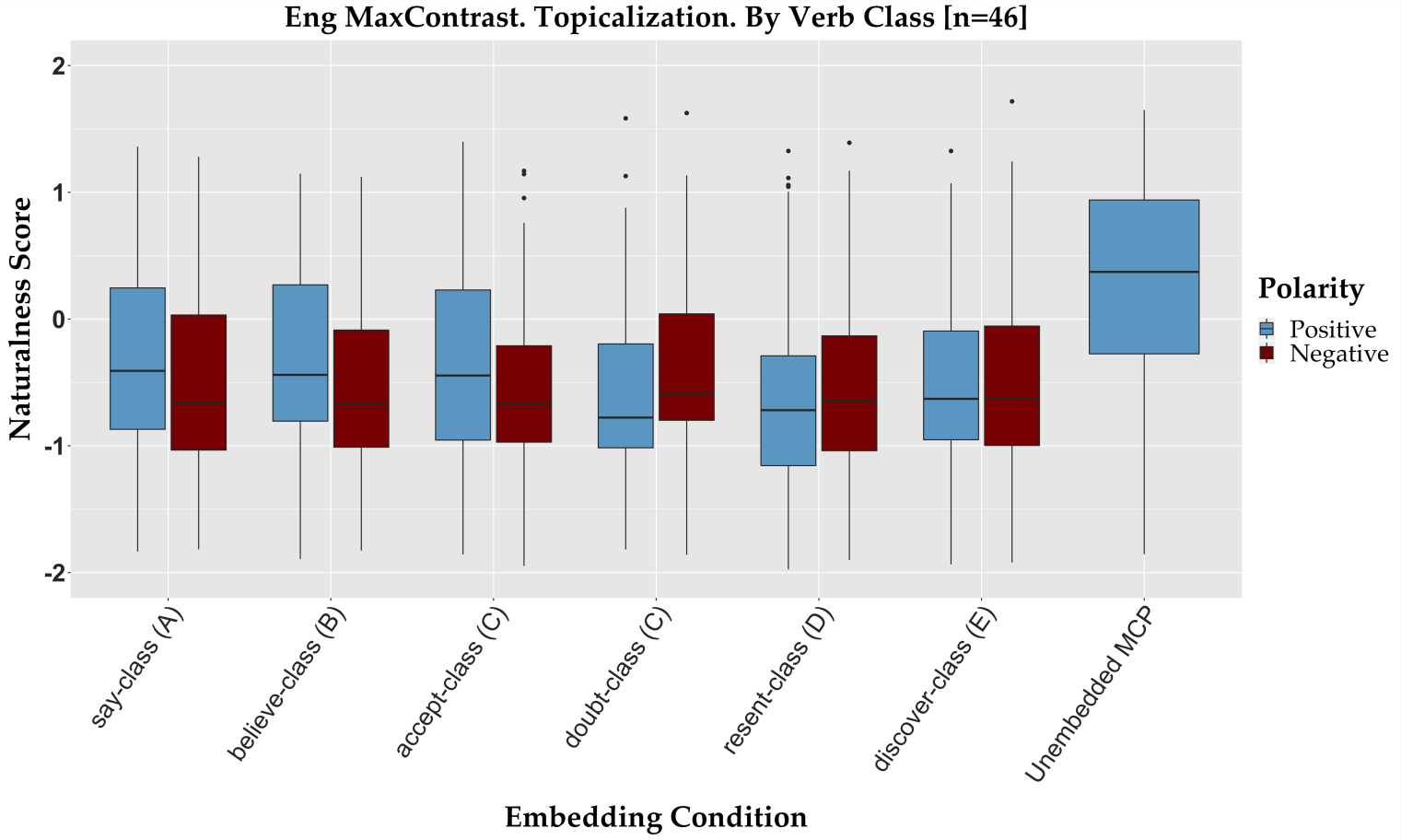
MCS: Speech Act Adverbs (English, German)



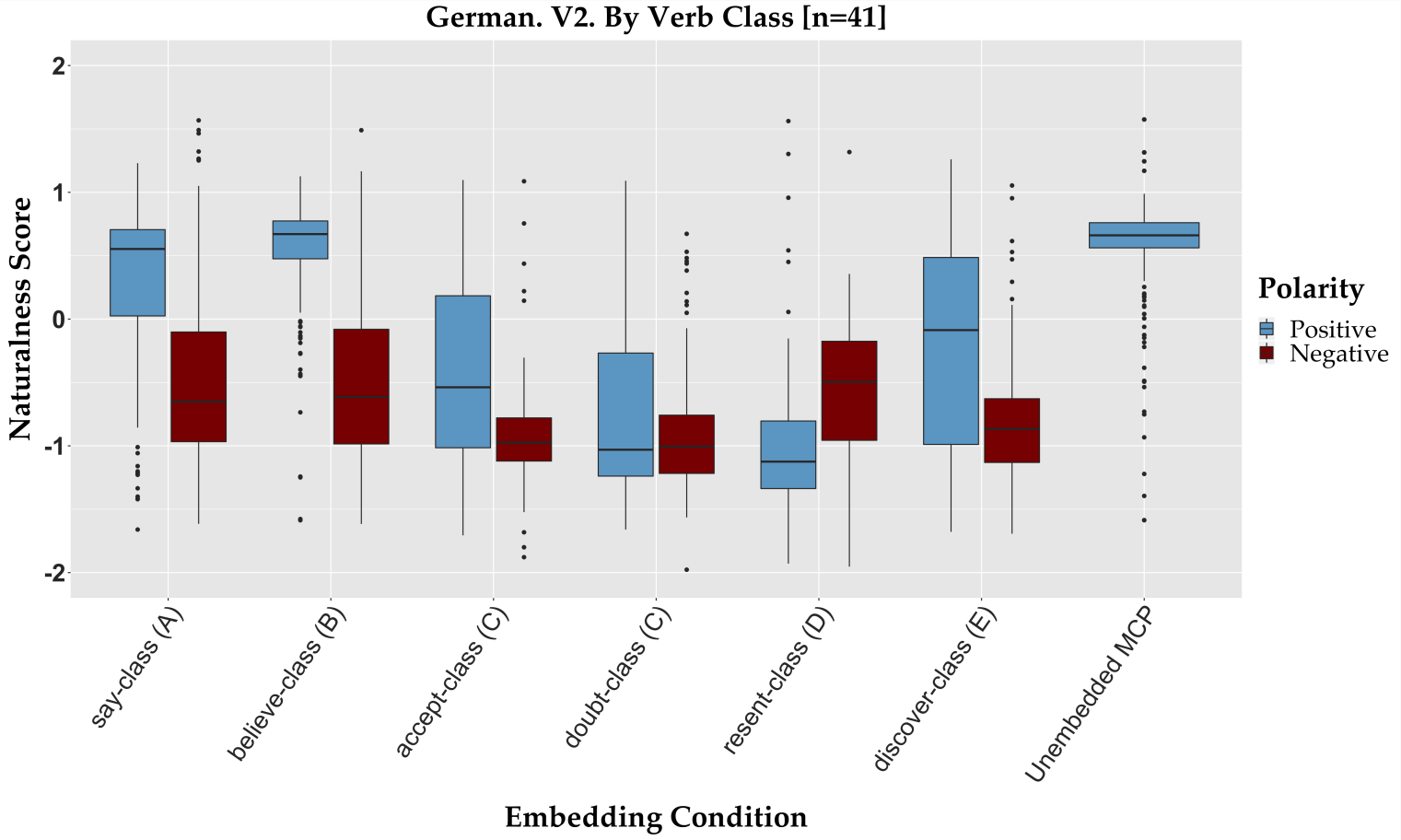
MCS: Scene Setting Adverbs (English)



MCS: Topicalization (English)

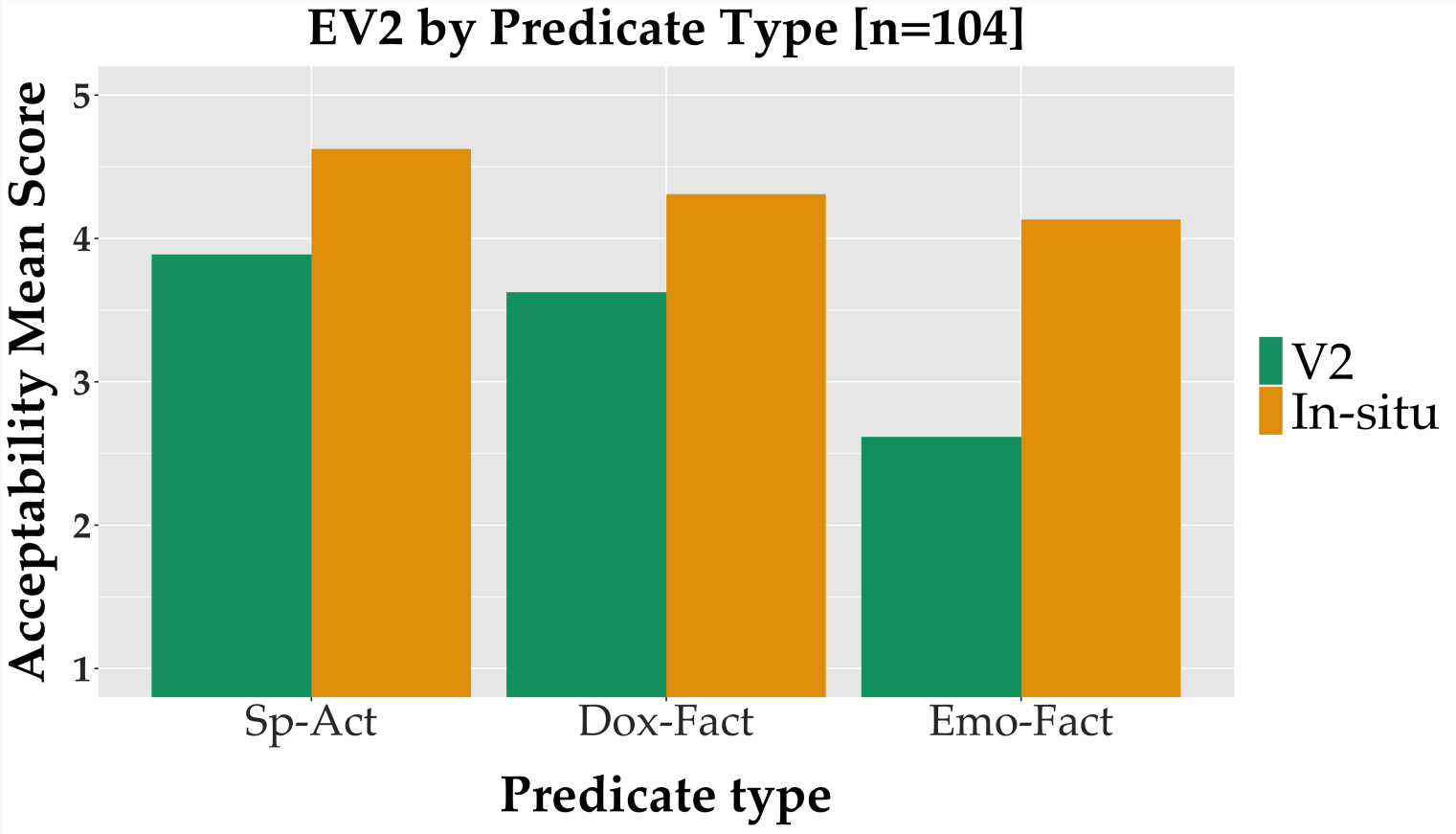


MCS: Embedded V2 (German)



Previous results: Swedish EV2

Judgement data (Djärv, Heycock, and Rohde 2017)



- Swedish embedded V2: ✓ Speech Act; ✓ Doxastic; ✗ Emotive