Distinguishing *grammatical* and *intrusive* **resumptive pronouns**

in acceptability and real-time animacy processing

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Resumptive pronouns in Hebrew

Relative clauses (RCs)

Resumptive pronouns (RPs) are prevalent in Hebrew RCs.

RC RPs are obligatory in PPs (1a), and frequently used alongside gaps in direct object RCs (1b).

1) a. ha-yalda še-ha-mora dibra aleya /*al
the-girl that-the-teacher spoke about.her /*about
b. ha-yalda še-ha-mora hestira (ota)
the-girl that-the-teacher hid (her)

Resumptive pronouns in Hebrew

Wh-questions (WhQs)

Previous work suggests that some Hebrew **WhQs** can also license RPs, extending analyses of RC RPs to WhQs.

(Sells, 1987; Shlonsky, 1990; Sharvit, 1999; Falk, 2002; Asudeh, 2012)

Resumptive pronouns in Hebrew

Wh-questions (WhQs)

But… WhQ RPs have a more restricted distribution than RC RPs, which has been characterized in different ways:

WhQ RPs only appear in **island violations**

2) eize xešbon ha-maškia lo zoxer im *hu* noten ribit tova?
which account the-investor NEG remember if *it* gives interest good? (Erteschik-Shir, 1992)

WhQ RPs are restricted to **d-linked *wh*-phrases**

3) { eize student / *mi } nifgašta *ito*?
{ which student / who} you.met *with.him*? (Sharvit, 1999)

No WhQ environment requires RPs

Resumptive pronouns in Hebrew

The set of properties characterizing RPs in WhQs is quite puzzling.

? How should WhQ RPs be characterized, and what is the difference between them and RPs in RCs?

Our proposal

RPs in Hebrew **RCs** are grammatical; RPs in **WhQs** are intrusive.

We will use a diagnostic from online processing to sharpen the distinction between these categories.

Intrusive vs. grammatical RPs

Some languages (e.g., English) are assumed to have Intrusive RPs (IRPs): RPs which surface in contexts in which a gap is degraded, most commonly island violations

(Chao & Sells, 1983, Sells, 1984, a.o.)

Other languages (e.g., Hebrew, Arabic, Irish) have Grammatical RPs (GRPs), which are not limited to island contexts.

(Shlonsky, 1990; McCloskey, 1990)

Animacy misalignment: An alternative to islands

Discussion of IRPs has often compared IRPs in contexts of island violations with GRPs in simple clauses, and often across languages. To avoid these additional distinguishing factors, **we investigate RPs in a single context and a single language**.

We target RPs in Hebrew in simple transitive clauses, using ***animacy misalignment*** **–** *configurations in which the subject is less animate than the object*.

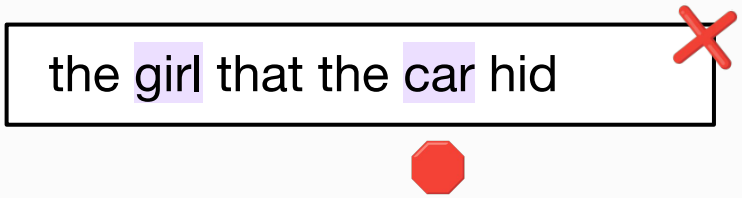
the girl that the car hid	the doll that the teacher hid
Poorly aligned	**Well aligned**

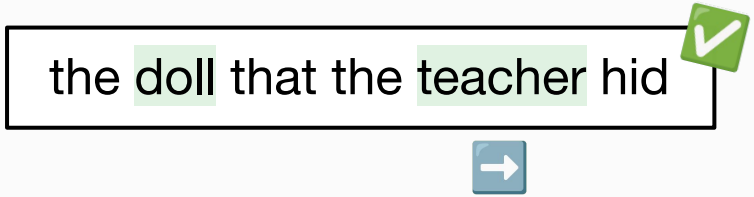
Animacy misalignment

Animacy misalignment presents challenges when the object precedes the subject, e.g., in ORCs.

(Coon & Clemens, 2018; Coon et al., 2026; Duff et al., 2026; Lowder & Gordon, 2012)

- Misaligned ORCs are judged as less acceptable than aligned ORCs
- Processing of an ORC subject is more difficult under animacy misalignment





Animacy misalignment

We test ***whether Hebrew RPs ameliorate animacy misalignment*** in acceptability and in real-time processing.

I didn't see the girl that the car hid **her**.

I didn't see which girl the car hid **her**.

❌ / ✅ ?

Misalignment is used as a diagnostic for RPs' status across **RCs** and **WhQs**. We leave open the exact source of the misalignment penalty.

Animacy misalignment

We test ***whether Hebrew RPs ameliorate animacy misalignment*** in
ac

Note

Some approaches treat animacy effects as conceptual, but our results suggest that they are **grammatical**.

We will not conclude in this talk whether this effect reflects animacy *per se* or a related semantic contrast (agentivity? telicity?).

Mi **s.**
We remain agnostic as to the source of the misalignment penalty.

Acceptability: Methods

Actual stimuli were in Hebrew

Relative clauses

Tail: gap / RP

I didn't see…

Well aligned	the doll that the teacher hid ∅ / RP	
Animacy match	the doll that the car hid ∅ / RP	Same form: ota (F) oto (M)
	the girl that the teacher hid ∅ / RP	
Poorly aligned	the girl that the car hid ∅ / RP	

…from the other children

Acceptability: Methods

Actual stimuli were in Hebrew

Wh-questions

Tail: gap / RP

I didn't see…

Well aligned	which doll	the teacher	hid	∅ / RP
Animacy match	which doll	the car	hid	∅ / RP
	which girl	the teacher	hid	∅ / RP
Poorly aligned	which girl	the car	hid	∅ / RP

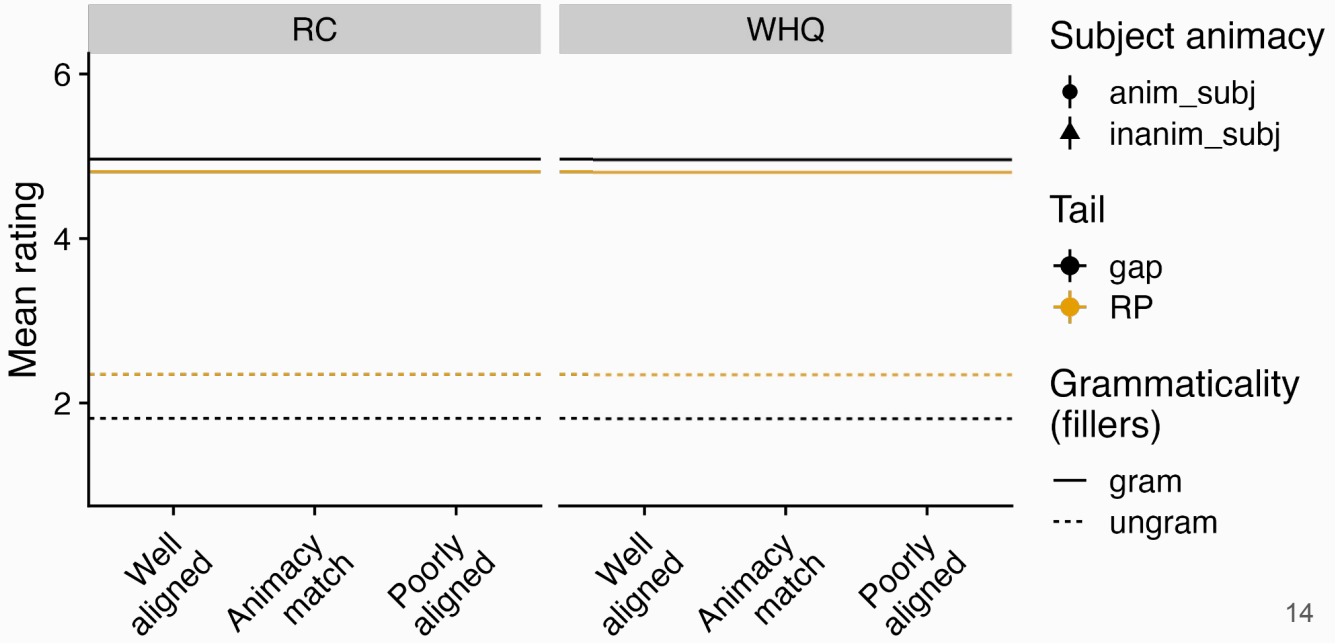
…from the other children

Acceptability: Methods

- 32 sets, 2×2×4: *Structure*, *Tail*, *Animacy alignment*
- 162 Hebrew speakers
- 6pt scale acceptability judgment
- brms in R (appendix)

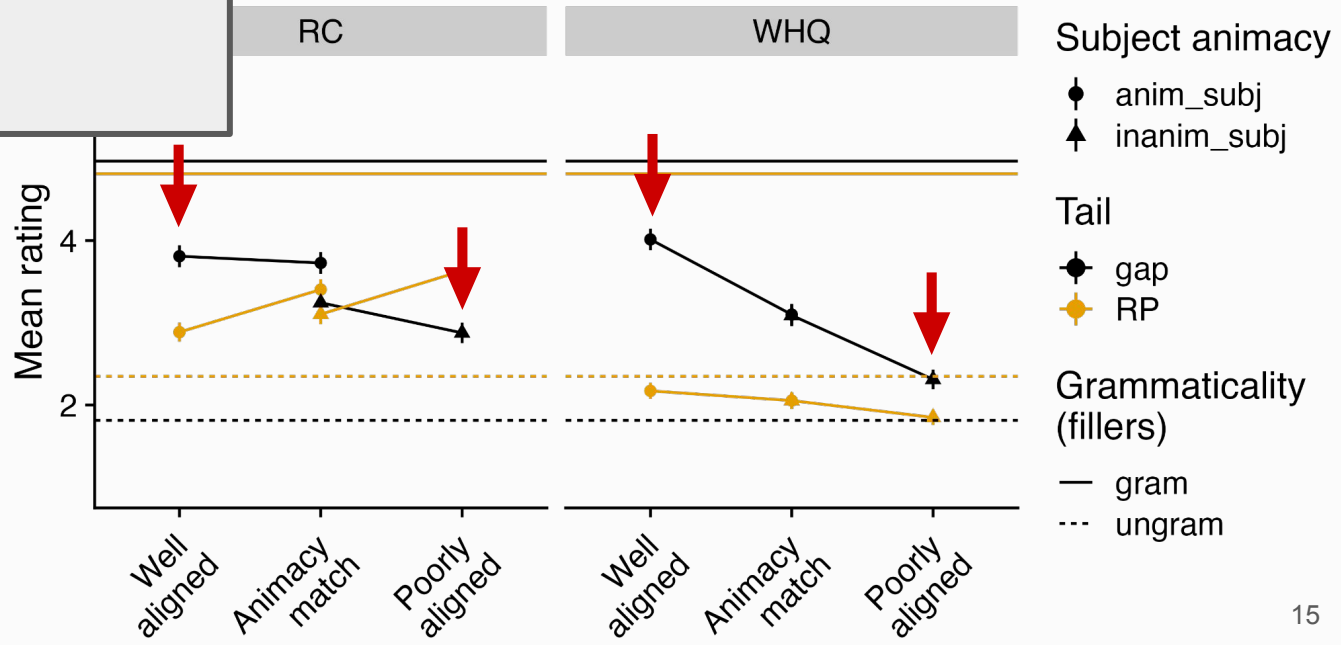


Acceptability: Results & discussion



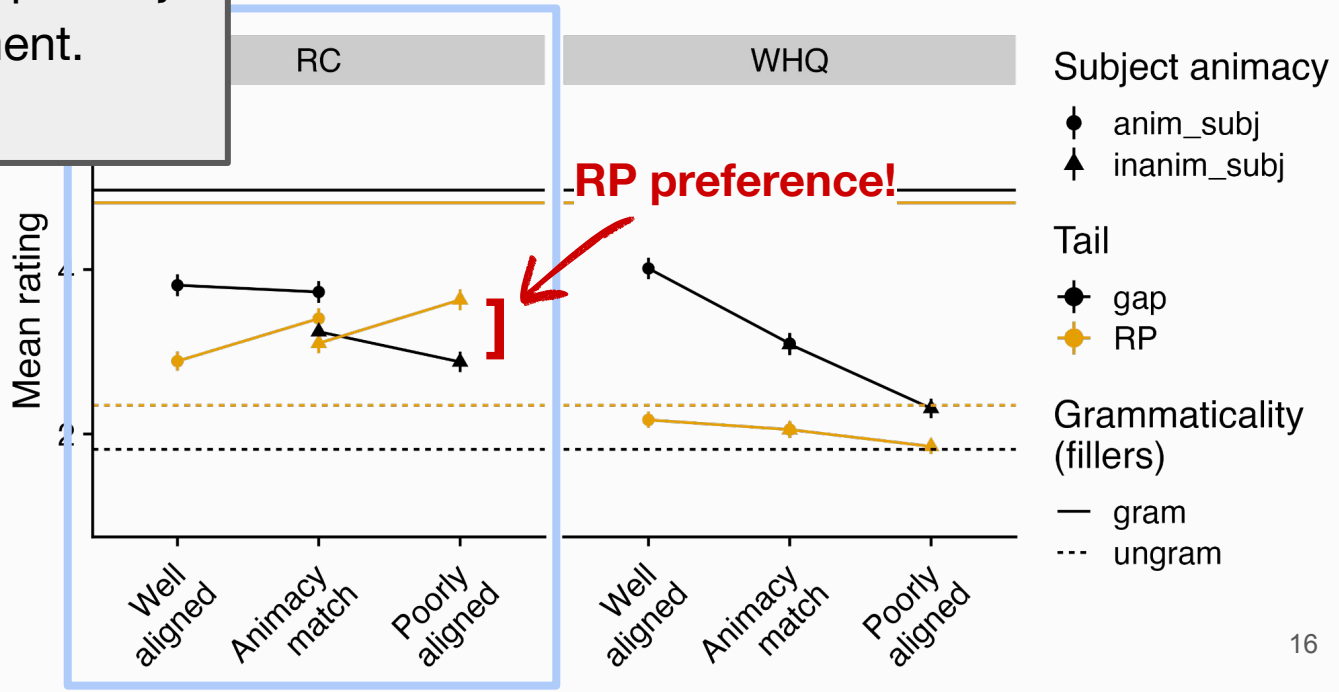
Acceptability: Results & discussion

Animacy misalignment lowers the acceptability of object dependencies.



Acceptability: Results & discussion

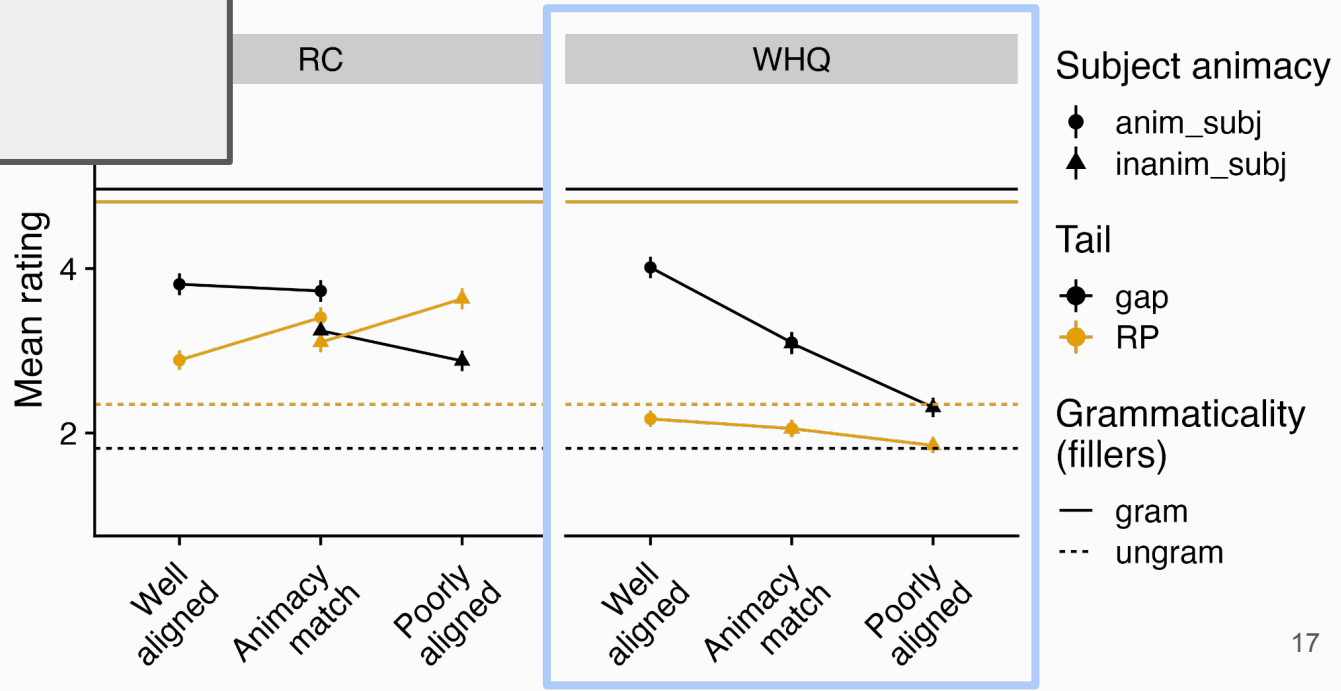
In **RCs**, **RPs** are optional and ameliorate the unacceptability of animacy misalignment.



Acceptability: Results & discussion

In **WHQs**, **RPs**

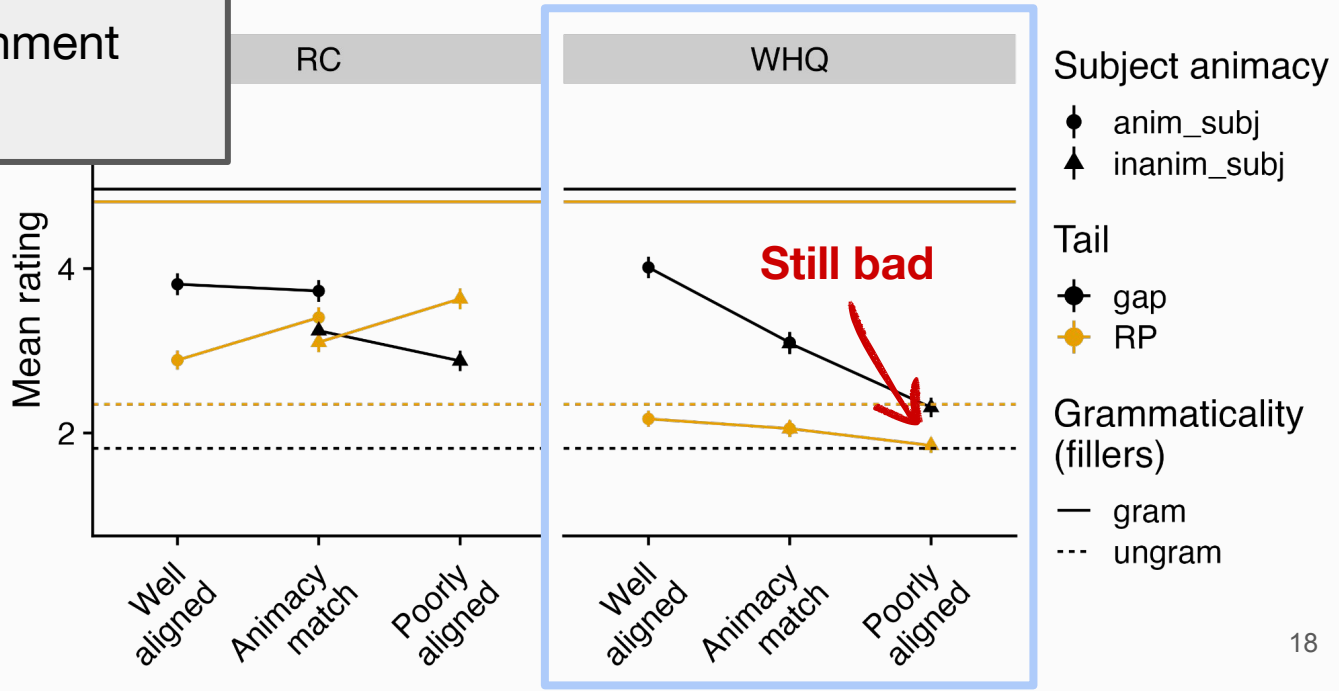
- are rated poorly



Acceptability: Results & discussion

In **WHQs**, **RPs**

- are rated poorly
- track the misalignment penalty



Acceptability: Results & discussion

RPs are consistently rejected in WhQs, while they are only slightly dispreferred to gaps in RCs. This is contra claims that RPs are available across A'-dependencies in Hebrew. (Sharvit, 1999)

Crucially, **RPs *ameliorate* unacceptability in RCs** but not in **WhQs**.

Poorly aligned

RC: I didn't see the girl that the car hid __ / RP ❌ ✅

WHQ: I didn't see which girl the car hid __ / RP ❌ ❌

Acceptability: Results & discussion

Our results suggest that **the resumptive strategy is not freely available**, even if it is available in some context within a language, as in Hebrew.

We hypothesize that **RC** RPs are grammatical, while **WhQ** RPs are intrusive. Only RC RPs can be grammatically integrated into an alternative derivation which does not involve movement, but binding of the RP.

(Chomsky, 1977; Borer, 1984; McCloskey, 1990; a.o.)

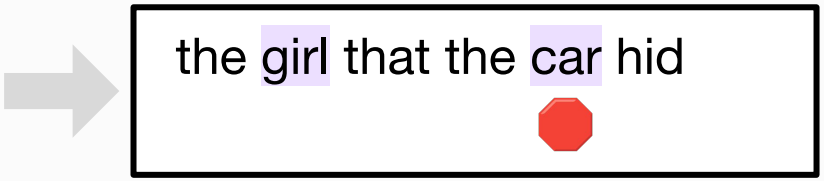
RPs in real-time processing

From grammar to processing: A grammatical element should be predictable in real-time, while an intrusive extra-grammatical element should not.

Thus, we test whether RPs are ***predicted*** across WhQ and RC, i.e., whether the availability of RPs mitigates the online **processing difficulty** associated with misalignment.

RPs in real-time processing

In **English** (a.o.), an ORC subject is read slowly under misalignment, indicating difficulty in dependency processing.



RPs in real-time processing

In **English**, an ORC subject is read slowly under misalignment, indicating difficulty in dependency processing.



And in **Hebrew**?

(A) Online difficulty is insensitive to RPs & appears across RCs and WhQs

or

(B) RPs are predicted in RCs & overcome animacy difficulty
(Keshev & Meltzer-Asscher, 2017)





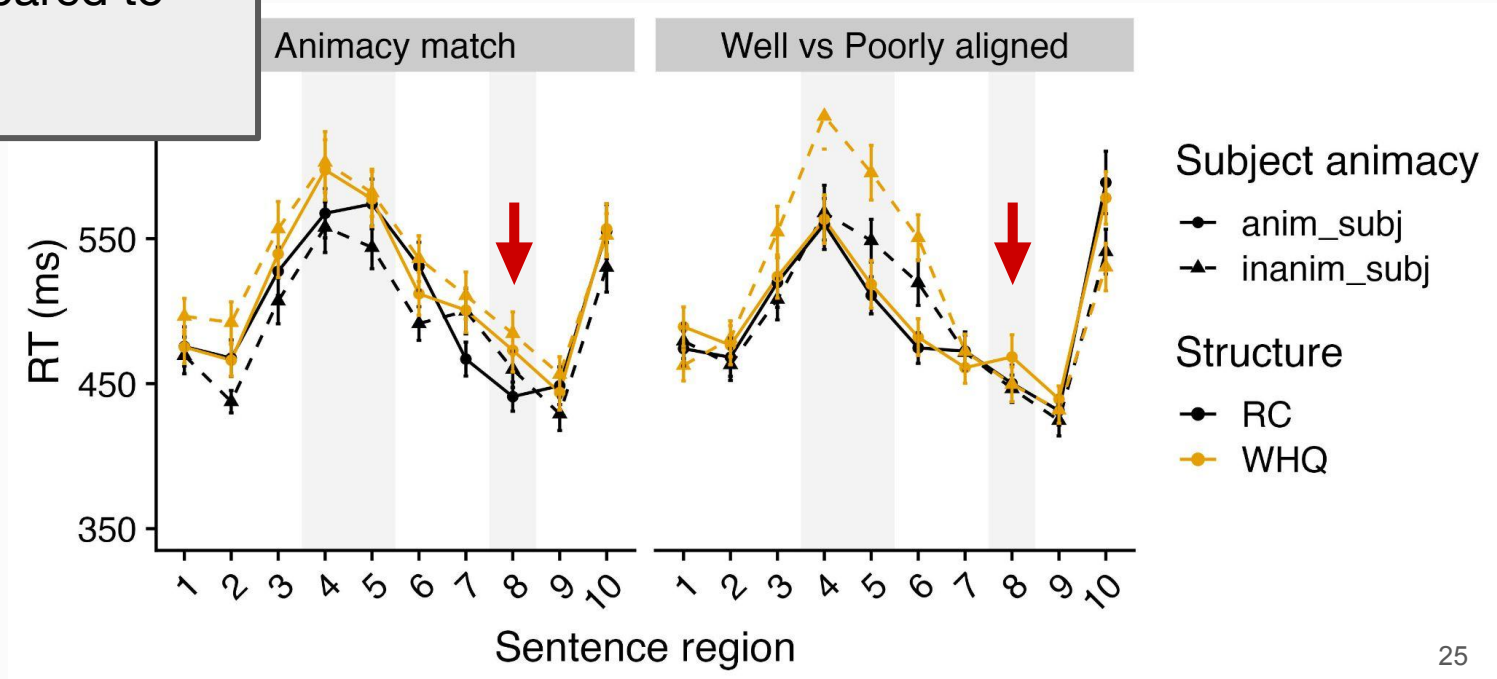
SPR: methods

- 40 sets, 2×4: *Structure*, *Animacy alignment*
- 80 Hebrew speakers
- Moving window self-paced reading

	Relative clauses	*Wh-questions*
Well aligned	the doll that the teacher hid RP	which doll the teacher hid RP
Animacy match	the doll that the car hid RP	which doll the car hid RP
	the girl that the teacher hid RP	which girl the teacher hid RP
Poorly aligned	the girl that the car hid RP	which girl the car hid RP

SPR: results & discussion

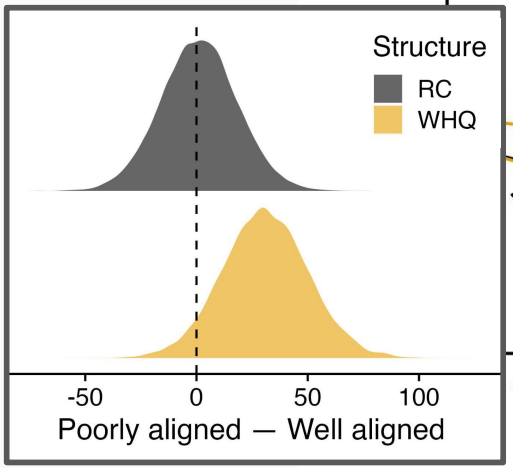
RP region (8): Slowdown in WHQs compared to RCs.

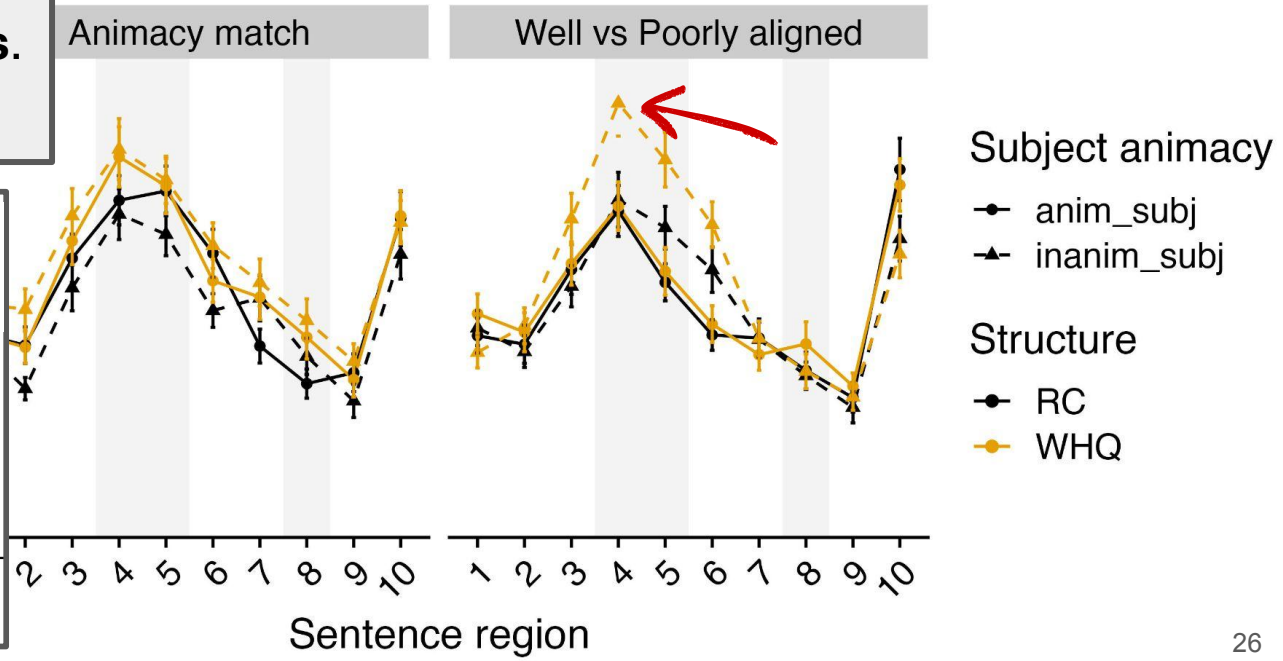


SPR: results & discussion

Subject region (4):
Animacy misalignment slowdown only in **WHQs**.

(see Cartner et al. 2023)





SPR: results & discussion

RPs are predictable (at the subject!) during **RC** resolution, facilitating the processing of misalignment.

In **WHQs**, RPs do not provide a grammatical alternative, and thus WhQ processing mirrors English RCs.

(see Keshev & Meltzer-Asscher, 2017 on RP prediction across Hebrew and English)

Poorly aligned

RC: I didn't see the girl that the car hid her ➡️

WHQ: I didn't see which girl the car hid her 🛑

GRPs and IRPs within one language

RC RPs are grammatical

- RPs ameliorate animacy unacceptability
- The availability of RPs shapes dependency resolution

Analysis: RC RPs are licensed through a dedicated non-movement derivation (A'-binding). GRPs are distinct from ordinary pronouns and may be language- and structure-specific.

WhQ RPs are intrusive

- RPs are consistently unacceptable
- Dependency resolution mirrors English

Analysis: WhQ RPs are ordinary pronouns appearing in a gap position. As ordinary pronouns, they cannot be A'-bound. (Reinhart 1983, Büring 2004)

RPs in WhQs

Our proposal that WhQ RPs are intrusive contrasts with previous work suggesting that RPs are equally available across D-linked RCs and WhQs.

(Sharvit, 1999)

By targeting misalignment in simple transitive clauses, we avoid confounds of structural complexity and define a novel diagnostic for grammaticality: **predictability in real-time processing**.

RPs in WhQs

There are various proposals in the literature that could exclude RPs in WhQs:

- Specificity (Postal, 1994; Bianchi, 2004; on silent RPs)
- Case competition (Merchant, 2004)
- Case attraction (Salzmann, 2017)

All of these proposals leave open the possibility of IRPs in WhQs. At this point, we remain neutral about the exact analysis blocking GRPs in WhQs.

Further predictions Our proposal predicts that a single language can have special pronouns that are A'-bound (GRPs), but still have ordinary pronouns that resist A'-binding and thus display crossover effects. (Hewett, 2025)

Animacy misalignment

Finally, the lack of animacy-based processing difficulty in Hebrew RCs suggests that animacy misalignment effects cannot be due to general processing or conceptual factors.

(Lowder & Gordon, 2014; Chen & Hale, 2021)

Instead, these effects seem to be limited to movement derivations, pointing to a grammatical source for animacy (mis-)alignment.

(cf. Aissen, 1997; Deal & Royer, 2025)

Thank you!

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Award #2019804 to Ivy Sichel,
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