

Introduction

- Use of Binding Principles (Chomsky, 1981) during the processing of reflexives
 - Structure-based Account:** binding principles filter the possible grammatical antecedent for the reflexive (Nicol & Swinney, 1989)
 - Unconstrained Cue-based Account:** other linguistic cues like gender may compete with binding principles and affect the processing of reflexives (Badecker & Straub, 2002)
- Jäger, Benz, Roeser, Dillon, & Vasishth (2015) tested Dillon (2011)'s and Dillon et al. (2013)'s proposal: *effects found by Unconstrained Cue-based accounts may be explained by encoding interference*
- Encoding interference:** is predicted to occur whenever items share features, no matter whether these features are used for retrieval or not
- Retrieval interference:** effects occur when more than one item matches the retrieval features
- With **gender-marked reflexives**, effects may be explained by both **encoding** and **retrieval**, not distinguishing Structure-based from Unconstrained accounts
- With **gender unmarked reflexives**, effects may only be explained by **encoding**, favouring Structure-based accounts

Methods

- 32 undergraduate students from the University of Lisbon
- Self-paced moving window paradigm
- Gender overlap vs. No-overlap

Experiment 1 (Unmarked reflexive)

- RT in unmarked reflexive+verb and post-critical regions; question-answer time and accuracy (Question: *Did John hurt himself?*)
- 32 experimental sentences + 64 fillers

(1) O Pedro / A Maria explicou que o João durante o jantar
 Peter / Mary explained that John during the dinner
se magoou com a faca do bolo.
 self.MASC/FEM hurt.PAST with the knife of the cake.

Experiment 2 (Unmarked + Marked reflexive)

- RT in unmarked reflexive+verb, marked reflexive and post-critical regions; question-answer time and accuracy
- 24 experimental sentences + 48 fillers

(2) O Pedro / A Maria explicou que o João durante o jantar
 Peter / Mary explained that John during the dinner
se magoou **a si mesmo** com a faca do bolo.
 self.MASC/FEM hurt.PAST himself with the knife of the cake.

References

- Badecker, W., & Straub, K. (2002). The processing role of structural constraints on the interpretation of pronouns and anaphors. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 4(28), 748-769.
- Chomsky, N. (1981). *Lectures on government and binding*. Dordrecht: Foris.
- Jäger, L. A., Benz, L., Roeser, J., Dillon, B. W., & Vasishth, S. (2015). Teasing apart retrieval and encoding interference in the processing of anaphors. *Frontiers in Psychology*, 6:506.
- Nicol, J., & Swinney, D. (1989). The role of structure in coreference assignment during sentence comprehension. *Journal of Psycholinguistic Research*, 18(1), 5-19.

Objective

- To test the processing and interpretation of reflexives, both gender marked and unmarked, in European Portuguese in order to further investigate possible **encoding** or **retrieval** effects

Results

	β	SE	z or t	p
Accuracy	-1.367	0.216	-6.340	< 0.001
RT answer	-0.115	0.014	-8.447	< 0.001
RT unmark. reflex+verb	0.042	0.028	1.491	0.136
RT post-critical	0.021	0.040	0.520	0.603

Table: [Exp1] LMM effects of each dependent variable (sig. effects in green).

	β	SE	z or t	p
Accuracy	-2.115	-0.287	-7.378	< 0.001
RT answer	-0.107	0.013	-8.510	< 0.001
RT unmark. reflex+verb	0.001	0.032	0.022	0.982
RT marked reflex	0.064	0.043	1.484	0.138
RT post-critical	0.017	0.026	0.652	0.514

Table: [Exp2] LMM effects of each dependent variable (sig. effects in green).

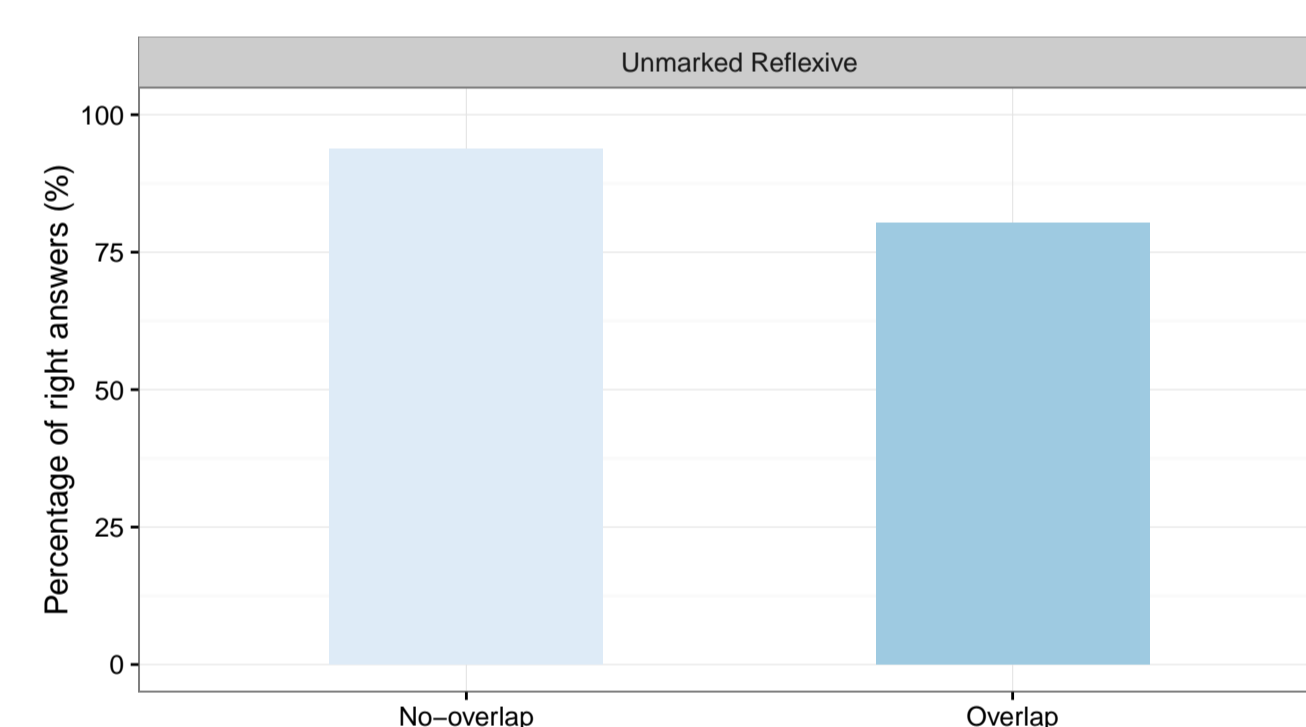


Figure: [Exp1] Correct answers.

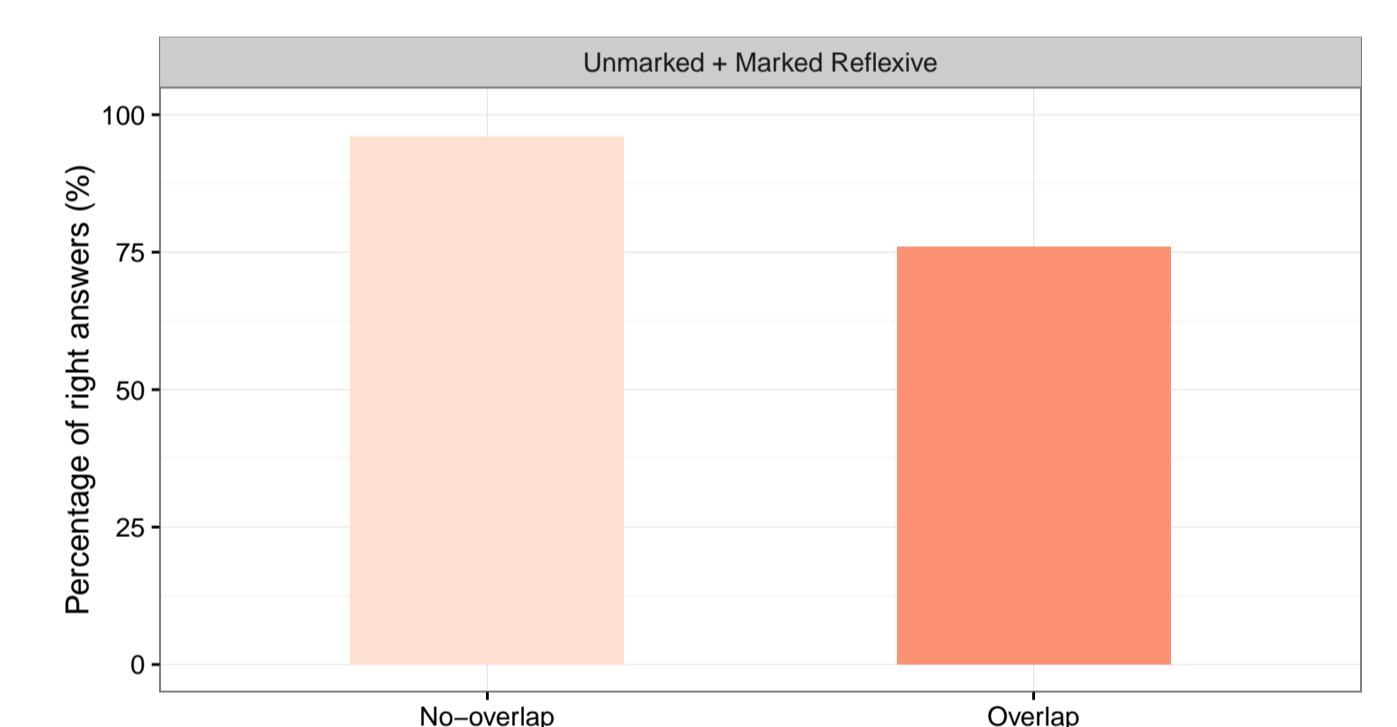


Figure: [Exp2] Correct answers.

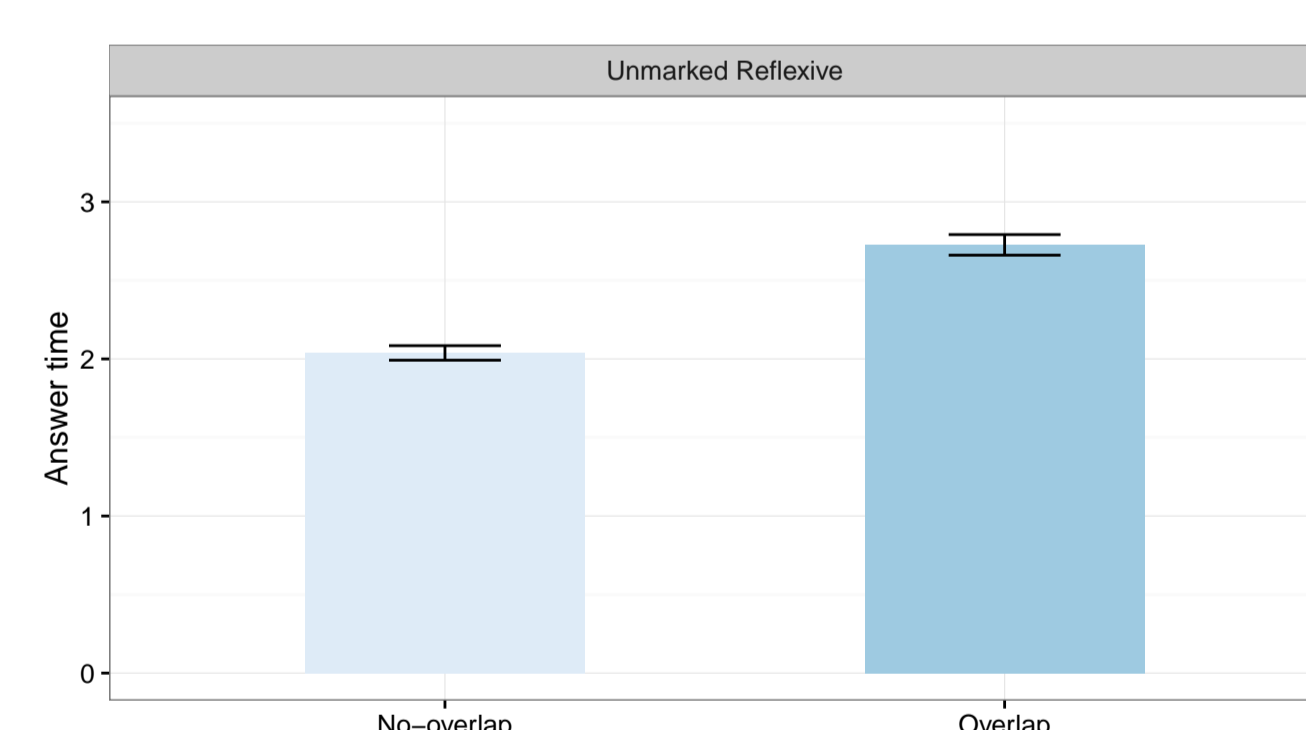


Figure: [Exp1] Answer time.

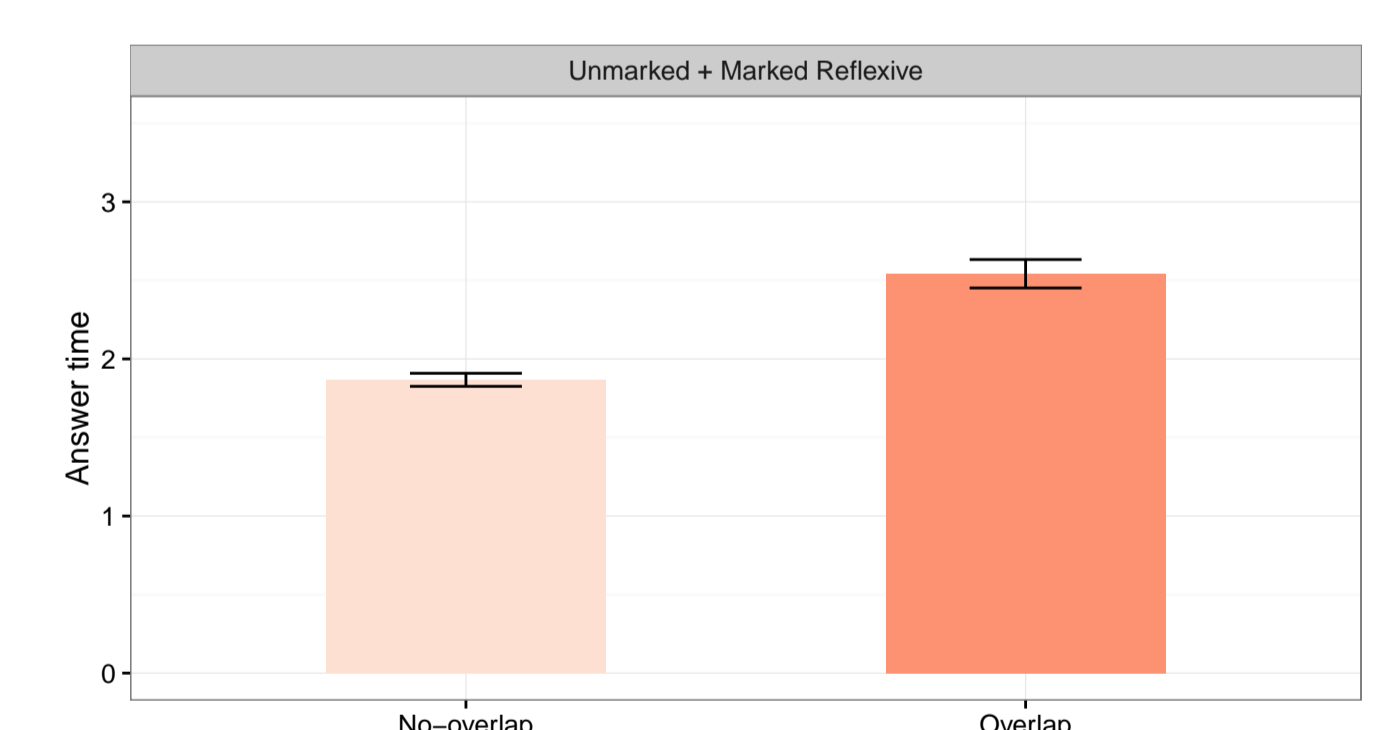


Figure: [Exp2] Answer time.

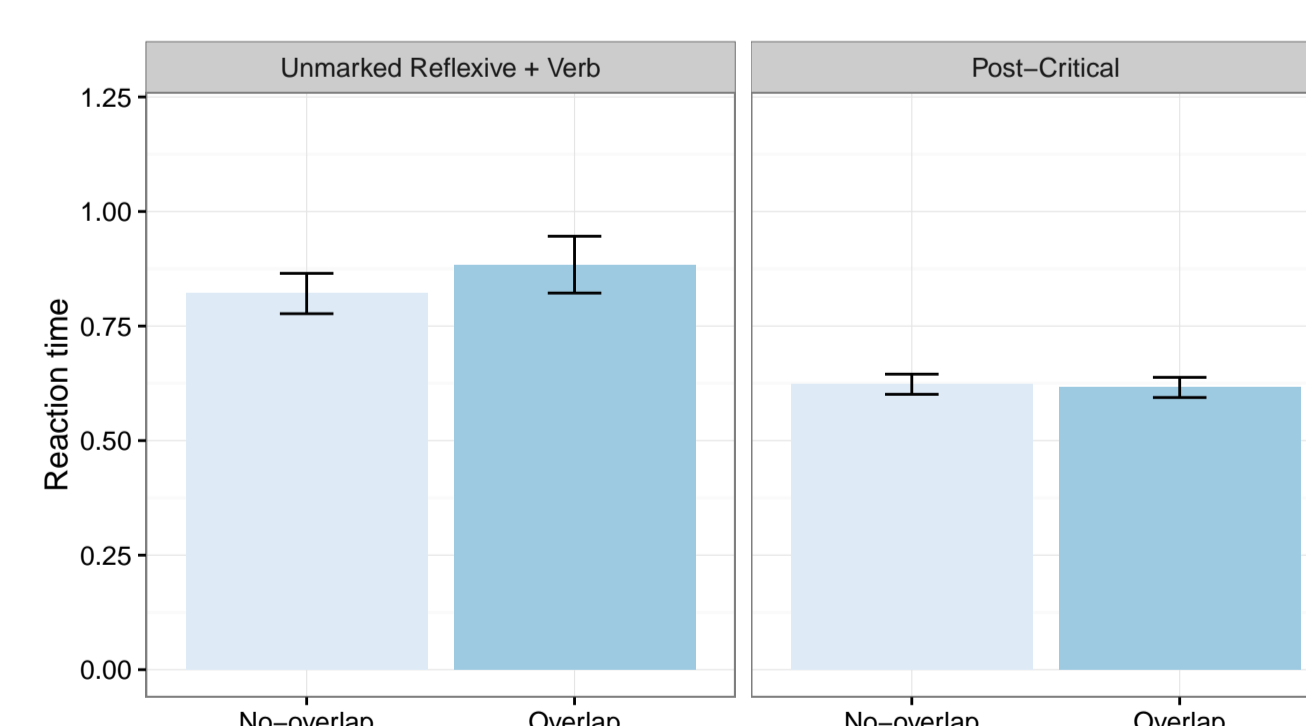


Figure: [Exp1] Reaction time.

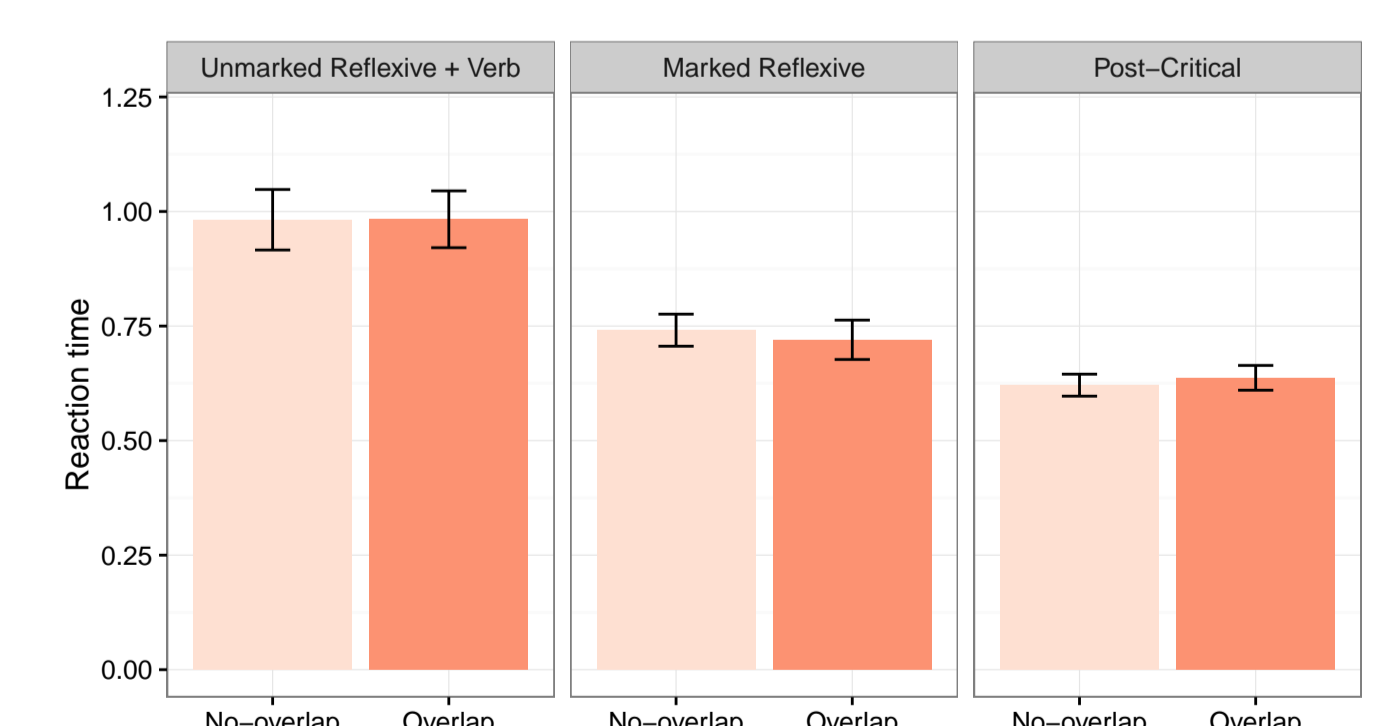


Figure: [Exp2] Reaction time.

Conclusions

- Interference effects found in off-line measures can only be explained by **encoding**, since gender information was not needed to interpret the reflexive
- As proposed by the **Structure-based Account**, during interpretation binding principles narrow the number of possible candidates to the grammatical ones
- On-line results do not favour encoding nor retrieval interference effects, thus, leaving the tension between Structure-based and Unconstrained Accounts open