

Is gapping relatively more frequent in spoken and RNR in written modality?

– Evidence from production data elicited with AI-generated images

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Background. The two types of coordination ellipsis, gapping [4] and right node raising (RNR) [2, 3], often yield very similarly looking structures. For instance, the German (1a) and (1b) only differ in that the identical verb is omitted once in the 2nd conjunct and once in the 1st one. We investigate what guides the choice between gapping and RNR in case both are meaning-equivalent. German and Dutch corpus data by Harbusch [1] show (i) that gapping is overall more prevalent than RNR, and that, (ii) this preference is particularly pronounced in spoken dialogues as compared to written newspaper texts. In [anonymized], we tested whether the spoken and written modality impact the processing of gapping and RNR differently: RNR could impose a higher memory load because processing requires the listener to keep the incomplete first conjunct in memory, while gapping does not. Our studies found no modality dependent preferences for either of the two constructions.

Research questions. We first aim at replicating the modality effect found by Harbusch [1] under controlled conditions: Since she compared newspaper and dialogue text, her results might be partly due to modality-independent text type differences. Second, we look into possible modality-independent speaker-specific preferences within a modality. To elicit coordination ellipses, we use a written (exp. 1, completed) and spoken (exp. 2, ongoing) picture description task.

Exp. 1. 24 AI cartoon pictures such as Fig. 1 were created with MS Copilot. Each picture depicts two persons performing the same action with a different object, e.g. one person eating a slice of pizza and the other eating an apple. The participants' (n=40 from Prolific) task was to complete the sentence *Auf dem Bild sieht man, dass...* ('In the picture, you can see that...'). The 24 pictures were mixed with 24 filler pictures: 12 show the same person performing two different actions, 12 show two persons performing completely different actions. The answers were categorized as gapping, RNR, full form and other independently by two student assistants. Full forms are sentences with a repeated verb allowing for coordination ellipsis, while other are sentences with two different verbs or only one verb and a coordinated subject. Fig. 2 shows the proportion of answers provided after the exclusion of 98 ungrammatical answers. Unlike in Harbusch [1]'s data, RNR is produced almost as frequently as gapping in the written form. Fig. 3 shows large differences between participants in terms of their ellipsis rates as well as of their preference for either gapping or RNR.

Exp. 2. (ongoing) Participants perform the same study in the lab but complete the sentence verbally while being recorded. Since the ellipsis rate was already high in exp. 1, we do not expect it to increase but given Harbusch [1]'s results, we predict an increase of gapping compared to RNR.

Summary & outlook. Exp. 1 found equally high rates of gapping and RNR, unlike Harbusch [1]. This indicates that the differences she found might be caused by independent properties of newspaper text. We also found considerable variation between subjects, which shows individual strategies or preferences beyond potential modality effects. If we find an overall modality effect after completing exp. 2, further research will test whether it is due to production-related planning strategies rather than processing: RNR might be more difficult to produce incrementally because the second conjunct needs to be anticipated when producing the first one. In gapping, the first conjunct can be produced before planning the second one, where ellipsis is licensed through context.

- (1) a. Ich glaube, dass Tino Saarbrücken mag und Paula Edinburgh ~~mag~~. (gapping)
 I believe that Tino Saarbrücken likes and Paula Edinburgh likes
- b. Ich glaube, dass Tino Saarbrücken ~~mag~~ und Paula Edinburgh mag. (RNR)
 I believe that Tino Saarbrücken likes and Paula Edinburgh likes

Figures



Figure 1: Example of an AI generated picture stimulus used in the experiments to elicit co-ordination ellipsis

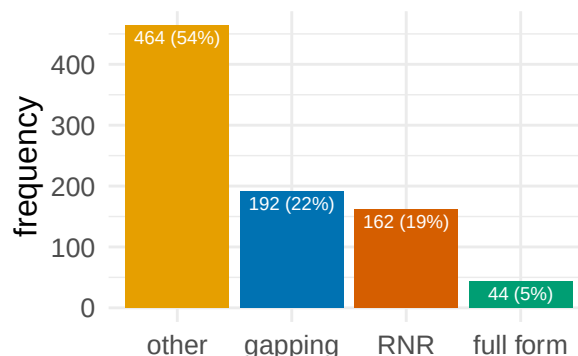


Figure 2: Frequency and proportion of response categories in exp. 1: gapping and RNR are almost equally frequent.

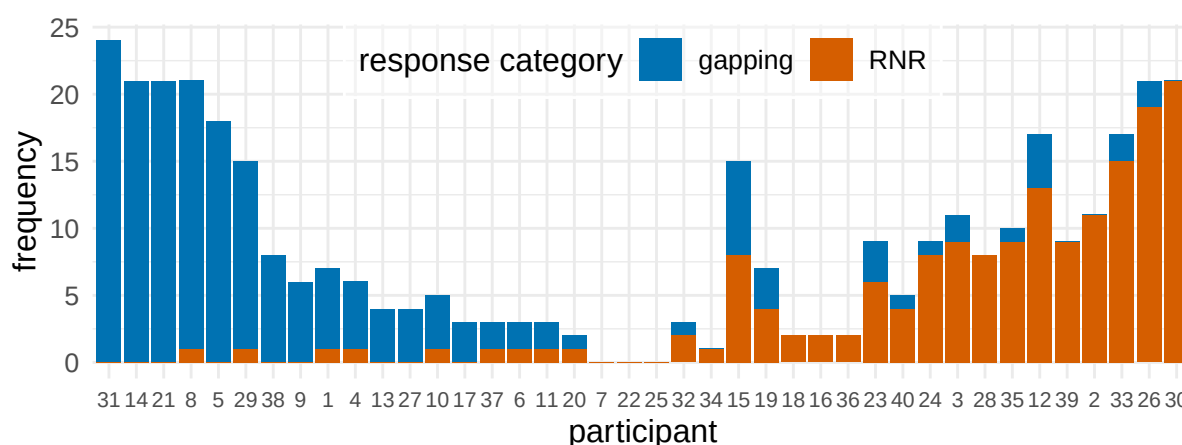


Figure 3: Frequency of gapping and RNR across participants in exp. 1 (24 data points by subject)

References

- [1] Karin Harbusch. Incremental sentence production inhibits clausal coordinate ellipsis: A tree-bank study into Dutch and German. *Dialogue & Discourse*, 2(1):313–332, 2011. doi: 10.5087/dad.2011.112.
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