

Real-time resolution of verb phrase ellipsis ambiguities

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In verb phrase (VP) ellipsis, the interpretation of the ellipsis site depends on its antecedent. For example, in “*Bill likes Mary, and John does too*”, the interpretation of “*does too*” depends on the antecedent “*likes Mary*”. VP ellipsis becomes ambiguous when the antecedent contains a reflexive, as in “*Bill likes himself, and John does too*”. In this case, “*John does too*” can be interpreted either as “*John likes Bill*” (the strict interpretation) or as “*John likes himself*” (the sloppy interpretation). Which interpretation is preferred during real-time processing remains debated [1–3]. We addressed this question using the design in (2a/b).

(2a) [_{context} John never punishes himself], but Bill [_{antecedent} punishes himself], and John [_{ellipsis} does too] all the time. **<Strict Interpretation>**

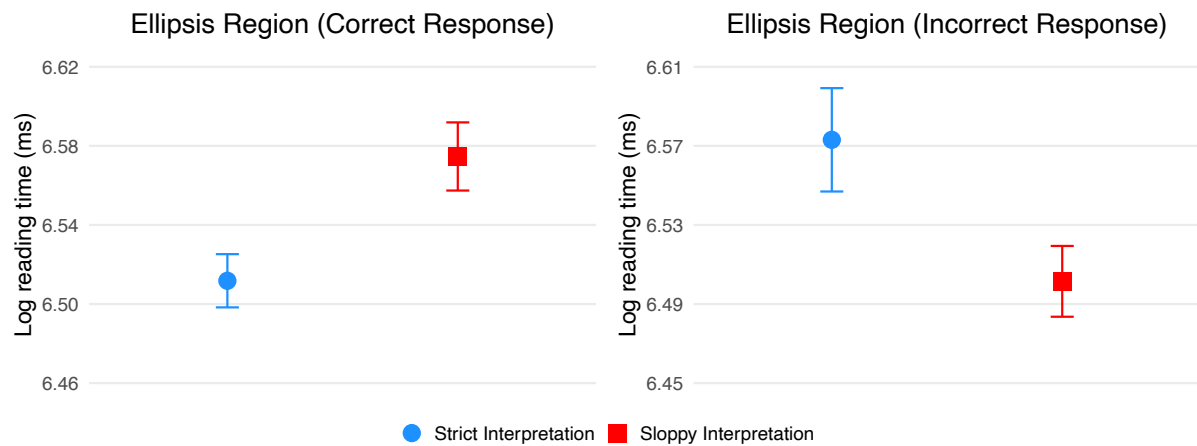
(2b) [_{context} John never punishes Bill], but Bill [_{antecedent} punishes himself], and John [_{ellipsis} does too] all the time. **<Sloppy Interpretation>**

In (2a/b), the interpretation of “*does too*” depends on the antecedent “*punishes himself*” in the preceding clause. Crucially, each sentence begins with a context clause. In (2a), the context clause “*John never punishes himself*” contradicts the sloppy interpretation (“*John punishes himself*”), whereas in (2b), the context clause “*John never punishes Bill*” contradicts the strict interpretation (“*John punishes Bill*”). Because processing cost increases when readers detect inconsistency [4], reading times at “*does too*” should vary depending on which interpretation is preferred during real-time processing.

We also examined whether processing depth affects ambiguity resolution by including comprehension questions targeting the interpretation of the ellipsis site (e.g., “*What does John do all the time?*” 1. “*Punishes himself*” 2. “*Punishes Bill*”). Response accuracy was included as a predictor in the statistical models.

We conducted a self-paced reading experiment (308 participants, 24 item sets). Fixed effects were Interpretation (strict/sloppy) and Comprehension Accuracy (correct/incorrect). A linear mixed-effects model showed an interaction between these effects at “*does too*” ($p < .001$). This interaction indicates that when questions were answered correctly, there was a preference for the strict interpretation, whereas when questions were answered incorrectly, there was a preference for the sloppy interpretation (see Figure 1). These findings suggest that processing depth modulates VP ellipsis ambiguity resolution [5,6].

Figure 1. *Log-transformed reading times at “does too”.*



References

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