Predictive pressures do not override the effects of verb bias in syntactic parsing

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Predictive pressures do not override the effects of verb bias in syntactic parsing

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INTRODUCTION
Syntactic parsing is sensitive to
• predictive pressures (e.g., to complete an open dependency) [1]
• subcategory frequency information (e.g., how often a given verb takes a direct object vs. a sentential complement, aka verb bias) [2]

Reinterpretation of Past Findings[3-4]
Garden path effects in sentences like (1) were taken to show reanalysis is the parser’s last resort [5]
1) “The government officials who accepted (that) the expensive gift had caused a scandal were quick to turn it away.”

But these results may also be taken to show comprehenders face predictive pressures to complete an open dependency asap (by interpreting “had caused a scandal” as the main clause predicate).

THE PRESENT STUDY
Question: Can the predictive pressure to complete an open S-V dependency override the effects of verb bias?
Past findings suggested it cannot [6], but participants may not have pursued a DO reading in SC-biased materials for independent reasons (e.g., implausibility of DO readings).

METHODS
We examined the effects of verb bias x ambiguity in sentences with low vs. high predictive pressures.

Low predictive pressure (Experiment 1A):
- DO-bias: The policeman saw (that) the protesters/ had entered/ the plaza/ and was keeping a watchful eye on the situation.
- SC-bias: The judge doubted (that) the witnesses/ could resist/ bribery/ and was calling for an investigation.

High predictive pressure (Experiment 1B):
- DO-bias: The policeman who saw (that) the protesters/ had entered/ the plaza/ was keeping a watchful eye on the situation.
- SC-bias: The judge who doubted (that) the witnesses/ could resist/ bribery/ was calling/ for an investigation.

• Experiments 1A & 1B were run in a single session with the same set of participants (n=22; 48 items).
• We quantify verb bias using a SC-DO ratio [7]
  • 12 DO-biased verbs (<0.5), e.g., accept, hear, establish, read
  • 12 SC-biased verbs (>2), e.g., argue, decide, realize, conclude
• The materials were normed to ensure that all readings (SC, DO, high and low attachments) are plausible.

REFERENCES