

## Interpretive restrictions on superlatives in full vs. fragment answers

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**Summary:** Cross-linguistically, sentences containing superlatives like (1) allow up to three possible readings, illustrated in (1a)-(1c): an *absolute* reading (ABS), a *relative* reading with *NP-external focus* (REX), and a *relative* reading with *NP-internal focus* (RIN).<sup>[1,2]</sup> Previous work has focused on ABS and REX. We present experimental evidence that the availability of the RIN in English depends on whether the superlative appears in a full sentence or is elided as part of a fragment answer to a question. The results indicate that adults only allow the RIN in fragment answers, while 4-year-olds can be led to accept it in full sentences.

- (1) Donkey bought the biggest photo of Kangaroo.
- Of all the photos of Kangaroo, Donkey bought the biggest one.* (ABS)
  - Donkey bought a bigger photo of Kangaroo than others did.* (REX)
  - The biggest photo that Donkey bought was of Kangaroo, not of someone else.* (RIN)

**Background:** On the ABS reading in (2), the comparison set contains photos of Kangaroo (Fig.1,2). On the RIN reading involved in (3), the comparison set would contain Mouse and Raccoon (Fig.3,4). While the RIN is unavailable in English declaratives, it is observed to be available in *wh*-questions (3a)<sup>[3]</sup>, fragment answers (3b), clefts, and other constructions that involve overt movement of the focus phrase.<sup>[4]</sup>

- (2) a. *ABS target QUD:* Which photo of Kangaroo do you think Donkey will buy?  
b. *Full target:* Donkey will buy the biggest photo of Kangaroo!  
*Fragment target:* The biggest photo of Kangaroo! (ABS made true in Fig.2)
- (3) a. *RIN target QUD:* Who do you think Sheep will buy the tallest painting of, Mouse or Raccoon?  
b. *Full target:* Sheep will buy the tallest painting of Mouse! (#RIN)  
*Fragment target:* Mouse! (RIN made true in Fig.4)

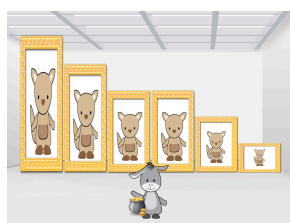


Figure 1: ABS-True context.



Figure 2: ABS-True outcome.



Figure 3: RIN-True context.



Figure 4: RIN-True outcome.

**Experiment:** We designed a TVJT “guessing game” to test the interpretation of superlatives in Full and Fragment sentences. Participants heard stories about characters at the art gallery, buying pictures of their friends. A puppet answered explicit QUDs with guesses about what would happen, providing full declaratives in the Full condition and fragment answers in the Fragment condition ((2)-(3), Figs.1-4). Participants had to judge whether the puppet’s guesses were right or wrong. We tested 24 children (3;10-6;00, M=4;08) and 24 adults in the Full condition, and 24 children (3;03-6;01, M=4;08) and 24 adults in the Fragment condition. Each participant received 2 practice trials, followed by 4 True and 4 False ABS targets, 4 True and 4 False RIN targets, 2 Adjectival controls, (“Frog will buy the big photo of Zebra!”), and 2 fillers. To circumvent children’s reported tendency

to fixate on the *absolute* tallest/biggest object in the picture:<sup>[5,6]</sup> (i) explicit QUDs highlighted the relevant comparison sets; (ii) only the relevant alternatives for the target reading were pictured when the test sentence was uttered (Fig.3); (iii) the RIN block preceded the ABS block.

**Results (Fig.5):** The ABS responses were as expected: adults and children alike accepted the True targets and rejected the False targets, regardless of Sentence Type (Full or Fragment). We will focus on the RIN condition. Comparisons of mixed effect logistic regression models fitted to the RIN responses revealed significant effects of Target Truth Value (True vs. False) ( $\chi^2(1) = 257, p < .001$ ), Sentence Type (Full vs. Fragment) ( $\chi^2(1) = 24, p < .001$ ), and Group ( $\chi^2(1) = 5, p < .05$ ), and a significant Group:SentenceType interaction ( $\chi^2(1) = 10, p < .01$ ). Follow-up comparisons revealed that adults were more accepting of Fragments than of Full answers in the RIN condition ( $\chi^2(1) = 32, p < .001$ ), while children did not behave significantly differently on the two sentence types ( $\chi^2(1) = 2, p = .17$ ); moreover, Target Truth Value interacted significantly with Sentence Type for adults, but not for children.

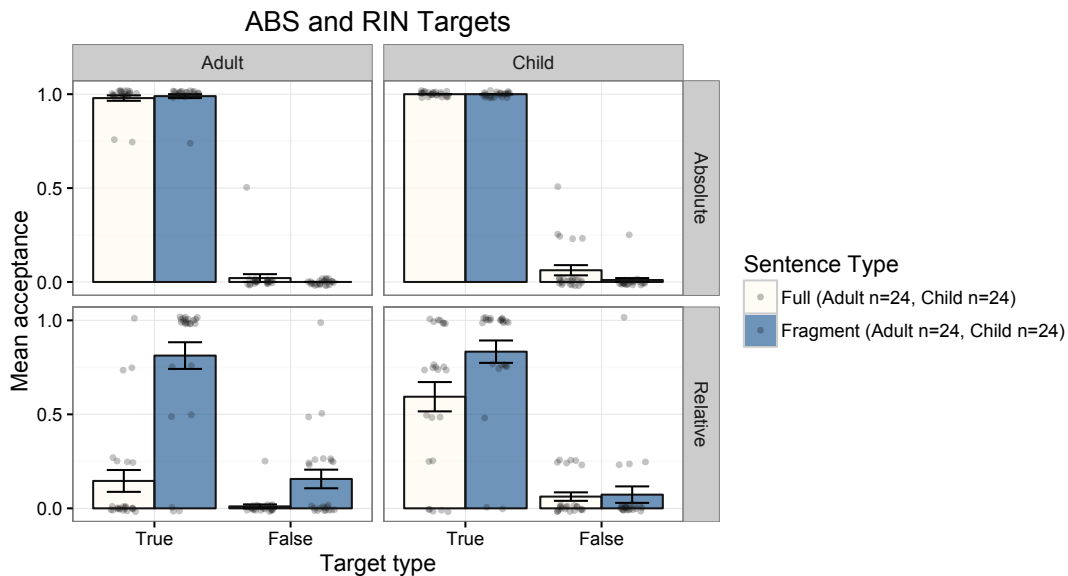


Figure 5: Proportion of yes-responses to ABS and RIN targets, across Groups (Adult vs. Child), Sentence Types (Full vs. Fragment), and Target Truth Values (True target vs. False target). Each dot represents an individual participant's mean acceptance for the given sentence type and target truth value (a jitter was applied for easier visualization). The critical comparisons are between the True-Full and True-Fragment sentences, in adults vs. children.

**Conclusion:** The present study provides the first experimental evidence that adults do allow the RIN reading under certain circumstances, in this case when the superlative is part of an elided fragment answer. In contrast, the prohibition against the RIN in full sentences appears to be less rigid for children, who can be led by RIN-supportive discourses to accept RIN-True Full sentences. We discuss potential pragmatic/processing factors affecting children's performance; e.g., some children reported the puppet's Full Sentence guesses as fragments, which may have led to greater acceptance of the Full targets.

**References:** [1] Pancheva, R. & B. Tomaszewicz (2012) Cross-linguistic differences in superlative movement out of nominal phrases. *Proceedings of WCCFL30*. [2] Tomaszewicz, B. (2015) Superlative Ambiguity: a Comparative Perspective. PhD, USC. [3] Szabolcsi, A. (1986) Comparative superlatives. *MITWPL8*. [4] Shen, Z. To appear. Fragment answers and movement: a superlative argument. *Natural Language & Linguistic Theory*. [5] Arii, T. (2011) A note on Japanese-speaking children's interpretation of superlatives. *Linguistic Research* 27. [6] Tieu, L. & Z. Shen (2015) Searching for absolute and relative readings of superlatives: A second experiment. *Proceedings of BUCLD39*.