

Scalar implicatures in French: Children’s production mirrors their comprehension

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The sentence “Certains chapeaux sont rouges” (‘Some hats are red’) typically implicates that *not all* of the hats are red. Studies using comprehension tasks have revealed that children often accept WEAK “certains” (‘some’) descriptions in STRONG “tous” (‘all’) contexts (Noveck 2001). The present study compared *comprehension* and *production* of the scalar quantifier in French, using a truth value judgment task and an elicited production paradigm. Participants were introduced to a silly puppet, who described a series of objects. Participants in the COMPREHENSION condition had to *judge*, while participants in the PRODUCTION condition had to *correct*, the puppet’s sentences. For example, one target contained four red hats and four blue boots (Fig. 1). The puppet was asked the question in (1). In the COMPREHENSION condition, the puppet replied with the weak description in (2). In the PRODUCTION condition, the puppet responded with (3), a weak description but crucially containing the wrong NP; this was designed to prompt a correction, rather than a simple *no*-response. Participants could correct the noun (“bottes” to “chapeaux”), or also the quantity determiner (“certaines” to “toutes”).

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| (1) Quels objets sont rouges? | ‘Which objects are red?’ |
| (2) Certains chapeaux sont rouges. | ‘Some hats are red.’ |
| (3) Certaines bottes sont rouges. | ‘Some boots are red.’ |

Comprehension results: Children (n=17, M=4;05) were significantly more accepting of implicature targets than adults (n=20) (Mann-Whitney U=68, $p<.001$), replicating previous results. **Production results:** Responses were recoded as *universal* (correcting “certains” to “tous”) or *non-universal* corrections (reproducing “certains” or some other non-universal determiner). Children (n=15, M=4;09) produced a significantly lower proportion of universal corrections than adults (n=20) (two-sample test for equality of proportions, $X^2(1)=24.11$, $p<.001$). For convenience, we display the COMPREHENSION and PRODUCTION data side-by-side in Fig. 2. Assuming universal corrections correspond to implicature computation, production mirrors comprehension in the two groups. Moreover, the COMPREHENSION and PRODUCTION results support accounts that locate children’s difficulties with implicatures in accessing alternatives (Barner et al. 2011); without access to “tous”, children could neither compute implicatures nor correct “certains” to “tous”. Despite the lack of universal corrections, however, children did not merely reproduce “certains”; 53/60 responses corresponded to plural definite descriptions, suggesting that although children may accept underinformative descriptions, they are nevertheless sensitive to their infelicity (Katsos & Bishop 2011). On the whole, the results provide the first experimental evidence that we know of that children’s production of implicatures mirrors their comprehension of implicatures, and are consistent with existing accounts of children’s difficulty with implicatures.

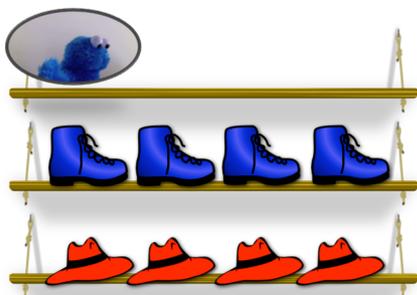


Fig. 1: Example of an implicature target, accompanying (2) in the COMPREHENSION condition, and (3) in the PRODUCTION condition.

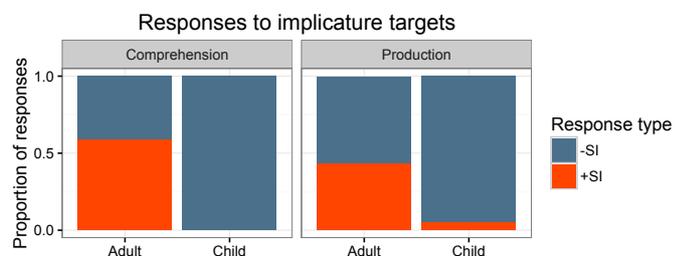


Fig. 2: Responses to the implicature targets in the COMPREHENSION and PRODUCTION tasks. [-SI] responses corresponded to *yes*-responses in the COMPREHENSION task and to *non-universal* corrections in the PRODUCTION task, and [+SI] responses corresponded to *no*-responses in the COMPREHENSION task and to *universal* corrections in the PRODUCTION task.

References

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- [3] Katsos, Napoleon & Dorothy V.M. Bishop. 2011. Pragmatic tolerance: Implications for the acquisition of informativeness and implicature. *Cognition* 120. 67–81.