

Revisiting children's difficulties with the exhaustivity of focus: The role of the question under discussion

1. Background Languages employ various phonological and morpho-syntactic devices to structure sentence content into focus and background, as in [BILL]_{focus} [won the race]_{background}. On a mainstream approach to focus meaning, focus-marking indicates the relevance of alternatives to the delineated focused element (Rooth 1992, Krifka 2008). One aspect of sentence interpretation that seems to emerge relatively late in the course of language development involves inferences regarding the nature of this relevance (REFS). A key inference of this type is the exhaustivity inference associated with information focus, namely, that replacing the focus that answers a question under discussion (QUD) with any of its possible (non-stronger) alternatives yields false alternative answers to the same QUD. Previous research on Hungarian structurally marked focus found that this inference is not computed at adult-like levels before seven years of age (Kas & Lukács 2013, Babarczy & Balázs 2016, Pintér 2017).

2. A performance account One possible explanation of children's non-exhaustive interpretations of focus is suggested by experimental studies of scalar inferences associated with scalar items like *some*, which are essentially similar in their logical structure to the exhaustivity inference, and whose acquisition is better researched. These inferences have also been found to be acquired late in early studies (Smith 1980, Noveck 2001), however, more recent results show that when adequate contextual support is provided as part of the experimental task, these inferences appear to be present already at much earlier ages (Papafragou & Musolino 2003, Papafragou & Tantalou 2004, Guasti et al. 2005, Foppolo et al. 2012). Along the same general lines, the relatively late acquisition of the exhaustive interpretation of focus uncovered in prior studies may be due to the inadequacy of contextual support employed in the experimental tasks. On this view it is expected that, since focus is licensed by a QUD in the discourse, providing an explicit QUD in the context will help children identify the focus, and thereby also help them access the exhaustive interpretation by raising the relevance of (all) contextually relevant focus-alternatives (cf. Pavlović's 2019 study of adults). This in turn would point to the possibility that the temporal asymmetry between general scalar inferencing and exhaustive interpretations of focus may be merely apparent.

3. A competence account A different line of possible explanation, while not denying the supportive role of context in focus identification, takes the delay compared to (other) scalar inferencing to be real and assumes that children's difficulty specifically with focus exhaustivity is in substantial part context-independent. This difficulty may relate to postulating a silent operator, lexically unanchored in the case of focus, that is responsible for the exhaustive interpretation. This may be Chierchia's (2004) scalar operator, or the identificational operator emerging from the work of Szabolcsi/Kenesei/É.Kiss/Horváth. As it has been shown that preschoolers do not interpret *wh*-questions as requiring an exhaustive answer (Schultz & Roeper 2011; i.e. in terms of Groenendijk & Stokhof's 1984 approach to question meaning, they do not parse information questions as containing an exhaustivity operator), providing an explicit question in the context is not expected to raise children's exhaustive interpretations of sentences containing a focus.

4. Objective Our study seeks to adjudicate between these two alternative accounts by exploring these opposing predictions through an experimental study of sentence comprehension in five-to-six-year-old Hungarian children.

5. Experiment 24 children (5;0–6;8, mean age: 5;8) participated in an experiment that consisted of two subexperiments. Subexp1 (= the focus identification subexperiment) was an adaptation of the comprehension task in Szendrői et al. (2018), in which children have to accept or correct assertions made by a puppet. Critical sentences containing a subject focus (marked both by prosody and word order; e.g. *A MALACKA emelte fel a nyuszt.* 'The PIG lifted the rabbit.')

were invariably false of the presented picture, and participants were expected to congruently correct the subject (e.g. “No, it was the frog who lifted the bunny.”) Subexp2 (= the exhaustivity subexperiment) was a truth value judgment task with a 3-point scale (adopted from Goro & Akiba 2004, consisting of a sad face, a silver medal, and a gold medal). Participants were expected to give a silver medal or a sad face if there was a violation of exhaustivity in the depicted scenario (e.g. both the rabbit and the hedgehog painted a flower, and the sentence is *A NYUSZIKA festett le egy virágot*. ‘The RABBIT painted a flower’). Both subexperiments were conducted in two sessions, which differed only in the presence of a congruent *wh*-question before each test sentence in session two (a Q-condition and a nonQ-condition).

6. Predictions As both of the above accounts acknowledge the potential supportive role of context in children’s focus-identification, both predict that *wh*-questions will increase the proportion of congruent responses in the Subexp1. As the performance account takes children’s actual core problem to be the proper identification of focus, it is predicted that the presence of a question will raise the rate of exhaustive responses in the Subexp2 at least by the same rate as it will in the Subexp1. According to the competence account, on the other hand, children’s key difficulty lies in the postulation of exhaustivity itself as being associated with focus, while contextual cues play only a lesser role, therefore the identification of focus via an explicit question in the Subexp2 is predicted to raise the proportion of exhaustive interpretations by a smaller rate than it will in the Subexp1.

7. Results and discussion A GLMM analysis revealed that the proportion of expected responses was significantly increased by the presence of a question within both subexperiments: by 32% in Subexp1 and by 16% in Subexp2 (see Fig.1). Crucially, while the rate of expected responses did not significantly differ across the two nonQ-conditions, they (marginally significantly) differed across the two Q-conditions. Taken together, this suggests that the presence of a *wh*-question helped children’s focus-identification more than it enhanced their exhaustive interpretations. This pattern is unexpected on the performance account, while it is fully in line with the predictions of the competence account. Pre-school children’s difficulties with focus exhaustivity in Hungarian appear to be graver than what could be ascribed to artefacts of the experimental tasks used in prior research, and run deeper than their difficulties with scalar items like *some*.

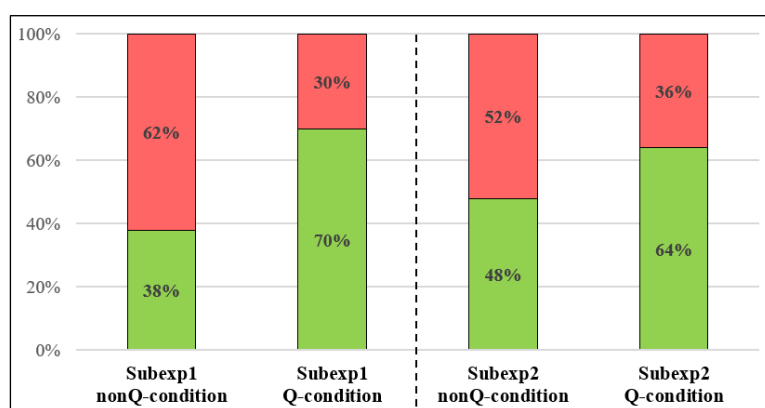


Figure 1.

Selected references:

Chierchia, G. 2004. Scalar implicatures, polarity phenomena and the syntax/pragmatics interface. In: Adriana Belletti (Ed.), *Structures and Beyond*. OUP, 39–103. ♦ Goro, T. & Akiba, S. 2004. The acquisition of disjunction and positive polarity in Japanese. Chand et al. (Eds.), *WCCFL 23 Proceedings*, Cascadia Press, 251–64. ♦ Kas, B. & Lukács, A. 2013. Focus sensitivity in Hungarian adults and children. *Acta Linguistica Hungarica* 60(2): 217–45. ♦ Schulz, P. and Roeper, T. 2011. Acquisition of exhaustivity of *wh*-questions: A semantic dimension of SLI? *Lingua* 121: 383–407. ♦ Szendrői, K. et al. 2018. Acquisition of prosodic focus marking by English, French, and German three-, four-, five- and six-year-olds. *Journal of Child Language* 45: 219–41.