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This is the accepted version of a paper presented at *5th Phonetics and Phonology in Europe Conference (PaPE)*, Nijmegen, The Netherlands, June 2-4, 2023.

Citation for the original published paper:

Ambrazaitis, G., Althaus, N., Bertilsson, C., Löhndorf, S., Romøren, A S. et al. (2023)
Contrastive focus production and perception in 3-5 year-old Swedish children from two
regional varieties with and without categorical intonational marking of focus
In: (pp. 95-96).

N.B. When citing this work, cite the original published paper.

Permanent link to this version:

<http://urn.kb.se/resolve?urn=urn:nbn:se:lnu:diva-125668>

Contrastive focus production and perception in 3-5 year-old Swedish children from two regional varieties with and without categorical intonational marking of focus

Gilbert Ambrazaitis¹, Nadja Althaus², Charlotte Bertilsson¹, Simone Löhndorf³,
Anna Sara H. Romøren⁴ and Susan Sayehli⁵

¹*Linnaeus University, Sweden*, ²*University of East Anglia, UK*, ³*Kristianstad University, Sweden*, ⁴*Oslo Metropolitan University, Norway*, ⁵*Stockholm University, Sweden*

Despite several studies demonstrating sophisticated prosodic discrimination in infant perception (see [1] for a review), research on the use of prosody for encoding information structure (IS) suggests this skill to be mastered fairly late in children's language development. However, although children's prosodic marking of IS has been studied for various languages using a range of experimental set-ups (e.g., [2]-[11]), we still only have limited knowledge on the relation between children's production and perception of prosodically marked IS [12]. Few studies have conducted parallel production and perception experiments. Furthermore, earlier studies involving perception have made use of offline paradigms (e.g., [3]), while more recent studies using online methods such as eye tracking have usually not included children younger than six years of age and have not been complemented by production data (e.g., [7]).

We also know relatively little about how language-specific aspects of IS coding might impact children's mastering of IS coding. Previous work has indicated that language typology indeed might play a role [9]. For instance, Stockholm Swedish speaking children master the use of a prominence marking H(igh) tone for focus earlier than Dutch speaking children master the use of pitch accents for focus [8][11]. One possible explanation is that the complex contours resulting from the combination of lexical accent + prominence H in Stockholm Swedish make prosodic focus marking particularly salient. Another is that the presence of lexical accents makes Swedish speaking children particularly sensitive to prosodic contrasts. However, these studies have usually had a strict focus on speech production.

In this study we explore the production and perception of intonationally marked contrastive focus in 3-5 year-old children speaking either Scanian or Stockholm Swedish, two dialects which differ crucially in the way focus is encoded phonologically. While both dialects exhibit a lexical accent contrast, focus is phonetically marked more subtle in the Scanian variety [13][14]: instead of adding a prominence H-tone for focus, phrase-level prominence is encoded through phonetic adjustments of the HL accent patterns determined by the lexical accent contrast. By comparing these two Swedish varieties we can thus control for other phonological features (incl. lexical tone), as well as grammar and lexicon, when exploring whether the dialect-specific phonetic realization of contrastive focus affects the way contrastive focus is both perceived and produced by children speaking these dialects.

To this end, we have designed a production and a perception experiment. The production part involves eliciting adjective-noun phrases in three different focus conditions, see (1), using an interactive video/card game (Fig. 1). The task of the participant is to help the experimenter pack a toy suitcase with objects printed on cards, by telling the experimenter which one two objects at a time (displayed on a screen) to put in the suitcase (object marked by a red circle). Focus conditions are elicited by appropriate compositions of objects and colors (e.g., adjective focus: two identical objects with different colors). Production data are analyzed acoustically and auditorily as a function of age and dialect, as well as compared to data from adult controls.

In our visual-word eye-tracking experiment (inspired by [7]), we use the same pictures of colored objects as in the production experiment to investigate whether and how children make use of contrastive intonation for reference resolution (e.g., *Where is the yellow boat? And where is the GREEN boat?* See Fig. 1 (right). Eye-tracking data are analyzed using growth curve analysis [15]. Data from children of both dialects, as well as adult controls, are currently being collected, and preliminary results will be presented at the conference.

(1) focus conditions (examples)

a. broad focus

den gröna båten
the green boat

b. focus on adjective

den GRÖNA båten
the GREEN boat

c. focus on noun

den gröna BÅTEN
the green BOAT

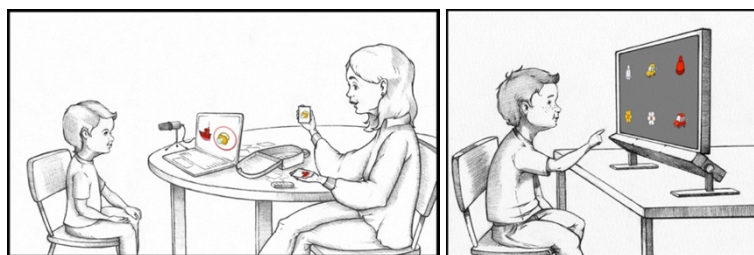


Figure 1. Illustrations of the experimental set-up. Left: Production experiment; right: Perception (eye-tracking) experiment.

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