The task clears the path for comprehension: the acquisition of case in Russian

Sofja Volkova, Raffaella Folli, Christina Sevdali and Juliana Gerard

Ulster University

Background: Morphological case comprehension in children presents contrasting hypotheses and contradicting results, despite evidence of early acquisition in production (Dittmar et al. 2008, Schipke et al. 2012; Özge et al. 2019, Janssen 2016 Mitrofanova and Sekerina 2017, Sauermann and Gagarina 2018; see also Knoll et al. 2012 and Brandt et al. 2016). A main focus in the literature focusing on the comprehension of case has been the difference in children's relatively better comprehension of sentences of the type shown in (1a) than in (1b). Worse performance in (1b) has been linked to incorrect understanding of case for argument role assignment, given the subject's non-canonical position. Two main hypotheses have been proposed to account for the asymmetry between (1a) and (1b):

(A) 1. Children below 6-7 years either lack the relevant neurological connections for processing required in sentences like (1b), or
2. the relevant part of their grammar has not reached an adult-like stage yet.

(B) Children at this age are already adult-like in their comprehension of case and extra-grammatical factors are responsible for the attested non-adult behavior.

Predictions: Hypothesis **(A)** predicts uniformly non adult-like performance in children with sentences like (1b). Hypothesis **(B)** however, predicts variability in children's behavior across different methodologies, with better performance on easier tasks.

The present study: This study investigates the comprehension of morphological case in Russian 3-5-year-old monolinguals (range 3:10-5:10; mean 4:8) and 10 adult controls. A picture selection task and a referent selection task (based on Kamide et al. 2003; Özge et al. 2015) were used: in the picture selection task, participants (N=16) were instructed to listen to audio containing subject-first (1a) and object-first (1b) sentences with transitive verbs and to match each sentence with one of two simultaneously presented images. One image showed a scene with a matching argument-role division and one showed a reversed (=non-matching) division. For the referent selection task, participants (N=23) were instructed to complete subject-first and object-first sentence fragments with the aid of different images. Each fragment contained a given case-marked argument in the sentence-initial position and a masked follow-up argument; (2). Participants saw the first argument on the screen along with two possible follow-ups (e.g., for *'seal'* in (Fig. 1) '*fish*' or '*shark*'). Correctly interpreting the case of the given argument would lead to point either at a prototypical patient or agent as follow-ups (in (2a) Seal.NOM leads to the choice of *'fish'* and in (2b) 'Seal.ACC' leads to *'shark'*).

Results: A two-way ANOVA with *task* (picture-, / referent selection) and *condition* (subject-, / object-first) as factors revealed a significant *task* effect ($F=35.15$, $p<.001$), and a marginally significant *condition*-and-*task* interaction ($F=3.95$, $p=.0505$). Children showed high performance in the picture selection task – including the object-first condition - and a lower performance for referent selection. Children also performed better in the subject-first versus the object-first condition in the picture selection-, but not in referent selection task (Table 1). Adults showed overall high performance (with exclusion of one from referent selection for misunderstanding the task), with no main effects or interactions (all *p*s >.3).

Discussion: Children showed significantly better performance on the picture selection-, than on the referent selection task, supporting hypothesis **(B)**. The results are inconsistent with hypothesis **(A)** (inability to process case due to the absence of relevant neurological

connections or due to an immature grammar): children's successful performance on the object-first condition in the picture selection task demonstrates an adult-like grammar, while the task variability shows how external factors as methodology affect case comprehension. This study is currently being extended with German children and adults, in order to investigate the role of language in the comprehension of morphological case.

1a)	T'ulen'	jest	rybu
	Seal.NOM	eats	fish.ACC
	'The seal eats the fish.'		
1b)	T'ulen'a	jest	ryba
	Seal.ACC	eats	fish.NOM
	'The fish eats the seal.'		
2a)	T'ulen'	jest	X
	Seal.NOM	eats	X
	'The seal eats ...'		
2b)	T'ulen'a	jest	X
	Seal.ACC	eats	X
	'X eats the seal ...'		

Figure 1.: An example of a visual trial in the referent selection task.

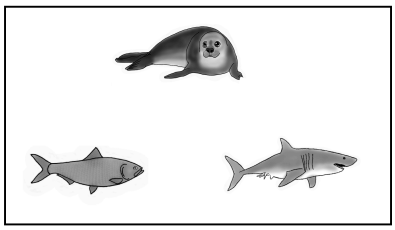
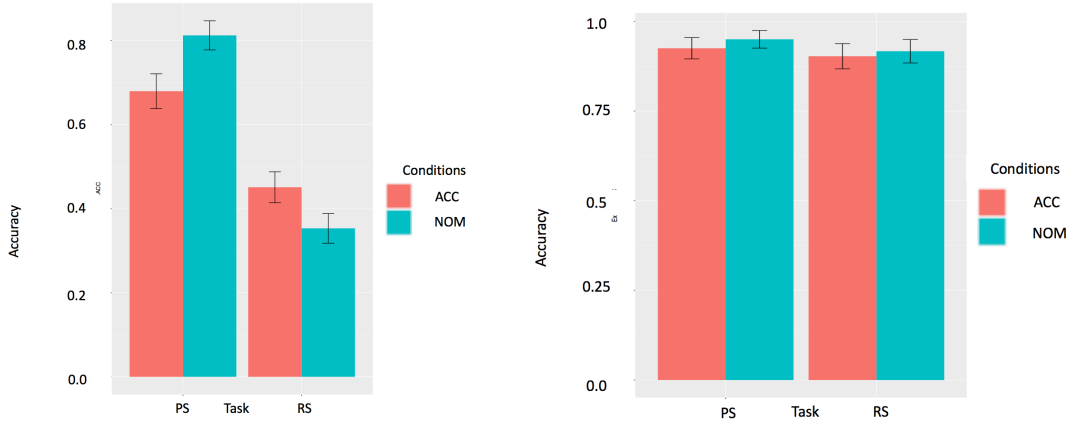


Table 1.: Accuracy rates for picture selection and referent selection across conditions for children (left) and adults (right).



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