The role of word order and case marking in Polish children's comprehension of transitives

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This study investigates the role case marking and word order play in young Polish children's comprehension of simple transitive sentences. Case marking is a highly reliable cue for identifying agent and patient but, unlike word order, is not always available, as different cases can be marked with the same marker and the same case can have different markers; hence it may take children some time before they learn to rely on it, when interpreting sentences involving novel verbs. Previous research (Dittmar et al., 2008) has shown that two-and-a-half-year old German children can only comprehend sentences in which the two cues work together, four-and-a-half-year old can interpret word order, when there is no case marking available, and only seven-year old are able to follow case marking, if it competes with word order.

The aim of this study was to find out if Polish children start using case marking earlier. In Polish, case is marked on noun endings, rather then on determiners, which makes it more local as a cue (Slobin, 1982). There is also evidence of even two-and-a-half-year old children being able to identify two endings as marking the same case (Dąbrowska & Tomasello, 2008), which may increase perceived availability of this cue for younger children.

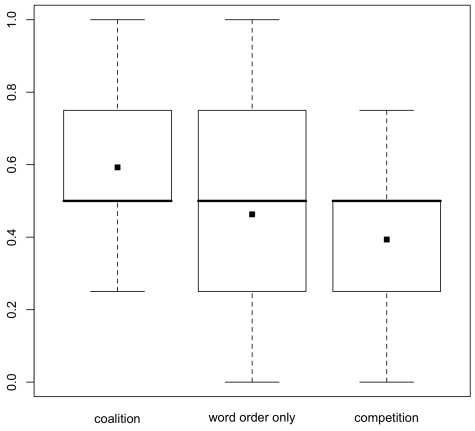
Like in Dittmar et al. (2008), there were three conditions: Coalition, Word-Order-Only, Competition. Children were taught two novel verbs referring to transitive constructions. In each condition four different familiar nouns were used in fixed pairs with both verbs, resulting in four items per condition. All nouns were inanimate and those in Word-Order-Only were masculine, neutralising case marking in that condition. For each item, the child simultaneously saw on a computer screen two animations differing only with respect to agent and patient assignment, heard a pre-recorded utterance, and was asked to point to the animation it referred to.

18 two-and-a-half-year old (mean age: 2;10), 25 four-and-a-half-year old (mean age: 4;6), and 21 eight-year old (mean age: 8;0) children were tested and their performance was analysed in terms of proportions of expected pointings. Both main effect of age and main effect of condition were significant, $F(2, 61) = 23.69$, $p < 0.001$, $\eta^2 = 0.44$, and $F(2, 122) = 36.05$, $p < 0.001$, $\eta^2 = 0.33$ respectively, as was the interaction between them, $F(4, 122) = 6.64$, $p < 0.001$, $\eta^2 = 0.12$. In the youngest group, Coalition was significantly easier than Competition, Exact Wilcoxon-Signed-Rank Test, $Z = 2.139$, $p < 0.033$, and marginally significantly easier than Word-Order-Only, $Z = 1.76$, $p < 0.09$, whereas in the middle and oldest groups, both Coalition and Word-Order-Only were significantly easier than Competition, $Z = 2.729$, $p < 0.004$, and $Z = 2.98$, $p < 0.003$ in the middle group, and $Z = 3.77$, $p < 0.001$, and $Z = 3.76$, $p < 0.001$ in the oldest group.

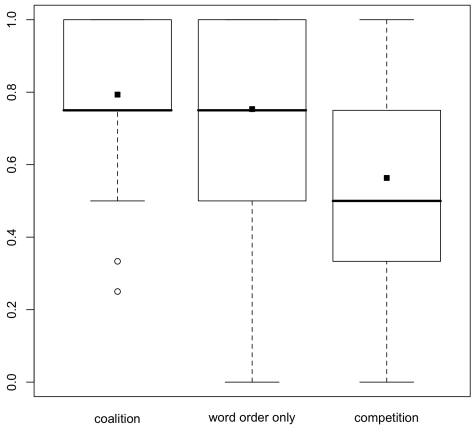
The results replicate in part the German findings, thus confirming basic predictions of the Competition Model (Bates & MacWhinney, 1987). Surprisingly however, unlike in the German study, case marking remained difficult as a cue, even for eight-year old children, and we offer three possible reasons for that. First, its availability may be lower than expected, due to some complexities of the system we will discuss. Second, perceptually distinguishing accusative and nominative endings may be difficult. Third, using inanimate, rather than animate, agents may add to the difficulty of comprehending transitives.

Figure. Distribution of proportions of expected responses (a) in the 2-and-a-half-year old group, (b) in the 4-and-a-half-year old group, and (c) in the 8-year old group (bold line: median, solid square: mean).

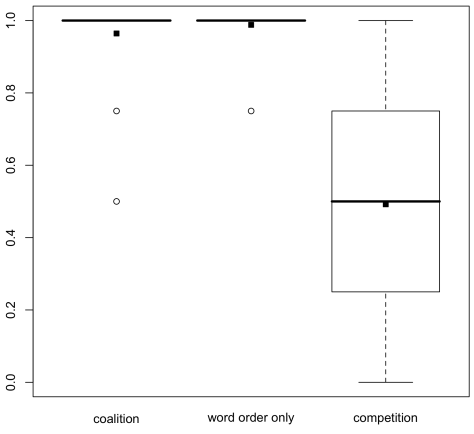
a)



b)



c)



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