Relatively easy relatives: Children with syntactic SLI avoid intervention[*]

Naama Friedmann, Maya Yachini, Ronit Szterman
Tel Aviv University
naamafr@post.tau.ac.il

אדריאנה יקרה, בתודה על שנים של עבודה משותפת שהיא תמיד תענוג, ושהפכה
לחברות אמיצה.

1. Introduction

One of Adriana Belletti's many virtues is her ability to tie strong theoretical analyses with the world, and harness linguistic theory to improve the quality of people's lives. In this paper we show how Adriana's theoretical work predicts and explains the difficulties children with syntactic specific language impairment (SySLI) have in the production of relative clauses.

School-aged children with SySLI show difficulties in the comprehension and production of relative clauses, and especially in headed object relatives. This difficulty has been demonstrated in their poor comprehension in tasks of sentence-picture matching and written sentence paraphrases, in relatively few correct relatives produced in spontaneous speech, as well as in low rates of correctly-produced relatives and high error rates in elicited production of relatives.

In a recent line of work (Friedmann, Belletti, & Rizzi, 2009; Belletti et al., 2012), Belletti and colleagues tied the difficulty that children show in object relatives during early stages of language acquisition to Relativized Minimality and intervention. The main thrust of this approach is that the intervention of the embedded subject in the dependency between the head of the relative and its base-generated merge position is what makes headed object relatives hard for children. According to this approach,

---

object relatives are harder than subject relatives for children acquiring syntax because whereas Wh-movement of the subject to the head position of subject relatives does not cross the object, the object, in its movement to the head position of object relative, crosses the embedded subject. This idea also explains why young typically developing children perform worse in object relatives that include two full DPs in the moved object and embedded subject positions, compared with object relatives in which only one of the DPs is lexically restricted, or when the features relevant for movement of the two DPs differ.

The current study tests whether this approach can be extended to account for the difficulties children with syntactic SLI (SySLI) show in relative clauses. For this aim, we elicited subject- and object relatives in 175 children with SySLI, and analyzed the rate of grammatical productions of subject- and object relatives and the types of errors they made when they attempted to produce object relatives. Specifically, we asked whether their errors indicate avoidance of intervention.

2. Method
2.1. Participants
The participants were 175 monolingual Hebrew-speaking children with SySLI aged 7;4-16;6 (M = 11;2, SD = 2;3). All of them were diagnosed with learning disability and deficits in reading comprehension prior to the study, and had normal IQ. We included children in the SySLI group only if they failed in at least two tests of comprehension and repetition of sentences with Wh-movement (most participants took part in 5 or more syntactic tests, other took part in three).

The control participants were 87 monolingual Hebrew-speaking children with typical language development and without any diagnosis of learning disabilities, aged 7;4-17;0 (M = 9;6, SD = 2;4, at least 20 participants in each age group, 7;4-8, 8-9, 9-11, 11-17).

2.2. Material and procedure
To elicit right-branching headed relative clauses we used a preference task (developed and reported in detail in Friedmann & Szterman, 2006; Novogrodsky & Friedmann, 2006). In this task, the experimenter described two children in two situations, and asked the participant to choose which child he would prefer to be. The task was constructed in a way that the choice would have to be formed as a subject relative (1) or an object relative (2) clause. To ensure a relative clause response, the experimenter requested the participants to reply to each question starting with "I would rather be…".

(1) Elicitation of a subject relative:
There are two children. One child gives a present and one child receives a present. Which child would you rather be? Start with "I would rather be…"
Target answer: (hayiti ma'adif lihiyot) ha-yeled she-mekabel matana
(would-1sg prefer to-be) the-child that-receives present
(I would rather be) the child who receives a present.

(2) Elicitation of an object relative:

There are two children. The father drives one child and the grandfather drives one child. Which child would you rather be? Start with "I would rather be…"
Target answer: (hayiti ma'adif lihiyot) ha-yeled she-aba masia
(would-1sg prefer to-be) the-child that-father drives
(I would rather be) the child who the father drives.

3. Results

The results indicated, first, that the SySLI children had a severe deficit in the production of relative clauses, and that this relative clause elicitation task proved very sensitive for detecting syntactic impairment in these participants: 163 (93%) of the children who were diagnosed with SySLI according to these other criteria performed significantly poorer than the control group on this elicitation task. The SySLI group's production of object relatives (36.5% correct) was significantly poorer than their production of subject relatives (76.6% correct), $t(162) = 19.1$, $p < .0001$, and did not improve with age, neither for the object relatives, $r = .02$, $p = .78$, nor for the subject relatives, $r = -.05$, $p = .51$: even the participants in ninth and tenth grade in this group still showed a severe difficulty in the production of both subject and object relatives.

We then analyzed the pattern of responses that the SySLI participants produced when they tried to produce sentences with object relative clauses. This analysis further supported "relativized relatives" approach to the syntactic impairment in SySLI. The SySLI participants mainly used three paths to avoid the production of object relatives in which the movement to the head position of the object relative crosses the embedded subject:

a. **Avoid movement**: simple sentences or embedded sentences without Wh-movement: 32.2% of the SySLI responses to object relatives, vs. only 1.2% such responses in the control group.

b. **Avoid intervention configuration**: subject relatives: 22.1% in the SySLI group, vs. only 2.5% such responses in the control group.

c. **Avoid two lexically restricted NPs in the intervention configuration**: producing only one NP or only one lexical NP: 15,4% of the object relatives responses the SySLI produced, compared to only 4.8% such responses in the control group.

4. Discussion

The pattern of production of the 175 children and adolescents with syntactic SLI indicates that the Friedmann, Belletti, and Rizzi (2009) approach to normal acquisition of syntax may also account for the pattern of syntactic impairment of children with SySLI. The results of our current study, as well as results from other studies indicate that it is: The first supporting evidence for an intervention account for SySLI is the significantly better production of subject relatives compared with object relatives. The second evidence is that SySLI children avoid Wh-movement altogether, by producing sentence that are not relative clauses, avoid intervention configuration by producing subject relatives instead of object relatives, and, when they produce object relatives with an intervention configuration, they **avoid the production of two lexical NPs**, by omitting the head of the relative clause, using a non-lexically restricted pronoun relative head, omitting the NP within the relative clause, or produce an arbitrary pro as the embedded subject.

To conclude, this study, encompassing the detailed examination of 175 children and adolescents with syntactic SLI, indicated that there are some relatives that are relatively easy for individuals with syntactic SLI: sentences that do not include two lexical NPs in an intervention configuration.

References

Belletti, A., N. Friedmann, D. Brunato, & L. Rizzi (2012) Does gender make a difference? Comparing the effect of gender on children's comprehension of relative clauses in Hebrew and Italian. *Lingua*, *122*(10), 1053–1069. doi: 10.1016/j.lingua. 2012.02.007

Friedmann, N., A. Belletti, & L. Rizzi (2009) Relativized relatives: Types of intervention in the acquisition of A-bar dependencies. *Lingua, 119*, 67–88. doi: 10.1016/j.lingua.2008.09.002

Friedmann, N., and Szterman R. (2006) Syntactic movement in orally-trained children with hearing impairment. *Journal of Deaf Studies and Deaf Education*, 11(1), 56-75.

Novogrodsky, R., and Friedmann, N. (2006) The production of relative clauses in syntactic SLI: A window to the nature of the impairment. *Advances in Speech-Language Pathology*, 8(4), 364-375.