

Does gender make a difference? Comparing the effect of gender on children's comprehension of relative clauses in Hebrew and Italian

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Abstract

In this paper we assessed the effect of gender morphology on children's comprehension of object relatives in Hebrew and Italian. We compared headed object relative clauses in which the relative head (the moved object) and the intervening embedded subject have the same or different genders. The participants were 62 children aged 3;9–5;5, 31 speakers of Hebrew and 31 speakers of Italian. The comprehension of relative clauses was assessed using a sentence–picture matching task. The main result was that whereas gender mismatch sharply improved the comprehension of object relatives in Hebrew, it did not significantly affect comprehension in Italian. In line with our previous work (Friedmann et al., 2009), we propose that the children's problem in the comprehension of headed object relatives stems from the intervention of the embedded subject between the moved relative head and its trace. We ascribe the different behavior of children in Hebrew and in Italian to the different status of the gender feature in the two languages: in Hebrew, gender is part of the featural composition of the clausal inflectional head, hence it is part of the feature set attracting the subject, whereas in Italian, where tensed verbs are not inflected for gender, it is not. Under the assumption that intervention effects are amenable to the locality principle Relativized Minimality, it is expected that only features functioning as attractors for syntactic movement will enter into the computation of intervention. We thus account for the different effect of gender mismatch in object relative comprehension in the two developing systems. Thus, the main finding of this work is comparative in nature: there is no effect of gender *per se*; rather, the potential effect of gender is crucially modulated by the morphosyntactic status of the feature in each language.

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1. Introduction

It is a well-known finding that the comprehension of object relatives is problematic for young children (Adams, 1990; Adani, 2010; Adani et al., 2010; Arosio et al., 2009; Berman, 1997; Brown, 1972; Correa, 1982, 1995; de Villiers et al., 1994; Friedmann and Costa, 2010; Friedmann and Novogrodsky, 2004; Håkansson and Hansson, 2000; McKee et al., 1998; Roth, 1984; Sheldon, 1974; Tavakolian, 1981). In Friedmann et al. (2009) we observed that the degree of difficulty of an object relative clause is modulated by the nature of the intervening subject and of the head of the relative clause. Specifically, we found that it is affected by whether or not both DPs contain a lexical NP, what we referred to as a *lexical restriction*. We treated these effects as intervention effects, tracing them back to the grammatical principle formally capturing intervention, Relativized Minimality (Rizzi, 1990). When the head of the relative clause and the intervening subject share some crucial morphosyntactic feature (in the case at issue, when they both contain a lexical restriction, i.e., they both carry

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the feature [+NP]), this creates a configuration in which the dependency is blocked for children, so that they cannot properly comprehend this structure. This approach raises the question of what precise featural properties trigger the intervention effect. Namely, along which dimensions should the similarity between the moved DP and the embedded subject be defined.

Among the many possible ways to address the problem, let us consider two sharply different possible approaches. One hypothesis would assume that any kind of similarity between the moved DP and the intervening subject would somehow blur the dependency and make the sentence hard to understand: in addition to a similarity in morphosyntactic features, this would include, for instance, a phonological similarity (e.g., rhyming nouns or nouns that share many of their phonemes), or a semantic similarity, such as nouns of the same semantic category (e.g., with both DPs referring to wild animals, or both DPs referring to health professionals, or musical instruments), and so on and so forth. Under this approach, the reference to a strict formal principle such as Relativized Minimality would be metaphorical at best. The hypothesis at the opposite end of the spectrum would directly capitalize on the form and function of Relativized Minimality, ascribing a causal role to it in the observed developmental pattern. If this is the case we would expect intervention effects to be selective, along a precise grammatically defined dimension. Specifically, not all imaginable featural specifications would play a role in the computation of similarity between the moved DP and the intervener, but only those features that play an active morphosyntactic role, i.e., that can trigger movement. In other words, features that count for determining whether an object relative will be difficult or not are features counting as syntactic attractors for movement (Rizzi, 2004; Starke, 2001).

A way to adjudicate between these approaches is to test for features that may affect the (dis)similarity of two DPs in an intuitive sense but which do not function as attractors, hence do not invoke an application of Relativized Minimality: the prediction of the selective and of the unselective approach would diverge in this case. Moreover, since the set of features functioning as attractors for movement can vary across languages, here the comparative dimension may be instrumental.

In the current study we take gender as the critical feature to test, and Hebrew and Italian as the relevant pair of languages. Whereas in Hebrew tensed verbs inflect for person, number, and gender (Shlonsky, 1997), in Italian, as is the case for many Indo-European languages, tensed verbs only inflect for person and number (see (1) for Hebrew and (2) for Italian). Gender distinctions in Italian are only expressed on nominals, adjectives, determiners, and in the past participial form of verbs.

- (1) a. Yoni shar
Yoni sings-singular-masculine
b. Miri shara
Miri sings-singular-feminine
- (2) a. Gianni canta
Gianni sings-singular
b. Maria canta
Maria sings-singular

In Hebrew, gender appears to belong to the phi-feature complex that determines movement to the subject position, whereas in Italian it does not. Therefore, Hebrew and Italian offer a minimal comparison with respect to gender being or not being part of the computation of intervention.

Thus, according to a general-cognitive similarity-based approach, speakers of both languages should benefit from the semantic dissimilarity between the genders of the two DPs. However, if we go for the formal-syntactic interpretation of the principle responsible for the difficulty in children's comprehension of object relatives, we expect gender (dis)similarity between the moved relative head and the intervening subject to play a role in Hebrew object relatives, but not in Italian object relatives. We can build here, in part, on already established findings on child Hebrew and Italian: Arnon (2010) reported that object relatives with same gender noun phrases are more difficult to understand than object relatives with different gender noun phrases by children acquiring Hebrew; Adani et al. (2010) showed that Italian speaking children process object relatives significantly better with number mismatch between the subject and the head of the relative than with gender mismatch. The latter difference is expected under the hypothesis we are entertaining as number, but not gender, is part of the phi-feature complex of the verbal inflection that determines movement in Italian.

The experiment we report below compares the comprehension of relative clauses with different and same gender on the two DPs using the same design and ages in Hebrew and Italian-speaking children.

2. General method and material

2.1. Design and materials

Relative clause comprehension was tested using a sentence–picture matching task from BAMBÌ – a battery for the assessment of syntactic abilities in children (Friedmann and Novogrodsky, 2002). The participants heard a sentence, and

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