

## Grammar identification based on variable input: On the production of number agreement by children acquiring Brazilian Portuguese

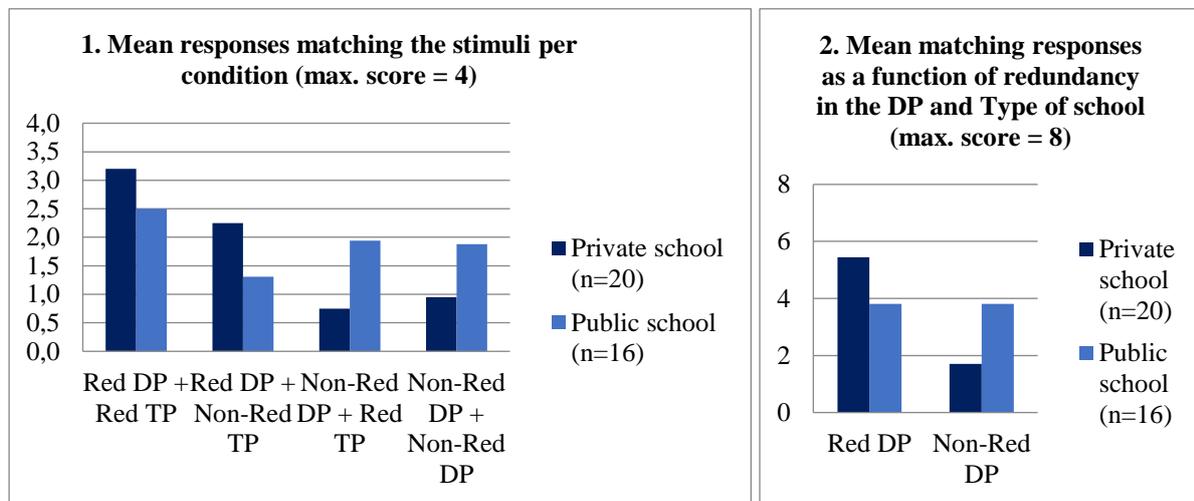
This study is concerned with grammar identification based on variable input and focuses on the morphological expression of number agreement in Brazilian Portuguese (BP). It combines a lexical, feature-based approach to intra/inter-dialectal language variation [1] with a procedural model of language acquisition according to which morphological patterns in the language input are taken as interface information to the specification of the formal features of functional categories [2-3]. *Number* assumes two values in Portuguese: singular and plural. The morpheme *-s* expresses plural number in the DP and a person/number verbal inflection expresses subject-verb agreement. Two variants co-exist in BP regarding the morphological expression of Agree/Concord (henceforth, agreement): (i) the standard one, in which plural is redundantly marked in all elements under agreement, as in European Portuguese (EP); (ii) the non-standard one, in which only D is necessarily inflected for number (cf. (1-2)). These variants reflect the effect of social factors (socio-economic and educational levels [4]), being the non-standard variant socially-marked. It is possible, nevertheless, for a single speaker to alternate between variants, making language input highly variable for children [5]. Children by the age two acquiring Portuguese take D as the locus of grammatical number at the interfaces and are sensitive to the differences between BP and EP in the expression of number agreement [6-7]. Children acquiring BP more than those acquiring EP are able to rely exclusively on D in the identification of the referent of plural DPs with novel (pseudo) nouns. Optionality in the use of number marking is, then, expected in the production of pre-school children acquiring BP. An elicited sentence production experiment is reported, which aimed to verify the extent to which optionality prevails in the redundant expression of number agreement. Children were presented to an animate character (the robot Bob) on the screen of a laptop. They were told that Bob might speak in an unusual way and asked to tell the researcher (who pretended she could not listen) what Bob had said to them. *Redundancy* in the expression of number agreement was manipulated in the subject DP (redundant (inflected noun); non-redundant) and in the TP (redundant (inflected verb), non-redundant). *Type of school* (public / private) was also an independent variable in so far as Brazilian public schools concentrate children from low socio-economic level and private schools attract middle-class children. Table 1 illustrates the test sentences per conditions. 36 children were tested: 20 from a private school (mean age 5;7) and 16 from a public school (mean age 5;9), both in the same neighborhood in Rio de Janeiro. 4 sentences were auditory presented in each condition to each group, in a balanced Latin square design. The sentences produced by children were recorded. The number of responses matching the stimuli was the dependent variable of a 2 X 2 X 2 ANOVA. Non-parametric tests were also carried out and the alternative non-matching responses were analyzed qualitatively. A significant interaction between *Type of school* and *Redundancy in the DP* was obtained ( $F = 12,014$ ;  $p = .0001$ ) (cf. Graphs 1 and 2). Children from the private school revealed a preference for the standard variant and children from the public school showed no preference at all, suggesting that, for this group, standard and non-standard variants compete. The results reflect the legibility of number in D, the variable input and frequency effects (as captured by the social variable). It is argued, in the light of [1-2], that the underspecification of features of the functional category *Num* [8-9] regarding the morphological expression of agreement at the interfaces leads to optionality in sentence production, as far as the redundant marking of agreement is concerned, due to variable input. As for sentence production, redundant morphological expression of agreement is characterized as a post-syntactic phenomenon: the items with underspecified features of agreement are spelled-out and morphophonological encoding is subject to frequency effects [10].

- (1) As coisas tão muito caras  
[The(pl) things are very expensive(pl)]
- (2) As coisa tá cara  
[The(pl) thing is expensive]
- Examples from Scherre & Naro (2006: 108)

Table 1. Examples of test sentences per condition (Red = Redundant)

Conditions	Stimuli
1 (Red DP + Red TP)	Os cachorros chamaram o leão
2 (Red DP + Non-Red TP)	Os cachorros chamou o leão
3 (Non-Red DP + Red TP)	Os cachorro chamaram o leão
4 (Non-Red DP + Non-Red TP)	Os cachorro chamou o leão

Graphs 1 and 2 (Red = Redundant)



**References:**

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