Exploring the role of morphological cues in the comprehension of complex syntax: The case of Arabic-speaking children in Canada

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Background. A large number of studies has examined monolingual children's comprehension of complex syntactic structures, such as object relatives. These studies have shown that monolingual children's comprehension of complex syntax is facilitated by morphological cues, such as gender (e.g., Guasti, Branchini, & Arosio, 2012). Given that in heritage contexts functional morphology is a vulnerable domain, a question that needs to be addressed is whether bilingual children, who are heritage speakers of their L1, will also be able to use morphological cues to comprehend complex syntax (e.g., Chondrogianni & Schwartz, 2020). To contribute to this line of research, we focused on first generation, Syrian Arabic-speaking children in Canada (N=30; Mean Age: 12; AoA: 7;10), and examined their ability to use grammatical gender in their comprehension of object relative clauses.

Research Questions. We asked two questions: A) Does the presence of gender cues facilitate children's comprehension of object relative clauses in Syrian Arabic? B) Does knowledge of gender morphology affect children's comprehension of object relative clauses in Syrian Arabic?

Methods. We used two offline sentence-picture matching tasks targeting object clitics and relative clauses. The task targeting object clitics included items with feminine and masculine object clitics (e.g., el–ʔarnab laħʔ–o 'The rabbit chased **him**'). The task targeting relative clauses was adapted from Albirini (2018) and included two conditions: A) Matching Object relatives (both Subject and Object matched in grammatical gender (1)); B) Mismatching Object relatives (Subject and Object differed in grammatical gender (2)).

(1) el–ʔarnab   yali yi–ʕbtˤ–**o**   el–ʔrd
    the-rabbit.M that 3SG.M–hug-**him** the-monkey.M
    'The rabbit that the monkey hugs'

(2) el–ʔarnab   yali t–ʕbtˤ–**o**   el–ʔitˤa
    the-rabbit.M that 3SG.F–hug-**him** the-cat.F
    'The rabbit that the cat hugs'

Predictions. We predicted that if gender morphology on clitics has a facilitative effect, then bilingual children will have a higher performance in mismatching relatives (where gender cues on clitics disambiguate reference) and that there will be a correlation between children's knowledge of clitic morphology (gender) and children's performance in mismatching relatives.

Analysis and Results. To analyse our data we carried out two analyses. First, we compared participants' accuracy on Matching object relatives (where gender cues on clitics do not disambiguate reference) and in Mismatching object relatives (where gender cues on clitics disambiguate reference). Participants were significantly more accurate on the latter ($t(28)$=3.046, $p = .005$) (question A). Second, we employed Spearman's correlations to determine whether there was an association between knowledge of the clitic gender morphology and accuracy on the Matching and Mismatching object relatives. The correlation between knowledge of clitic morphology and accuracy on the Matching condition was significant and positive ($r_s = .52$, $p = .004$) whereas the correlation between knowledge of clitic morphology and accuracy on the Mismatching condition was not significant ($r_s = .29$, $p = .121$) (question B).

Conclusion. Overall, our results support the conclusion that, like monolingual children, first generation, Arabic-speaking children living in Canada can use morphological cues to comprehend complex syntax in their L1. Furthermore, the ability to use these cues is contingent on the acquisition of the morphological properties of these cues.

References

Albirini, A. (2018). The Role of Age of Exposure to English in the Development of Arabic as a Heritage Language in the United States. Language Acquisition, 25 (2). 178-196.

Chondrogianni, V. & Schwartz, R. (2020). Case Marking and Word Order in Greek Heritage children. Journal of Child Language, 47(4):766-795.

Guasti, M., Branchini, C., & Arosio, F. (2012). Interference in the production of Italian subject and object wh-questions. *Applied Psycholinguistics*, 33: 185-223.