

Investigating the interaction of definiteness and ad hoc implicatures in child language

Background: Ad-hoc implicatures are enrichments to the literal meaning of an utterance generated by treating a contextually provided alternative as false.^[1] In this study, we investigate the interpretation of sentences like (1)/(2) in contexts like Fig.1. Previous work finds that adults rate (2) as more acceptable than (1), suggesting that (1) triggers more ad-hoc implicatures; one explanation is that “*the*” triggers a local implicature within the object DP.^[2,3] In the unenriched interpretation of (1), the uniqueness presupposition of “*the striped sweater*” is not satisfied in the context; it is, however, if “*striped sweater*” is enriched to mean “*striped and not spotted sweater.*” Since “*a*” carries no uniqueness presupposition, it does not trigger an implicature to satisfy uniqueness. Young children reportedly display non-adult-like interpretations/uses of definite/indefinite articles,^[4-7] but successfully generate ad-hoc implicatures.^[8] We set out to investigate their interpretation of sentences like (1)/(2).

Experiment: 32 children (3;10–5;09, M=4;10) and 60 adult native speakers were randomly assigned to the “*the*”/“*a*” conditions, and completed a truth value judgment task^[9] involving characters shopping at the store. On each trial, participants saw a picture containing three items, with a shopping basket under one of the items to indicate that that object was purchased. A puppet appeared in videos to describe which item the character had purchased, using either a definite or an indefinite description, and participants had to indicate whether she was right or wrong. On critical trials (Fig.1), one item was ‘plain’ (had no distinguishing features), one item would best be described with 1 adjective (e.g. it was merely spotted) and one item would best be described with 2 adjectives (e.g., spotted *and* striped); the basket appeared under the 2-adjective item, and the puppet used an underinformative 1-adjective description (e.g. “*Mary bought a/the striped sweater*”). Participants saw 2 training items and a total of 22 test trials: 6 critical targets and 16 controls/fillers (Fig.2-3). **Results:** All 32 children and 54 of the adults scored at least 75% accuracy on controls and were retained for analysis (Fig.4). Strikingly, adults and children displayed opposing behavioral patterns: adults gave more rejections (i.e. computed more ad-hoc implicatures) for “*the*” (68%) compared to “*a*” (32%), while children gave more rejections (i.e. computed more ad-hoc implicatures) for “*a*” (69%) compared to “*the*” (53%) (Fig.5). This difference between adults and children was statistically significant ($\beta=5.76, p<.01$), driven by children generating significantly more implicatures than adults in the “*a*” condition ($\beta=-3.44, p<.01$).

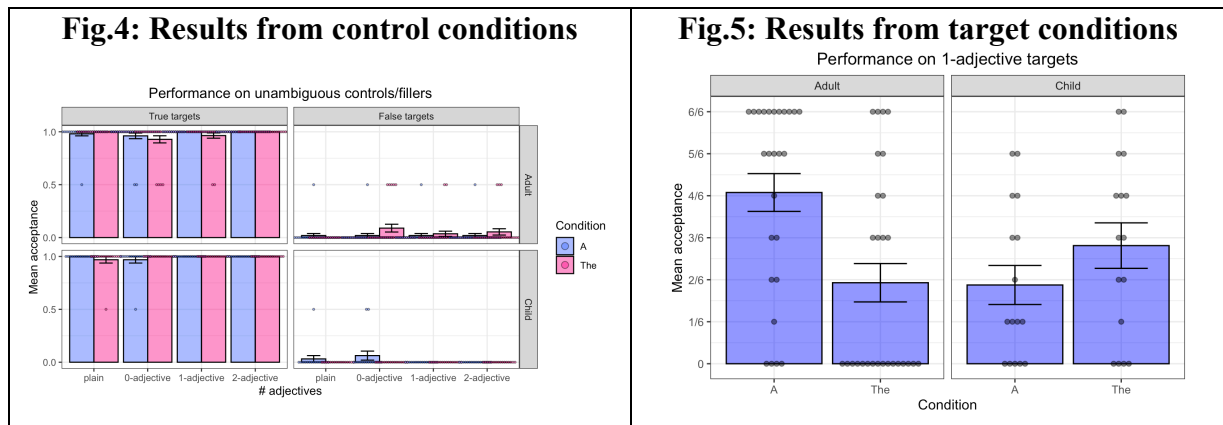
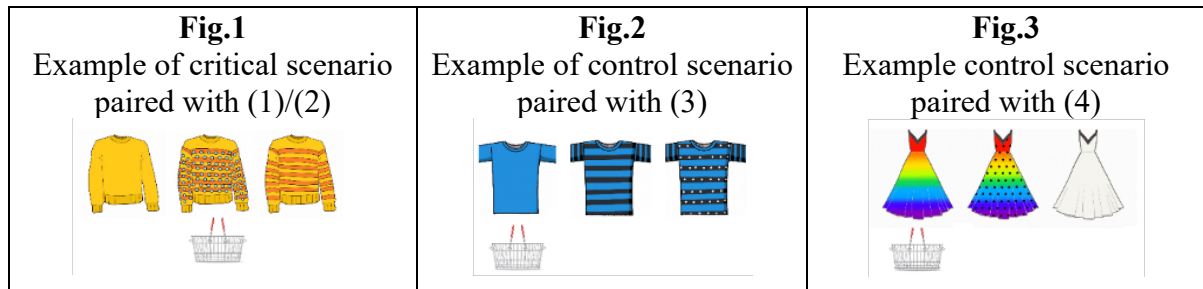
Proposal: We propose to account for the results by appealing to two different interpretation strategies in the two populations. We observed that children in the “*the*” condition focused rather quickly on the item that had the shopping basket underneath it; we suggest that they interpreted the definite akin to the demonstrative “*that*”, with the shopping basket serving the same function as a deictic gesture. Such a referential interpretation would be unambiguous, such that children did not need to compute an implicature to disambiguate between referents; they merely verified whether the purchased item had the mentioned property. For the “*a*” targets, on the other hand, we assume that the indefinite is associated with anti-uniqueness, which could provide a cue to children to pay attention to a set of non-unique items, e.g., the pair of striped sweaters. An ad-hoc implicature (strengthening “*a striped sweater*” to “*a striped and not spotted sweater*”) would allow them to select a unique referent (cf. [8]). Adults may have shown a lower rate of ad-hoc implicatures for “*a*” due to their ability to entertain multiple sets of alternatives, e.g., striped vs. plain shirts.

Conclusion: This study provides novel data on the interaction between definiteness and ad-hoc implicatures, and raises new questions about children’s developing knowledge of definiteness. Our proposal makes the empirical prediction that as the deictic interpretation of “*the*” becomes less prominent in development, children should become more adult-like, at a later stage computing implicatures locally in the scope of DP to disambiguate, like adults do.

Examples & Figures

Context: The store has a plain sweater, a sweater with stripes and spots, and a sweater that only has stripes. Mary bought the sweater with stripes and spots.

- (1) Mary bought **the** striped sweater.
- (2) Mary bought **a** striped sweater.
- (3) Mary bought **a/the** plain shirt (True) / Mary bought **a/the** striped shirt. (False)
- (4) Mary bought **a/the** rainbow-coloured dress. (True) / Mary bought **a/the** plain dress. (False)



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