## Generics as default? Comparing the acquisition of universals and generics in Spanish

INTRODUCTION The study of genericity has attracted wide interest in semantics (Krifka et al. 1995; Mari et al. 2013) and cognitive and developmental psychology (Leslie, 2007; Gelman, 2010), with little attention paid to potential differences in acquisition and interpretation in languages other than English (but see e.g. Lazaridou-Chatzigoga et al. 2019). While both express generalizations, generic statements (GS), (1), are said to have two main properties that set them apart from universally-quantified statements (UQS), (2): (*i*) generics tolerate exceptions, and (*ii*) they are not associated with a designated overt quantifier.

(1) Cats have whiskers. (2) All cats have whiskers.

The present study seeks to contribute to the debate on the differences between these two linguistic mechanisms of expressing generalizations by discussing novel data from an experimental design aimed at testing the generics-as-default (GaD) hypothesis (Leslie 2007, 2008), according to which speakers have a bias towards interpreting UQS as GS (and thus accept them as true even in the presence of exceptions) because generics are easier to verify (being generalizations issued by System 1: Leslie, 2008).

THE EXPERIMENT The present study aims to compare the comprehension of UQS and GS in typically developing Spanish-speaking children of two different age groups: a 4/5-yearold group and a 8/9- year-old group, under the assumption that the second group have already acquired unrestricted universal quantification (i.e. without quantifier domain restriction) and, thus, are expected to have an adult-like behaviour. The two research questions of our study are: RQ1) Are 4/5 to 8/9-year-old children sensitive to the reported differences between GS and UQS? Our hypothesis was that the accuracy rates in GS would be higher than the accuracy rates in UQS; RQ2) Is there an interaction between the age of the children and the comprehension of GS vs UQS? We expected an interaction between age and type of NP. A total of 55 Spanish-speaking children (25 female) divided into two age groups, a 4/5-year-old group (N = 31, M = 68.16 months, SD = 6.8) and an 8/9-year old group (N = 24, M = 108.75 months, SD = 6.3) from an elementary school in Vitoria-Gasteiz (Spain) participated. Data from 26 adults were collected (M = 38 years, SD = 14.2) for comparison. Materials included 16 experimental items in two conditions (generic and universal NP) counterbalanced in the two lists, and 16 filler items. All examples of generics belonged to the majority characteristic type and concerned animals. Building on Lazaridou-Chatzigoga et al. (2013), on the first screen, participants were shown a non-supportive background picture (e.g. a cat without whiskers) accompanied by a pre-recorded audio that said (3). On the next screen, a cartoon character appeared on the screen and asked one of the two questions in (4), depending on the condition. Note that, in contrast to English, GS in Spanish are not bare NPs, but are introduced by a definite determiner. Participants were asked to answer 'yes' or 'no'.

(3) un gato sin bigotes

'a cat without whiskers'

- (4) ¿Dirías que {*los / todos los*} gatos tienen bigotes? say.COND.2SG that the.PL all the.PL cats have whiskers
  - 'Would you say cats/all cats have whiskers?'

RESULTS To analyse the data, accuracy for GS was set to 'yes', because even in nonsupportive contexts GS were true, and to 'no' in the case of UQS, because exceptions make a universal false. As seen in Fig. 1 younger children (4/5-year-olds) performed extremely well on GS, correctly accepting GS 92% of the time, while UQS were correctly rejected only 30% of the time. Older children (8/9-year-olds) accepted GS only 72% of the time and rejected UQS 64% of the time. Adults accepted GS 79% of the time and

rejected UQS 72% of the time. The results of the older children were adult-like (no significant difference from the adult results), while the results of the younger children were significantly different. We used R (R Core Team, 2016) and the Ime4 package (Bates et al. 2015) to perform a generalised linear mixed-effects analysis, specifying a binomial family. We then tested the main effects by fitting versions of the full model from which a single effect was removed, and then compared the reduced model to the full model. The analysis revealed а main effect of age





( $\chi 2(4)$ =122.68, p < .001) and a main effect of NP type ( $\chi 2(3)$ =233.8, p < .001). Further, the analysis yielded a significant interaction between NP type and age ( $\chi 2(2)$ =105.47, p < .001).

DISCUSSION Concerning RQ1, the results of this study did not confirm that the accuracy of GS is higher than the accuracy of UQS: the observed difference in the older group of children was not significant. Regarding RQ2, we found an interaction between age and NP type. The pattern of responses to UQS might seem to lend support to the GaD hypothesis: even adults can tolerate exceptions to UQS, and, allegedly, interpret them as GS. The relatively low performance in the case of UQS in the older group, which amounted to an acceptance at a rate of 36% (i.e., an accuracy of 64%) is though similar to the adult behaviour and can be explained by alluding to other possible interpretations such as the subkind or loose/hyperbolic interpretation (see Lazaridou-Chatzigoga et al. 2019). Moreover, the not at-ceiling performance in the case of GS, and furthermore, the observed performance decline in GS in the older groups, is hardly interpretable from the GaD viewpoint. Seeing an exception to a GS made some older children and adults reject it. This result puts pressure not only on the GaD hypothesis, but also on the very idea that GS are characterized by their tolerance to exceptions. Also, it may be that being aware of an exception makes interpreters (liable to) treat a generic as a UQS, which would be a reversion of the GaD phenomenon.

CONCLUSIONS This paper presents novel data in the acquisition and interpretation of GS and UQS in Spanish that reveal that while the pattern of acquisition (generics first) complies with Leslie, Gelman, et al.'s studies, how we interpret UQS and GS may be a more complex issue than what is assumed in the literature.

## SELECTED REFERENCES

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