

## **How monolingual children interpret disjunction in negative sentences in Turkish and in German**

This study investigates the interpretation of disjunction words (English *or*) in negative sentences by Turkish- and German-speaking children. Both children and adults were asked to judge Turkish/German sentences corresponding to the English sentence *This animal did not eat the carrot or the pepper*. In German, the sentence is true when the animal didn't eat the carrot and didn't eat the pepper, as in one of de Morgan's laws of propositional logic. In Turkish, the same sentence is also true when the animal just ate one of the vegetables.

A native speaker of Turkish tested 26 Turkish-speaking children (age range = 4;01 to 5;11, mean = 4;07), and a native speaker of German test 24 German-speaking children (age range = 4;01 to 5;08, mean = 4;05). The task was adapted from the methodology used by Goro & Akiba (2004a, b). The task consisted of an eating game, presented using a colorful booklet. After the training session, children were shown 12 animals who were each asked if they were happy to eat two vegetables: a carrot and a green pepper. Four of the animals agreed to eat both the carrot and the green pepper; another 4 only agreed to eat one of the vegetables, and another 4 refused to eat any vegetables. Each animal received a different prize depending on what they ate: if an animal both vegetables, it was rewarded with a gold medal; if it ate only one, it received a silver medal; and if it ate neither, it received a sad face.

Children acquiring both languages consistently assigned the same interpretation, which can be paraphrased as *This animal did not eat either the carrot or the pepper*. German-speaking adults ( $n = 22$ , mean age = 24 y.o.) also consistently assigned this interpretation. However, Turkish-speaking adults ( $n = 51$ , mean age = 21y.o.) assigned an interpretation that can be paraphrased as *It is the carrot or the pepper that this animal did not eat*. Figure 1 summarizes the responses by children and adults in the silver medal condition, where the animals ate just one of the vegetables. The sentences in this condition were rejected by both German-speaking adults and children (80.2% and 90.9% of the time respectively). Turkish-speaking children and adults exhibited a different pattern of response. Turkish-speaking adults accepted the test sentences in the silver medal condition 98.5% of the time, but Turkish-speaking children rejected them 86.5% of the time. In short, Turkish-speaking children produced the same pattern of response as German-speaking children and adults. The finding that children initially assigned the same interpretation in both languages, whereas adults assigned different interpretations is credited to a 'subset' principle of language learnability, first advanced in Crain, Ni & Conway (1994).

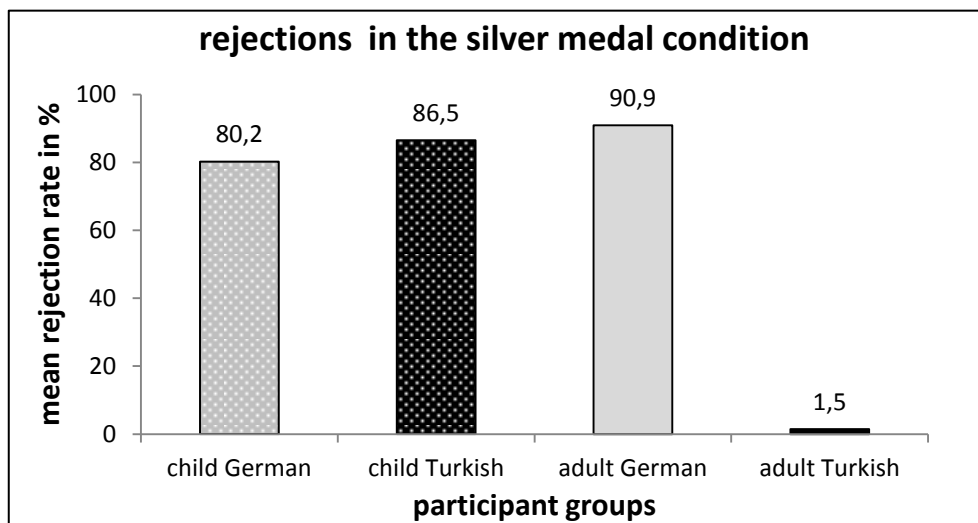


Figure 1: Mean proportion of rejections in the Silver Medal Condition across participant groups.

Crain, S., Ni, W. & Conway, L. (1994). Learning, parsing and modularity. In C. Clifton, L. Frazer, & K. Rayner (Eds.), *Perspectives on sentence processing* (pp. 443–467). Hillside, NJ: Lawrence Erlbaum.

Goro, T. & Akiba, S. (2004a). The acquisition of disjunction and positive polarity in Japanese. In V. Chand, A. Kelleher, A. J. Rodriguez & B. Schmeiser (eds.), *WCCFL 23 Proceedings*, 251–264. Somerville, MA: Cascadilla Press.

Goro, T. & Akiba, S. (2004b). Japanese disjunction and the acquisition of positive polarity. In Y. Otsu (ed.), *Proceedings of the Fifth Tokyo Conference on Psycholinguistics*, 137–162. Tokyo: Hituzi Shobo Publishing Company.