Processing subsective adjectives in development: Evidence from eye-tracking

Combining information from adjectives with the nouns they modify is particularly challenging for children under 3 years of age. Previous research suggests that they may over-rely on noun information when processing noun-adjective phrases, which has been shown across languages that place nouns both before and after adjectives, ruling out a language-specific linear order bias. Ninio (2004) suggested that interpreting noun-adjective combinations requires a two-step process, whereby one first needs to determine the object category, and then process the attribute to identify the relevant member of that category. This computational complexity leads children under 36 months to interpret the noun, but to delay or omit adjective interpretation. The question as to whether this difficulty is also linked to how semantic differences among (subsective) adjectives affect their interpretation within different contexts, however, has rarely been tested with children as young as 3 years, and never making use of online tasks.

The current study analyzes eye movement data to investigate children’s integration of nouns and adjectives, aiming to (i) investigate the processing strategies of children below and above 36 months of age and (ii) assess potential differences among semantic classes of adjectives. 38 Italian monolingual children (2;4 – 5;3) and 24 adult controls (19;1-29;9) were tested in a visual-world eye-tracking task. Three subsective adjectives were used, namely intersective (e.g., black), relative (e.g., big) and absolute (e.g., closed).

Results showed that children as young as 28 months are able to successfully integrate noun and adjective meanings to resolve reference. Although being slower, their looking pattern in the interpretation process was essentially the same as the adult controls. Interestingly, the computation of intersective adjectives was faster than that of absolute and, especially, relative adjectives, showing that children are sensitive to the different ways in which each adjective class is interpreted within different contexts.

Contrary to previous studies with children as young as 30 months of age, our findings do not provide evidence in favor of the two-step process. The youngest as well as the oldest children did not show an asymmetry in noun and adjective interpretation and were able to accurately integrate their meanings. Findings from the current study demonstrate that, once the meanings of nouns and adjectives are acquired, there is continuity in children’s development of sophisticated, adult-like processing skills.