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Authors

Pomiechowska, Barbara

Teglas, Erno

Kovacs, Agnes

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Infants combine kind and quantity concepts

Barbara Pomiechowska

Central European University, Budapest, Hungary

Erno Teglas

Central European University, Budapest, Hungary

Agnes Kovacs

CEU, Budapest, Hungary

Abstract

The meaning of complex expressions (“two apples”) is computed by accessing and combining the concepts linked to their constituent words (“two”, “apples”). Across three eye-tracking experiments (N = 60), we demonstrate that pre-verbal infants can perform such computations and successfully derive the meaning of novel quantified noun phrases. Experiment 1 established that 12-month-olds can learn two distinct novel labels (pseudowords) denoting a singleton or a pair. Experiments 2-3 indicated that infants combine the meanings of the newly learnt quantity labels with those of familiar kind labels. When presented with four potential referents (e.g., 1duck, 2ducks, 1ball, 2balls) and asked to look at one ball, infants oriented to the target satisfying the meaning of both labels (1ball) over the distractors satisfying the meaning of the labels separately (2balls, 1duck). Conceptual combination skills that enable complex thought seem to be operational in infancy, and can be triggered by linguistic stimuli.