Colour or category? Investigating second label learning in monolingual and bilingual infants

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The mutual exclusivity bias refers to the tendency to map novel labels onto novel objects using one-to-one mapping. When applied to familiar items, the mutual exclusivity bias can also be used to learn the label for object characteristics. Previous research investigated this by presenting infants with a novel label being applied to a familiar animal in an unusual colour (i.e., aqua-coloured dog; Kandhadai et al., 2017). Monolingual participants interpreted the label as referring to colour, whilst bilingual participants interpreted it as a second-category label (i.e., another word for dog). However, infants have also demonstrated an animal bias for proper noun learning (Sorrentino, 2001), therefore, potentially increasing infants' willingness to accept a second label when applied to animals. The present eye-tracking study replicates and extends this previous research to investigate whether monolingual and bilingual 17-to-19-month-old infants differ in their interpretation of a novel label when it is applied to familiar animals (cat and dog) and inanimate objects (ball and shoe) presented in unusual colours. Monolingual and bilingual infants were found to interpret the novel label as referring to a second-category label when the stimuli were animals, but not when the stimuli presented were objects. However, there was substantial variation between participant responses which cannot be explained by language background. Subsequently, gender, vocabulary size, knowledge of colour words, and early executive functions have been investigated as potential sources for explaining the variance in the results. Additionally, novel labels were found to hinder infants' recognition of familiar labels in familiar target trials; whilst consistent use of familiar labels improved identification, implying that additional labels may disrupt prior knowledge access.