

Examining the robustness and generalizability of the shape bias: a meta-analysis

Samah Abdelrahim

Stanford University, Stanford, California, United States

Michael Frank

Stanford University, Stanford, California, United States

Abstract

The "shape bias" – the bias to generalize new nouns by their shape rather than other features such as color or texture – has been argued to facilitate early noun learning for children. However, there is conflicting evidence about the magnitude and nature of this bias, as well as how it changes developmentally and how it varies across cultures. In this paper, we synthesize evidence about the shape bias using meta-analysis and meta-regression. We find strong overall evidence for the shape bias, but the literature is dominated by studies of English-speaking children, making it difficult to assess cross-cultural differences. Large between-study heterogeneity also highlights procedural variation in the literature. Overall, publication bias, heterogeneity, and data sparsity may limit the ability to distinguish theoretical accounts of the shape bias.