Reasoning About Hidden Features: Individual Differences and Age-Related Change

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Abstract

Throughout development, humans infer unobserved properties of the objects they encounter. However, it is often ambiguous whether these inferences result from category-based reasoning or overall similarity to previously observed objects. In this study, we examined inferences about hidden properties in four-year-old children (N=36) and adults (N=44). We taught participants three categories of artificial creatures. Each category had one critical feature, where one of its variations was more common to members of the category, while the other was more common overall. We found that, on average, both groups used within-category frequency to predict the value of an unseen critical feature. However, individual differences revealed distinctions between the groups. While adults who used within-category frequency for critical items used overall frequency for other items, this correlation was qualitatively reversed in children. This suggests that some children were sensitive to category knowledge when predicting unseen features, but others likely used a novelty heuristic.