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Learning Hierarchical Labels through Cross-situational Learning

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Abstract: An increasing body of research has demonstrated that human learners are able to use co-occurrences among words and objects to form word-object associations (e.g., Yu & Smith, 2007). In this study, we further investigated learners' ability to use statistical information to learn labels at different hierarchical levels. Participants were presented with objects and words in ambiguous learning trials. In some learning trials, participants saw multiple objects and heard their individual labels presented in a random order, while in other trials, category labels were presented instead. Results from three experiments provided converging evidence that adults were able to use word-object co-occurrences across different situations to learn hierarchical labels. Moreover, participants generalized category labels to novel members at the same level but not to superordinate-level instances. There was also an interaction between the level of ambiguity in learning contexts and performance in label learning and generalization.