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Relational Roles and Stem Format in Verbal Analogy

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Abstract

Analogical reasoning entails both one-to-one alignment and relational transfer. Yet the relative reliance on one process over the other may depend in part on the extent to which role-based relational reasoning is available. We systematically manipulated two theoretically important item characteristics that impact the extent of role-based relational reasoning in solving semantically distant verbal analogies: (1) the analogical relation (composition vs. category coordinate), and (2) the format of the analogy stem (i.e., two vs. three terms). For the categorical analogies (WATERMELON : PINEAPPLE :: VELVET : SILK), stem format had no effect. Whereas for the composition analogies (WATERMELON : SALAD :: VELVET : DRESS), participants were faster to solve the 3-term than the 2-term analogies, thereby indicating a facilitative effect of role-based alignment (e.g., both watermelon and velvet as materials of their respective objects). Thus, results support analogical models positing the detection and use of relational roles (Holyoak, 2012).