

Sizing Up Relations: Dimensions on Which Stimuli Vary Affect Likelihood of Adults' Relational Processing

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Abstract

Relational reasoning is central to much of human-unique cognition including artistic metaphor, scientific analogy. While much research has addressed the process of relational reasoning, the conditions under which relational reasoning is engaged in at all remains under-explored.

This work examines the relationship between dimensions on which stimuli vary and the likelihood that these stimuli will be processed relationally by adults. We use a modified relational-match-to-sample paradigm: One of the two choices contains a relational match with the target, the other contains a partial object match. Changing dimensions on which the stimuli vary dramatically effects the likelihood that adults process them relationally (i.e. make relational matches) - from 56% when stimuli vary on shape and color to 98% when stimuli vary on size alone. This is despite the relational content of the task remaining identical throughout.

We discuss implications of these results for designing stimuli, and for theories of relational reasoning generally.