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Authors

Ciechanowska, Iwona

Kroczek, Bartlomiej

Chuderski, Adam

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Incorrect responses salience affects strategy use in a figural analogy task

Iwona Ciechanowska

Jagiellonian University, Krakow

Bartłomiej Krocze

Jagiellonian University, Krakow

Adam Chuderski

Jagiellonian University, Krakow

Abstract: Previous studies of multiple-choice analogy problems suggested that some people use a more efficient but also harder constructive strategy (they build the complete representation of analogy), whereas others tend to use a less effective but simpler response elimination. We tested whether salience of incorrect options (five per figural analogy problem) affected strategy use. Salient options in 18 problems missed many features from the (sixth) correct option; options in 18 non-salient problems missed only few features. When controlling for working memory capacity, eye tracking yielded strongly correlating patterns of data that suggested, in line with previous reports, large individual variance in strategy use. However, participants overall spent 50% less time analyzing salient than non-salient options, suggesting that salience promoted the constructive strategy. This conclusion was supported by pupil size significantly predicting accuracy on problems with salient options, but not on those with non-salient options (which additionally yielded lower accuracy).