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Proceedings of the Annual Meeting of the Cognitive Science Society

Title

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Permalink

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Journal

Proceedings of the Annual Meeting of the Cognitive Science Society, 36(36)

ISSN

1069-7977

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Publication Date

2014

Peer reviewed

Explaining developmental differences in category learning using COVIS

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Abstract: Categorization forms a primary cognitive ability. Recent models/theories of categorization propose that there are multiple systems underlying this ability: an implicit learning system and an explicit, verbal, system. One successful neurocomputational model of categorization is COVIS (Ashby, 1998), which is used to explain eg categorization deficits in Parkinson's patients (Hélie, 2012). Here we study categorization in children and use COVIS simulations to explain developmental differences. Using changes in the rule-selection and perseveration parameters, we were able to explain developmental differences in a rule-based vs a family-resemblance task from Minda (2008).