

UC Merced

Proceedings of the Annual Meeting of the Cognitive Science Society

Title

Category learning in preschool and primary school children: The use of rule-based and similarity-based strategies

Permalink

<https://escholarship.org/uc/item/31m4t64j>

Journal

Proceedings of the Annual Meeting of the Cognitive Science Society, 43(43)

ISSN

1069-7977

Authors

Tikhonov, Roman
Moskvichev, Arsenii
Kotov, Alexey

Publication Date

2021

Peer reviewed

Category learning in preschool and primary school children: The use of rule-based and similarity-based strategies

Roman Tikhonov

HSE University, Saint Petersburg, Russian Federation

Arsenii Moskvichev

University of California, Irvine, Irvine, California, United States

Alexey Kotov

Higher School of Economics, Moscow, Russian Federation

Abstract

Categories can be learned through different strategies. Sometimes we may use abstract rules to categorize objects, and other times we may rely on the perceptual similarity among stimuli. The ability to categorize objects based on a common pattern develops since early childhood and exhibits systematic age differences. Numerous studies demonstrated that younger children rely on similarity-based processes, while older children employ rule-based categorization strategies (Miles & Minda, 2009; Rabi & Minda, 2014; Deng & Sloutsky, 2016). We used a model-based approach to investigate individual differences in category learning in pre-school children (6 years old) and primary school children (6-8 and 10-11 years old). Our results suggest that older children were more likely to employ a rule-based categorization strategy and demonstrated better learning outcomes. Lastly, we employed several computational models of categorization to uncover the properties of the process that may best account for the obtained results.