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Proceedings of the Annual Meeting of the Cognitive Science Society

Title

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Journal

Proceedings of the Annual Meeting of the Cognitive Science Society, 41(0)

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Publication Date

2019

Peer reviewed

Towards a space of contextual effects on choice behavior: Insights from the drift diffusion model

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Abstract

Choice behavior can be influenced by many different types of incidental contextual effects, including those pertaining to presentation format, emotion, social belief, and cognitive capacity. Many of these contextual effects form the basis of nudges, used by academics and practitioners to shape choice. In this paper, we use data from a very large-scale choice experiment to uncover a space of contextual effects. We construct this space by analyzing fifteen contextual effects using the parameters of the drift diffusion model (DDM). DDM is a quantitative theory of decision making whose parameters offer a theoretically compelling characterization of the cognitive underpinnings of choice behavior. By representing a large number of contextual effects in terms of how they influence the parameters of the DDM, our space is able to precisely measure, quantify, and compare the contextual effects, and interpret these effects in terms of their behavioral, mechanistic, and statistical implications.