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William James McCausland

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Submission Type / Conference Track: Abstract for Talk

Testing axioms of stochastic discrete choice using population choice probabilities

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William James McCausland¹, Clinton Davis-Stober², Anthony Marley³

Organization(s): 1: University of Montreal, Canada; 2: University of Missouri, USA; 3: University of Victoria, Canada

Submitted by: William James McCausland (University of Montreal, CA), ID: 1076

Presenting Author: McCausland, William James william.j.mccausland@umontreal.ca

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Abstract

We test several axioms of stochastic discrete choice, including regularity, random utility and various forms of stochastic transitivity. We do this for population level choice probabilities, using choice data from a new experiment featuring 35 different choice domains, including fine art, travel itineraries, and pizza toppings. For each choice domain, there is a universe of five objects, and for each of the 26 doubleton and larger subsets of a given universe, we observe the choices of 40 subjects. This allows us to measure population probabilities with some precision; since we do this for all non-degenerate subsets of a given universe, we expose every implication of each of the axioms to possible falsification. Each subject faces exactly one choice subset from each domain, making this a strictly between-subject design; unlike similar studies with within-subject or mixed designs, the standard assumption that choices are independent, and on each choice set, identically distributed, is innocuous. We report evidence, in the form of Bayes factors, for and against each of the axioms, using data for each choice domain.

Remarks / Messages

Remark/Message from the Authors:

This contribution is for the Symposium organized by Clinton Davis-Stober and Michel Regenwetter for July 22.

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