

Data Shows Human Behavior is Not Random, period.

William G. Kennedy
George Mason University

Abstract: Simulations of many people's decisions are used in public health and safety as well as to support policymaking. These simulations rely on credible models of individual decision-making. An obvious approach is to develop a list of plausible actions and to then evaluate the benefits of each in the current situation to make the decision. However, such evaluations can be implausible, e.g., zero-intelligence traders in economics, or impracticable because the approach is computationally intensive for large-scale simulations. As a result, a commonly used approach is to select randomly from the plausible actions. Without data on how people would actually chose, a random number from a uniform distribution over the plausible options is often used to represent the unknown cognition. However, we claim that substituting a uniform random distribution for how people make decisions is making very strong claims about the process and we will present data demonstrating it is simply wrong.