

This Week's Citation Classic

Edwards W. The theory of decision making. *Psychol. Bull.* 51:380-417, 1954. [Johns Hopkins Univ., Baltimore, MD]

This article introduces psychologists to economic theories about theories that focus on the ideas of utility and rationality. It also reviews psychological and other empirical data bearing on those theories as descriptions of human decision making, comments on the theories and data from a psychologist's perspective, and suggests additional studies. Topics covered include utility maximization, indifference curves, risky choices, transitivity, and multi-person games. [The Science Citation Index® (SCI®) and the Social Sciences Citation Index® (SSCI™) indicate that this paper has been cited over 250 times since 1961.]

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"As a graduate student, in one week in 1949, I read an article about level of aspiration by Kurt Lewin¹ and a number of his former students, and attended a colloquium by Fred Mosteller reporting his experimental application of von Neumann-Morgenstern's ideas about utility measurement. The obvious similarity of the ideas from such dissimilar roots stimulated me, and interacted with knowledge of economic theory obtained both because my father was a prominent economist and because I had taken many economics courses as an undergraduate. This confluence of ideas (which in fact, as I learned much later, converged earlier in Berlin in 1928) led to my PhD thesis and to my lifelong research interest in decision making.

"At Johns Hopkins, in my first post-PhD job, I decided that I could not afford my existing state of ignorance about the literature of decision making, then mostly a topic in economics and statistics. Since I had to read the stuff anyhow, I chose to get a publica-

tion of it by writing a review. So I borrowed for three months an office in the library of the economics department, holed up all day, every day, and emerged with 'The theory of decision making' in virtually final-draft form.

"The article correctly reflected the literature of its time, but seems extraordinarily naive today. For some reason, I had never anticipated what its impact would be. The topic of decision making apparently was not salient in psychological thinking as available for research and theorizing; this article made it so. That is why it has been so frequently cited. Economists, too, found it useful; they had not considered the possibility that the assertions about individual behavior and rationality that make up the main content of microeconomics were readily subject to experimental test, and that some such tests had been performed, with dubious results.

"In 1960, I reviewed the field again, this time for the Annual Review of Psychology. The title of that review, 'Behavioral decision theory,'² has served as a name for the field ever since. Other reviews have appeared at intervals since then, in the Annual Review of Psychology³ and elsewhere. Today, behavioral decision theory is a lively sub-field within cognitive psychology.

"The worst failure of 'The theory of decision making' was my inability to anticipate the important applications that such a theory could have. It should have been obvious, but wasn't, that a good theory of how decisions should be made was certain to impact the world of non-academic decision makers. I didn't start to see that point until 1958, and it didn't become highly visible in technical literature until Howard Raiffa, Ronald A. Howard, and I started making it so in the mid- to late-1960s under the label of decision analysis. It is fun, though fruitless, to speculate what the intellectual and organizational condition of decision analysis would be if I had been as interested in applications in 1954 as I am now."

1. Lewin K, Dembo T, Festinger L & Sears P S. Level of aspiration. (Hunt J M, ed.) *Personality and the behavior disorders*. New York: Ronald, 1944. Vol. 1. p. 333-78.
2. Edwards W. Behavioral decision theory. *Annu. Rev. Psychol.* 12:473-98. 1961.
3. Slovic P, Fischhoff B & Lichtenstein S. Behavioral decision theory. *Annu. Rev. Psychol.* 28:1-39. 1977.