

**Einhorn H J & Hogarth R M.** Behavioral decision theory: processes of judgment and choice. *Annu. Rev. Psychol.* 32:53-88, 1981.

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The literature on behavioral decision making from the period between approximately 1976 and 1981 is reviewed. Following a discussion on how to determine whether decisions are rational, a conceptual framework is developed that links experimental findings to basic processes studied in psychological research. [The *SSCI*® indicates that this paper has been cited in over 245 publications, making it the most-cited paper for this journal.]

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The late Hillel J. Einhorn and I were invited to prepare this paper in the fall of 1978 with a deadline of March 1980. We were both intimidated and honored by the invitation since we knew that *Annual Review of Psychology* chapters can influence the way people think about the fields reviewed.

There are different types of review papers, varying from "annotated bibliographies" to those that develop new conceptual frameworks. Being comprehensive, the former contains many references, thereby minimizing the chances of offense by omission. The latter is ambitious, requires more careful reading, and, being selective, has greater potential to offend sensitivities. We chose it for four reasons. First, it is more fun. Second, the editors of the *Annual Review* specifically advised us against annotated bibliographies. Moreover, we were aware that several reviews of this nature were already in preparation. Third, we were disturbed by what we considered the apychological nature of much research in behavioral decision making. We wanted to influence the field by linking it more closely with the mainstream of psychology. Fourth, we were

enthusiastic, if not realistic, enough to believe that we could achieve this goal.

It is important to understand the development of the field of behavioral decision making at the end of the 1970s. During that decade, pioneering studies by Amos Tversky, Danny Kahneman, and their colleagues had identified many deficiencies or "irrationalities" in human decision making. Their compelling, experimental models had induced many to extrapolate these findings into different fields, often without thinking through the limitations and implications of the original studies. Crucial to this, and what we perceived would soon provoke a "backlash,"<sup>1</sup> were key issues concerning the meaning of rational behavior. We therefore devoted the first part of the review to a critical discussion of the basis for judging the rationality of particular acts. This unexpected discussion in an *Annual Review* chapter provoked several less-than-friendly comments from colleagues who probably would have preferred an annotated bibliography. However, we never regretted our decision.

The rest of the paper extensively covered the literature within a broad psychological context that emphasized the importance of attention, memory, cognitive representations, conflict, learning, and feedback. We were particularly concerned with empirical results that had shown the sensitivity of judgment and choice to seemingly minor changes in tasks. Some of our "suggestions" have since been followed, for example, on rules governing strategy selection,<sup>2</sup> the meaning of context effects in contingent processing,<sup>3</sup> and causal reasoning.<sup>4</sup> We also advocated the use of multiple as opposed to antagonistic research methods on the grounds that "truth can be shared." Today, researchers are far more liberal in this respect.

Actually, writing the paper was the hardest part; we literally wrote the paper, sentence by sentence, together in the winter of 1980. We met the deadline but were mentally exhausted for several months. Working intensely on this project with Hilly Einhorn was a wonderful experience. He is sorely missed.

1. Cohen L J. Can human irrationality be experimentally demonstrated? *Behav. Brain Sci.* 4:317-70, 1981. (Cited 80 times.)
2. Johnson E J & Payne J W. Effort and accuracy in choice. *Manage. Sci.* 31:395-414, 1985.
3. Payne J W. Contingent decision behavior. *Psychol. Bull.* 92:382-402, 1982. (Cited 70 times.)
4. Einhorn H J & Hogarth R M. Judging probable cause. *Psychol. Bull.* 99:3-19, 1986.