

This Week's Citation Classic

Slovic P & Lichtenstein S. Comparison of Bayesian and regression approaches to the study of information processing in judgment. *Organ. Behav. Hum. Perform.* **6**:649-744, 1971.
[Oregon Research Institute, OR]

Studies of information use in judgment and decision making have been conducted within two schools of research, which we have labeled the 'Bayesian' and the 'regression' approaches. This paper presents a review and comparative analysis of these two approaches. [The *Social Sciences Citation Index*[®] (SSCI)[™]] indicates that this paper has been cited over 230 times since 1971.]

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"By 1968, several hundred studies had investigated the ways that people use information to arrive at a judgment or decision. Most of this work was done within two different paradigms, one based on probability theory (in particular, Bayes' theorem), the other based on regression analysis. Although the two groups of researchers were interested in many of the same questions, there was virtually no communication between them. Sarah Lichtenstein and I were among the few who had worked within both paradigms. When David Summers and Leon Rappoport invited us to write a chapter comparing the two approaches for a book they were editing,¹ we eagerly agreed to do so.

"Our article defined the important substantive issues and took a stand on many of them. We urged researchers to shed the blinders imposed upon them by working within a single paradigm. We pointed out some important generalizations derived from both paradigms—that people respond in highly systematic ways to information, that intuitive judgment need not be mysterious but can be described by precise, quantitative models, and that people's insights into their own judgmental processes are often

inaccurate. We asserted that difficulties of processing information often cause people to employ simplified mental strategies, many of which cause relevant data to be ignored or misused. Finally, we pointed out the need for decision aids to offset these shortcomings and described several promising aiding techniques.

"In retrospect, although we may have stimulated interest in judgment research, we failed to convince researchers to take a multi-paradigm approach. However, they did seem to heed another recommendation—that research should move towards more molecular analyses of information processing strategies. In recent years, many studies have shown how judgment processes are molded by the interaction between task demands and human cognitive limitations.^{2,3}

"One of the judgmental strategies we described was anchoring and adjustment. We later used our own inability to forecast the completion date of this article as an example of anchoring bias:

<i>On this date</i>	<i>We promised it for this date</i>
September 16, 1969	June 1969
May 1969	end of July 1969
December 1969	end of January 1970
January 1970	end of June 1970
Draft sent	July 24, 1970

"Perhaps because other authors experienced similar problems, completion of the Rappoport and Summers book was delayed. We worried that our review might lose its timeliness. Generously, Rappoport and Summers allowed us to submit it to a journal, and Jim Naylor agreed to devote an entire issue of *Organizational Behavior and Human Performance* to the article. Sarah and I were pleased that our mentor, Ward Edwards, wrote a forward to the journal version, since his own highly influential review articles^{4,5} had established the now burgeoning field of behavioral decision theory.

"We have probably sent out more than 5,000 reprints of the article. One professor, who requested many copies, later told us that he assigned it in its entirety the first week of the term to pare his overly large class down to manageable size."

1. Rappoport L & Summers D A. *Human judgment and social interaction*. New York: Holt, Rinehan & Winston, 1973. 403 p.
2. Tversky A & Kahneman D. Judgment under uncertainty: heuristics and biases. *Science* **185**:1124-31, 1974.
3. Slovic P, Fischhoff B & Lichtenstein S. Behavioral decision theory. *Annu Rev. Psychol.* **28**:1-39, 1977.
4. Edwards W. The theory of decision making. *Psychol Bull.* **51**:380-417, 1954.
5. Behavioral decision theory. *Annu Rev Psychol.* **12**:473-98, 1961.