

CHAPTER 2

The Framing of Decisions and the Psychology of Choice

Amos Tversky and Daniel Kahneman

Explanations and predictions of people's choices, in everyday life as well as in the social sciences, are often founded on the assumption of human rationality. The definition of rationality has been much debated, but there is general agreement that rational choices should satisfy some elementary requirements of consistency and coherence. In this chapter, we describe decision problems in which people systematically violate the requirements of consistency and coherence, and we trace these violations to the psychological principles that govern the perception of decision problems and the evaluation of options.

A decision problem is defined by the acts or options among which one must choose, the possible outcomes or consequences of these acts, and the contingencies of conditional probabilities that relate outcomes to acts. We use the term *decision frame* to refer to the decision maker's conception of the acts, outcomes, and contingencies associated with a particular choice. The frame that a decision maker adopts is controlled partly by the formulation of the problem and partly by the norms, habits, and personal characteristics of the decision maker.

It is often possible to frame a given decision problem in more than one way. Alternative frames for a decision problem may be compared to alternative perspectives on a visual scene. Veridical perception requires that the perceived relative height of two neighboring mountains, say, should not reverse with changes

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Amos Tversky • Department of Psychology, Stanford University, Stanford, California 94305.
Daniel Kahneman • Department of Psychology, University of British Columbia, Vancouver, British Columbia V6T 1W5, Canada. This work was supported by the Office of Naval Research under contract N00014-79-C-0077 to Stanford University.

of the vantage point. Similarly, rational choice requires that the preference between options should not reverse with changes of frame. Because of imperfections of human perception and decision, however, changes of perspective often reverse the relative apparent size of objects and the relative desirability of options.

We have obtained systematic reversals of preference by variations in the framing of acts, contingencies, or outcomes. These effects have been observed in a variety of problems and in the choices of different groups of respondents. Here we present selected illustrations of preference reversals, with data obtained from students at Stanford University and at the University of British Columbia who answered brief questionnaires in a classroom setting. The total number of respondents for each problem is denoted by N , and the percentage who chose each option is indicated in parentheses.

Problem 1 ($N=152$). Imagine that the U.S. is preparing for the outbreak of an unusual Asian disease, which is expected to kill 600 people. Two alternative programs to combat the disease have been proposed. Assume that the exact scientific estimate of the consequences of the programs are as follows:

If Program A is adopted, 200 people will be saved (72%).

If Program B is adopted, there is a one-third probability that 600 people will be saved, and two-thirds probability that no people will be saved (28%).

Which of the two programs would you favor?

The majority choice in this problem is risk averse: The prospect of certainly saving 200 lives is more attractive than a risky prospect of equal expected value, that is, a one-in-three chance of saving 600 lives.

A second group of respondents was given the cover story of Problem 1 with a different formulation of the alternative programs, as follows:

Problem 2 ($N=155$). If program C is adopted, 400 people will die (22%).

If Program D is adopted, there is a one-third probability that nobody will die, and two-thirds probability that 600 people will die (78%).

Which of the two programs would you favor?

The majority choice in Problem 2 is risk taking: The certain death of 400 people is less acceptable than the two-in-three chance that 600 will die. The preferences in Problems 1 and 2 illustrate a common pattern: Choices involving gains are often risk averse, and choices involving losses are often risk tak-