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E.C. Poulton

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**BEHAVIORAL DECISION THEORY:  
A NEW APPROACH**

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This book discusses the well-known fallacies of behavioral decision theory. It shows that while an investigator is studying a well-known fallacy, he or she may introduce, without realizing it, one of the simple biases that are found in quantifying judgments.

The work covers such fallacies as the apparent overconfidence that people show when they judge the probability of correctness of their answers to 2-choice general knowledge questions using a one-sided rating scale; the apparent overconfidence in setting uncertainty bounds on unknown quantities when using the fractile method; the interactions between hindsight and memory; the belief that small samples are as reliable and as representative as are large samples; the conjunction fallacy for Linda and Bill; the causal conjunction fallacy; the regression fallacy in prediction; the neglect of the base rate in the cab problem, in predicting professions, and in the medical diagnosis problem; the availability and simulation fallacies; the anchoring and adjustment biases; prospect theory; and bias by frames.

The aim of this book is to help readers to learn about the fallacies and thus to avoid them. As such, it will be useful reading for students and researchers in probability theory, statistics and psychology.

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BEHAVIORAL DECISION  
THEORY:  
A NEW APPROACH

E.C. POULTON

*Medical Research Council  
Applied Psychology Unit  
Cambridge*



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To all our grandchildren

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## Preface

Subjective probabilities show 2 kinds of bias. First, ordinary people know little or nothing about probability theory and statistics. Thus, their estimates of probability are likely to be biased in a number of ways. The second kind of bias occurs in investigating the first kind. The investigators themselves may introduce biases. Reviews of the literature characteristically accept the results of the investigations at their face value, without attempting to uncover and describe the biases that are introduced by the investigators.

The book treats both kinds of bias, covering both theory and practice. It concentrates on Tversky and Kahneman's pioneer investigations (Kahneman and Tversky, 1984) and the related investigations of their likeminded colleagues. It describes how they interpret their results using their heuristic biases and normative rules. It also touches on possible alternative normative rules that are derived from alternative statistical or psychological arguments.

The book should provide useful background reading for anyone who has to deal with uncertain evidence, both in schools of business administration and afterwards in the real world. It should be sufficiently straightforward for the uninitiated reader who is not familiar with behavioral decision theory. It should be useful to the more sophisticated reader who is familiar with Kahneman, Slovic and Tversky's (1982) edited volume, *Judgment under uncertainty: Heuristics and biases*, and who wants to know how the chapters can be linked together and where they should now be updated.

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