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Edited by Mandeep K. Dhami, Anne Schlottmann, and Michael R. Waldmann
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Judgment and Decision Making as a Skill
Learning, Development and Evolution

edited by

Mandeep K. Dhami, Anne Schlottmann,
and Michael R. Waldmann

This book presents a comprehensive review of emerging theories and research on the dynamic nature of human judgment and decision making (JDM). Leading researchers in the fields of JDM, cognitive development, human learning, and neuroscience discuss short-term and long-term changes in JDM skills. The authors consider how such skills increase and decline on a developmental scale in children, adolescents, and the elderly; how they may be learned; and how JDM skills can be improved and aided. In addition, beyond these behavioral approaches to understanding JDM as a skill, the book provides fascinating new insights from recent evolutionary and neuropsychological approaches. The authors identify opportunities for future research on the acquisition and changing nature of JDM. In a concluding chapter, eminent past presidents of the Society for Judgment and Decision Making provide personal reflections and perspectives on the notion of JDM as a dynamic skill.

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Preface

Our scientific understanding of human judgment and decision making (JDM) has grown considerably over the past 60 years in terms of the normative benchmarks (or standards) by which we assess performance, the descriptive models we use to describe JDM, and the prescriptive solutions we offer to improve JDM. Indeed, policy and practice in several domains such as education, management, and medicine have benefited from the findings of JDM research. Nevertheless, the vast majority of the theoretical literature and empirical research has discussed human JDM with little reference to its changing or dynamic nature. This is partly due to the historical coincidence that the field of JDM developed in competition with static economic models, such as expected utility theory, and to limiting methodological commitments, such as investigating JDM in single-trial, cross-sectional studies with the primary focus on cognitively fully functioning adults. The contrast to economic models may also have contributed to the fact that the majority of studies have been restricted to collecting behavioral measures, and underweighted the evolutionary and neuropsycho-biological context of JDM. Thus, to date, we know relatively little about how JDM skills are acquired and change within their natural ecological contexts, and how this change is represented in the brain.

There are many important questions that simply cannot be fully answered by prominent, prevailing JDM theories and research methods. For instance, how do we make evolutionarily adaptive decisions? What are the similarities and differences in the decision-making abilities of young children, adolescents, and older adults? How do we learn to make good decisions? How can we improve or aid our decision making? Fortunately, there is an emerging body of work that is interested in long-term and short-term changes in JDM skills that can provide theoretically grounded and empirically supported answers to these questions. Pockets of research have begun to study skill acquisition on a developmental scale in children, adolescents, and the elderly. On an intermediate timeframe, there is research on the acquisition of expertise in JDM, and training and aiding of JDM. Researchers more interested in short-term changes have begun to

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study learning of JDM tasks. There is also an increasing body of recent work on the evolution and neuropsycho-biology of JDM which provides fascinating new perspectives on the adaptive underpinnings and neural substrates of JDM skills. For a coherent and comprehensive picture of the dynamic nature of JDM in humans these perspectives need to inform each other. Thus, this book brings together leading researchers in the fields of JDM, cognitive development, human learning, and neuroscience to present these emerging perspectives on JDM as a skill.

In order to introduce a new conception of JDM, seeing it as a dynamic skill rather than a static capacity, the book crosses the boundaries of three fields. In externally peer-reviewed chapters, authors provide comprehensive and up-to-date reviews of the theories, research, and methods from various areas of psychology (evolutionary, neurocognitive, developmental, learning), employed in understanding changes in JDM. They cover key concepts in JDM such as choice, risk, probability, prediction, heuristics, and biases. These topics are approached from descriptive, normative, and prescriptive standpoints. In order to understand the dynamic nature of JDM, authors consider both the cognitive capacity or resources of the human brain, and how people adapt to the information structure of JDM tasks. They consider individual and group-based JDM, and real world decision making. Authors also identify areas of potential future research on the acquisition and changing nature of JDM, and outline innovative methods that can be used to conduct such research. For example, they point to the impact of non-cognitive factors (e.g. emotion) on JDM, and the need to conduct more studies in ecologically natural (representative) settings. Finally, in a concluding chapter, several eminent past presidents of the Society for Judgment and Decision Making provide personal perspectives on the concept of JDM as a dynamic skill.

We hope that the approaches and perspectives offered in this book will contribute to a more comprehensive conception of human JDM, one that takes an account of its dynamic nature. After all, even steady state performance in cognitively fully functioning adults is difficult to understand without appreciation of how this is uniquely constrained by a system that has evolved to adapt, develop, and learn.

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Concept[+]	1	2	3	4	5	6	7	8	9	10	11
Uncertainty		⋆	⋆				⋆			⋆	
Risk		⋆	⋆	⋆	⋆	⋆					⋆
Probability		⋆	⋆	⋆	⋆	⋆	⋆	⋆	⋆	⋆	⋆
Utility/value		⋆	⋆			⋆				⋆	⋆
Trade-off					⋆			⋆		⋆	
Classification/categorization							⋆	⋆			
Correlation	⋆						⋆		⋆		
Causal			⋆				⋆		⋆		
Prediction	⋆		⋆			⋆	⋆	⋆		⋆	
Diagnostic							⋆		⋆	⋆	⋆
Reasoning		⋆				⋆	⋆		⋆		
Rationality	⋆	⋆				⋆					
Heuristic	⋆		⋆	⋆	⋆	⋆			⋆	⋆	⋆
Strategy/policy	⋆	⋆	⋆			⋆		⋆			
Bias/fallacy	⋆	⋆	⋆	⋆	⋆	⋆	⋆				⋆
Intuition v. analysis			⋆	⋆	⋆				⋆		⋆

Note. [+] All of the chapters discuss the concepts of judgment, decision making, and choice.

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