Theories of Team Cognition
Cross-Disciplinary Perspectives

Edited by
Eduardo Salas
University of Central Florida
Orlando, Florida

Stephen M. Fiore
University of Central Florida
Orlando, Florida

Michael P. Letsky
Office of Naval Research
Arlington, Virginia

Routledge
Taylor & Francis Group
New York  London
Contents

Series Foreword

Jeannette N. Cleveland and Kevin R. Murphy

Preface

Acknowledgments

About the Editors

Contributors

SECTION I  Team Cognition as a Field

Chapter 1  Why Cross-Disciplinary Theories of Team Cognition?

Eduardo Salas, Stephen M. Fiore, and Michael P. Letsky

Chapter 2  Macro cognition, Team Learning, and Team Knowledge: Origins, Emergence, and Measurement

Steve W. J. Kozlowski and Georgia T. Chao

SECTION II  Organizational Behavior Perspectives

Chapter 3  Reasoning About Intentions in Complex Organizational Behaviors: Intentions in Surgical Handoffs

Eugene Santos, Jr., Joseph Rosen, Keum Joo Kim, Fei Yu, Deqing Li, Yufan Guo, Elizabeth Jacob, Samuel Shih, Jean Liu, and Lindsay B. Katona

Chapter 4  Time and Team Cognition: Toward Greater Integration of Temporal Dynamics

Susan Mohammed, Rachel Tesler, and Katherine Hamilton
Chapter 5  Leadership and Emergent Collective Cognition .......... 117
Toshio Murase, Christian J. Resick, Miliani Jiménez, Elizabeth Sanz, and Leslie A. DeChurch

Chapter 6  Elaborating Cognition in Teams: Cognitive Similarity Configurations ........................................ 145
Joan R. Rentsch and Ioana R. Mot

SECTION III  Human Factors and Cognitive Engineering Perspectives

Chapter 7  A Cognitive Systems Engineering Perspective on Shared Cognition: Coping With Complexity .......... 173
Emily S. Patterson and Robert J. Stephens

Chapter 8  Theoretical Underpinning of Interactive Team Cognition ................................................................. 187
Nancy J. Cooke, Jamie C. Gorman, Christopher Myers, and Jasmine Duran

Chapter 9  Articulating Collaborative Contributions to Activity Awareness .................................................... 209
John M. Carroll, Marcela Borge, Craig H. Ganoe, and Mary Beth Rosson

SECTION IV  Cognitive and Computer Science Perspectives

Chapter 10 Combinations of Contributions for Sharing Cognitions in Teams .................................................. 245
Verlin B. Hinsz and Jared L. Ladbury
Chapter 11 Considering the Influence of Task Complexity on Macrocognitive Team Processes .................................. 271
Rebecca Lyons, Heather Lum, Stephen M. Fiore, Eduardo Salas, Norman Warner, and Michael P. Letsky

Chapter 12 Team Knowledge: Dimensional Structure and Network Representation ........................................... 289
J. Alberto Espinosa and Mark A. Clark

Chapter 13 Intelligent Agents as Teammates................................. 313
Gita Sukthankar, Randall Shumaker, and Michael Lewis

Chapter 14 Looking at Macrocognition Through a Multimethodological Lens ................................................. 345
Michael D. McNeese and Mark S. Pfaff

Chapter 15 Gaining Insight Into Team Processes on Cognitive Tasks With Member Expectations and the Social Relations Model.......................................................... 373
Jared L. Ladbury and Verlin B. Hinsz

SECTION V Social Psychology, Communication, and Developmental Perspectives

Chapter 16 Team Cognition and the Accountabilities of the Tool Pass ......................................................... 405
Timothy Koschmann, Gary Dunnington, and Michael Kim

Chapter 17 Transactive Memory Theory and Teams: Past, Present, and Future..................................................... 421
Andrea B. Hollingshead, Naina Gupta, Kay Yoon, and David P. Brandon
Chapter 18 Team Cognition, Communication, and Sharing

Marshall Scott Poole

Chapter 19 Team Cognition, Communication, and Message Interdependence

Stephenson J. Beck and Joann Keyton

Chapter 20 Team Reason: Between Team Cognition and Societal Knowledge

Peter Musaeus

Chapter 21 Group Cognition in Online Teams

Gerry Stahl and Carolyn Penstein Rosé

Chapter 22 Facilitating Effective Mental Model Convergence: The Interplay Among the Team's Task, Mental Model Content, Communication Flow, and Media

Sara A. McComb and Deanna M. Kennedy

SECTION VI The Road Ahead

Chapter 23 Commentary on the Coordinates of Coordination and Collaboration

John Elias and Stephen M. Fiore

Chapter 24 Some More Reflections on Team Cognition

Olivia C. Riches and Eduardo Salas

Author Index

Subject Index