Contents

Foreword
Sidney Irvine ix

Acknowledgments
Patrick C. Kyllonen, Richard D. Roberts, and Lazar Stankov xi

List of Contributors xiii

I General Background 1

1 Enhancement and New Constructs: Overview and Rationale 3
   Patrick C. Kyllonen, Lazar Stankov, and Richard D. Roberts

II Enhancement via Instruction 13

2 Improving Intelligence: What's the Difference From Education? 15
   Earl Hunt

3 Schooling and Intelligence: Effects of Track of Study on Level and Profile of Cognitive Abilities 37
   Jan-Eric Gustafsson

4 Early Childhood Interventions: The Abecedarian Project 61
   Frances A. Campbell and Margaret R. Burchinal

5 Does Education Influence Intelligence? 85
   Nathan Brody

III Enhancement via Development 93

6 Child Development: The Underweighted Aspect of Intelligence 95
   James Comer

7 Enhancing Development in Intellectually Talented Populations 109
   David Lubinski and April Bleske-Rechek
CONTENTS

8 Studies of the Impacts of Minimum Academic Standards (Prop 48) on the Academic Achievements of College Student-Athletes 133
  John J. McArdle

9 Is There a Standard for Standardized Testing? Four Sketches of the Applicability (or Lack Thereof) of Standardized Testing in Different Educational Systems 157
  Elena Grigorenko, Linda Jarvin, Weihua Niu, and David Preiss

IV Enhancement Over Time 183

10 Spearman, g, Expertise, and the Nature of Human Cognitive Capability 185
  John L. Horn

11 Become a Demosthenes! Compensating Age-Related Memory Deficits With Expert Strategies 231
  Reinhold Kliegl and Doris Philipp

12 The History of the American Mind in the 20th Century: A Scenario to Explain IQ Gains Over Time and a Case for the Irrelevance of g 245
  James R. Flynn

V Enhancement via New Constructs 265

13 ‘g,’ g’s, or Jeez: Which Is the Best Model for Developing Abilities, Competencies, and Expertise? 267
  Robert J. Sternberg

14 What Is Emotional Intelligence and What Does It Predict? 319
  John D. Mayer, Peter Salovey, and David R. Caruso

15 Is Intelligence Critical Thinking? Why We Need a New Definition of Intelligence 349
  Diane F. Halpern

VI New Directions in Enhancement 371

16 Nutrition and Intellectual Development 373
  David Benton

17 Challenges and Opportunities for Intelligence Augmentation 395
  Bradley Rhodes
CONTENTS vii

18 The Future of Human Intelligence: Enhancing Cognitive Capacity in a 24/7 World 407
   David F. Dinges and Naomi L. Rogers

VII Conclusions 431

19 Extending Intelligence: Conclusions and Future Directions  433
   Richard D. Roberts, Lazar Stankov, Ralf Schulze, and Patrick C. Kyllonen

Author Index 453

Subject Index 463