# Contents

## Preface  xv

## Acknowledgments  xxiii

### Section 1  Entrepreneurship: Theory and Research

1  A Future of Entrepreneurship Research: Domain, Data, Theory, and Impact  1

*Per Davidsson*

- Introduction  3
- Narrowing and Broadening the Field  3
- Richer, Better, and More Varied Data  6
- The Quest for Increased Theoretical Precision  7
  - Abstraction, Conceptual Clarity, and Operationalization  9
  - Sample Size, Data Quality, Statistical Significance, and Practical Relevance  12
    - Expanding the null hypothesis  13
    - Stating predictions as comparisons  13
    - Developing non-nil predictions  13
    - Specifying other than linear functional forms  13
  - Recognizing Context  13
- Increased Demands for Practical Relevance  14
- Conclusion  17

References  17

2  Entrepreneurship as a Process: Empirical Evidence for Entrepreneurial Engagement Levels  25

*Peter van der Zwan and Roy Thurik*

- Introduction  25
- Merits of Entrepreneurship as a Process  27
- Three Stylized Facts  28
  - Latent Entrepreneurship  29
  - Different Roles Throughout the Process  29
  - Country Differences  30
- Conclusion and Recommendations for Future Research  31

References  33
3 Types and Roles of Productive Entrepreneurship: A Conceptual Study  37
Sander Wennekers and André van Stel
Introduction  37
   Ensuing Research Questions  39
   Methodology  39
Typologies and Types  39
   From Typologies/Dimensions to Major Types  41
   Twelve major types of entrepreneurship  43
   Further Reduction to Four Main Types  44
Entrepreneurial Roles  45
   General Entrepreneurial Roles  45
   Specific Entrepreneurial Roles  46
Intermediary Effects and Final Contributions  50
   Intermediate Effects  51
   Final Contributions  54
Causal Chains per Main Type of Entrepreneurship: A Synthesis  57
   Ambitious Innovators  57
   Ambitious Replicators/Adapters  58
   Solo Self-Employed  59
   Managerial Employers (Rest Group)  60
Discussion and Conclusions  61
   Summarizing and Interpreting the Main Findings  61
   Implications for Research  62
   Implications for Policy  63
   Conclusion  65
   References  65

4 Toward a Theory of Entrepreneurial Behavior  71
Bruce T. Teague and William B. Gartner
Introduction  71
The Current State of Entrepreneurial Behavior Scholarship  72
(Re)defining Entrepreneurial Behavior  73
   Defining Behavior  73
   Defining Entrepreneurial Behavior  74
The Role of Behavior in Existing Theories and Frameworks  76
A Theory of Entrepreneurial Behavior  78
   Behavioral Repertoire  80
   Sources of Behavioral Variation  81
   Level of Mastery  83
Implications of a Theory of Entrepreneurial Behavior  84
Toward an Entrepreneurial Behavior Research Agenda  85
   Next Steps  86
Conclusions  87
References  88
## Section 2  The Individual: Psychology of Entrepreneurship  95

5  The Psychology of Entrepreneurship: A Selective Review and a Path Forward  97
   *Kelly G. Shaver and Amy E. Davis*
   
   - Introduction  97
   - Why Ask Why?  97
   - The Personality Approach  98
     - Single Traits  98
       - Achievement Motivation  98
       - Risk Propensity  99
     - Broad Sets of Dimensions  100
       - Inventories of Traits  100
       - Latent Dimensions  101
   - The Social Cognition Approach  102
     - Career Reasons  103
     - Attribution Processes  104
     - Social Cognitive Theories  104
       - Expectancy Theory  105
       - Theory of Planned Behavior  105
   - Entrepreneurial Teams  106
     - Approaches to Teams  106
     - Team Structure  107
   - Toward a More Inclusive Future  107
     - Culturally Inclusive and Specific  108
       - Gender  108
       - Race and Ethnicity  108
       - Life Course and Personal Context  108
       - Country of Origin  109
     - Methodologically Inclusive and Specific  109
       - Theoretically Precise  109
       - Multiple Dimensions  110
       - Replication  110
       - Teams Over Time  110
   - Conclusion  111
   - References  111

6  Tools Entrepreneurs Need for Converting Dreams To Reality—And Achieving Success  119
   *Robert A. Baron*

   - Introduction  119
   - Motivation: What Goals Do Entrepreneurs Seek  120
   - Cognitive Tools: Creativity, Opportunity Recognition, and Avoiding Cognitive Traps  121
     - Opportunity Recognition of Creation: Recognizing or Creating Practical Uses of Ideas  122
The Personal Side of Entrepreneurial Success: Characteristics and Skills That Contribute to Success 125
  Personal Characteristics: Self-Efficacy, the “Big Five,” and Willingness to Improvise 126
  From Desire to Achievement: The Role of Self-Regulation 127
  Passion: Deep, Emotional Commitment to Entrepreneurship and the Roles it Involves 128
The Social Side of Entrepreneurial Success II: Forming High Quality Social Networks and Getting Along With Others 129
  How do Entrepreneurs Build their Social Networks? 130
  Dealing with Adversity—and Failure 131
    Coping With Stress 132
    Psychological Capital 132
  Dealing with Business Failure: When One Dream Ends Another (Should) Begin 133
Putting it All Together: The Successful Entrepreneur’s Tool Kit 133
  Tools for Changing the World—or at Least Some Corner of it 134
References 136

7 Creativity and Entrepreneurship: A Process Perspective 139
  Maike Lex and Michael M. Gielnik
    Introduction 139
    Creativity and Entrepreneurship: A Conceptual Differentiation 140
    The Effect of Creativity on Entrepreneurship 141
    Toward a Cumulative Process Model of Creativity in Entrepreneurship 143
    Key Assumptions of the Cumulative Process Model 145
      Creativity and its Underlying Components 145
      The Entrepreneurial Process and its Constituting Phases 145
      An Ambidexterity Perspective on Creativity in the Entrepreneurial Process 147
    A Cumulative Process Model on Creativity in Entrepreneurship 149
      Prelaunch 149
      Launch 151
      Postlaunch 154
    The Cumulative Process Model: A Summary 157
    An Interactionist Perspective on Creativity in Entrepreneurship 157
    Practical Implications: Promoting Creativity to Promote Entrepreneurship 159
    Future Research 161
    Conclusion 162
    References 163

8 The Dark Side of the Entrepreneurial Personality: Undesirable or Maladaptive Traits and Behaviors Associated with Entrepreneurs 173
  Angelo S. DeNisi and Benjamin N. Alexander
    Introduction 173
    Recent Interest and Older Views 174
    Entrepreneurial Personality and Entrepreneurship Outcomes 175
      Personality and Entrepreneurial Intentions 175
Personality and Entrepreneurial Success  177
Broader Impact  179
Future Research on the Dark Side of the Entrepreneurial Personality  180
  Untangling Outcomes and Trait Phenomena  180
  Basic Issues  182
Conclusion  183
References  184

9  Female Entrepreneurship and IQ  187
    Rik W. Hafer
    Introduction  187
    Measuring Female Entrepreneurship and IQ  188
      The Female Entrepreneurship Index  188
      National IQ  190
    The Model and Data  191
    Regression Results  194
      Robustness Tests  195
    Caveats  197
    Conclusions and Policy Implications  198
    References  198
    Appendix A  201
    Appendix B  204
    Acknowledgments  204

10  The Person in Social Entrepreneurship: A Systematic Review of Research on the Social Entrepreneurial Personality  205
    Ute Stephan and Andreana Drencheva
    Introduction  205
    Theoretical Background  206
      Social Entrepreneurship  206
      Personality  207
    Review Approach and Overview of the Reviewed Studies  207
    Review Findings  208
      Motivation  208
        General values, motives, interests  211
        Specific motives  213
      Traits  216
      Identity  217
      Leadership and Managerial Skills  218
    Discussion and Opportunities for Future Research  220
      Building on Strengths and Insights of the Current Research  222
    References  223
    Acknowledgment  229

11  An Individual Differences Approach to Studying Entrepreneurial Tendencies  231
    Gorkan Ahmetoglu and Tomas Chamorro-Premuzic
    Introduction  231
    The Pillars of Individual Differences Psychology  232
<table>
<thead>
<tr>
<th>Contents</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Psychological Approach to Entrepreneurship</td>
<td>233</td>
</tr>
<tr>
<td>A Critical Evaluation of the Psychological Approach to Entrepreneurship</td>
<td>234</td>
</tr>
<tr>
<td>A Critical Evaluation of the Group Differences Approach</td>
<td>234</td>
</tr>
<tr>
<td>A Critical Evaluation of Comparisons Between More and Less Successful Entrepreneurs</td>
<td>236</td>
</tr>
<tr>
<td>An Individual Differences Approach to Understanding Entrepreneurial Tendencies</td>
<td>236</td>
</tr>
<tr>
<td>(Re)defining Entrepreneurial Tendencies</td>
<td>237</td>
</tr>
<tr>
<td>The Practical Importance of Theoretical Preciseness</td>
<td>238</td>
</tr>
<tr>
<td>Recommendations for Researching Entrepreneurial Tendencies</td>
<td>239</td>
</tr>
<tr>
<td>How Do We Assess Entrepreneurial Tendencies?</td>
<td>240</td>
</tr>
<tr>
<td>How Do General Entrepreneurial Tendencies Manifest in Contextual Behavior?</td>
<td>242</td>
</tr>
<tr>
<td>Classification of Entrepreneurial Behaviors</td>
<td>242</td>
</tr>
<tr>
<td>How Do General Entrepreneurial Tendencies and Contextual Behavior Manifest in Entrepreneurial Output?</td>
<td>245</td>
</tr>
<tr>
<td>Discussion</td>
<td>247</td>
</tr>
<tr>
<td>Implications for Entrepreneurship Research</td>
<td>248</td>
</tr>
<tr>
<td>Implications Beyond Business Creation</td>
<td>249</td>
</tr>
<tr>
<td>Other Considerations</td>
<td>249</td>
</tr>
<tr>
<td>Existing and Future Research</td>
<td>250</td>
</tr>
<tr>
<td>Conclusion</td>
<td>251</td>
</tr>
<tr>
<td>References</td>
<td>251</td>
</tr>
</tbody>
</table>

Section 2a: Genetics of Entrepreneurship 257

12 Biology and Entrepreneurship 259
Ahmed Nofal, Nicos Nicolaou, and Noni Symeonidou

Introduction 259

Genetics and Entrepreneurship 260

Quantitative Genetics in Entrepreneurship 260
Tendency to Engage in Entrepreneurship 260
Genetic Influences on Physiology 261
Genetic Covariation with Individual Attributes 261
Gene X Environment Interactions 262
Gene X Environment Correlations 262
Opportunity Recognition 262
Entrepreneurial Intention 262
Entrepreneurial Performance 263

Molecular Genetics in Entrepreneurship 263
Candidate-Gene Studies 263
Genome-Wide Association Studies (GWAS) 264

Hormones in Entrepreneurship 265
Physiology in Entrepreneurship 266
Neuroscience in Entrepreneurship 266
Quantitative Electroencephalogram 267
The New Venture Team as a Focal Object of Inquiry 316
  Internal Factors 316
  External Factors 317
Disentangling NVT “Processes” in the Input-Processes-Outcome Framework 318
Toward a Framework for Studying NVT Processes 318
  Prefounding Phase 319
  Postfounding phase 319
Selected Theories Within the Theoretical Foundations 321
  Faultline Theory 321
    Future Research Directions 324
  Behavioral Integration and Shared Cognition 324
    Future Research Directions 325
  Shared Leadership 326
    Future Research Directions 327
  Creativity and Imagination 328
    Future Research Directions 329
  Organizational and Team Justice 330
    Future Research Directions 331
  Transactive Memory Systems 332
    Future Research Directions 332
Measuring New Venture Team Processes 333
Methodological Issues in NVT Studies 333
  Collinearity 334
  Dominant Survey Method 334
  Cross-Sectional Designs 334
Meeting Methodological Challenges 335
  Improving Survey Instruments 335
  Simulation Exercises: Agent-Based Modeling 335
  Neurostudies 336
  Towards a Mixed Methods Approach 337
Concluding Remarks 337
References 338

Section 4 National and International Entrepreneurship
  4a: National Entrepreneurship 349

16 The Knowledge Spillover Theory of Entrepreneurship and the Strategic Management of Places 351
  David B. Audretsch and Erik E. Lehmann
Introduction 351
The Challenge of Inequality of Places 353
  Globalization and Regionalization 353
  The Mediating Role of Entrepreneurship in Transforming Places 353
  Transforming Regions to Places 355
The Knowledge Spillover Theory of Entrepreneurship  356
  Defining the Knowledge Spillover Theory of Entrepreneurship  356
  The Emergence of the Knowledge Spillover Theory of Entrepreneurship  358
  Knowledge Spillover Theory and Places  360
  The Knowledge Filter and the Strategic Management of Place  363
  Absorptive Capacity of Place  366
  Emergence of a Strategic Management Approach of Place  368
  Conclusions  371
  References  372

17 The Effect of New Business Formation on Regional Development  379
   Michael Fritsch
   Introduction  379
   The Basic Relationships  380
   The Magnitude of Direct and Indirect Effects  383
   Differences in the Contribution of New Business Formation to Economic Growth
     Across Industries and Regions  385
   The Persistence of Regional Entrepreneurship  389
   Policy Implications  391
   Avenues for Further Research  392
   Final Remarks  396
   References  396

18 National Culture and Entrepreneurship  401
   Gabriella Cacciotti and James C. Hayton
   Introduction  401
   Method  401
   Conceptualization of National Culture in Entrepreneurship Research  402
     National Culture as Values  403
       Definition  403
       Measures  403
       Outcomes  404
     National Culture as Norms and Practices  408
       Definition  408
       Measures  409
       Outcomes  410
   Summary  412
   Directions for Future Research  414
   Conclusion  416
   References  416

19 Management of Entrepreneurial Ecosystems  423
   Erkko Autio and Jonathan Levy
   Introduction  423
   Entrepreneurial Ecosystems: Definitions
     and Policy Challenges  425
Management of Complex Socioecological Ecosystems 428
Stakeholder Consultation 429
Stakeholder Participation 430
Scottish Innovation-Based Entrepreneurial Ecosystem 431
Method 431
REAP Scotland 432
Field Trial in Scotland 435
Case Reflection 438
Discussion 442
Conclusion 445
References 446

Section 4b: International Entrepreneurship 451

20 International Entrepreneurship and Networks 453
Salman Ahmad and Pavlos Dimitratos
Introduction 453
International Entrepreneurship: Definition 454
Network Perspective 456
Networks and International Entrepreneurship 457
Important Themes: Intersection of International Entrepreneurship and Networks Research 458
Network Creation and International Entrepreneurship 460
Network Types and International Entrepreneurship 460
Network Structures and International Entrepreneurship 463
Network Dynamics and International Entrepreneurship 464
Network's Benefits and International Entrepreneurship 465
Theoretical Basis: Intersection of International Entrepreneurship Networks Research 468
Transaction Cost Economics (TCE) 469
Organizational Learning 469
Resource-Based View 470
Social Capital 470
Knowledge-Based View 471
Other Theories 471
Practical Implications 472
Future Research 472
Conclusion 472
References 473

Index 485