

Palgrave Studies in Creativity and Culture

Series Editors

Vlad Petre Glăveanu
Department of Psychology
Webster University
Geneva, Switzerland

Brady Wagoner
Communication and Psychology
Aalborg University
Aalborg, Denmark

Both creativity and culture are areas that have experienced a rapid growth in interest in recent years. Moreover, there is a growing interest today in understanding creativity as a socio-cultural phenomenon and culture as a transformative, dynamic process. Creativity has traditionally been considered an exceptional quality that only a few people (truly) possess, a cognitive or personality trait 'residing' inside the mind of the creative individual. Conversely, culture has often been seen as 'outside' the person and described as a set of 'things' such as norms, beliefs, values, objects, and so on. The current literature shows a trend towards a different understanding, which recognises the psycho-socio-cultural nature of creative expression and the creative quality of appropriating and participating in culture. Our new, interdisciplinary series Palgrave Studies in Creativity and Culture intends to advance our knowledge of both creativity and cultural studies from the forefront of theory and research within the emerging cultural psychology of creativity, and the intersection between psychology, anthropology, sociology, education, business, and cultural studies. Palgrave Studies in Creativity and Culture is accepting proposals for monographs, Palgrave Pivots and edited collections that bring together creativity and culture. The series has a broader focus than simply the cultural approach to creativity, and is unified by a basic set of premises about creativity and cultural phenomena.

More information about this series at
<http://www.palgrave.com/gp/series/14640>

Izabela Lebuda • Vlad Petre Glăveanu
Editors

The Palgrave Handbook of Social Creativity Research

palgrave
macmillan

Editors

Izabela Lebuda
Institute of Psychology
University of Wrocław
Wrocław, Poland

Vlad Petre Glăveanu
Department of Psychology
Webster University Geneva
Bellevue, Switzerland

Palgrave Studies in Creativity and Culture

ISBN 978-3-319-95497-4 ISBN 978-3-319-95498-1 (eBook)

<https://doi.org/10.1007/978-3-319-95498-1>

Library of Congress Control Number: 2018960442

© The Editor(s) (if applicable) and The Author(s) 2019

This work is subject to copyright. All rights are solely and exclusively licensed by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, express or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Cover illustration: artvea/gettyimages

This Palgrave Macmillan imprint is published by the registered company Springer Nature Switzerland AG
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

*For my grandmothers—Ala and Stasia, Iza
For Constance, Corina and Petre, Vlad*

Contents

- 1 Re/researching the Social in Creativity, Past, Present and Future:
An Introduction to the Palgrave Handbook of Social Creativity
Research** 1
Izabela Lebuda and Vlad Petre Glăveanu
- Part I Methodological Approaches to the Social in Creativity
Studies** 11
- 2 The Sociocultural Context of Exceptional Creativity:
Historiometric Methods** 13
Dean Keith Simonton
- 3 Assessing Creativity with the Consensual Assessment Technique** 27
John Baer and James C. Kaufman
- 4 An Introduction to Social Network Analysis for Creativity
Research** 39
Alexander S. McKay
- 5 Those Days When People Are Creative: Diary Methods in
Creativity Research** 59
Marta Czerwonka

6	Imaginative Play, Socio-emotional Competence, and Sociometric Status in Preschool Children: Common Methodological Problems and New Research Directions	75
	<i>Dorota Maria Jankowska and Iwona Omelańczuk</i>	
7	Climate for Creativity: How to Measure It in Parent – Child Relationships?	93
	<i>Joanna Maria Kwaśniewska</i>	
8	Life Positioning Analysis: Sociality, Materiality, and Creativity in the Lives of Carl Rogers and B. F. Skinner	109
	<i>Jack Martin</i>	
9	The Dynamic Display of Social Creativity: Developing the Method of Serial Reproduction	125
	<i>Brady Wagoner</i>	
10	Microgenetic Analysis and Creativity: Analyzing Psychological Change Processes	145
	<i>Mônica Souza Neves-Pereira</i>	
11	Studying Creativity as a Social Process: The Use of Subjective Cameras	163
	<i>Vlad Petre Glăveanu</i>	
Part II	Empirical Approaches to the Social in Creativity Studies	175
12	The Sociocultural Context of Exceptional Creativity: Historiometric Studies	177
	<i>Dean Keith Simonton</i>	
13	(Social) Identity and Creativity in Virtual Settings: Review of Processes and Research Agenda	191
	<i>Jérôme Guegan, Todd Lubart, and Julie Collange</i>	

- 14 The Role of Structure and Instruction on Creative Idea Evaluation and Selection** 209
Roni Reiter-Palmon, Victoria Kennel, Triparna de Vreede, and Gert-Jan de Vreede
- 15 How Do You Manage Evaluation? Attentive and Affective Constituents of Creative Performance Under Perceived Frustration or Success** 225
Sergio Agnoli, Laura Franchin, Enrico Rubaltelli, and Giovanni Emanuele Corazza
- 16 Divergent and Convergent Collaborative Creativity** 245
Paul B. Paulus, Lauren E. Coursey, and Jared B. Kenworthy
- 17 The Plasticity of Natural Concepts and Creativity** 263
Jerzy Trzebiński and Agnieszka Wołowicz
- 18 Lost in Translation Again: Concepts About Creativity Among Japanese and Polish Prospective Teachers** 281
Aleksandra Gajda
- 19 Nomination of Domestic and Overseas Creative Celebrities: The German Style and the Factors Behind It** 297
Min Tang and Markus Moser
- 20 The Paul Gauguin Syndrome: A Great Life Change** 317
Piotr K. Oleś
- 21 Changing One's Foodway: Creativity as Repositioning** 335
Fabienne Gfeller
- 22 Behind the Scenes: How to Research Creative Processes in Multidisciplinary Groups** 353
Ingunn Johanne Ness

23	Creative Culture Analysis: A Way to Understand How an Environment Is (or Isn't) Favorable to Creative Ideas	373
	<i>Asdrúbal Borges Formiga Sobrinho</i>	
Part III Reflections on Social Research into Creativity		391
24	Evaluation of Creativity Is Always Local	393
	<i>Robert J. Sternberg</i>	
25	Creating Social Creativity: Integrative Transdisciplinarity and the Epistemology of Complexity	407
	<i>Alfonso Montuori</i>	
26	Creativity as Dissent and Resistance: Transformative Approach Premised on Social Justice Agenda	431
	<i>Anna Stetsenko</i>	
27	Engineering Creativity in an Age of Artificial Intelligence	447
	<i>Daniel T. Gruner and Mihaly Csikszentmihalyi</i>	
28	Life in the Cyber-Physical Society: The Need for Organic Creativity	463
	<i>Giovanni Emanuele Corazza</i>	
29	From Static to Dynamic: Toward a Socio-dynamic Perspective on Creativity in Classrooms	473
	<i>Ronald A. Beghetto</i>	
30	Classroom Creative Climate: From a Static to a Dynamic Perspective	487
	<i>Maciej Karwowski</i>	

- 31 Is Creativity Compatible with Educational Accountability? Promise and Pitfalls of Using Assessment to Monitor and Enhance a Complex Construct** 501
Jonathan A. Plucker and Rasis Alanazi
- 32 A Creative Peer-to-Peer Methodology** 515
Lene Tanggaard and Charlotte Wegener
- 33 Creativity and the Social Brain** 527
Anna Abraham
- 34 Social Innovation and the Evolution of Creative, Sustainable Worldviews** 541
Liane Gabora and Mike Unrau
- 35 Fun, Foibles and Frustrations** 559
Monika Reuter
- 36 Extraordinary: Reflections on Sample Representativeness** 569
Viktor Dörfler and Marc Stierand
- 37 Why Researches of Professional and Eminent Creators' Self Beliefs Need Social Context** 585
Izabela Lebuda and Mihaly Csikszentmihalyi

Notes on Contributors

Anna Abraham is a Professor of Psychology at the School of Social Sciences in Leeds Beckett University. She investigates the neurocognitive basis of creativity and other aspects of the human imagination including the reality-fiction distinction, mental time travel, self-referential thinking, and mental state reasoning. Her educational background is in the disciplines of psychology and neuroscience, and she has studied and worked in several academic institutions across the world. Anna is the author of the book – *The Neuroscience of Creativity* – with Cambridge University Press. More information can be found on her website – <http://www.anna-abraham.com/>.

Sergio Agnoli is senior researcher at the Marconi Institute for Creativity (MIC), a body created as a joint initiative of the Fondazione Guglielmo Marconi and the University of Bologna, to investigate and divulgate all of the most recent scientific evidence on creative thinking. His research interests include: cognitive, emotional, and neurophysiological substrates of creative thinking; creative potential and creative achievement; emotional intelligence and emotional regulation; psycho-physiology of emotions. In these fields, Sergio Agnoli has published many contributions in peer reviewed international conferences and journals and he established collaborations with several research groups and universities.

Rasis Alanazi has received her PhD in Educational Psychology from the University of Connecticut and is currently a Research Assistant at Johns Hopkins University, where she works with Professor Jonathan Plucker at the Center for Talented Youth and School of Education. Her research focuses on topics related to online learning, self-regulation, and creativity in education.

John Baer is a professor of psychology at Rider University. His research on the development of creativity and his teaching have both won national awards, including the American Psychological Association's Berlyne Prize and the National Conference on College Teaching and Learning's Award for Innovative Excellence. His books

include Domain Specificity of Creativity; Being Creative Inside and Outside the Classroom; Creativity and Divergent Thinking: A Task-Specific Approach; Creative Teachers, Creative Students; Creativity Across Domains: Faces of the Muse; Reason and Creativity in Development; Are We Free? Psychology and Free Will; and Essentials of Creativity Assessment.

Ronald A. Beghetto Dr. Beghetto's research focuses on creative thought and action in educational settings. He serves as Professor of Educational Psychology and Director of Innovation House at the University of Connecticut. He is the Editor-in-Chief for the Journal of Creative Behavior and Series Editor for Springer's Creative Theory and Action in Education book series. Beghetto is a Fellow of the American Psychological Association and the 2018 recipient of the Rudolf Arnheim Award for Outstanding Achievement in the Psychology of Aesthetics, Creativity and the Arts. He has also received numerous awards for Excellence in Teaching.

Julie Collange is an associate professor in Social Psychology at Paris-Descartes University (LATI). Her research focuses on threats and opportunities related to personal and social identity and intergroup relations. She examined how digital self-representations can either threaten or challenge people's self-concept and how they influence their behavior.

Giovanni Emanuele Corazza is a Full Professor and Member of the Executive Board at the Alma Mater Studiorum-University of Bologna, President of the CINECA Consortium, founder of the Marconi Institute for Creativity, Member of the Marconi Society Board of Directors, Member of the Partnership Board of the 5G-PPP. The Marconi Institute for Creativity, a joint initiative of the Fondazione Guglielmo Marconi and of the University of Bologna, was founded in 2011 with the purpose of establishing creative thinking as a science. The three pillars upon which MIC operates are those of scientific research, education activities, and support to the process of creativity and innovation.

<http://mic.fgm.it>

<https://www.youtube.com/watch?v=bEusrD8g-dM>

Lauren E. Coursey is a lecturer in the Department of Psychology at the University of Texas at Arlington. Her research has focused on the effects of team diversity, intra-group processes, group-level predictors of creativity, and intergroup bias.

Mihaly Csikszentmihalyi is Distinguished Professor of Psychology and Management at Claremont Graduate University. He is the founder and co-director of the Quality of Life Research Center where he researches flow and creativity. He is the co-founder of the field of Positive Psychology, former chair of the Department of Psychology at the University of Chicago, and is the author of over 250 peer reviewed articles and 19 books translated in 26 languages.

Marta Czerwonka is a PhD student in education at The Maria Grzegorzewska University and research assistant in the scientific project 'Creative learning during

school system transformation' directed by Dr. Maciej Karwowski. Her research interests include how psychological and social predictors and factors impact STEM interests. In creativity research she is focused on creative self-beliefs, self-regulation mechanisms in the creative process, as well as new methods and measurements.

Viktor Dörfler is a Senior Lecturer in Information & Knowledge Management at the Department of Management Science, University of Strathclyde Business School, UK. His research is focused on personal and transpersonal knowledge, learning, and artificial intelligence, with an emphasis on knowledge-based expert systems. In a recent research project, Viktor conducted in-depth open-ended interviews with 17 Nobel Laureates in order to understand the thinking and learning of those at the highest level of expertise. Viktor presented around the globe talks on Human Mind vs. AI, including a TEDx talk. He also serves as an independent consultant on software and knowledge engineering.

Asdrúbal Borges Formiga Sobrinho did her post-doctoral research at the department of Communication and Psychology of Aalborg University, Denmark, PhD in Psychology at Universidade de Brasília (UnB), and her master's degree in Social Communication at UnB. She is an associate professor in the Communication Department of UnB and her teaching focusses on creativity, creation and language analysis. Her research is based on Cultural Psychology to approach creativity in teaching, advertisement production and organizational environment. She manages the research project The Importance of Communication for the Emergence and Development of New Ideas and the coordination of the research group Creativity in Communication. She participates in the research groups Thought and Culture and Creativity, Giftedness, and Human Development.

Laura Franchin is a researcher at the Department of Psychology and Cognitive Science, University of Trento. Her research interests include: origin and development of emotion and cognition in humans, with a focus on moral cognition, emotional expressions, attention and creative thinking. In these fields, she has published many contributions in peer reviewed international and national conferences and journals and she established collaborations with several research groups.

Liane Gabora is a Professor in the Psychology Department at the Okanagan Campus of the University of British Columbia. Her research focuses on the mechanisms underlying creativity, and how creative ideas—and culture more generally—evolve, using both computational modeling and empirical studies with human participants. She has almost 200 articles published in scholarly books, journals, and conference proceedings, and has given talks worldwide on creativity and related topics. Her research on creativity is informed by her own experiences creating. She has a short story published in *Fiction*, another forthcoming in *The Fiddlehead*, and she is working on a novel titled *Quilandria* that merges her scholarly and creative writing interests. Her paintings and animation have been exhibited at galleries and conferences. Her electronic music composition *Stream Not Gone Dry* was performed at

Royce Hall, University of California, Los Angeles, and a piano version can be found at https://people.ok.ubc.ca/lgabora/artistic_files/Gabora-Liane-Stream.wav.

Aleksandra Gajda works at Creative Education Lab, at The Maria Grzegorzewska University, Warsaw, Poland. Her research interests concern creativity in an individual and social context. She explores the understanding of creativity in education in different cultures and the relationship between creativity and school achievement. Currently she is working on the impact of creativity on coping with the stereotype threat in the school environment.

Fabienne Gfeller is a PhD student at the Institute of Psychology and Education, University of Neuchâtel. In her dissertation, she studies change in foodways, and more specifically the way people navigate the complex debates around products of animal origin and position themselves in relation to these issues. She draws on socio-cultural and dialogical approaches, aiming at a better understanding of how people can creatively explore possibilities in a complex and challenging context. This interest was already underlying her master's thesis, a study about the practice of aikido, a Japanese martial art. She also works on social interactions through different collaborations.

Vlad Petre Glăveanu, PhD, is the Head of Psychology and Counseling at Webster University Geneva, Switzerland, Director of the Webster Center for Creativity and Innovation, and Associate Professor II at SLATE, University of Bergen, Norway. He wrote extensively in the areas of creativity and culture, societal creativity, perspective-taking and collaboration.

Daniel T. Gruner, EdM, is a PhD candidate in Psychology with a concentration in Positive Developmental Psychology at Claremont Graduate University. He is a research associate in the Quality of Life Research Center where his work focuses on creativity, learning, and motivation. He is also a research assistant at Harvard Project Zero where he investigates the intersections of youth, morality, new media, and civics. Daniel holds an MA in Psychology from Claremont Graduate University and an EdM from Harvard University.

Jérôme Guegan is an Associate professor in Social Psychology at Paris-Descartes University (LATI). His research focuses on group processes, social identity and creativity in computer-mediated communication. He notably studied the influence of avatars (digital self-representations) and the characteristics of virtual environments on the creative process.

Dorota Maria Jankowska is researcher at The Maria Grzegorzewska University. Her scientific research focused on measuring creative imagery abilities and trajectory of creative development. She has published her work in scientific journals such as *Thinking Skills and Creativity*, *Creativity Research Journal*, *Intelligence*, *Personality and Individual Differences*.

Maciej Karwowski is an associate professor and head of Psychology of Creativity Lab (PoCL) at the University of Wrocław, Poland. His main interests include educational psychology of creativity and new developments in the measurement of creativity. Karwowski co-edits an open access journal *Creativity: Theories-Research-Applications* and serves as an associate editor of the *Journal of Creative Behavior*.

James C. Kaufman is a Professor of Educational Psychology at the University of Connecticut. He is the author/editor of more than 40 books, including *Creativity 101* (2nd Edition, 2016) and the *Cambridge Handbook of Creativity* (with Robert Sternberg; 2010). He is a past president of Division 10 of the American Psychological Association (APA) and is the current president of the American Creativity Association. James has won many awards, including Mensa's research award, the Torrance Award from the National Association for Gifted Children, and APA's Berlyne, Arnheim, and Farnsworth awards.

Victoria Kennel is an Assistant Professor and researcher at the University of Nebraska Medical Center. She holds a PhD in Industrial/Organizational Psychology from the University of Nebraska at Omaha. Her research focuses on team-based approaches to solving complex healthcare patient safety and quality problems, with a specific focus on the assessment and optimization of team processes to improve healthcare team and system performance and innovation. Her work appears in journals such as the *Journal of Rural Health*, *Journal of Occupational and Organizational Psychology*, *Group and Organization Management*, and the *Journal of Organizational and Leadership Studies*, in addition to several book chapters in creativity books.

Jared B. Kenworthy is an Associate Professor of Psychology at the University of Texas at Arlington (UTA). His research focuses on group processes, ingroup identification, intergroup relations, and prejudice reduction. Before his position at UTA, he was a post-doctoral fellow at the University of Oxford, UK, where he studied social categorization and the development of trust between the Catholic and Protestant communities of Northern Ireland.

Joanna Maria Kwaśniewska is a Polish scholar, researcher as well as experienced trainer and facilitator specializing in stimulating creativity. In her trainings she focuses on creating the atmosphere of safety and freedom necessary for creativity to flourish and teaches communication skills fostering creativity. She facilitates creative problem solving meetings basing on CPS process and using CPS techniques. Her academic interests concern climate for creativity both in organizational and family environments. She also explores the relation between creativity and parenthood.

Izabela Lebuda is educator and psychologist, Assistant Professor of the Psychology of Creativity Lab at the University of Wrocław, collaborates with the Quality of Life Research Centre at Claremont Graduate University. Her scientific research focuses on the determinants of creative development and achievements.

Todd Lubart is Professor of Psychology at University Paris Descartes, Director of the LATI Lab, holds a PhD in Psychology from Yale and has published approximately 200 contributions on creativity in scientific journals, books and book chapters. He has led several research grants on creativity and received APA's Berlyne award, the WCGTC creativity research award, and other distinctions.

Jack Martin is Burnaby Mountain Professor Emeritus of Psychology at Simon Fraser University. His scholarly interests are in the theory and history of psychology and in narrative, biographical psychology.

Alexander S. McKay is an Assistant Professor in the Department of Management and Entrepreneurship in the School of Business at Virginia Commonwealth University. He earned his PhD in Industrial-Organizational Psychology from The Pennsylvania State University in 2018. His research interests include creativity/innovation and statistics/research methodology focusing primarily on social network and person-centered analytic approaches. He has published book chapters and journal articles in a variety of outlets such as *European Journal of Personality*; *Psychology of Aesthetics, Creativity, and the Arts*; and *Journal of Creative Behavior*.

Alfonso Montuori is Professor in the Transformative Inquiry Department at California Institute of Integral Studies. He has been Distinguished Visiting Professor in the School of Fine Arts at Miami University in Oxford Ohio and at the Sapienza University of Rome. In 1985–1986 he taught at the Central South University in Hunan, China. Alfonso Montuori is the author of numerous books and articles on the epistemology of complexity, transdisciplinarity, and the centrality of creativity in human thought and action.

Markus Moser received his Bachelor in Business Psychology with a focus on Work- and Organizational Psychology from the University of Applied Management, Germany. He is the receiver of several DAAD scholarships, which enabled him to study in Malta, Australia, USA and China. Next to his studies he was volunteering in a social consultancy which offers micro finance to startup companies in Third World countries. Since April 2015 he has been pursuing a Master's degree in Business Psychology at the University of Applied Management, focusing on Leadership and Change Management.

Ingunn Johanne Ness is an expert on learning, creativity and innovation in the field of education and business. She currently holds the position as a Postdoctor and Cluster Leader at SLATE, the Centre for the Sciences of Learning & Technology at the University of Bergen, Norway. Ness has a particular interest for the sociocultural approach to innovative knowledge development and works with one of the world's leading environments on sociocultural theory, the OSAT group at the Department of Education, University of Oxford. Ness has done extensive empirical research on collaborative creativity in strategy and innovation contexts.

Mônica Souza Neves-Pereira graduated in Pedagogy (1982) and holds MSc (1996) and PhD (2004) degrees in Psychology from the University of Brasilia (UnB). She conducted postdoctoral research at the University of Aalborg, Denmark (2017) and Webster University Geneva, Switzerland (2017). Neves-Pereira is currently Adjunct Professor at the Institute of Psychology in the Department of Educational and Developmental Psychology, UnB. She is engaged in teaching, outreach and research at the Cultural Psychology Lab (LABMIS) and is a member of a research group in this field at the Brazilian Council for Scientific and Technological Development (CNPq). She is also a member of the Brazilian Developmental Psychology Association (ABPD), of the Latin American Network for Developmental Psychology (ALAPSIDE), and of the Working Group on Dialogical Psychology of the Brazilian Association for Research and Postgraduate Studies in Psychology (ANPEPP). Since 2014, she is a guest researcher at the International Centre for the Cultural Psychology of Creativity (ICCP) and at the Centre for Culture Psychology at the University of Aalborg, Denmark. In 2017, she joined a research exchange program at Webster University in Geneva, Switzerland, as Associate Researcher at the Webster Center for Creativity and Innovation (WCCI). Neves-Pereira is interested in processes of human development, creativity, violence and the study of values.

Piotr K. Oleś is Professor of psychology, an expert in personality, an author of numerous articles and a few books on personality, midlife crisis, identity and adulthood. He is former president of the Psychological Committee of Polish Academy of Science and editor-in-chief of *Roczniki Psychologiczne* [*Annals of Psychology*]. He is also the head of the Department of Personality Psychology at the John Paul II Catholic University of Lublin, an International Consultant of the Self-Confrontation and a clinical psychologist.

Iwona Omelańczuk is educator and psychologist, researcher at The Maria Grzegorzewska University. Her research interests include development of social and emotional competence in children, especially those diagnosed with autism spectrum disorder and with subclinical autistic traits.

Paul B. Paulus is the Distinguished University Professor in the Department of Psychology at the University of Texas at Arlington. For the past 25 years he has been investigating the factors that influence group creativity. He has published over 80 papers and chapters on that topic and the related issue of team innovation. In addition to his teaching and research career, he has served as Chair of the Department of Psychology and Dean of the College of Science. He has been a visiting professor at Bar Ilan University, the University of Groningen, the University of Sydney, the University of Pittsburgh, Carnegie Mellon University, and the Uniformed Services University of the Health Sciences.

Jonathan A. Plucker is the Julian C. Stanley Endowed Professor of Talent Development at Johns Hopkins University, where he works in the Center for Talented Youth and School of Education. His research examines creativity and

intelligence, education policy, and talent development. Recent books include *Excellence Gaps in Education* with Scott Peters and *Creativity and Innovation*. Prof. Plucker is the recipient of the 2012 Arnheim Award for Outstanding Achievement from APA and 2013 Distinguished Scholar Award from the National Association for Gifted Children.

Roni Reiter-Palmon is the Varner Professor of Industrial/Organizational (I/O) Psychology and the Director of the I/O Psychology Graduate Program at the University of Nebraska at Omaha (UNO). She also serves as the Director for Innovation for the Center for Collaboration Science, an inter-disciplinary program at UNO. She received her PhD in I/O Psychology from George Mason University, Fairfax, Virginia.

Her research focuses on creativity and innovation in the workplace, cognitive processes and individual difference variables that influence creative performance of individuals and teams, leading creative individuals, and development of creativity and leadership skills.

Monika Reuter was born in Germany, but has spent most of her life outside of the country. She received her Bachelor of Science degree from the University of Maryland, Overseas Division; her Master's degree from the University of Houston in Texas; and her PhD from the State University of New York in Albany, New York. Trained as a sociologist of labor, her interest in creativity goes back to listening to a radio show in 2009. She is still pursuing the same triangulated research project on creativity with no end in sight.

Enrico Rubaltelli is assistant professor of cognitive psychology at the Department of Developmental and Socialization Psychology at the University of Padova in Italy. He received a PhD in Cognitive Sciences from the University of Padova in 2006. He is an expert in judgment and decision-making and risk perception. Recently his research interest focused on how emotional intelligence affects people's decisions in domains like finance, charitable donations, cheating, creativity, and endurance sport. He has published his work in several high profile scientific journals, among them *Scientific Reports*, *Psychonomic Bulletin & Review*, *Journal of Behavioral Decision Making*, and *Personality and Individual Differences*.

Dean Keith Simonton is Distinguished Professor Emeritus of Psychology at the University of California, Davis. His more than 500 single-authored publications focus on genius, creativity, aesthetics, and leadership. Honors include the William James Book Award, the George A. Miller Outstanding Article Award, the Theoretical Innovation Prize in Personality and Social Psychology, the Sir Francis Galton Award for Outstanding Contributions to the Study of Creativity, the Rudolf Arnheim Award for Outstanding Contributions to Psychology and the Arts, the E. Paul Torrance Award for Creativity, and three Mensa Awards for Excellence in Research. In 2014 he edited *The Wiley Handbook of Genius*.

Robert J. Sternberg is Professor of Human Development at Cornell University and Honorary Professor of Psychology at the University of Heidelberg, Germany. Formerly, he was IBM Professor of Psychology and Professor of Management at Yale University. His BA is from Yale University, his PhD is from Stanford University, and he holds 13 honorary doctorates. Sternberg has won the James McKeen Cattell and William James Awards from the Association for Psychological Science and the Grawemeyer Award in Psychology.

Anna Stetsenko is Full Professor in the PhD Program in Psychology (Head of Developmental Psychology), with joint appointment in Urban Education Program at The Graduate Center CUNY. She previously worked in leading research centers and universities in Europe (Germany, Switzerland, Austria and Russia). Her research is situated at the intersection of human development, education and social theory including topics of subjectivity, agency, creativity and identity. In this work, she brings together cutting-edge advances in psychology and education with the critical-activist orientation, as exemplified in her recent book *The Transformative Mind: Expanding Vygotsky's Approach to Development and Education* (Cambridge University Press, 2016).

Marc Stierand is Associate Professor of Service Management and Director of the Institute of Business Creativity (IBC) both at the *École hôtelière de Lausanne*. His research focuses on managerial and organizational cognition and management education and development, with a particular interest in personal and team creativity, intuition, and talent. He serves on the Editorial Board of the *Tourism Review* and the *Journal of Contemporary Issues in Business and Government* and is a steering group member of the Research Methodology Special Interest Group at the British Academy of Management.

Min Tang is Professor of International Management and Director of the Institute for Creativity and Innovation at the University of Applied Management, Germany. She received her PhD in psychology from the University of Munich, Germany. Prof. Tang is member of the American Psychological Association Division 10 and part of the jury of the International Exhibition for Ideas, Invention, and Innovation (iENA). She is the initiator and manager of a series of intercultural and interdisciplinary programs about creativity and innovation, including the "Applied Creativity across Domains" summer school, funded by the German Academic Exchange Service (DAAD) and the ERASMUS IP summer school, "Effective Management of Creativity and Innovation" funded by the EU. Her research fields include systems approach to creativity, implicit theories of creativity, inventive creativity, and cross-cultural studies.

Lene Tanggaard is Professor of Psychology in the Department of Communication and Psychology at the University of Aalborg, Denmark, where she serves as Vice Head of Department, advisor for several PhD-students, Director of The International Centre for the Cultural Psychology of Creativity (ICCP), and co-director of the

Center for Qualitative Studies. Her research interests concern creative learning and education and apprenticeship in higher education.

Jerzy Trzebiński is a full professor at SWPS University of Social Sciences and Humanities in Warsaw, Poland, and director of the Institute of Social Psychology, Faculty of Psychology. His research focuses on social cognition, creativity and creativity training, the impact of self-narratives and narrative-mindset on a person's cognitive processes, emotions and motivation, the Basic Hope as implicit assumptions which influence social attitudes, and coping with critical situations.

Mike Unrau is a PhD student in Interdisciplinary Graduate Studies at the University of British Columbia (Okanagan Campus), Canada. He is studying creativity and social innovation, focusing on how creativity impacts social change. He is currently adjunct faculty with the University of Calgary and Mount Royal University, working in field education and simulated educational experiences, as well as social-based theatre and creativity. He has held international fellowships, given lectures and conference presentations, conducted workshops and led research projects in different parts of the world, including a pre-social lab in India. He has published findings on somatic awareness as well as creativity.

Gert-Jan de Vreede is a professor of Information Systems and Decision Sciences at the Muma College of Business at the University of South Florida. He also is a Visiting Professor at the University of International Business & Economics in Beijing, China. He received his PhD in Systems Engineering from Delft University of Technology in the Netherlands. His research focuses on crowdsourcing, Collaboration Engineering, convergence, and creativity. His work has appeared in journals such as *Journal of Management Information Systems*, *Management Information Systems Quarterly Executive*, *Journal of the Association for Information Systems*, *International Journal of e-Collaboration*, *Communications of the Association for Information Systems*, *Small Group Research*, and *Communications of the ACM*.

Triparna de Vreede is a faculty at the Muma College of Business at the University of South Florida. She holds a PhD in Industrial/Organizational Psychology from the University of Nebraska at Omaha. Her research is primarily focused on crowdsourcing, leadership, creativity, and collaboration. She has published her research in the *Journal of the Midwest Association for Information Systems*, in several book chapters, and at leading conferences, such as ECIS, AMCIS, HICSS, APA, and SIOP.

Brady Wagoner is Professor of Psychology and Director of the MA and PhD programs in Cultural Psychology at Aalborg University, Denmark. He received his PhD from the University of Cambridge, where he started his research on memory, imagination and social change. He is associate editor of the journals *Culture & Psychology* and *Peace & Conflict*, and has received early career awards from the American Psychological Association (divisions 24 and 26). His recent books include *The Constructive Mind: Bartlett's Psychology in Reconstruction* (CUP, 2017), *Street*

Art of Resistance with Sarah H. Award (Palgrave, 2017), and Handbook of Culture and Memory (OUP, 2018)

Charlotte Wegener has a background in music science and literature and is associate professor at Department of Communication and Psychology, Aalborg University, Denmark. Her research field is social innovation. She is passionate about writing and seeks to expand and innovate academic writing for herself and others by involving fiction, music, dreams, and life experiences. She is author of papers, books and blog-posts about writing and innovation and is co-founder of “Open Writing”—a practice and research field exploring new ways of writing in and beyond academia. She runs writing workshops for master and doctoral students and younger faculty.

Agnieszka Wołowicz is a pedagogue, psychologist, and an assistant professor at the Warsaw University. An expert cooperating with non-governmental organisations (NGOs) in the area of human rights, in particular the rights of people with disabilities, she is the author of a number of publications on the topic of women with disabilities. She is currently focusing on the motherhood of women with intellectual disabilities.

List of Figures

Fig. 4.1	A simple directed graph with nodes and edges labeled	41
Fig. 4.2	An undirected graph with three subgroups	46
Fig. 5.1	Growth of research studies using diary methods from 1985 to 2018	60
Fig. 5.2	Hypothetical aggregated data of 100 participants	63
Fig. 5.3	Fictitious data of four participants of diary study who participated in a creativity training program	64
Fig. 5.4	Fictitious data of four participants demonstrating day-to-day changes in self-reported creativity	65
Fig. 6.1	The hypothetical model of the relationship between imaginative play and sociometric status	88
Fig. 9.1	Serial reproduction chain for an ancient Egyptian hieroglyph	129
Fig. 9.2	Comparison of serial reproduction chains resulting from different task instructions	131
Fig. 9.3	Add something series from Buenos Aires	134
Fig. 9.4	Changing faces of the regime by Omar Picasso	135
Fig. 9.5	The blue bra becomes a simplified symbol of empowerment	138
Fig. 9.6	Transformations of 'Tank vs. Biker' from 2011 to 2012	139
Fig. 13.1	Selected avatar in both Proteus studies according perceived creativity and gender	195
Fig. 13.2	Number of generated ideas according to the creativity of the participant's avatar and the experimenter's avatar	196
Fig. 13.3	Virtual version of the traditional clothing worn by engineering students	202

xxvi **List of Figures**

Fig. 14.1	Evaluation and selection condition effects on the originality of the solution selection based on the team's assessment of the originality of the selected solution	217
Fig. 14.2	Evaluation and selection condition effects on the originality of the solution selection based on expert's assessment of the originality of the selected solution	218
Fig. 15.1	An example of a stimulus with the target object in the center and the 8 different peripheral objects next to the circumference. Dashed squares correspond to the area of interest for each stimulus	232
Fig. 15.2	Relationship between irrelevance processing (fixation length of peripheral stimuli) and originality in low trait EI (dotted line) and high trait EI (continuous line) participants in the five task blocks	235
Fig. 15.3	Relationship between affective arousal (pupil dilation change) and originality in low trait EI (dotted line) and high trait EI (continuous line) participants in the success (left panel) and in the frustration (right panel) condition	237
Fig. 16.1	A theoretical model of factors facilitating divergent and convergent collaborative creativity, including intervening processes linking divergent and divergent creativity	255
Fig. 21.1	Food landscape before injury	345
Fig. 21.2	Food landscape after injury	346
Fig. 22.1	The Room of Opportunity edited version	358
Fig. 22.2	Visualization of an observation in the strategy group	360
Fig. 27.1	Creativity 4.0 – A Systems Model for Fourth Wave Creativity Research	452
Fig. 29.1	Striking a socio-dynamic balance	474
Fig. 30.1	The Links between Class Climate Dimensions and Creative Activity within Primary and Middle-Schools	493
Fig. 30.2	Network Analysis of Class Creative Climate Items and Joint Network Analysis of Creative Climate and Creative Activity Item	494
Fig. 30.3	Differences in Teachers' Behaviors Across Classes characterized by Negative, Null or Positive Links between Students' Creativity and Their School Grades and the Changes of Teachers' Behaviors Across Time	495
Fig. 34.1	A typical graph of the increase in fitness of cultural outputs over time (top), and increase in diversity as the space of possibilities is being explored followed by a decline as the society converges on the fittest (bottom)	546
Fig. 34.2	Fitness and diversity of cultural outputs with different of invention to imitation ratios	548
Fig. 34.3	The effect of varying the percentage of creators, C , and how creative they are, p , on mean fitness of ideas in EVOG	549

Fig. 34.4	Diversity of actions after 1, 5, 15, and 20 iterations, over individual runs with 0, 1, and 5 broadcasters. Different actions are represented by differently colored cells	550
Fig. 35.1	The use of triangulation	560

List of Tables

Table 4.1	Adjacency Matrix of Figure 4.1	43
Table 4.2	Centrality Scores for Nodes in Figure 4.2	47
Table 5.1	Characteristics of diary designs	67
Table 5.2	Examples of creativity studies using daily diary method	69
Table 6.1	Model of APS Imagination scale	82
Table 7.1	Descriptive Characteristics and Standardized Factor Loadings of CCP-CRQ Statements	100
Table 10.1	PA' Structured Activity: The dog made from folding	154
Table 18.1	Differences in Creative Mindset Scale response preferences between Poland and Japan	288
Table 18.2	Correlations between attitudes towards creativity and creative mindsets in Poland and Japan	290
Table 19.1	The Top 10 Ranks of the Most Creative Persons from Germany	305
Table 19.2	The Top 10 Ranks of the Most Creative Persons of the World	305
Table 19.3	Total Nominations in Terms of Aesthetic vs. Meritorious Saliency in Germany and Worldwide	306
Table 19.4	Descriptive Statistics and Correlations among the Variables	307
Table 19.5	Summary of Regression Analysis for Variables Predicting the Fame of the Creators Nominated from the Aesthetic Saliency Areas	308
Table 19.6	Summary of Regression Analysis for Variables Predicting the Fame of the Creators Nominated from the Meritorious Saliency Areas	309
Table 22.1	Analysis – steps in study 1	363
Table 22.2	Analysis – steps in study 2	364
Table 22.3	Matrix of category A findings in study 2	367
Table 23.1	Cluster example for the theme hierarchy	381
Table 30.1	Sample items of Class Creative Climate Questionnaire	491