

Cambridge University Press 978-1-107-11018-2 — The Cambridge Handbook of Creativity across Domains Edited by James C. Kaufman , Vlad P. Glåveanu , John Baer Frontmatter More Information

The Cambridge Handbook of Creativity Across Domains

Creativity is of rising interest to scholars and laypeople alike. Creativity in the arts, however, is very different from creativity in science, business, sports, cooking, or teaching. This book brings together top experts in their fields from around the world to discuss creativity across many different domains. Each chapter includes clear definitions, intriguing research, potential measures, and suggestions for development or future directions. After a broad discussion of creativity across different domains, subsequent chapters look deeper into those individual domains (the traditional arts, the sciences, business, newer domains, and everyday life) to explore how creativity varies when expressed in different ways. Ultimately, the book offers a future-looking perspective integrating the different variations of creativity across domains.

JAMES C. KAUFMAN is Professor of Educational Psychology at the University of Connecticut. The author or editor of more than forty books (including *Creativity 101*, 2nd edition, 2016), he is a past president of APA's Division 10 and founding editor of two APA journals. Kaufman has won awards from APA (Berlyne, Arnheim, and Farnsworth), Mensa, NAGC (Torrance), and the ALA's Choice Outstanding Academic Title. He has tested Dr. Sanjay Gupta's creativity on CNN and narrated the comic book documentary *Independents*. Other work includes the book and lyrics to the musical *Discovering Magenta* and a book on bad baseball pitchers with his father, Alan. He is the president-elect of the American Creativity Association.

VLAD P. GLĂVEANU is Associate Professor at the Centre for the Science of Learning and Technology, Bergen University, Norway. He received his PhD from the London School of Economics, UK, and published over 120 articles and book chapters on creativity, imagination, art and crafts, social change and culture. He recently edited the *Palgrave Handbook of Creativity and Culture Research* (2016) and co-edited the *Oxford Handbook of Imagination and Culture* (2017). His other books include: *Thinking Through Creativity and Culture* (2014), *Distributed*



More Information

Cambridge University Press 978-1-107-11018-2 — The Cambridge Handbook of Creativity across Domains Edited by James C. Kaufman , Vlad P. Glăveanu , John Baer Frontmatter

Creativity (2014), Rethinking Creativity (2015, co-edited), and Creativity: A New Vocabulary (2016, co-edited). He is also editor of Europe's Journal of Psychology (EJOP), an open access peer-reviewed journal published by PsychOpen (Germany).

JOHN BAER is Professor of Educational Psychology at Rider University. He is a winner of 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.



Cambridge University Press 978-1-107-11018-2 — The Cambridge Handbook of Creativity across Domains Edited by James C. Kaufman , Vlad P. Glăveanu , John Baer Frontmatter <u>More Information</u>

The Cambridge Handbook of Creativity Across Domains

Edited by

James C. Kaufman
University of Connecticut, USA

Vlad P. Gläveanu University of Bergen, Norway

John Baer Rider University, USA





Cambridge University Press 978-1-107-11018-2 — The Cambridge Handbook of Creativity across Domains Edited by James C. Kaufman , Vlad P. Glăveanu , John Baer Frontmatter More Information

CAMBRIDGEUNIVERSITY PRESS

University Printing House, Cambridge CB2 8BS, United Kingdom One Liberty Plaza, 20th Floor, New York, NY 10006, USA 477 Williamstown Road, Port Melbourne, VIC 3207, Australia 4843/24, 2nd Floor, Ansari Road, Daryaganj, Delhi – 110002, India 79 Anson Road, #06–04/06, Singapore 079906

Cambridge University Press is part of the University of Cambridge.

It furthers the University's mission by disseminating knowledge in the pursuit of education, learning, and research at the highest international levels of excellence.

www.cambridge.org Information on this title: www.cambridge.org/9781107110182 DOI: 10.1017/9781316274385

© Cambridge University Press 2017

This publication is in copyright. Subject to statutory exception and to the provisions of relevant collective licensing agreements, no reproduction of any part may take place without the written permission of Cambridge University Press.

First published 2017

Printed in the United States of America by Sheridan Books, Inc.

A catalogue record for this publication is available from the British Library.

Library of Congress Cataloging-in-Publication Data

Names: Kaufman, James C., editor. | Glăveanu, Vlad Petre, editor. | Baer, John, editor.

Title: The Cambridge handbook of creativity across domains / edited by James C. Kaufman, University of Connecticut, USA, Vlad P. Glaveanu, Aalborg University, Denmark, John Baer, Rider University, USA.

Description: New York: Cambridge University Press, [2017] | Includes index.

Identifiers: LCCN 2017026024 | ISBN 9781107110182

Subjects: LCSH: Creative ability.

Classification: LCC BF408 .C173 2017 | DDC 153.3/5–dc23 LC record available at https://lccn.loc.gov/2017026024

ISBN 978-1-107-11018-2 Hardback

Cambridge University Press has no responsibility for the persistence or accuracy of URLs for external or third-party internet websites referred to in this publication and does not guarantee that any content on such websites is, or will remain, accurate or appropriate.



Cambridge University Press 978-1-107-11018-2 — The Cambridge Handbook of Creativity across Domains Edited by James C. Kaufman , Vlad P. Glåveanu , John Baer Frontmatter More Information

The first book I ever did about domains was dedicated to my young bride, Allison.

Fast forward more than a decade, and we have two boys, too many pets, and a wonderful life together. This volume is notably bigger (in scope and length) than my initial offering – much as my love for her has continued to grow.

I dedicate this book to Allison Beth Katz Kaufman. With all of my love, forever.

James

For Constance, who fills my life with joy and wonder and my parents, Corina and Petre, who guided my first steps into the many domains of creativity.

Vlad

To SKB.

John



Cambridge University Press 978-1-107-11018-2 — The Cambridge Handbook of Creativity across Domains Edited by James C. Kaufman , Vlad P. Glăveanu , John Baer Frontmatter <u>More Information</u>

Contents

	List of Figures	page x
	List of Tables	xi
	List of Contributors	xii
	Acknowledgments	XV
	Part I Creativity and Domain	
1	Creativity Across Different Domains: An Expansive Approach JAMES C. KAUFMAN, VLAD P. GLĂVEANU, AND JOHN BAER	3
2	The Amusement Park Theoretical Model of Creativity: An Attempt to Bridge the Domain-Specificity/Generality Gap JOHN BAER AND JAMES C. KAUFMAN	8
3	Mix and Match: Opportunities, Conditions, and Limitations of Cross-Domain Creativity JOANNA SZEN-ZIEMIAŃSKA, IZABELA LEBUDA, AND MACIEJ KARWOWSKI	18
4	Domain-General Creativity: On Generating Original, Useful, and Surprising Combinations DEAN KEITH SIMONTON	41
	Part II Creativity in the Traditional Arts	
5	The Creativity of Literary Writing KEITH OATLEY AND MAJA DJIKIC	63
6	Creativity in the Visual Arts MATTHEW PELOWSKI, HELMUT LEDER, AND PABLO P. L. TINIO	80
7	The Creation and Aesthetic Appreciation of Architecture OSHIN VARTANIAN	110
8	Photography and Creativity JOANNA SERAFIN AND STEPHEN J. DOLLINGER	123
9	The Constricted Muse: Acting THALIA R. GOLDSTEIN AND ANNE G. LEVY	145

vii



Cambridge University Press 978-1-107-11018-2 — The Cambridge Handbook of Creativity across Domains Edited by James C. Kaufman , Vlad P. Glăveanu , John Baer Frontmatter

More Information

viii	CONTENTS

10	Musical Creativity AARON KOZBELT	161
11	Dance: The Challenges of Measuring Embodied Creativity PAULA THOMSON	181
	Part III Creativity in the Sciences	
12	Creativity in the Physical Sciences GREGORY J. FEIST	199
13	Biomedicine, Creativity, and the Story of AIDS MEI TAN AND ELENA L. GRIGORENKO	226
14	Creativity in Psychology: Finding Its Niche in the Sciences DEAN KEITH SIMONTON	247
15	Creativity in the Engineering Domain DAVID H. CROPLEY, ARTHUR J. CROPLEY, AND BREE L. SANDWITH	261
16	Creativity in the Domain of Mathematics UGUR SAK, ÜLKÜ AYVAZ, BILGE BAL-SEZEREL, AND N. NAZLI ÖZDEMIR	276
17	Creativity Within Computer Science PAUL JOSEPH BARNETT AND RALF ROMEIKE	299
	Part IV Creativity in Business	
18	Studying Creativity across Different Domains: Advertising MARK KILGOUR	325
19	The Relationship Between Marketing and Creativity: It's Complicated	345
	MARIE TAILLARD AND BENJAMIN G. VOYER	
20	Creative Leadership: How Problem Solving, Decision Making, and Organizational Context Influence Leadership Creativity KEVIN MITCHELL AND RONI REITER-PALMON	363
21	Creativity in Business and Technology: Educational Technologies KYLIE PEPPLER	381
22	Creativity in Design NATHALIE BONNARDEL AND CAROLE BOUCHARD	403
23	A Minimalist Model for Measuring Entrepreneurial Creativity ELIAS CARAYANNIS AND PHILLIP HARVARD	428



Cambridge University Press 978-1-107-11018-2 — The Cambridge Handbook of Creativity across Domains Edited by James C. Kaufman , Vlad P. Glǎveanu , John Baer Frontmatter

More Information

		Contents	ix
	Part V Newer Domains for Creativity Research		
24	Intellectual Property: Does the Law Influence Creativity? GREGORY N. MANDEL	447	
25	Gastronomy and Culinary Creativity JEOU-SHYAN HORNG AND LIN LIN	462	
26	Tactical Creativity in Sport DANIEL MEMMERT	479	
27	Creativity in Non-Human Animals ALLISON B. KAUFMAN AND WILLIAM J. O'HEARN	492	
28	Violent Innovation: Creativity in the Domain of Terrorism GINA SCOTT LIGON, KARYN SPORER, AND DOUGLAS C. DERRICK	507	
	Part VI Creativity in Everyday Life		
29	Creativity in the Domain of Emotions ZORANA IVCEVIC, MARINA BAZHYDAI, JESSICA D. HOFFMANN, AND MARC A. BRACKETT	525	
30	Creativity in Teaching RONALD A. BEGHETTO	549	
31	Culture and Creativity RODICA IOANA DAMIAN AND REESE Y.W. TOU	565	
32	The Benefits of Creativity in Therapy: Current Evidence and Future Directions MARIE J. C. FORGEARD AND JEANETTE G. ELSTEIN	587	
33	Creativity in the Domain of Play: Product and Processes SANDRA RUSS AND CLAIRE WALLACE	602	
34	Creativity in Craft VLAD P. GLĂVEANU	616	
	Part VII Conclusion		
35	Taking a Prospective Look at Creativity Domains MOLLY HOLINGER, VLAD P. GLÄVEANU, JAMES C. KAUFMAN, AND JOHN BAER	635	
	Index	643	



Cambridge University Press 978-1-107-11018-2 — The Cambridge Handbook of Creativity across Domains Edited by James C. Kaufman , Vlad P. Glåveanu , John Baer Frontmatter

More Information

Figures

3.1	versatifity by the number of creativity domains	page 21
3.2	Simulated distributions of creative achievement in three	
	domains (A, B, and C)	31
4.1	Scatter plot showing the relation between sightedness and	
	creativity for Monte Carlo-generated combinations	49
6.1	Updated mirror model of art making and art perception	98
8.1	Numbers of Google Scholar search results for combinations of the wo	rds
	"creativity," "psychology," and either "photography" (solid) or	
	"poetry" (dashes) over 8 decades (2010-2019 prorated from 5.5 years) 136
14.1	The disciplines of physics, chemistry, biology, psychology,	
	and sociology placed in a Comtean hierarchy of the sciences	249
15.1	Creativity in engineering: a systems phenomenon	262
15.2	Generic mediation model: product creativity	267
15.3	Form-first problems	269
15.4	Function-first problems	270
18.1	Creative combination diagram	327
22.1	Design seen as the iterative transformation of a problem space into	
	a solution space	405
22.2	Cycles of information-generation-evaluation-materialization	406
22.3	Adaptation of Zeisel's spiral (1981)	407
23.1	Entrepreneurship is what to do between two points in time	429
23.2	Some cultural determinants coloring American & French	
	entrepreneurial performance & creativity	431
23.3	Branson's entrepreneurial creativity	436
23.4	The Minimalist Model for measuring entrepreneurial creativity	442
25.1	The Creative Culinary Process Development	469
26.1	Evaluating tactical creativity with (a) a standardized video	
	test in a laboratory setting in front of a large display, (b) a game	
	test situation under representative task design conditions with	
	real motor skills, and (c) game observations from video footage	
	of competitive matches.	481
26.2	The 7 Ds fostering tactical creativity in team and racket sports	484
28.1	Forces in VEO problem solving	508
28.2	Creativity and innovation in VEO teams	512
28.3	Overview of methodology to construct the LEADIR project	
	to examine VEO performance	513

X



Cambridge University Press 978-1-107-11018-2 — The Cambridge Handbook of Creativity across Domains Edited by James C. Kaufman , Vlad P. Glăveanu , John Baer More Information

Tables

2.1	The Amusement Park Theory	page 13
3.1	Relations of versatility with extracurricular activities, CPI,	
	CSE, and creative thinking in a group of doctoral students	27
3.2	Results of the simulation estimating the number of polymaths	
	at different eminence criteria and at different levels of	
	intercorrelation between domains	32
12.1	Domains of mind proposed by different theorists	201
14.1	Complete contents for Great Psychologists and Their Times	
	(Simonton, 2002)	252
15.1	Hierarchical multiple regression output	267
15.2	Correlation coefficients for R Square values and product creativity	268
15.3	Task types, structure, and creativity	270
26.1	Advantages and disadvantages of different tests (video tests,	
	game test situations, and game observation) to measure tactical	
	creativity (Memmert, 2015a, with permission from	
	Taylor & Francis).	483
29.1	Creativity in emotion regulation	537
30.1	Three forms of creative teaching	551



Cambridge University Press 978-1-107-11018-2 — The Cambridge Handbook of Creativity across Domains Edited by James C. Kaufman , Vlad P. Glăveanu , John Baer Frontmatter More Information

Contributors

ÜLKÜ AYVAZ, Bolu İzzet Baysal University

JOHN BAER, Rider University

BILGE BAL-SEZEREL, Anadolu University

PAUL JOSEPH BARNETT, University of Connecticut

RONALD A. BEGHETTO, University of Connecticut

NATHALIE BONNARDEL, Aix Marseille University

CAROLE BOUCHARD, ParisTech Arts & Métiers

MARC A. BRACKETT, Yale Center for Emotional Intelligence

ELIAS CARAYANNIS, George Washington University

ARTHUR J. CROPLEY, University of Hamburg

DAVID H. CROPLEY, University of South Australia

DOUGLAS C. DERRICK, University of Nebraska at Omaha

MAJA DJIKIC, University of Toronto

STEPHEN J. DOLLINGER, Southern Illinois University at Carbondale

MARINA BAZHYDAI, Harvard University

JEANETTE G. ELSTEIN, University of Pennsylvania

GREGORY J. FEIST, San Jose State University

MARIE J. C. FORGEARD, McLean Hospital (Behavioral Health Partial

Program) & Harvard Medical School

VLAD P. GLÄVEANU, University of Bergen

THALIA R. GOLDSTEIN, George Mason University

ELENA L. GRIGORENKO, University of Houston, Baylor College of Medicine

PHILLIP HARVARD, EIGSI Engineering School of La Rochelle

JESSICA D. HOFFMANN, Harvard Graduate School of Education

xii



More Information

Cambridge University Press 978-1-107-11018-2 — The Cambridge Handbook of Creativity across Domains Edited by James C. Kaufman , Vlad P. Glăveanu , John Baer Frontmatter

List of Contributors

xiii

MOLLY HOLINGER, University of Connecticut

JEOU-SHYAN HORNG, Jinwen University of Science and Technology

RODICA IOANA DAMIAN, University of Houston

ZORANA IVCEVIC, Yale Center for Emotional Intelligence

MACIEJ KARWOWSKI, Creative Education Lab, The Maria Grzegorzewska University in Warsaw

ALLISON B. KAUFMAN, Department of Ecology and Evolutionary Biology, University of Connecticut and Department of Psychology, University of Connecticut at Avery Point

JAMES C. KAUFMAN, University of Connecticut

MARK KILGOUR, University of Waikato

AARON KOZBELT, Brooklyn College and the Graduate Center of the City University of New York

IZABELA LEBUDA, Creative Education Lab, The Maria Grzegorzewska University in Warsaw

HELMUT LEDER, University of Vienna

ANNE G. LEVY, The University of Alabama

GINA SCOTT LIGON, University of Nebraska at Omaha

LIN LIN, I-Shou University

GREGORY N. MANDEL, Temple University

DANIEL MEMMERT, Institute of Training and Computer Science in Sport, German Sport University Cologne

KEVIN MITCHELL, University of Nebraska at Omaha

KEITH OATLEY, University of Toronto

WILLIAM J. O'HEARN, Department of Ecology and Evolutionary Biology, University of Connecticut

N. NAZLI ÖZDEMIR, Anadolu University

MATTHEW PELOWSKI, University of Vienna

KYLIE PEPPLER, Indiana University

RONI REITER-PALMON, University of Nebraska at Omaha

RALF ROMEIKE, Friedrich-Alexander University Erlangen-Nürnberg

SANDRA RUSS, Case Western Reserve University



Cambridge University Press 978-1-107-11018-2 — The Cambridge Handbook of Creativity across Domains Edited by James C. Kaufman , Vlad P. Glăveanu , John Baer Frontmatter

xiv

More Information

LIST OF CONTRIBUTORS

UGUR SAK, Anadolu University

BREE L. SANDWITH, University of South Australia

JOANNA SERAFIN, The Graduate Center of CUNY (primary) & Downstate Medical Center (secondary)

DEAN KEITH SIMONTON, University of California, Davis

KARYN SPORER, University of Maine

JOANNA SZEN-ZIEMIAŃSKA, University of Social Sciences and Humanities in Warsaw

MARIE TAILLARD, ESCP Europe Business School

MEI TAN, University of Houston

PAULA THOMSON, California State University, Northridge.

PABLO TINIO, Montclair State University

REESE Y.W. TOU, University of Houston

OSHIN VARTANIAN, University of Toronto

BENJAMIN G. VOYER, ESCP Europe Business School

CLAIRE WALLACE, Case Western Reserve University



Cambridge University Press 978-1-107-11018-2 — The Cambridge Handbook of Creativity across Domains Edited by James C. Kaufman , Vlad P. Glăveanu , John Baer Frontmatter More Information

Acknowledgments

The authors would like to thank David Repetto and everyone at Cambridge for their help and patience in putting this together. We would also like to thank Paul Joseph Barnett and Molly Holinger for their assistance.