

Cambridge University Press & Assessment

978-1-108-70596-7 — Culture, Mind, and Brain

Edited by Laurence J. Kirmayer, Carol M. Worthman, Shinobu Kitayama,
Robert Lemelson, Constance A. Cummings

Frontmatter

[More Information](#)

Culture, Mind, and Brain

Recent neuroscience research makes it clear that human biology is cultural biology – we develop and live our lives in socially constructed worlds that vary widely in their structure values and institutions. This integrative volume brings together interdisciplinary perspectives from the human, social, and biological sciences to explore culture, mind, and brain interactions and their impact on personal and societal issues. Contributors provide a fresh look at emerging concepts, models, and applications of the co-constitution of culture, mind, and brain. Chapters survey the latest theoretical and methodological insights alongside the challenges in this area, and describe how these new ideas are being applied in the sciences, humanities, arts, mental health, and everyday life. Readers will gain new appreciation of the ways in which our unique biology and cultural diversity shape behavior and experience, and our ongoing adaptation to a constantly changing world.

LAURENCE J. KIRMAYER is James McGill Professor and Director of the Division of Social and Transcultural Psychiatry at McGill University, where he conducts research on the place of culture in mental health and illness, medical and psychological anthropology, and the philosophy of psychiatry.

CAROL M. WORTHMAN is Samuel Candler Dobbs Professor at the Department of Anthropology at Emory University. She uses a biocultural approach in comparative interdisciplinary research on health and human development in Africa, Asia, and the United States.

SHINOBU KITAYAMA is Social Psychology Area Chair and Robert B. Zajonc Collegiate Professor of Psychology at University of Michigan, where he conducts research on the mutual constitution of mental processes and culture.

ROBERT LEMELSON is President of the Foundation for Psychocultural Research and Adjunct Professor of Anthropology at University of California, Los Angeles. He has been conducting psychological and visual anthropological research in Indonesia yearly for the past twenty years.

CONSTANCE A. CUMMINGS is Project Director of the Foundation for Psychocultural Research, which advances interdisciplinary research on the intersection of brain, mind, and culture. She is coeditor of *Formative Experiences* (2010) and *Re-Visioning Psychiatry* (2015), both with Cambridge University Press.

Cambridge University Press & Assessment

978-1-108-70596-7 — Culture, Mind, and Brain

Edited by Laurence J. Kirmayer, Carol M. Worthman, Shinobu Kitayama,
Robert Lemelson, Constance A. Cummings

Frontmatter

[More Information](#)

Current Perspectives in Social and Behavioral Sciences

Current Perspectives in Social and Behavioral Sciences provides thought-provoking introductions to key topics, invaluable to both the student and scholar. Edited by world leading academics, each volume contains specially-commissioned essays by international contributors, which present cutting-edge research on the subject and suggest new paths of inquiry for the reader. This series is designed not only to offer a comprehensive overview of the chosen topics, but to display and provoke lively and controversial debate.

Published titles:

Culture, Mind, and Brain: Emerging Concepts, Models, and Applications edited by
Laurence J. Kirmayer, Carol M. Worthman, Shinobu Kitayama, Robert Lemelson,
and Constance A. Cummings

Genetics, Ethics and Education edited by Susan Bouregy, Elena L. Grigorenko,
Stephen R. Latham and Mei Tan

Global Perspectives on Teacher Motivation edited by Helen Watt, Paul Richardson,
and Kari Smith

Nurturing Creativity in the Classroom, 2nd edition edited by Ronald A. Beghetto and
James C. Kaufman

Research and Theory on Workplace Aggression edited by Nathan A. Bowling, M.
Sandy Hershcovis

Mindfulness and Performance edited by Amy L. Baltzell

Creativity and Reason in Cognitive Development, 2nd edition edited by James Kaufman
and John Baer

Reflections on the Learning Sciences edited by Michael A. Evans, Martin J. Packer and
R. Keith Sawyer

Cambridge University Press & Assessment

978-1-108-70596-7 — Culture, Mind, and Brain

Edited by Laurence J. Kirmayer , Carol M. Worthman , Shinobu Kitayama ,
Robert Lemelson , Constance A. Cummings

Frontmatter

[More Information](#)

Culture, Mind, and Brain

Emerging Concepts, Models, and Applications

Edited by

Laurence J. Kirmayer

McGill University

Carol M. Worthman

Emory University

Shinobu Kitayama

University of Michigan

Robert Lemelson

University of California, Los Angeles

Constance A. Cummings

The Foundation for Psychocultural Research



CAMBRIDGE
UNIVERSITY PRESS

Cambridge University Press & Assessment

978-1-108-70596-7 — Culture, Mind, and Brain

Edited by Laurence J. Kirmayer , Carol M. Worthman , Shinobu Kitayama ,
Robert Lemelson , Constance A. Cummings

Frontmatter

[More Information](#)

CAMBRIDGE UNIVERSITY 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

314-321, 3rd Floor, Plot 3, Splendor Forum, Jasola District Centre, New Delhi - 110025, India

103 Penang Road, #05-06/07, Visioncrest Commercial, Singapore 238467

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/9781108705967

DOI: 10.1017/9781108695374

© Cambridge University Press 2020

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 2020

First paperback edition 2022

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

ISBN 978-1-108-48414-5 Hardback

ISBN 978-1-108-70596-7 Paperback

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 & Assessment

978-1-108-70596-7 — Culture, Mind, and Brain

Edited by Laurence J. Kirmayer , Carol M. Worthman , Shinobu Kitayama ,
Robert Lemelson , Constance A. Cummings

Frontmatter

[More Information](#)

To Dorothy Lemelson, for her dynamism, vision, deep
compassion, and support

Cambridge University Press & Assessment

978-1-108-70596-7 — Culture, Mind, and Brain

Edited by Laurence J. Kirmayer , Carol M. Worthman , Shinobu Kitayama ,
Robert Lemelson , Constance A. Cummings

Frontmatter

[More Information](#)

The human mind was not designed by evolutionary forces for finding truth. It was designed for finding advantage.

Albert Szent-Györgi

Science sometimes sees itself as impersonal, as “pure thought,” independent of its historical and human origins. It is often taught as if this were the case. But science is a human enterprise through and through, an organic, evolving, human growth, with sudden spurts and arrests, and strange deviations, too. It grows out of its past, but never outgrows it, any more than we outgrow our own childhood.

Oliver Sacks, “The Poet of Chemistry”

Le seul véritable voyage . . . ce ne serait pas d'aller vers de nouveaux paysages, mais d'avoir d'autres yeux, de voir l'univers avec les yeux d'un autre, de cent autres, de voir les cent univers que chacun d'eux voit, que chacun d'eux est.

The only true voyage . . . would be not to visit strange lands but to possess other eyes, to see the universe through the eyes of another, of a hundred others, to see the hundred universes that each of them sees, that each of them is.

Marcel Proust, *Remembrance of Things Past*

Contents

<i>List of Figures</i>	<i>page</i> x
<i>List of Tables</i>	xii
<i>List of Contributors</i>	xiii
<i>Preface</i>	xvii
<i>List of Abbreviations</i>	xxi
1 Introduction: Co-constructing Culture, Mind, and Brain	1
LAURENCE J. KIRMAYER, CAROL M. WORTHMAN, AND SHINOBU KITAYAMA	
Part I Dynamics of Culture, Mind, and Brain: Models and Evidence	
<i>Section 1 The Co-emergence of Culture, Mind, and Brain</i>	
<i>Introduction</i>	
2 Culture, Mind, and Brain in Human Evolution: An Extended Evolutionary Perspective on Paleolithic Toolmaking as Embodied Practice	55
DIETRICH STOUT	
3 Mutual Constitution of Culture and the Mind: Insights from Cultural Neuroscience	88
SHINOBU KITAYAMA AND QINGGANG YU	
4 Being There: Foundations, Theory, Method	120
CAROL M. WORTHMAN	
<i>Section 2 The Situated Brain</i>	
<i>Introduction</i>	
5 Culture in Mind – An Enactivist Account: Not Cognitive Penetration but Cultural Permeation	163
DANIEL D. HUTTO, SHAUN GALLAGHER, JESÚS ILUNDÁIN- AGURRUZA, AND INÊS HIPÓLITO	
	vii

viii Contents

6	The Brain as a Cultural Artifact: Concepts, Actions, and Experiences within the Human Affective Niche	188
	MARIA GENDRON, BATJA MESQUITA, AND LISA FELDMAN BARRETT	
7	Cultural Priming Effects and the Human Brain	223
	SHIHUI HAN AND GEORG NORTHOFF	
8	Culture, Self, and Agency: An Ecosocial View	244
	LAURENCE J. KIRMAYER, ANA GÓMEZ-CARRILLO, TIMOTHÉ LANGLOIS-THÉRIEN, MAXWELL J. D. RAMSTEAD, AND IAN GOLD	
<i>Section 3 How Social Coordination and Cooperation are Achieved</i>		
<i>Introduction</i>		
9	Neuroanthropological Perspectives on Culture, Mind, and Brain	277
	DANIEL H. LENDE AND GREG DOWNEY	
10	The Neural Mechanisms Underlying Social Norms: Norm Detection, Punishment, and Compliance	300
	YAN MU AND MICHELE J. GELFAND	
11	Ritual and Religion as Social Technologies of Cooperation	325
	CHRISTOPHER KAVANAGH, JONATHAN JONG, AND HARVEY WHITEHOUSE	
Part II Applications <i>Introduction</i>		
12	The Cultural Brain as Historical Artifact	367
	ROB BODDICE	
13	Experience-Dependent Plasticity in the Hippocampus	375
	GREG L. WEST AND VÉRONIQUE D. BOHBOT	
14	Liminal Brains in Uncertain Futures: Critical Neuroscience and the Cultural Contexts of Neuroeducation	389
	SUPARNA CHOUDHURY AND JOSHUA BERSON	
15	The Reward of Musical Emotions and Expectations	402
	BENJAMIN P. GOLD AND ROBERT J. ZATORRE	
16	Literary Analysis and Weak Theories	416
	OMRI MOSES	
17	Capturing Context Is Not Enough: The Embodied Impact of Story and Emotion in Ethnographic Film	426
	ROBERT LEMELSON AND ANNIE TUCKER	

Cambridge University Press & Assessment

978-1-108-70596-7 — Culture, Mind, and Brain

Edited by Laurence J. Kirmayer, Carol M. Worthman, Shinobu Kitayama,
Robert Lemelson, Constance A. Cummings

Frontmatter

[More Information](#)

Contents	ix
18 Social Neuroscience in Global Mental Health: Case Study on Stigma Reduction in Nepal BRANDON KOHRT	438
19 Cities, Psychosis, and Social Defeat FIRRHAANA SAYANVALA, LISA BORNSTEIN, SUPARNA CHOUDHURY, JAI SHAH, DANIEL WEINSTOCK, AND IAN GOLD	450
20 Internet Sociality MORIAH STENDEL, MAXWELL J. D. RAMSTEAD, AND SAMUEL P. L. VEISSIÈRE	461
21 Neurodiversity as a Conceptual Lens and Topic of Cross- Cultural Study M. ARIEL CASCIO	477
22 Epilogue: Interdisciplinarity in the Study of Culture, Mind, and Brain LAURENCE J. KIRMAYER, CAROL M. WORTHMAN, AND SHINOBU KITAYAMA	494
<i>Index</i>	513

Figures

1.1	Networks constitutive of human experience across multiple spatial scales.	<i>page 2</i>
1.2	Brain-to-brain synchrony in a couple and a dyad of strangers.	8
1.3	An illustration of hierarchical predictive coding.	10
1.4	Timescales of response in living systems.	13
1.5	Rice terraces in Bali, Indonesia.	32
1.6	Children running in wheat field near Datong, Qinghai, China.	33
2.1	A learning cycle in the helical curriculum.	62
2.2	Species differences in action processing circuitry.	71
3.1	Self-centric motivation for European Americans and East Asians.	96
3.2	Cortical volume of the orbitofrontal cortex.	109
4.1	Timescales of response in living systems (tailored specifically to human life history and evolutionary history).	124
4.2	!Kung San hunter-gatherers out foraging, Kalahari Desert, Botswana.	133
4.3	Dobe !Kung family outside their grass hut, Botswana.	134
4.4	A group of Dobe !Kung women out foraging with their children, Botswana.	135
4.5	The spirit of Soweto, a wall mural in Khayelitsha, Cape Town, South Africa (2008).	137
4.6	Men and children walk a sandy path in a township outside Cape Town, South Africa (2008).	138
4.7	Children with mother hanging laundry outside their home in a township near Cape Town, South Africa (2008).	139
4.8	A poster depicting war experiences, painted by youth in Bandipur, Nepal (2008).	141
4.9	Pedestrian street scene in historic center of Kathmandu, Nepal (2007).	142
4.10	Major street in the town of Jumla, Karnali Province, Nepal.	143

List of Figures	xi
5.1 Examples of stimulus sequences presented in the oddball shape discrimination task.	164
5.2 A schematic illustration of hierarchical predictive coding.	173
6.1 Default mode and salience subnetworks.	192
6.2 A depiction of predictive coding in the human brain.	194
7.1 Illustration of the variation of P1 amplitude in (A) neutral, (B) independent, and (C) interdependent self-construal priming.	232
7.2 Illustration of priming and the face-recognition task.	234
7.3 Modulations of reward activity in the ventral striatum.	236
7.4 Modulation of in-group bias in empathic neural responses.	237
8.1 Brain regions involved in sense of agency and volition.	248
8.2 Predictive processing model of agency and sense of presence.	250
8.3 Multidimensional model of sense of agency.	252
8.4 The rubber hand illusion.	255
8.5 <i>Dang-ki</i> healing in Singapore.	262
9.1 Extended, developmental systems model of brain–culture engagement.	290
10.1 Cultural-general N400 effects of social norms violations.	305
10.2 Culture-specific N400 effects of social norm violations.	311
10.3 Cultural modulations of gamma interbrain synchrony during group coordination.	314
14.1 Critical neuroscience and the looping journey of the “brain fact.”	395
18.1 Identity threat model of stigmatization in healthcare settings.	442
21.1 Logos for (A) Autistics United Canada and (B) Autistic Self-Advocacy Network.	485
21.2 Logo for Autism Support Network.	485
22.1 The co-construction of culture, mind, and brain on multiple levels.	499

Tables

1.1 Package of care for human young.	<i>page 23</i>
1.2 Co-construction of culture, mind, and brain on multiple temporal scales.	30
8.1 Response to outcome mismatch.	264
22.1 Strategies for interdisciplinary collaboration.	500

Contributors

LISA FELDMAN BARRETT, PhD, University Distinguished Professor of Psychology, Department of Psychology, Northeastern University; Research Scientist, Department of Psychiatry and the Athinoula A. Martinos Center for Biomedical Imaging, the Massachusetts General Hospital.

JOSHUA BERSON, PhD, USC Dornsife Berggruen Fellow, Berggruen Institute

ROB BODDICE, PhD, FRHistS, Assistant Professor, Department of History and Cultural Studies, Friedrich-Meinecke-Institut, Freie Universität Berlin; Adjunct Professor, Social Studies of Medicine, McGill University

VÉRONIQUE D. BOHBOT, PhD, Professor of Psychiatry and Researcher, Department of Psychiatry, Douglas Mental Health University Institute, McGill University

LISA BORNSTEIN, PhD, Associate Professor, School of Urban Planning, McGill University

M. ARIEL CASCIO, PhD, Assistant Professor in the Art of Medicine, Central Michigan University College of Medicine

SUPARNA CHOUDHURY, PhD, Assistant Professor, Division of Social and Transcultural Psychiatry, Department of Psychiatry; Co-Director, Culture, Mind, and Brain Program, McGill University

CONSTANCE A. CUMMINGS, PhD, Project Director, Foundation for Psycho-cultural Research

GREG DOWNEY, PhD, Professor, Department of Anthropology, Macquarie University

SHAUN GALLAGHER, PhD, Lillian and Morrie Moss Professor of Philosophy, Department of Philosophy, The University of Memphis

MICHELE J. GELFAND, PhD, Professor of Psychology, Department of Psychology, University of Maryland, College Park

Cambridge University Press & Assessment

978-1-108-70596-7 — Culture, Mind, and Brain

Edited by Laurence J. Kirmayer, Carol M. Worthman, Shinobu Kitayama,
Robert Lemelson, Constance A. Cummings

Frontmatter

[More Information](#)

xiv List of Contributors

MARIA GENDRON, PhD, Assistant Professor, Department of Psychology, Yale University

BENJAMIN P. GOLD, PhD, Montreal Neurological Institute, McGill University; Postdoctoral Researcher, Vanderbilt University Medical Center

IAN GOLD, PhD, Professor, Departments of Philosophy and Psychiatry, McGill University

ANA GÓMEZ-CARRILLO, MD, Dr Med, Postdoctoral Fellow, Division of Social and Transcultural Psychiatry, Department of Psychiatry, McGill University

SHIHUI HAN, PhD, Professor, School of Psychological and Cognitive Sciences, Peking University

INÊS HIPÓLITO, MA, PhD Candidate, School of Liberal Arts, University of Wollongong

DANIEL D. HUTTO, PhD, Senior Professor of Philosophical Psychology, School of Liberal Arts, University of Wollongong

JESÚS ILUNDÁIN-AGURRUZA, PhD, Professor and Chair, Department of Philosophy, Linfield College

JONATHAN JONG, PhD, Research Fellow/Assistant Professor and Deputy Director, Brain, Belief, and Behaviour Research Lab, Coventry University; Researcher, Centre for the Study of Social Cohesion, University of Oxford

CHRISTOPHER KAVANAGH, PhD, Associate Professor, Department of Psychology, Rikkyo University; Researcher, Centre for the Study of Social Cohesion, University of Oxford

LAURENCE J. KIRMAYER, MD, FRCPC, FCAHS, FRSC, James McGill Professor and Director, Division of Social and Transcultural Psychiatry, Department of Psychiatry; Co-Director, Culture, Mind, and Brain Program, McGill University

SHINOBU KITAYAMA, PhD, Robert B. Zajonc Collegiate Professor of Psychology, Department of Psychology, University of Michigan

BRANDON KOHRT, MD, PhD, Charles and Sonia Akman Professor of Global Psychiatry; Associate Professor of Psychiatry and Behavioral Sciences and Anthropology, The George Washington University

TIMOTHÉ LANGLOIS-THÉRIEN, BSc, MPhil Candidate and Researcher, Department of History and Philosophy of Science, University of Cambridge; Culture and Mental Health Research Unit, Jewish General Hospital

Cambridge University Press & Assessment

978-1-108-70596-7 — Culture, Mind, and Brain

Edited by Laurence J. Kirmayer, Carol M. Worthman, Shinobu Kitayama,
Robert Lemelson, Constance A. Cummings

Frontmatter

[More Information](#)

List of Contributors

xv

- ROBERT LEMELSON, PhD, President, Foundation for Psychocultural Research; Adjunct Professor, Department of Anthropology, UCLA
- DANIEL H. LENDE, PhD, Associate Professor, Department of Anthropology, University of South Florida
- BATJA MESQUITA, PhD, Professor of Psychology; Director, Center for Social and Cultural Psychology (CSCP), University of Leuven
- OMRI MOSES, PhD, Associate Professor, Department of English, Concordia University
- YAN MU, PhD, Professor and Principal Investigator, Institute of Psychology, Chinese Academy of Sciences; Department of Psychology, University of Chinese Academy of Sciences
- GEORG NORTHOFF, MD, PhD, Canada Research Chair in Mind, Brain Imaging and Neuroethics, Mind, Brain Imaging & Neuroethics Research Unit, University of Ottawa Institute of Mental Health Research; Royal Ottawa Mental Health Centre
- MAXWELL J. D. RAMSTEAD, PhD, Douglas Utting Postdoctoral Fellow, Jewish General Hospital; Division of Social and Transcultural Psychiatry, McGill University
- FIRRHAANA SAYANVALA, BSc, MD Candidate, Medical Student, Michael G. DeGroote School of Medicine, McMaster University
- JAI SHAH, MD, FRCPC, Assistant Professor, Department of Psychiatry, McGill University
- MORIAH STENDEL, MSc, Doctoral Student, Department of Psychology, University of Oregon
- DIETRICH STOUT, PhD, Associate Professor, Department of Anthropology, Emory University
- ANNIE TUCKER, PhD, Researcher, Elemental Productions
- SAMUEL P. L. VEISSIÈRE, PhD, Assistant Professor, Division of Social and Transcultural Psychiatry, Department of Psychiatry; Co-Director, Culture, Mind, and Brain Program, McGill University
- DANIEL WEINSTOCK, PhD, Full Professor, James McGill Professor, Director of the McGill Institute for Health and Social Policy; Faculty of Law, McGill University
- GREG L. WEST, PhD, Associate Professor, Department of Psychology, University of Montreal

Cambridge University Press & Assessment

978-1-108-70596-7 — Culture, Mind, and Brain

Edited by Laurence J. Kirmayer , Carol M. Worthman , Shinobu Kitayama ,
Robert Lemelson , Constance A. Cummings

Frontmatter

[More Information](#)

xvi List of Contributors

HARVEY WHITEHOUSE, PhD, Professor; Chair of Social Anthropology, Director, Centre for the Study of Social Cohesion, University of Oxford

CAROL M. WORTHMAN, PhD, Samuel Candler Dobbs Professor, Department of Anthropology, Emory University

QINGGANG YU, MS, Graduate Student, Department of Psychology, University of Michigan

ROBERT J. ZATORRE, PhD, Professor, Montreal Neurological Institute and Hospital, McGill University; Co-Director, International Laboratory for Brain, Music, and Sound Research

Preface

We live at a moment when the neurosciences are undergoing a massive expansion yielding fascinating insights into human functioning in health and illness. At the same time, advances in the social sciences and psychology are reshaping understandings of the interplay of culture, mind, and brain in human evolution, cognition, emotion, self, agency, ritual, religion, politics, and other domains of life. The implications of these advances go beyond what can be discerned by any one discipline. Insights in one area can transform work in others, but this requires that we bridge disciplines with developmental and ecological models that link our understanding of the brain, the person, and the social world.

This book has its origin in a 2012 conference of the same name organized by the editors, sponsored by the Foundation for Psychocultural Research (FPR), and hosted by the University of California, Los Angeles. Since its founding in 2000, the FPR has engaged in a wide range of granting and programming to bring together scholars in disparate fields to talk about emerging concepts, methods, and applications in the study of culture, mind, and brain with particular attention to: (1) innovative neuroscience research that successfully engages culture and the social world; (2) the contexts in which methods are used as well as the tacit assumptions that shape research questions; and (3) the kinds of collaboration that can advance interdisciplinary research and training. This was the fifth interdisciplinary conference hosted by the foundation; the previous three had resulted in edited volumes. However, other commitments left this project on the back burner for several years.

In 2016, we returned to the topic with renewed interest and conviction that advances in this arena warranted comprehensive treatment. Powerful new metaphors had emerged, particularly the idea that the brain is a dynamic network of global and regional neural processes, one that actively makes use of prior knowledge, beliefs, and experiences to predict, plan, and implement action programs. At the same time, we have learned more about how closely the brain is coupled with the social world – structurally and dynamically – in processes of co-construction.

Cambridge University Press & Assessment
978-1-108-70596-7 — Culture, Mind, and Brain

Edited by Laurence J. Kirmayer, Carol M. Worthman, Shinobu Kitayama,
Robert Lemelson, Constance A. Cummings

Frontmatter

[More Information](#)

xviii Preface

Over the past few years, we invited scholars and researchers from many disciplines to join us in taking a fresh look at emerging concepts, models, and applications that provide new ways to think about the interactions of culture, mind, and brain. The book before you is the result of this interdisciplinary exchange. The questions the contributors were invited to address include:

- What are the “cutting-edge” topics in social and cultural neuroscience – the neural, psychological, and social processes underlying human diversity – that have special relevance for efforts to bridge our concepts of culture, mind, and brain?
- Given that the human brain evolved to operate in locally contingent ways within socially constructed environments, an “eco-systemic” approach to mind, brain, and culture may provide a more biologically relevant and richer way to think about “context.” But how can concepts of such complexity be studied in a scientifically rigorous fashion?
- What are the clinical and societal implications of current research in neuroscience, including epigenetics, predictive coding, network theories, and our evolving understanding of developmental trajectories through brain–mind–body–environment interactions?
- What are some of the novel transdisciplinary ways to engage human diversity and variation, to think about the mind as embodied and enacted, and to investigate culture as both integral to individual experience, and as a dynamic process at multiple levels of social organization – from family, to community, to society and global networks? How might emerging insights, tools, and frameworks address current challenges to human flourishing and sustainability?

The response to the invitation to address these questions is the rich set of essays in this volume, which explore how neuroscience and social science can be brought together in meaningful conversation to illuminate human nature and experience.

We take this opportunity to thank the speakers, panelists, discussants, and especially our audience at the FPR’s Culture, Mind, and Brain 2012 conference for pushing us to consider new theories, methods, and tools. The FPR has played an important role in advancing interdisciplinary training and collaboration in cultural neuroscience and social science since its inception. Founded in 2000 by anthropologist Robert Lemelson, the FPR supports interdisciplinary and integrative research and training on interactions of culture, neuroscience, psychiatry, and psychology, with an emphasis on the central role of cultural processes. The FPR has organized a series of conferences, hosted at UCLA, that reflect its commitment to articulate and support transformative paradigms that address issues of fundamental clinical and social concern: *Posttraumatic Stress Disorder: Biological, Clinical and Cultural Approaches*

Cambridge University Press & Assessment

978-1-108-70596-7 — Culture, Mind, and Brain

Edited by Laurence J. Kirmayer, Carol M. Worthman, Shinobu Kitayama,
Robert Lemelson, Constance A. Cummings

Frontmatter

[More Information](#)

to Trauma's Effects (2002); *Four Dimensions of Childhood: Brain, Mind, Culture, and Time* (2005); *Seven Dimensions of Emotion: Integrating Biological, Clinical, and Cultural Perspectives on Fear, Disgust, Love, Grief, Anger, Empathy, and Hope* (2007); *Cultural and Biological Contexts of Psychiatric Disorder: Implications for Diagnosis and Treatment* (2010); *Culture, Mind, and Brain: Emerging Concepts, Methods, Applications* (2012); and *A Critical Moment: Sex/Gender Research at the Intersections of Culture, Brain, and Behavior* (2015). This book is the latest volume to emerge from these conferences and represents a stock-taking and capstone project that, we hope, points toward future creative innovation.

The editors wish to thank Irene Sukwandi, director of the FPR, and the foundation's board members – Carole Browner, Marie-Françoise Chesselet, Douglas Hollan, Marjorie Kagawa-Singer, Marvin Karno, Steven López, and Beate Ritz – for their vision, leadership, and support. Additionally, we wish to thank Mamie Wong, FPR program officer, for her sharp insights and skillful editing of the manuscript.

LJK wishes to thank the FPR, his colleagues at the Institute of Community and Family Psychiatry, who have supported his interdisciplinary work for over three decades, and his current collaborators in the McGill-FPR Culture, Mind, and Brain Program for a constant sense of intellectual adventure, excitement, and hope for the future.

CMW wishes to thank the FPR for patiently and presciently fostering the interdisciplinary thought and inquiry reflected in this book, and all those who seek to benefit our common yet diverse struggle to be/come humans together on this small planet.

SK thanks the FPR for its support of the publication of this fabulous collection of essays. It has been instrumental in promoting the science of mind, culture, and the brain. SK is very proud to be part of this effort.

RL wishes to thank both the board and staff of the FPR, all of whom have served for 20 years, for their commitment and deep engagement as we collectively grappled to understand how some of the most complex domains in the social sciences and the neurosciences are related, and creatively designed programs to explore those issues. He feels that he could not have been blessed with a more dedicated, thoughtful, and nice group of employees and colleagues as fellow travelers on this intellectual journey.

Finally, CC thanks her co-editors, the contributors, and Rob Lemelson and the FPR for the opportunity to explore some of this ever-changing terrain with you. CC and her co-editors also wish to thank the highly skilled and thoughtful guidance provided by our CUP team: Stephen Acerra, Matthew Bennett, Rebecca Grainger, Niranjana Harikrishnan, Penny Lyons, and Emily Watton. Finally, CC thanks Erin Hartshorn, Alan Gesek, and Sean Hope Kelly for the superb index and illustrations.

Cambridge University Press & Assessment

978-1-108-70596-7 — Culture, Mind, and Brain

Edited by Laurence J. Kirmayer , Carol M. Worthman , Shinobu Kitayama ,
Robert Lemelson , Constance A. Cummings

Frontmatter

[More Information](#)

xx Preface

This book goes to press as humanity grapples with a pandemic, attempting to slow the rate of infection and save lives through public health and economic efforts whose profound effects will continue to evolve and ramify well into the future. Our responses highlight both strengths and fault lines in human culture. These include the distinctively human capacity for pro-social cooperative behavior and solidarity on the one hand, and massive global inequalities in the distribution of wealth and opportunity on the other. To meet the myriad challenges, we must call on our capacities for adaptation, collaboration, and creativity. We hope the conceptual tools and research findings presented in this volume – and the larger enterprise of understanding the interplay of culture, mind, and brain – will be useful resources in this ongoing effort as well as for imagining the new configurations of global society that follow.

Abbreviations

4E	embodied, enactive, ecological, extended
4R (allele)	4-repeat allele
5-HTTLPR	serotonin-transporter-linked polymorphic region
7/2-R (allele)	7- and 2-repeat alleles of the <i>DRD4</i> gene
7R (allele)	7-repeat allele
ACC	anterior cingulate cortex
<i>ADH1B</i>	gene that regulates the enzyme alcohol dehydrogenase 1B
<i>ADH1B*47His</i>	Polymorphic variant of <i>ADH1B</i> associated with alcohol metabolism
ADHD	attention-deficit/hyperactivity disorder
AI	anterior insula
AIDS	acquired immunodeficiency syndrome
AG	angular gyrus
ANI	Autism Network International
<i>APOE2</i>	apolipoprotein E2 allele variant
<i>APOE4</i>	apolipoprotein E4 allele variant
APPS	attenuated positive psychotic symptoms
aSMG	anterior supramarginal gyrus
BA10	Broadman area 10
BDNF	brain-derived neurotrophic factor
BOLD	blood-oxygen-level-dependent
CAAFAG	children associated with armed forces and groups
CMS	cortical midline structures
CREDs	credibility-enhancing displays
CTRA	conserved transcriptional response to adversity
daIns	dorsal anterior insula and includes ventrolateral prefrontal cortex
DLPFC	dorsolateral prefrontal cortex
DMN	default mode network
dmPFC	dorsomedial prefrontal cortex
DNA	deoxyribonucleic acid
<i>DRD4</i>	dopamine D4 receptor gene

xxii List of Abbreviations

EEA	environment of evolutionary adaptedness
EEG	electroencephalography
EES	extended evolutionary synthesis
ENS	empty nose syndrome
ERN	error-related negativity
ERP	event-related potential
ESA	early Stone Age
fMRI	functional magnetic resonance imaging
<i>FOXP2</i>	Forkhead box P2 gene
FRN	feedback-related negativity
GM	gray matter
GPS	Global Positioning System
HCI	human–computer interactions
HIV	human immunodeficiency virus
HPA	hypothalamic–pituitary–adrenal (axis)
HPC	hippocampus
IBH	Interactive Brain Hypothesis
IFG	inferior frontal gyrus
IRL	in real life
ITG	inferior temporal gyrus
LMICs	low- and middle-income countries
LTP	long-term potentiation
M1	primary motor cortex
m/pIns	mid/posterior insula (primary interoceptive cortex)
MC	motor cortex
MCC	midcingulate cortex
MD	medical doctor
mhGAP	mental health Gap Action Programme
MMORPGs	massive multiplayer online role-playing games
MNS	mental, neurological, and substance abuse disorders
MOFC	medial orbitofrontal cortex
mPFC	medial prefrontal cortex
MRI	magnetic resonance imaging
MS	modern synthesis
MSR	Mirror Self-Recognition Test
N400	peak (in milliseconds) of event-related potential
NIMH	National Institute of Mental Health (USA)
NPH	narrative practice hypothesis
NTS	nucleus of the solitary tract
O&M	orientation and mobility
OECD	Organization for Economic Cooperation and Development
OFC	orbitofrontal cortex

List of Abbreviations

xxiii

P1	ERP component
PACC	perigenual anterior cingulate cortex
PAG	periaqueductal gray
PBN	parabrachial nucleus
PCC	posterior cingulate cortex
PCW	primary care worker
PECMA	perception, emotion, cognition, and motor action
PET	positron emission tomography
pgACC	pregenual anterior cingulate cortex
PHG	parahippocampal gyrus
PLE	power law exponent
PMC	premotor cortex
pMCC	posterior midcingulate cortex
postCG	postcentral gyrus
PPC	predictive processing account of cognition
PPC	posterior parietal cortex
PRIME	Programme for Improving Mental health carE
PTSD	posttraumatic stress disorder
PWLE	persons with lived experience of mental, neurological, and substance use disorders
RCT	randomized control trial
rDLPFC	right dorsolateral prefrontal cortex
REC	radically enactive accounts of cognition
RESHAPE	Reducing Stigma among HealthcAre ProvidErs
rLPFC	right lateral prefrontal cortex
ROI	region of interest
RS	rejection sensitivity
SCS	self-consciousness scale
SES	socioeconomic status
sgACC	subgenual anterior cingulate cortex
SI	primary somatosensory cortex
SII	secondary somatosensory cortex
<i>SLC6A4</i>	serotonin transporter gene
SLFIII	superior longitudinal fasciculus
SMA	supplementary motor area
sMRI	structural magnetic resonance imaging
<i>SRGAP2</i>	SLIT-ROB Rho GTPase-activating protein 2
SSC	somatosensory cortex
SSD	somatic symptom disorder
STS	superior temporal sulcus
tDCS	transcranial direct current stimulation
TIV	total intracranial volume

Cambridge University Press & Assessment

978-1-108-70596-7 — Culture, Mind, and Brain

Edited by Laurence J. Kirmayer , Carol M. Worthman , Shinobu Kitayama ,
Robert Lemelson , Constance A. Cummings

Frontmatter

[More Information](#)

xxiv List of Abbreviations

TL	tightness–looseness
TMS	transcranial magnetic stimulation
TPO	Transcultural Psychosocial Organization (in Nepal)
UN	United Nations
UNICEF	United Nations Children’s Fund
V1	primary visual cortex
vaIns	ventral anterior insula
VBM	voxel-based morphometry
vMMN	visual mismatch negativity
vmPFC	ventromedial prefrontal cortex
VNTR	variable number tandem repeat
VS	ventral striatum
WEIRD	Western, educated, industrialized, rich, and democratic
WHO	World Health Organization