CAMBRIDGE

Cambridge University Press
978-1-107-05969-6 — Trauma and Posttraumatic Stress Disorder
Edited by Evelyn Bromet , Elie Karam , Karestan Koenen , Dan Stein
Frontmatter
More Information

Trauma and Posttraumatic Stress Disorder

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-1-107-05969-6 — Trauma and Posttraumatic Stress Disorder
Edited by Evelyn Bromet , Elie Karam , Karestan Koenen , Dan Stein
Frontmatter
More Information

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-1-107-05969-6 — Trauma and Posttraumatic Stress Disorder
Edited by Evelyn Bromet , Elie Karam , Karestan Koenen , Dan Stein
Frontmatter
More Information

Trauma and Posttraumatic Stress Disorder

Global Perspectives from the WHO World Mental Health Surveys

Edited by

Evelyn J. Bromet
Stony Brook University

Elie G. Karam
St. George Hospital University Medical Center

Karestan C. Koenen
Harvard T. H. Chan School of Public Health

Dan J. Stein
University of Cape Town

CAMBRIDGE
UNIVERSITY PRESS

© in this web service Cambridge University Press www.cambridge.org

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

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/9781107059696
DOI: 10.1017/9781107445130

© Cambridge University Press 2018

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 2018

Printed and bound in Great Britain by Clays Ltd, Elcograf S.p.A.

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

Library of Congress Cataloging-in-Publication Data

Names: Bromet, Evelyn J., editor. | Karam, Elie, editor. | Koenen, Karestan C., editor. | Stein, Dan J., editor.
Title: Trauma and posttraumatic stress disorder : global perspectives from the WHO world mental health surveys / edited by Evelyn Bromet, Elie Karam, Karestan Koenen, Dan Stein.
Other titles: Global perspectives from the WHO world mental health surveys
Description: Cambridge, United Kingdom; New York, NY: Cambridge University Press, 2018. | Includes bibliographical references and index.
Identifiers: LCCN 2018012435 | ISBN 9781107059696 (hardback)
Subjects: | MESH: Stress Disorders, Post-Traumatic—epidemiology | Wounds and Injuries—epidemiology | Global Health | Health Surveys
Classification: LCC RC552.P67 | NLM WM 172.5 | DDC 362.196/8521—dc23
LC record available at https://lccn.loc.gov/2018012435

ISBN 978-1-107-05969-6 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.

Every effort has been made in preparing this book to provide accurate and up-to-date information that is in accord with accepted standards and practice at the time of publication. Although case histories are drawn from actual cases, every effort has been made to disguise the identities of the individuals involved. Nevertheless, the authors, editors, and publishers can make no warranties that the information contained herein is totally free from error, not least because clinical standards are constantly changing through research and regulation. The authors, editors, and publishers therefore disclaim all liability for direct or consequential damages resulting from the use of material contained in this book. Readers are strongly advised to pay careful attention to information provided by the manufacturer of any drugs or equipment that they plan to use.

CAMBRIDGE

Cambridge University Press
978-1-107-05969-6 — Trauma and Posttraumatic Stress Disorder
Edited by Evelyn Bromet , Elie Karam , Karestan Koenen , Dan Stein
Frontmatter
More Information

Contents

List of Contributors vii
Foreword by Matthew J. Friedman xi
Acknowledgments xv

Section 1 Introduction

1 **The Global Epidemiology of Trauma Exposure and Posttraumatic Stress Disorder** 1
Evelyn J. Bromet, Elie G. Karam, Karestan C. Koenen, and Dan J. Stein

2 **Methods of the World Mental Health Surveys** 13
Ronald C. Kessler, Steven G. Heeringa, Beth-Ellen Pennell, and Alan M. Zaslavsky

Section 2 Epidemiology of Trauma Exposure

3 **Cross-National Prevalence, Distributions, and Clusters of Trauma Exposure** 43
Corina Benjet, Jean-Pierre Lépine, Marina Piazza, Victoria Shahly, Arieh Shalev, and Dan J. Stein

4 **Childhood Adversities and Preexisting Psychopathology as Predictors of Trauma** 72
Victoria Shahly, Corina Benjet, Graça Cardoso, Louisa Degenhardt, and Elie G. Karam

Section 3 Epidemiology of Posttraumatic Stress Disorder

5 **Population Prevalence of Posttraumatic Stress Disorder** 95
Karestan C. Koenen, Andrew Ratanatharathorn, Evelyn J. Bromet, Elie G. Karam, and Dan J. Stein

6 **The Associations of Posttraumatic Stress Disorder with Secondary Mental and Physical Health Disorders** 110
Ronald C. Kessler, Peter de Jonge, Yueqin Huang, John J. McGrath, Elie G. Karam, and Kate Scott

7 **Functional Impairments Associated with Posttraumatic Stress Disorder** 128
Ronald C. Kessler, Somnath Chatterji, Yanling He, Daphna Levinson, Elie G. Karam, and Jordi Alonso

8 **Patterns of Treatment and Barriers to Care in Posttraumatic Stress Disorder** 137
Graham Thornicroft, Sara Evans-Lacko, Karestan C. Koenen, Viviane Kovess-Masféty, David R. Williams, and Ronald C. Kessler

Section 4 Factors Influencing the Onset and Course of Posttraumatic Stress Disorder

9 **The Effects of Trauma Type, Timing, Accumulation, and Sequencing** 153
Howard Liu, Laura Helena Andrade, Josep Maria Haro, Dan J. Stein, and Ronald C. Kessler

10 **The Effects of Childhood Adversities** 163
Katie A. McLaughlin, Oye Gureje, Norito Kawakami, Karestan C. Koenen, and Ronald C. Kessler

11 **The Effects of Prior Psychopathology** 173
Ronald C. Kessler, Evelyn J. Bromet, Beth-Ellen Pennell, and Elie G. Karam

12 **Sexual Assault among Women** 181
Kate Scott, Evelyn J. Bromet, Ronny Bruffaerts, Karestan C. Koenen, Yolanda Torres, and Ronald C. Kessler

13 **Motor Vehicle Collisions** 194
Dan J. Stein, Hristo Hinkov, Maria Elena Medina-Mora, and Ronald C. Kessler

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-1-107-05969-6 — Trauma and Posttraumatic Stress Disorder
Edited by Evelyn Bromet , Elie Karam , Karestan Koenen , Dan Stein
Frontmatter
More Information

14 **The Unexpected Death of a Loved One** 210
Lukoye Atwoli, Dan J. Stein, Margreet ten Have, and Ronald C. Kessler

15 **Natural and Human-Made Disasters** 226
Evelyn J. Bromet, Silvia Florescu, Giovanni de Girolamo, Fernando Navarro-Mateu, and Elie G. Karam

16 **Patterns and Predictors of the Course of Posttraumatic Stress Disorder** 240
Anthony J. Rosellini, John Fayyad, Karestan C. Koenen, and Ronald C. Kessler

Section 5 Dissecting the Clinical Picture

17 **DSM-5 and ICD-11 Definitions of Posttraumatic Stress Disorder: Investigating "Narrow" and "Broad" Approaches** 253
Dan J. Stein, Matthew J. Friedman, Katie A. McLaughlin, Kate M. Scott, and Ronald C. Kessler

18 **The Role of Criterion A2 in the DSM-IV Diagnosis of Posttraumatic Stress Disorder** 263
Elie G. Karam, Evelyn J. Bromet, Ayelet Meron Ruscio, Dan J. Stein, and Ronald C. Kessler

19 **Threshold versus Subthreshold Posttraumatic Stress Disorder** 273
Katie A. McLaughlin, Koen Demyttenaere, Karestan C. Koenen, José Posada-Villa, Ayelet Meron Ruscio, and Ronald C. Kessler

20 **Dissociative versus Nondissociative Posttraumatic Stress Disorder** 287
Dan J. Stein, Brendan Bunting, José Miguel Caldas de Almeida, Ayelet Meron Ruscio, David Spiegel, and Ronald C. Kessler

21 **Simple versus Complex Posttraumatic Stress Disorder** 300
Elie G. Karam, Evelyn J. Bromet, Ronald C. Kessler, Maria Carmen Viana, and Karestan C. Koenen

Section 6 Conclusions and Future Directions

22 **Data Mining to Predict Posttraumatic Stress Disorder Onset in the Wake of Trauma Exposure** 309
Ronald C. Kessler, Sherri Rose, Paul Stang, and Alan M. Zaslavsky

23 **The Population Burden of Posttraumatic Stress Disorder** 318
Ronald C. Kessler, Sergio Aguilar-Gaxiola, Jordi Alonso, Sing Lee, and Karestan C. Koenen

24 **Conclusions and Future Directions** 325
Evelyn J. Bromet, Elie G. Karam, Karestan C. Koenen, and Dan J. Stein

Index 337

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-1-107-05969-6 — Trauma and Posttraumatic Stress Disorder
Edited by Evelyn Bromet , Elie Karam , Karestan Koenen , Dan Stein
Frontmatter
More Information

Contributors

Sergio Aguilar-Gaxiola, MD, PhD
Center for Reducing Health Disparities, University of California Davis School of Medicine, Davis, CA, USA

Jordi Alonso, MD, PhD
Health Services Research Unit, IMIM-Hospital del Mar Medical Research Institute, Pompeu Fabra University (UPF), CIBER en Epidemiología y Salud Pública (CIBERESP), Barcelona, Spain

Laura Helena Andrade, MD, PhD
Section of Psychiatric Epidemiology – LIM 23, Institute of Psychiatry, University of São Paulo Medical School, São Paulo, Brazil

Lukoye Atwoli, MD, PhD
Department of Psychiatry and Mental Health, University of Cape Town, Cape Town, Republic of South Africa

Corina Benjet, PhD
Department of Epidemiologic & Psychosocial Research, National Institute of Psychiatry Ramón de la Fuente Muñiz, Mexico City, Mexico

Evelyn J. Bromet, PhD
Department of Psychiatry, Stony Brook University, Stony Brook, NY, USA

Ronny Bruffaerts, PhD
Universitair Psychiatrisch Centrum – Katholieke Universiteit Leuven (UPC-KUL), Campus Gasthuisberg, University of Leuven, Belgium

Brendan Bunting, PhD
School of Psychology, Ulster University, Londonderry, UK

José Miguel Caldas-de-Almeida, MD, PhD
Lisbon Institute of Global Mental Health and Chronic Diseases Research Center (CEDOC), NOVA Medical School, Universidade Nova de Lisboa, Lisbon, Portugal

Graça Cardoso, MD, PhD
Lisbon Institute of Global Mental Health and Chronic Diseases Research Center (CEDOC), NOVA Medical School, Universidade Nova de Lisboa, Lisbon, Portugal Somnath Chatterji, MD Department of Information, Evidence and Research, World Health Organization, Geneva, Switzerland

Louisa Degenhardt, PhD
National Drug and Alcohol Research Centre, University of New South Wales, Sydney, Australia

Giovanni de Girolamo, MD
Istituti di Ricovero e Cura a Carattere Scientifico (IRCCS), St. John of God Clinical Research Centre, Brescia, Italy

Peter de Jonge, PhD
Department of Developmental Psychology, University of Groningen, University Medical Center Groningen, Groningen, The Netherlands

Koen Demyttenaere, MD, PhD
Department of Psychiatry, University Hospital Gasthuisberg, Katholieke Universiteit Leuven (KUL), Leuven, Belgium

Sara Evans-Lacko, PhD
Institute of Psychiatry, Psychology & Neuroscience, King's College London, PSSRU, London School of Economics and Political Science, London, UK

Matthew J. Friedman, MD, PhD
National Center for PTSD, US Department of Veterans Affairs, Washington, DC, Geisel School of Medicine at Dartmouth, Hanover, NH, USA

John Fayyad, MD
Institute for Development, Research, Advocacy & Applied Care (IDRAAC), Beirut, Lebanon

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-1-107-05969-6 — Trauma and Posttraumatic Stress Disorder
Edited by Evelyn Bromet , Elie Karam , Karestan Koenen , Dan Stein
Frontmatter
More Information

List of Contributors

Silvia Florescu, MD, PhD
National School of Public Health, Management and Development, Bucharest, Romania

Oye Gureje, MD, PhD, FRCPsych
Department of Psychiatry, University of Ibadan, Ibadan, Nigeria

Josep Maria Haro, MD, PhD
Parc Sanitari Sant Joan de Déu, Universitat de Barcelona, CIBERSAM, Barcelona, Spain

Yanling He, MD
Shanghai Mental Health Center, Shanghai Jiao Tong University, School of Medicine, Shanghai, People's Republic of China

Steven G. Heeringa, PhD
Survey Research Center, Institute for Social Research, University of Michigan, Ann Arbor, MI, USA

Hristo Hinkov, MD, PhD
National Center for Public Health and Analyses, Sofia, Bulgaria

Yueqin Huang, MD, MPH, PhD
Institute of Mental Health, Peking University, Beijing, People's Republic of China

Elie G. Karam, MD
Department of Psychiatry and Clinical Psychology, St George Hospital University Medical Center, Balamand University, Faculty of Medicine, Institute for Development, Research, Advocacy and Applied Care (IDRAAC), Beirut, Lebanon

Norito Kawakami, MD, DMSc
Department of Mental Health, School of Public Health, The University of Tokyo, Tokyo, Japan

Ronald C. Kessler, PhD
Department of Health Care Policy, Harvard Medical School, Boston, MA, USA

Karestan C. Koenen, PhD
Department of Epidemiology, Harvard T.H. Chan School of Public Health, Boston, MA, USA

Viviane Kovess-Masfety, MD, PhD
Ecole des Hautes Etudes en Santé Publique (EHESP), EA 4057, Paris Descartes University, Paris, France

Sing Lee, MB, BS
Department of Psychiatry, Chinese University of Hong Kong, Tai Po, Hong Kong

Jean-Pierre Lépine, MD
Hôpital Lariboisière Fernand Widal, Assistance Publique Hôpitaux de Paris, Universités Paris Descartes-Paris Diderot, INSERM UMR-S 1144 Paris, France

Daphna Levinson, PhD
Mental Health Services, Ministry of Health, Jerusalem, Israel

Howard Liu, SM
Department of Health Care Policy, Harvard Medical School, Department of Epidemiology, Harvard T.H. Chan School of Public Health, Boston, MA, USA

John J. McGrath, MD, PhD
Queensland Brain Institute, Queensland Centre for Mental Health Research, University of Queensland, Australia, Aarhus University, Denmark

Katie A. McLaughlin, PhD
Department of Psychology, University of Washington, Seattle, WA, USA

Maria Elena Medina-Mora, DrPH
National Institute of Psychiatry, Ramón de la Fuente Muñiz, Mexico City, Mexico

Fernando Navarro-Mateu, PhD, MD
UDIF-SM, Subdirección General de Planificación, Innovación y Cronicidad, Servicio Murciano de Salud, IMIB-Arrixaca, CIBERESP-Murcia, Murcia, Spain

Beth-Ellen Pennell, MA
Survey Research Center, Institute for Social Research, University of Michigan, Ann Arbor, MI, USA

Marina Piazza, ScD, MPH
Universidad Cayetano Heredia, National Institute of Health, Lima, Peru

José Posada-Villa, MD
Faculty of Social Sciences, Colegio Mayor de Cundinamarca University, Bogota, Colombia

Andrew Ratanatharathorn, MA
Department of Epidemiology, Mailman School of Public Health, Columbia University New York, NY, USA

Sherri Rose, PhD
Department of Health Care Policy, Harvard Medical School, Boston, MA, USA

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-1-107-05969-6 — Trauma and Posttraumatic Stress Disorder
Edited by Evelyn Bromet , Elie Karam , Karestan Koenen , Dan Stein
Frontmatter
More Information

Anthony J. Rosellini, PhD
Department of Psychological & Brain Sciences, Boston University, Boston, MA, USA

Ayelet Meron Ruscio, PhD
Department of Psychology, University of Pennsylvania, Philadelphia, PA, USA

Kate M. Scott, PhD
Department of Psychological Medicine, University of Otago, Dundein, New Zealand

Victoria Shahly, PhD
Department of Health Care Policy, Harvard Medical School, Boston, MA, USA

Arieh Y. Shalev, MD
Department of Psychiatry, NYU Langone Medical Center, New York, NY, USA

David Spiegel, MD
Department of Psychiatry and Behavioral Sciences, Stanford University School of Medicine, Stanford, CA, USA

Paul Stang, PhD
Janssen Pharmaceutical R&D, Titusville, NJ, USA

Dan J. Stein, FRCPC, PhD
Department of Psychiatry and Mental Health University of Cape Town Cape Town, Republic of South Africa

Margreet ten Have, PhD
Trimbos-Instituut, Netherlands Institute of Mental Health and Addiction, Utrecht, The Netherlands

Graham Thornicroft, PhD
Centre for Global Mental Health, Institute of Psychiatry, Psychology and Neuroscience, King's College London, London, UK

Yolanda Torres, MPH, DraHC
Center for Excellence on Research in Mental Health, CES University, Medellin, Colombia

Maria Carmen Viana, PhD, MD
Department of Social Medicine, Federal University of Espirito Santo, Vitoria, Brazil

David R. Williams, MPH, PhD
Department of Social and Behavioral Sciences, Harvard T.H. Chan School of Public Health, Boston, MA, USA

Alan M. Zaslavsky, PhD
Department of Health Care Policy, Harvard Medical School, Boston, MA, USA

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-1-107-05969-6 — Trauma and Posttraumatic Stress Disorder
Edited by Evelyn Bromet , Elie Karam , Karestan Koenen , Dan Stein
Frontmatter
More Information

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-1-107-05969-6 — Trauma and Posttraumatic Stress Disorder
Edited by Evelyn Bromet , Elie Karam , Karestan Koenen , Dan Stein
Frontmatter
More Information

Foreword

Matthew J. Friedman

This remarkable volume represents the most comprehensive, detailed, and rigorous attempt ever undertaken to characterize the risk factors, clinical phenomenology, and global burden of posttraumatic stress disorder (PTSD). The World Mental Health (WMH) Survey Consortium has applied its powerful methodology and cross-national research network to investigate PTSD predictors, prevalence, population differences, and potential preventive strategies on such a large scale that there was sufficient statistical power to carry out many sub-analyses of great interest. Approximately 125,000 individuals were surveyed from 26 low- to high-income settings around the globe. Major topics include: the epidemiology of trauma and PTSD, factors influencing the onset and course of PTSD, the validity of the American Psychiatric Association's current diagnostic criteria for PTSD as described in the *Diagnostic and Statistical Manual Fifth Edition, DSM-5* (APA, 2013), and the clinical and public health implications of these findings with respect to preventive strategies and early case identification.

There is no need for me to attempt to use this brief introduction to summarize the wealth of findings presented in each chapter. Instead, I would like to focus on three major cross-cutting issues that have occupied my thoughts over the years: the global relevance of the PTSD diagnosis, the goodness-of-fit of the DSM-5 diagnostic criteria to the findings of the WMH survey, and how these findings might inform future clinical practice and public health policy.

The Cross-Cultural Applicability of the PTSD Construct

Ever since its introduction as an official diagnosis in the DSM-III (APA, 1980), PTSD has been criticized as a Western cultural construction with limited applicability to non-industrialized nations and cultures (Young, 1995; Summerfield, 1999; Jones et al., 2003; Lewis-Fernández et al., 2014). Another criticism has been that by medicalizing human suffering, the PTSD diagnosis has obscured the social and moral implications of catastrophic events such as war and genocide and narrowed the posttraumatic clinical focus from genuine culture-specific idioms of distress to the Western DSM diagnosis (Kleinman & Kleinman, 1991; Lewis-Fernández et al., 2014).

My personal experience of the intensity of this controversy occurred when Tony Marsella and I organized a conference more than 20 years ago (Marsella et al., 1996) that sought to integrate PTSD diagnostic criteria with cross-cultural and medical anthropological constructs of trauma. To me, this seemed to be an achievable and useful undertaking. But there was intense disagreement about the appropriateness of such an initiative.

This book does not, and cannot, address the question of whether PTSD might be a more useful construct in some settings than, for example, *ataque de nervios*, *khyal*, *ihahamuka*, *llaki,* or *masilango*. On the other hand, this book does show that PTSD occurs in low- as well as in high-income countries. Although prevalence may vary from one country to the next, such variation is not necessarily attributable to whether or not such countries are Western/industrialized. Furthermore, PTSD appears to remain PTSD. In many cases, the symptom characteristics, risk factors, clinical course, associated disorders, and burden of PTSD appear to be consistent from one country to the next.

In short, thanks to these findings, we can feel confident that PTSD is not restricted to Western populations although there is significant cross-cultural variability. As Lewis-Fernández et al. (2014) point out, such variability may, in part, be due to variability in trauma exposure as well as culturally driven differences in trauma expression. Much more research is needed to understand the relationship between culture, posttraumatic distress, PTSD, and culture-specific idioms of distress. Attention to underlying pathophysiology

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE
Cambridge University Press
978-1-107-05969-6 — Trauma and Posttraumatic Stress Disorder
Edited by Evelyn Bromet , Elie Karam , Karestan Koenen , Dan Stein
Frontmatter
More Information

and identification of posttraumatic/PTSD-related biomarkers should help to sort this out. Finally, achieving the appropriate balance between culture-specific syndromes and the universal PTSD diagnosis should enable us to optimize clinical approaches and public health preventive policies in a wide variety of settings. This important path forward should be guided by these findings from the WMH Survey.

Did DSM-5 Get It Right?

As the chair of the DSM-5 sub-workgroup that developed the current PTSD criteria, I was, of course, very interested in the findings of the WMH Survey regarding the final PTSD diagnostic criteria. Most people do not realize that, in contrast to the DSM-IV (APA, 1994) process, there was no opportunity to field test the proposed DSM-5 criteria before they were finalized. Furthermore, although DSM-5 was an empirically driven process that was based on the most rigorous research, a number of key diagnostic questions had not been investigated as thoroughly as or carefully as we would have hoped. The WMH Survey has several specific chapters that focus on DSM-5 diagnostic criteria.

One major change between DSM-IV and DSM-5 was elimination of the subjective (Criterion A2) component of Criterion A which stipulated that in addition to exposure to the traumatic event itself (Criterion A1), an individual must have experienced an intense emotional response (e.g., "fear, helplessness, or horror"). DSM-5 eliminated the A2 criterion because it had little clinical utility and did not improve diagnostic accuracy. The WMH Survey results support that decision.

Another important change was the addition of a dissociative subtype (Lanius et al., 2012). Individuals diagnosed as such meet full DSM-5 criteria for PTSD but also exhibit dissociative symptoms, such as depersonalization or derealization. There is a long history of dissociative symptoms occurring after exposure to a traumatic event dating back to the classic work of Charcot and Janet. Again, the WMH Survey supports DSM-5 by showing that the dissociative subtype distinguished a significant minority of PTSD cases, that it was present throughout a diverse set of countries, and that it was associated with considerable morbidity, chronicity, and functional impairment.

In my opinion, one piece of unfinished business from DSM-5 is the lack of a diagnostic niche for people who suffer from extreme distress and functional impairment following exposure to a traumatic event, but who fail to meet full diagnostic criteria for PTSD. This has variously been called partial or sub-threshold PTSD. DSM-5 did not include a specific sub-threshold PTSD diagnosis because a standard case definition has never been achieved; therefore, it was not possible to pool and synthesize the growing literature on this topic. The WMH survey clearly supports earlier studies showing that traumatized individuals with some, but not all, requisite PTSD symptoms represent an important clinical population (Friedman et al., 2011). The WMH Survey's suggestion that people who meet two or three of the DSM-5 Criteria B–E should be diagnosed as having sub-threshold PTSD is a very good place to start toward developing a case definition of sub-threshold PTSD in order to guide and standardize future research.

The WMH survey addresses the differences in PTSD diagnostic criteria between DSM-IV, DSM-5, and the World Health Organization's (WHO) *International Classification of Disease 10th Edition* (ICD-10; WHO, 1993) and *11th Edition* (ICD-11; WHO, 2012). Although the Survey found results consistent with DSM-5 in distinguishing four PTSD symptom clusters, the most important result confirms previous findings regarding a lack of congruence between these four different diagnostic schemes. Given the differences between DSM-5 and ICD-11 (Friedman, 2013; Maercker et al., 2013), the finding that one-third of respondents met PTSD criteria only in DSM-5, DSM-IV, ICD-10, or ICD-11, but not in any other classification scheme, is very important. I believe that rather than confronting us with a conceptual problem, this is a golden opportunity to recognize that we should no longer try to fit all posttraumatic psychopathology under a single tent labeled "PTSD." It is time to recognize that different people will express posttraumatic distress differently. Perhaps it makes sense to identify different posttraumatic phenomenological phenotypes such as adrenergic/aroused, dysphoric/anhedonic, dissociative and externalizing (Friedman, 2016). Or more likely, it is time for PTSD to evolve into a spectrum disorder (as has depression) with a variety of phenotypes that include biomarkers among its diagnostic criteria. These WMH Survey results provide strong additional evidence that identification of posttraumatic phenotypes is one of the highest priorities in this field.

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-1-107-05969-6 — Trauma and Posttraumatic Stress Disorder
Edited by Evelyn Bromet , Elie Karam , Karestan Koenen , Dan Stein
Frontmatter
More Information

Clinical and Public Health Implications

To me, the most remarkable finding is the WMH survey PTSD risk algorithm based on machine learning models. We have known for a long time that most individuals exposed to a traumatic event will not develop PTSD. The clinical and public health challenge is how to identify those individuals at greatest risk in comparison with resilient others who will not develop PTSD. During mass casualty, war, genocide, and natural disaster scenarios, the problem has been that almost everyone exhibits severe distress during the acute aftermath of a trauma, but only a significant minority will exhibit a chronic PTSD clinical trajectory. Indeed, the WMH survey found that 95.6% of PTSD cases occurred among the 10% of respondents classified by the machine learning algorithms as having the greatest predicted PTSD risk. The model includes socio-demographics, type of trauma, prior trauma history, prior psychopathology, and social support. The predictive power of future models will definitely be improved by the identification of specific biomarkers as well as by the explication of specific posttraumatic phenotypes. But as with the importance of lipid profiles in assessing the risk of cardiovascular disease, refinement of the PTSD risk algorithm will play a major role in identification and management of individuals at greatest risk for PTSD in both traditional clinical and population-based public health settings.

In closing, the WMH survey of PTSD will greatly influence the future research agenda, diagnostic assessment, clinical management, and public health strategy regarding PTSD. It is a major achievement that should be mandatory reading for anyone concerned about trauma and its consequences.

References

American Psychiatric Association. (1980). *Diagnostic and Statistical Manual of Mental Disorders, Third Edition. DSM-III*. Washington, DC: American Psychiatric Association.

American Psychiatric Association. (1994). *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition. DSM-IV*. Washington, DC: American Psychiatric Association.

American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition. DSM-5*. Arlington, VA: American Psychiatric Association.

Friedman, M. J. (2013). Finalizing PTSD in DSM-5: getting here from there and where to go next. *Journal of Traumatic Stress*, 26, 548–56.

(2016). Deconstructing PTSD. In E. J. Bromet, ed., *Long Term Outcomes in Psychopathology Research: Rethinking the Scientific Agenda*. Oxford, England: Oxford University Press, pp. 123–39.

Friedman, M. J., Resick, P. A., Bryant, R. A., & Brewin, C. R. (2011). Considering PTSD for DSM-5. *Depression & Anxiety*, 28, 750–69.

Jones, E., Hodgins Vermaas, R., McCartney, H., et al. (2003). Flashbacks and post-traumatic stress disorder: the genesis of a 20th-century diagnosis. *British Journal of Psychiatry*, 182, 158–63.

Kleinman, A., & Kleinman, J. (1991). Suffering and its professional transformation: toward an ethnography of interpersonal experience. *Culture, Medicine, and Psychiatry*, 15, 275–301.

Lanius, R. A., Brand, B., Vermetten, E., Frewen, P. A., & Spiegel, D. (2012). The dissociative subtype of posttraumatic stress disorder: rationale, clinical and neurobiological evidence, and implications. *Depression and Anxiety*, 29, 701–8.

Lewis-Fernández, R., Hinton, D. E., Laria, A. J., & Marques, L. (2014). Culture and PTSD. In M. J. Friedman, T. M. Keane, & P. A. Resick, eds., *Handbook of PTSD: Science and Practice*, 2nd Edition. New York, NY: Guilford Publications, pp. 522–39.

Maercker, A., Brewin, C. R., Bryant, R. A., et al. (2013). Proposals for mental disorders specifically associated with stress in the International Classification of Diseases-11. *The Lancet*, 381, 1683–5.

Marsella, A. J., Friedman, M. J., Gerrity, E. T., & Surfield, R. M. (1996). Ethnocultural aspects of PTSD: some closing thoughts. In A. J. Marsella, M. J. Friedman, E. T. Gerrity, & R. M. Scurfield, eds., *Ethnocultural Aspects of Posttraumatic Stress Disorder: Issues, Research, and Clinical Applications*. Washington, DC: American Psychological Association, pp. 529–38.

Summerfield, D. A. (1999). A critique of seven assumptions behind psychological trauma programmes in war-affected areas. *Social Science and Medicine*, 48, 1449–62.

World Health Organization. (1993). *The ICD-10 Classification of Mental and Behavioral Disorders: Diagnostic Criteria for Research*. Geneva, Switzerland: World Health Organization.

World Health Organization. (2012). *ICD-11 Beta: Mental and Behavioral Disorders*. Geneva, Switzerland: World Health Organization. https://icd.who.int/dev11.

Young, A. (1995). *The Harmony of Illusions: Inventing Post-traumatic Stress Disorder*. Princeton, NJ: Princeton University Press.

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-1-107-05969-6 — Trauma and Posttraumatic Stress Disorder
Edited by Evelyn Bromet , Elie Karam , Karestan Koenen , Dan Stein
Frontmatter
More Information

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-1-107-05969-6 — Trauma and Posttraumatic Stress Disorder
Edited by Evelyn Bromet , Elie Karam , Karestan Koenen , Dan Stein
Frontmatter
More Information

Acknowledgments

The World Health Organization World Mental Health (WMH) Survey Initiative has been supported by the United States National Institute of Mental Health (NIMH; R01 MH070884), the John D and Catherine T. MacArthur Foundation, the Pfizer Foundation, the United States Public Health Service (R13-MH066849, R01-MH069864, and R01 DA016558), the Fogarty International Center (FIRCA R03-TW006481), the Pan American Health Organization, Eli Lilly and Company, Ortho-McNeil Pharmaceutical Inc., GlaxoSmithKline, and Bristol-Myers Squibb.

We thank the staff of the WMH Data Collection and Data Analysis Coordination Centres for assistance with instrumentation, fieldwork, and consultation on data analysis. None of the funders had any role in the design, analysis, interpretation of results, or preparation of this book. The views and opinions expressed in this report are those of the authors and should not be construed to represent the views of the World Health Organization, other sponsoring organizations, agencies, or governments.

The 2007 Australian National Survey of Mental Health and Wellbeing was funded by the Australian Government Department of Health and Ageing. The São Paulo Megacity Mental Health Survey has been supported by the State of São Paulo Research Foundation (FAPESP) Thematic Project Grant 03/00204-3. The Bulgarian Epidemiological Study of common mental disorders EPIBUL has been supported by the Ministry of Health and the National Center for Public Health Protection. The Chinese World Mental Health Survey Initiative has been supported by the Pfizer Foundation. The Colombian National Study of Mental Health (NSMH) has been supported by the Ministry of Social Protection. The Mental Health Study Medellín, Colombia, was carried out and supported jointly by the Center for Excellence on Research in Mental Health (CES University) and the Secretary of Health of Medellín. The ESEMeD project has been funded by the European Commission (Contracts QLG5-1999-01042, SANCO 2004123, and EAHC 20081308), (the Piedmont Region (Italy)), Fondo de Investigación Sanitaria, Instituto de Salud Carlos III, Spain (FIS 00/0028), Ministerio de Ciencia y Tecnología, Spain (SAF 2000-158-CE), Departament de Salut, Generalitat de Catalunya, Spain, Instituto de Salud Carlos III (CIBER CB06/02/0046, RETICS RD06/0011 REM-TAP), and other local agencies and by an unrestricted educational grant from GlaxoSmithKline. The Israel National Health Survey has been funded by the Ministry of Health with support from the Israel National Institute for Health Policy and Health Services Research and the National Insurance Institute of Israel. The World Mental Health Japan (WMHJ) Survey has been supported by the Grant for Research on Psychiatric and Neurological Diseases and Mental Health (H13-SHOGAI-023, H14-TOKUBETSU-026, H16-KOKORO-013, H25-SEISHIN-IPPAN-006) from the Japan Ministry of Health, Labour and Welfare. The Lebanese Evaluation of the Burden of Ailments and Needs of the Nation (L.E.B.A.N.O.N.) has been supported by the Lebanese Ministry of Public Health, the WHO (Lebanon), National Institute of Health/Fogarty International Center (R03 TW006481-01), anonymous private donations to IDRAAC, Lebanon, and unrestricted grants from Algorithm, AstraZeneca, Benta, Bella Pharma, Eli Lilly, GlaxoSmithKline, Lundbeck, Novartis, OmniPharma, Pfizer, Phenicia, Servier, UPO. The Mexican National Comorbidity Survey (MNCS) has been supported by the National Institute of Psychiatry Ramon de la Fuente (INPRFMDIES 4280) and by the National Council on Science and Technology (CONACyT-G30544-H), with supplemental support from the Pan American Health Organization (PAHO). Te Rau Hinengaro: The New Zealand Mental Health Survey (NZMHS) has been supported by the New Zealand Ministry of Health, Alcohol Advisory Council, and the Health Research Council. The

© in this web service Cambridge University Press www.cambridge.org

Acknowledgments

Nigerian Survey of Mental Health and Wellbeing (NSMHW) is supported by the WHO (Geneva), the WHO (Nigeria), and the Federal Ministry of Health, Abuja, Nigeria. The Northern Ireland Study of Mental Health was funded by the Health & Social Care Research & Development Division of the Public Health Agency. The Peruvian World Mental Health Study was funded by the National Institute of Health of the Ministry of Health of Peru. The Portuguese Mental Health Study was carried out by the Department of Mental Health, Faculty of Medical Sciences, NOVA University of Lisbon, with collaboration of the Portuguese Catholic University, and was funded by Champalimaud Foundation, Gulbenkian Foundation, Foundation for Science and Technology (FCT), and Ministry of Health. The Romania WMH study projects "Policies in Mental Health Area" and "National Study regarding Mental Health and Services Use" were carried out by National School of Public Health & Health Services Management (former National Institute for Research & Development in Health), with technical support of Metro Media Transylvania, the National Institute of Statistics-National Centre for Training in Statistics, SC, Cheyenne Services SRL, Statistics Netherlands and were funded by Ministry of Public Health (former Ministry of Health) with supplemental support of Eli Lilly Romania SRL. The South Africa Stress and Health Study (SASH) has been supported by the US National Institute of Mental Health (R01-MH059575) and National Institute of Drug Abuse with supplemental funding from the South African Department of Health and the University of Michigan. The Psychiatric Enquiry to General Population in Southeast Spain, Murcia (PEGASUS-Murcia) Project has been financed by the Regional Health Authorities of Murcia (ServicioMurciano de Salud and Consejería de Sanidad y Política Social) and Fundación para la Formación e Investigación-Sanitarias (FFIS) of Murcia. The Ukraine Comorbid Mental Disorders during Periods of Social Disruption (CMDPSD) study has been funded by the US National Institute of Mental Health (RO1-MH61905). The US National Comorbidity Survey Replication (NCS-R) has been supported by the National Institute of Mental Health (NIMH; U01-MH60220) with supplemental support from the National Institute of Drug Abuse (NIDA), the Substance Abuse and Mental Health Services Administration (SAMHSA), the Robert Wood Johnson Foundation (RWJF; Grant 044708), and the John W. Alden Trust.

© in this web service Cambridge University Press www.cambridge.org