

Anxiety Disorders in Children and Adolescents
Second Edition



#### **Cambridge Child and Adolescent Psychiatry**

Child and adolescent psychiatry is an important and growing area of clinical psychiatry. The last decade has seen a rapid expansion of scientific knowledge in this field and has provided a new understanding of the underlying pathology of mental disorders in these age groups. This series is aimed at practitioners and researchers both in child and adolescent mental health services and in developmental and clinical neuroscience. Focusing on psychopathology, it highlights those topics where the growth of knowledge has had the greatest impact on clinical practice and on the treatment and understanding of mental illness. Individual volumes benefit from both the international expertise of their contributors and also from a coherence generated through a uniform style and structure for the series. Each volume provides, first, a historical overview and a clear descriptive account of the psychopathology of a specific disorder or group of related disorders. These features then form the basis for a thorough critical review of the etiology, natural history, management, prevention, and impact on later adult adjustment. While each volume is therefore complete in its own right, volumes also relate to each other to create a flexible and collectable series that should appeal to students as well as experienced scientists and practitioners.

#### **Editorial Board**

Series editor Professor Ian M. Goodyer University of Cambridge

#### **Associate editors**

Dr Robert N. Goodman Professor Dr Herman van Engeland
Institute of Psychiatry, London Academisch Ziekenhuis Utrecht
Professor Barry Nurcombe Professor Fred R. Volkmar
The University of Queensland Yale Child Study Center

Professor Dr Helmut Remschmidt

Klinikum der Philipps-Universität, Marburg, Germany

#### Already published in this series:

Autism and Pervasive Developmental Disorders, Second edition edited by Fred R. Volkmar 9780521549578 paperback

Eating Disorders in Children and Adolescents edited by Tony Jaffa and Brett McDermott 9780521613125 paperback

Cognitive Behaviour Therapy for Children and Families, Second edition edited by Philip Graham 9780521529921 paperback

Suicide in Children and Adolescents edited by Robert A. King and Alan Apter

9780521622264 paperback

Hyperactivity and Attention Disorders of Childhood, Second edition edited by Seija Sandberg 9780521789615 paperback

Outcomes in Neurodevelopmental and Genetic Disorders edited by Patricia Howlin and Orlee Udwin

9780521797214 paperback

Practical Child and Adolescent Psychopharmacology edited by Stan Kutcher

9780521655422 paperback

Specific Learning Disabilities and Difficulties in Children and Adolescents: Psychological

Assessment and Evaluation edited by Alan Kaufman and Nadeen Kaufman

9780521658409 paperback

Psychotherapy with Children and Adolescents edited by Helmut Remschmidt

9780521576727 paperback

The Depressed Child and Adolescent, Second edition edited by Ian M. Goodyer

9780521775588 paperback

Schizophrenia in Children and Adolescents edited by Helmut Renschmidt

9780521794282 paperback

Conduct Disorders in Childhood and Adolescence edited by Jonathan Hill and Barbara Maughan 9780521786393 paperback



# Anxiety Disorders in Children and Adolescents

# **Second Edition**

#### Edited by

Wendy K. Silverman

Professor of Psychology and Director of the Child Anxiety and Phobia Program, Florida International University, Miami, Florida, USA

Andy P. Field

Professor of Child Psychopathology at the University of Sussex, Brighton, UK





> CAMBRIDGE UNIVERSITY PRESS Cambridge, New York, Melbourne, Madrid, Cape Town, Singapore, São Paulo, Delhi, Tokyo, Mexico City

Cambridge University Press The Edinburgh Building, Cambridge CB2 8RU, UK

Published in the United States of America by Cambridge University Press, New York

www.cambridge.org Information on this title: www.cambridge.org/9780521721486

© Cambridge University Press 2001, 2011

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 edition published in 2001 by Cambridge University Press Second edition published in 2011 by Cambridge University Press

Printed in the United Kingdom at the University Press, Cambridge

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

Library of Congress Cataloging in publication data

Anxiety disorders in children and adolescents / edited by Wendy K. Silverman, Andy Field. – 2nd ed. p. ; cm. – (Cambridge child and adolescent psychiatry)
Includes bibliographical references and index.
ISBN 978-0-521-72148-6 (pbk.)
1. Anxiety in children. 2. Anxiety in adolescence. 3. Child psychotherapy.
4. Adolescent psychotherapy. I. Silverman, Wendy K. II. Field, Andy P. III. Title.
IV. Series: Cambridge child and adolescent psychiatry series.
[DNLM: 1. Anxiety Disorders – diagnosis. 2. Anxiety Disorders – therapy. 3. Adolescent Development. 4. Adolescent. 5. Child Development. 6. Child. WM 172]
RJ506.A58A585 2011
618.92'8522 – dc23 2011017972

ISBN 978-0-521-72148-6 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.

Every effort has been made in preparing this book to provide accurate and up-to-date information which 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.



This book is dedicated to Daniel and Rachel WKS

Dedicated to Grandad Alf and Grandad Harry, to whom I aspire to be APF



# **Contents**

List of contributors

	List of contributors Preface	page ix xiii
Section	1 Historical and conceptual issues	
1	Anxiety and its disorders in children and adolescents in historical perspective Philip D. A. Treffers and Wendy K. Silverman	3
2	The clinical phenomenology and classification of child and adolescent anxiety  Antonio Castro Fonseca and Sean Perrin	25
3	The developmental epidemiology of anxiety disorders: phenomenology, prevalence, and comorbidity  E. Jane Costello, Helen L. Egger, William Copeland, Alaattin Erkanli, and Adrian Angold	56
4	The "normal" development of fear Peter Muris and Andy P. Field	76
5	Social anxiety disorder: a normal fear gone awry?  Caroline L. Bokhorst and P. Michiel Westenberg	90
6	Information processing biases in child and adolescent anxiety: a developmental perspective Andy P. Field, Julie A. Hadwin, and Kathryn J. Lester	103
7	Adult models of anxiety and their application to children and adolescents Sam Cartwright-Hatton, Shirley Reynolds, and Charlotte Wilson	129
Section	2 The biology of child and adolescent anxiety	
8	The genetic basis of child and adolescent anxiety  Alice M. Gregory and Thalia C. Eley	161
9	The brain and behavior in childhood and adolescent anxiety disorders  Daniel S. Pine	179
10	Temperament and anxiety in children and adolescents Christopher J. Lonigan, Beth M. Phillips, Shauna B. Wilson, and Nicholas P. Allan	198

vii



viii

15

**Contents** 

Peer influences

Annette M. La Greca and Ryan R. Landoll

Cambridge University Press 978-0-521-72148-6 - Anxiety Disorders in Children and Adolescents: Second Edition Edited by Wendy K. Silverman and Andy P. Field Frontmatter More information

# Section 3 Environmental influences on child and adolescent anxiety The role of learning in the etiology of child and adolescent fear and anxiety Andy P. Field and Helena M. Purkis Traumatic events Patrick Smith, Sean Perrin, and William Yule Child—parent relations: attachment and anxiety disorders Katharina Manassis Parenting and child anxiety

# Section 4 Prevention and treatment of child and adolescent anxiety

Cathy Creswell, Lynne Murray, James Stacey, and Peter Cooper

16	Prevention of child and adolescent anxiety disorders	349
	Heidi J. Lyneham and Ron M. Rapee	
17	Pharmacological management of childhood and adolescent anxiety disorders  Laurel Pelligrino, Courtney Pierce, and John T. Walkup	367
18	Treatment: an update and recommendations Wendy K. Silverman and Luci M. Motoca	392
	Index	419

227

257

280

299

323



## **Contributors**

#### Nicholas P. Allan

Department of Psychology, Florida State University, Tallahassee, FL, USA

#### **Adrian Angold**

Duke University Medical Center, Durham, NC, USA

#### Caroline L. Bokhorst

Leiden University Institute of Psychology, Leiden, the Netherlands

#### Sam Cartwright-Hatton

School of Psychology, University of Manchester, UK

#### Peter Cooper

School of Psychology and Clinical Language Sciences, University of Reading, UK

#### William Copeland

Duke University Medical Center, Durham, NC, USA

#### E. Jane Costello

Duke University Medical Center, Durham, NC, USA

#### **Cathy Creswell**

School of Psychology and Clinical Language Sciences, University of Reading,

#### Helen L. Egger

Duke University Medical Center, Durham, NC, USA

#### Thalia C. Eley

Social, Genetic and Developmental Psychiatry Centre, Institute of Psychiatry, King's College, London, UK

#### Alaattin Erkanli

Duke University Medical Center, Durham, NC, USA

#### Andy P. Field

School of Psychology, University of Sussex, Brighton, UK

#### Antonio Castro Fonseca

Faculty of Psychology and Educational Sciences, University of Coimbra, Portugal

#### Alice M. Gregory

Department of Psychology, Goldsmiths, University of London, UK

#### Julie A. Hadwin

Developmental Brain–Behaviour Laboratory, University of Southampton, UK

#### Annette M. La Greca

Department of Psychology, University of Miami, Coral Gables, FL, USA

#### Ryan R. Landoll

Department of Psychology, University of Miami, Coral Gables, FL, USA

ix



#### x List of contributors

#### Kathryn J. Lester

Child Anxiety Theory and Treatment Laboratory, School of Psychology, University of Sussex, Brighton, UK

#### Christopher J. Lonigan

Department of Psychology, Florida State University, Tallahassee, FL, USA

#### Heidi J. Lyneham

Department of Psychology, Macquarie University, NSW, Australia

#### Katharina Manassis

Anxiety Disorders Program, Hospital for Sick Children, Toronto, Ontario, Canada

#### Luci M. Motoca

Florida International University, Miami, FL, USA

#### **Peter Muris**

Erasmus University Rotterdam Institute of Psychology, Woudestein, Rotterdam, the Netherlands

#### Lynne Murray

School of Psychology and Clinical Language Sciences, University of Reading, UK

#### **Laurel Pelligrino**

Weill Cornell Medical College and New York Presbyterian Hospital, New York, NY, USA

#### Sean Perrin

Department of Psychology, Institute of Psychiatry, London, UK

#### Beth M. Phillips

Department of Educational Psychology and Learning Systems, Florida State University, Tallahassee, FL, USA

#### **Courtney Pierce**

Weill Cornell Medical College and New York Presbyterian Hospital, New York, NY, USA

#### Daniel S. Pine

Mood and Anxiety Disorders Program, National Institute of Mental Health Intramural Research Program, Bethesda, MD, USA

#### Helena M. Purkis

School of Psychology, University of Queensland, Brisbane, QLD, Australia

#### Ron M. Rapee

Department of Psychology, Macquarie University, NSW, Australia

#### **Shirley Reynolds**

School of Medicine, Health Policy and Practice, University of East Anglia, Norwich, UK

#### Wendy K. Silverman

Department of Psychology, Florida International University, Miami, FL, USA

#### **Patrick Smith**

Department of Psychology, Institute of Psychiatry, London, UK

#### **James Stacey**

Department of Clinical Psychology, Oxford University, UK

#### Philip D. A. Treffers

Lieu dit Boulen, Mahalon, France

#### John T. Walkup

Weill Cornell Medical College and New York Presbyterian Hospital, New York, NY, USA



#### xi List of contributors

#### P. Michiel Westenberg

Leiden University Institute of Psychology, Leiden, the Netherlands

#### **Charlotte Wilson**

School of Medicine, Health Policy and Practice, University of East Anglia, Norwich, UK

#### Shauna B. Wilson

Department of Psychology, Florida State University, Tallahassee, FL,

#### William Yule

Department of Psychology, Institute of Psychiatry, London, UK



## **Preface**

This book began life in 1997 at an international research conference on anxiety disorders in children and adolescents hosted by CURIUM, Academic Centre of Child and Adolescent Psychiatry, Leiden University. Up until that time, child and adolescent anxiety disorder research was largely consumed within treatment and research initiatives aimed at anxiety generally (and typically in adult populations). In fact, a web of knowledge (http://wok.mimas.ac.uk/) search for "child anxiety" or "adolescent anxiety" up to the year 1997 reveals only 30 articles in peer-review journals with those terms as their main topic. This published output does not imply that clinicians and researchers had no interest in child and adolescent anxiety, but that it was finding its feet as a discipline in its own right. The meeting in Leiden was a response to the need to get clinicians and researchers together to discuss the emerging wisdom on theory, assessment, and intervention of child and adolescent anxiety.

Professor Philip Treffers, along with Wendy, organized the Leiden conference while she was on sabbatical there. The resulting first edition of this text contained chapters predominantly based on presentations given at the conference. In the four years between the meeting and the publication of the book in 2001, a further 88 papers had been published with child or adolescent anxiety as their core topic; three times as many as had been published in the 100 or so years before the Leiden meeting. These data show that the book came out at a time when the field was expanding; it represented an important snapshot of this emerging field.

This meeting in Leiden was also the first time that we met. Andy presented a paper co-authored by himself and his Ph.D. supervisor, Professor Graham Davey, and also contributed a chapter to the first edition based on this paper. The next time we met was in 2006 at the Anxiety Disorders Association of America Annual Conference in Maimi. In this five years a great deal had changed in the field: child and adolescent anxiety had established itself as a burgeoning scientific discipline. Our meeting in Miami was in a symposium dedicated to child and adolescent anxiety. During the course of our conversation, Andy told Wendy that he would really like to see an updated version of this book, and Wendy suggested that he might join her and Philip as an editor. He agreed. As we initiated the project, Philip graciously gave the two of us the green light to produce the second edition as the volume's co-editors. We hope that he takes pride in what we have done to extend and update his initial book.

Thus, the desire to update this book emanated from the rapid expansion of research and treatment practice. In the years since the first edition came out and now (2001–2010) another 347 papers have been published with child and adolescent anxiety at their

xiii



#### xiv Preface

core. Again, this represents a three-fold increase in research output in the last nine years compared to before that time.

This version of the book bears only slight resemblance to its predecessor because the field has changed so much in the past decade. To reflect these changes we went back to the drawing board and the book is now divided into four sections that we believe reflect the broad themes of research over the past 10 years. We will outline these specific developments below, but one global theme is a growing appreciation of the need to consider the social, cognitive, and emotional development of the child/adolescent when thinking about psychopathology. We have several chapters that specifically address this issue but have also asked contributors to consider developmental issues in their chapters.

#### Section 1: Historical and conceptual issues

This section retains an updated version of the last edition's overview of the historical development (Treffers and Silverman) and clinical phenomenology (Fonseca and Perrin) of child and adolescent anxiety research. This volume adds chapters that look at the developmental epidemiology of anxiety disorders (Costello, Egger, Copeland, Erkanli, and Angold) and at the normal developmental pattern of fears generally (Muris and Field) and social anxiety disorder specifically (Bokhorst and Westenberg). The last 10 years has seen a burgeoning interest in information processing in child and adolescent anxiety and two new chapters explore the role of development in information processing biases (Field, Hadwin, and Lester) and the success of adult models of anxiety when applied downward to child samples (Cartwright-Hatton, Reynolds, and Wilson).

#### Section 2: The biology of child and adolescent anxiety

The past 10 years has seen an exponential increase in our understanding of both the genetic contribution (Gregory and Eley) to child and adolescent anxiety and the brain structures that underlie it (Pine). Therefore, we have added two new chapters on these topics. In the previous edition, we had a chapter on behavioral inhibition, but for this edition we expanded this topic to discuss temperament more generally and with specific emphasis on the links between temperament, brain, and genetics (Lonigan, Phillips, Wilson, and Allan).

#### Section 3: Environmental influences on child and adolescent anxiety

We now know that environmental factors explain around two-thirds of the variance in childhood and adolescence and in this part of the book we have tried to focus on the main environmental factors. We have retained expanded and updated chapters on the role of learning (Field and Purkis), traumatic experiences (Smith, Perrin, and Yule), attachment (Manassis), and peer influences (La Greca and Landoll). In addition, we have added a chapter on parental influence because of the surge of interest in the intergenerational transmission of anxiety (Creswell, Murray, Stacey, and Cooper).

#### Section 4: Prevention and treatment of child and adolescent anxiety

There have been significant developments in prevention and treatment of child and adolescent anxiety disorders since the last edition. This final section retains an updated chapter on



#### xv Preface

psychotherapy (Silverman and Motoca), but adds completely new chapters that describe the state-of-the art knowledge on pharmacological management (Pelligrino, Pierce, and Walkup) and prevention (Lyneham and Rapee) of child and adolescent anxiety disorders.

Our work on this book together has been a long but fulfilling road for us both. It has been an enormous amount of work not just for us but also for all of our contributors. Our biggest debt of gratitude is to these people. We are proud to have assembled a stellar cast of authors in this edition; we feel much like a movie director might if she had assembled the entire Hollywood A-list as the cast of her film. All of our contributors have taken time out of very demanding jobs to write for us, and we are very grateful for their belief, commitment, and dedication to the project.

Wendy would like to thank once again, Philip, for giving her the honor and pleasure to work with him in the first place on the first edition back in Leiden in 1997. She also wants to thank her many students she has worked with over the years (you all know who you are!) who have worked so tirelessly with her in research, as well as in helping the families learn how to handle the problem of childhood anxiety and its disorders. She also thanks the families – from whom she and her students too have learned so much.

Andy would like to thank Wendy for giving him the opportunity to work with her on this project; he has learnt an enormous amount from her mentoring. In an attempt to maximize his stress levels he left writing his chapters until the last minute; he is hugely indebted to Zoë for her miraculous stress-reducing abilities, love, support, and tea-making skills.