### **Second Edition**



유유ር IICAL RESOURCES 를 Mental Health 호 PROFESSIONAL



# **Adolescent** Addiction

Epidemiology, Assessment, and Treatment

Edited by Cecilia A. Essau Paul H. Delfabbro



Practical Resources for the Mental Health Professional

# ADOLESCENT ADDICTION Epidemiology, Assessment, and Treatment

# SECOND EDITION

Edited by

CECILIA A. ESSAU Department of Psychology, University of Roehampton, Whitelands College, London, United Kingdom

PAUL H. DELFABBRO School of Psychology, The University of Adelaide, Adelaide, SA, Australia



Academic Press is an imprint of Elsevier 125 London Wall, London EC2Y 5AS, United Kingdom 525 B Street, Suite 1650, San Diego, CA 92101, United States 50 Hampshire Street, 5th Floor, Cambridge, MA 02139, United States The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, United Kingdom

© 2020 Elsevier Inc. All rights reserved.

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or any information storage and retrieval system, without permission in writing from the publisher. Details on how to seek permission, further information about the Publisher's permissions policies and our arrangements with organizations such as the Copyright Clearance Center and the Copyright Licensing Agency, can be found at our website: www.elsevier.com/permissions.

This book and the individual contributions contained in it are protected under copyright by the Publisher (other than as may be noted herein).

#### Notices

Knowledge and best practice in this field are constantly changing. As new research and experience broaden our understanding, changes in research methods, professional practices, or medical treatment may become necessary.

Practitioners and researchers must always rely on their own experience and knowledge in evaluating and using any information, methods, compounds, or experiments described herein. In using such information or methods they should be mindful of their own safety and the safety of others, including parties for whom they have a professional responsibility.

To the fullest extent of the law, neither the Publisher nor the authors, contributors, or editors, assume any liability for any injury and/or damage to persons or property as a matter of products liability, negligence or otherwise, or from any use or operation of any methods, products, instructions, or ideas contained in the material herein.

#### Library of Congress Cataloging-in-Publication Data

A catalog record for this book is available from the Library of Congress

#### British Library Cataloguing-in-Publication Data

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

ISBN: 978-0-12-818626-8

For information on all Academic Press publications visit our website at https://www.elsevier.com/books-and-journals

Publisher: Nikki Levy Editorial Project Manager: Barbara Makinster Production Project Manager: Punithavathy Govindaradjane Cover Designer: Miles Hitchen



Typeset by SPi Global, India

## Contents

Contributors	
Preface	

ix xi

### Ι

### General issues

#### 1. Foundations of addictive problems in adolescents:

#### Developmental and social factors

Michèle Preyde, Jessica Furtado, Sarah Head, and Dennis Long

1.1 Youth and addictions	3
1.2 Prevalence of risky behaviors	4
1.3 Adolescent psychosocial development	5
1.4 Burden and health outcomes	9
1.5 Emerging trends and considerations	11
1.6 Conclusion	12
References	12
Further reading	17
-	

# 2. Foundations of addictive problems in adolescents: Neurobiological factors

Genevieve F. Dash, Kristine Rømer Thomsen, Sarah W. Feldstein Ewing, and Jennifer A. Silvers

2.1 Introduction	19
2.2 Prevalence of adolescent substance use	22
2.3 The nature of the adolescent brain: Characteristic features relevant	
for adolescent addiction	23
2.4 Conclusions	32
References	32
Further reading	41

#### II

### Specific addictive problems

#### 3. Alcohol in adolescence

Delyse Hutchinson, Samantha Teague, Katrina Champion, Cecilia A. Essau, and Nicola C. Newton

3.1 Introduction	45
3.2 Epidemiology, comorbidity, and course	47
3.3 Risk and protective factors for adolescent alcohol use	57
3.4 Prevention and intervention	80
References	94

#### 4. Adolescent cannabis use disorders

Janni Leung, Wayne Hall, and Louisa Degenhardt

4.1 Introduction	111
4.2 Screening and clinical assessment methods	111
4.3 Epidemiology, comorbidity, and course and outcome	113
4.4 Correlates of cannabis use disorders	115
4.5 Adolescent educational outcomes	118
4.6 Cannabis use and depression	119
4.7 Cannabis use and psychosis	120
4.8 Protective and risk factors	121
4.9 Evidence-based interventions	123
Acknowledgments	129
References	129

#### 5. Nicotine and e-cigarettes addiction

Abdul Rahman Ahmad Badayai, Suzaily Wahab, Nadzirah Ahmad Basri, and Cecilia A. Essau

5.1 Introduction and prevalence	137
5.2 Tobacco use disorder	138
5.3 Screening and clinical assessment methods	139
5.4 Epidemiology	141
5.5 Comorbidity	142
5.6 Course and outcome	143
5.7 Risk and protective factors	144
5.8 Evidenced-based clinical strategies for prevention and treatment	
of nicotine addiction and e-cigarettes use	146
5.9 Concise summary of key clinical points	151
References	152
Further reading	157

#### CHAPTER

8

# Smartphone addiction

Chuong Hock Ting, Yoke Yong Chen Department of Psychological Medicine, Faculty of Medicine and Health Sciences, University Malaysia Sarawak, Malaysia

#### 8.1 Introduction

Smartphones are becoming indispensable for everyday life and it is estimated that there were 2 billion users across the world in 2012 (Miller, 2012). Almost all adolescents between the ages of 12 and 19 own a smartphone (Ofcom, 2016). Smartphones are typically touch-screen devices with numerous applications (apps). Smartphones offer quick access to the Internet and social media, which facilitates message transmissions or communication. Smartphone technology is an innovative invention in that it combines the functions of conventional phone and computer in a single smaller device. It allows access not only to sophisticated communication networks, but also to a wide range of amusements such as games, multimedia players, photo albums, and electronic books. Smartphones also provide essential tools including Global Positioning System (GPS), camera, recorders, translator, clock, radio, remote control of electrical appliances, torchlight, calculator, e-wallet, and even health trackers. Owing to the convenience and multiple functions of smartphones, users tend to become overattached and preoccupied with their devices.

Excessive or problematic smartphone use is twice as prevalent among teenagers as among adults (Park & Park, 2014). Previous studies have reported a prevalence of problematic smartphone use among children and adolescents as high as 10% in countries such as the United Kingdom (Lopez-Fernandez, Honrubia-Serrano, Freixa-Blanxart, & Gibson, 2014), 16.7% in Taiwan (Yen et al., 2009), 16.9% in Switzerland (Haug et al., 2015), 30.9% in Korea (Cha & Seo, 2018), and 31% in India (Nikhita, Jadhav, & Ajinkya, 2015). In a recent study in the United Kingdom, approximately 90% of teenagers between the ages of 16 and 24 years old have a smartphone, and approximately half of them would check their phones within 5 minutes of waking up (Ofcom, 2016). In Korea, 80.4% of elementary