



APPLIED CRIMINAL PSYCHOLOGY

**A Guide to Forensic
Behavioral Sciences**

SECOND EDITION

EDITED BY

RICHARD N. KOCSIS, PH.D.

APPLIED CRIMINAL PSYCHOLOGY

ABOUT THE EDITOR

Richard N. Kocsis, Ph.D. is a psychologist and criminologist. He is the author/co-author or editor of over 130 scholarly publications (articles, book chapters, etc.) and six books on topics related to criminal profiling, aberrant violent crime, forensic psychology/psychiatry and the law, political violence and counter-terrorism. He has served as an expert consultant to law enforcement, emergency and prosecution agencies as well as law firms. In addition to his clinical and forensic work, he has held various academic positions in the areas of forensic psychology and criminology. In 2000, he was awarded the Australian Museum's prestigious Eureka Prize for Critical Thinking in recognition of his scientific research in the area of criminal profiling.

Second Edition

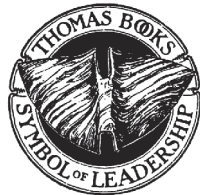
APPLIED CRIMINAL PSYCHOLOGY

A Guide to Forensic Behavioral Sciences

Edited by

RICHARD N. KOCSIS, Ph.D.

(With 20 Other Contributors)



CHARLES C THOMAS • PUBLISHER • LTD.
Springfield • Illinois • U.S.A

Published and Distributed Throughout the World by

CHARLES C THOMAS • PUBLISHER, LTD.
2600 South First Street
Springfield, Illinois 62704

This book is protected by copyright. No part of it may be reproduced in any manner without written permission from the publisher. All rights reserved.

© 2018 by CHARLES C THOMAS • PUBLISHER, LTD.

ISBN 978-0-398-09236-8 (paper)
ISBN 978-0-398-09237-5 (ebook)

First Edition, 2009
Second Edition, 2018

With THOMAS BOOKS careful attention is given to all details of manufacturing and design. It is the Publisher's desire to present books that are satisfactory as to their physical qualities and artistic possibilities and appropriate for their particular use. Thomas Books will be true to those laws of quality that assure a good name and good will.

Printed in the United States of America
MM-C-1

Library of Congress Cataloging-in-Publication Data

Names: Kocsis, Richard N., editor.

Title: Applied criminal psychology : a guide to forensic behavioral sciences / edited by Richard N. Kocsis, Ph.D.

Description: Second Edition. | Springfield, Ill. : Charles C Thomas, Publisher, Ltd., [2018] | Revised edition of Applied criminal psychology, c2009. | Includes bibliographical references and index.

Identifiers: LCCN 2018027873 (print) | LCCN 2018029337 (ebook) | ISBN 9780398092375 (ebook) | ISBN 9780398092368 (paper)

Subjects: LCSH: Criminal psychology.

Classification: LCC HV6080 (ebook) | LCC HV6080 .A69 2018 (print) | DDC 364.3--dc23

LC record available at <https://lcn.loc.gov/2018027873>

*Anyukám,
Ebben az életben mindenemet neked köszönhetem*

CONTRIBUTORS

Coral Dando

Coral Dando is Professor of Psychology at the University of Westminster, London. Following 12 years service as a police officer with the Metropolitan Police London, Coral returned to education and was awarded a PhD in forensic cognition in 2008. Coral is now a Chartered Psychologist and Chartered Scientist, and a Consultant Forensic Psychologist. Her research has attracted in excess of 2 million pounds of funding by the UK and US governments to develop psychologically informed, goal directed, interview techniques to improve eyewitness memory in children and adults, including vulnerable populations, and improve the detection of verbal deception across various real world security and investigative settings. Coral has written in excess of 50 peer reviewed scientific journal articles and book chapters, and currently trains professionals across Europe and the USA in the psychology of interviewing. As an expert witness, she advises national and international organizations on the quality of interviews conducted for criminal proceedings and internal investigations.

Ian Freckelton

Professor Ian Freckelton is a Queen's Counsel in full-time practice as a barrister in Australia, working from Crockett Chambers in Melbourne. He is also a judge of the Supreme Court of Nauru; a Professorial Fellow of Law and Psychiatry at the University of Melbourne, where he is the Co-Director of the postgraduate Health Law Programme; an Adjunct Professor of Forensic Medicine at Monash University; and an Adjunct Professor of Law at La Trobe University. He holds a Doctor of Laws (LLD) degree from the University of Melbourne and a PhD from Griffith University. Ian is an elected Fellow of the Australian Academy of Law, the Academy of Social Sciences Australia and the Australasian College of Legal Medicine, and a Life Member of the Australian and New Zealand Association of Psychiatry, Psychology and Law, of which he was President for six years. He is a member of the Mental Health Tribunal of Victoria, the Coronial Council of

Victoria, the Victorian Bar Council and the Ethics Committee of the Victorian Bar and was a Commissioner of the Victorian Law Reform Commission, appointed to run its reference on Medicinal Cannabis. He is the Editor of the *Journal of Law and Medicine* and the Editor-in-Chief of *Psychiatry, Psychology and Law*. He is the author of more than 40 books and over 600 peer reviewed articles and chapters.

Pär Anders Granhag

Pär Anders Granhag is Professor of Psychology at Göteborg University. He has conducted research within legal psychology for more than 15 years and has published more than 130 scientific reports and several books. His main research topics are eyewitness testimony, deception detection, and issues pertaining to investigative psychology. He is on the editorial board of the following scientific journals: *Applied Cognitive Psychology*; *Psychology, Crime & Law*; *Legal & Criminological Psychology*; and *Journal of Investigative Psychology & Offender Profiling*. Since 2000 he has been the head of the research unit for Criminal, Legal, and Investigative Psychology (CLIP), which is situated at the Department of Psychology, Göteborg University.

James S. Herndon

Dr. James S. Herndon has been a police psychologist for more than 30 years. His experience ranges from being an external consultant with the Chesapeake (VA) Police department, an in-house consultant with First Hospital Corporation conducting pre-employment psychological evaluations for multiple police agencies in Virginia, Executive Director of Police Psychological Services of Hampton Roads, Inc., Staff Psychologist for the Orange County (FL) Sheriff's Office, and finally to becoming the senior consultant with Law Enforcement Behavioral Science Consultants (FL). He has served as the psychologist on hostage negotiation teams, both as an external consultant and as an in-house team member. Training in negotiation was obtained from Harvey Schlossberg, the FBI, and local law enforcement agencies. He is a member of the Florida Association of Hostage Negotiators (FAHN), Consortium of Police and Public Safety Psychologists (COPPS), International Association of Chiefs of Police (IACP), Psychologists in Public Service (APA-18), and the Society for Police and Criminal Psychology (SPCP). He has served as president for COPPS (1992-93) and SPCP (2001-02; 2017-18). He holds the Diplomate in Police Psychology from SPCP, and serves as the Director of the Diplomate Committee. He is on the editorial board of the *Journal of Police and Criminal Psychology*. As a contributing faculty at Walden University, he has served as chair on many doctoral dissertation committees focusing on police psychology topics. His Ph.D. is in industrial/organiza-

tional psychology from Old Dominion University (VA), and his Ed.D. is in counseling psychology from the University of Sarasota (now Argosy) (FL).

Andreas Kapardis

Andreas Kapardis holds a Ph.D. in Criminology from Cambridge and is Professor of Legal Psychology at the University of Cyprus. For a number of years he taught in the School of Law at La Trobe University in Australia and has been a Visiting Professor at the Institute of Criminology, Cambridge University, since 1999. His research and teaching interests lie mainly in criminology, criminal justice, legal psychology and penology. He has gained numerous European and local research grants on a competitive basis, has researched both a broad range of offenders and crimes as well as judicial decision making and policing. He has published extensively internationally. His books & co-authored/co-edited books include: *Greeks in Australia* (1988); *They Wrought Mayhem: An Insight to Mass Murder* (1989); *Economic Crimes in Cyprus* (2001); *Society, Crime and Criminal Justice in Cyprus the First Years of British Rule* (2001); *Sentencing in Cyprus* (2003); *Risk Assessment for Juvenile Violent Offending* (2013), Routledge, with Anna Baldry; *Psychology and Law* (2014), Cambridge University Press (4th ed.); and *Psychology, Crime, Policing and the Courts* (2016), Routledge, with David Farrington.

Cara Laney

Cara Laney is an Associate Professor of Psychology at The College of Idaho in Caldwell, Idaho. She received her Ph.D. in Psychology and Social Behavior from the University of California, Irvine, in 2006. Her research interests include false memory, eyewitness memory, and emotion. She has published more than 30 peer-reviewed articles and book chapters.

Elizabeth F. Loftus

Elizabeth F. Loftus is a Distinguished Professor of Psychology and Social Behavior and Criminology, Law and Society, and Professor of Law, and Cognitive Science at the University of California, Irvine. She received her Ph.D. in Psychology from Stanford University. Since then, she has published 20 books and more than 500 scientific articles. Loftus' research for the last 40 years has focused on the malleability of human memory. She has been recognized for this research with seven honorary doctorates and election to the National Academy of Sciences, the American Philosophical Society, and the Royal Society of Edinburgh. She is past President of the Association for Psychological Science, the Western Psychological Association, and the American Psychology-Law Society.

Christian Meissner

Christian Meissner is Professor of Psychology at Iowa State University. He conducts empirical studies in interviewing, interrogation, and credibility assessment. He has published more than 80 peer-reviewed journal articles and book chapters and has received more than \$15 million in grant funding from such agencies as the National Science Foundation, the U.S. Departments of Defense, Justice, and Homeland Security, and the U.S. Intelligence Community.

Rebecca Milne

Professor Rebecca Milne BSc (Hons). PhD CPsychol CSci AFBPsS is a Professor of Forensic Psychology at the University of Portsmouth. The main focus of her work over the past twenty years concerns the examination of police interviewing and investigation. Jointly with practitioners, she has helped to develop procedures that improve the quality of interviews of witnesses, victims, intelligence sources, and suspects of crime across many countries. As a result, she works closely with the police (and other criminal justice organisations), creating novel interview techniques, developing training, running interview courses, and providing case advice. She is also the Director of the Centre of Forensic Interviewing, which is an internationally recognised centre of excellence for investigative interviewing that brings together research, teaching, and innovation activities. Becky is a member of the National Police Chiefs Council (NPCC, UK), Investigative Interviewing Strategic Steering Group. She is a member of the CREST research team.

Alan Newman

Alan Newman, M.D., is an Associate Professor of Clinical Psychiatry at Georgetown University Medical School, where he is Director of Residency Training and Codirector of the Fellowship in Forensic Psychiatry. He is the Medical Director of the inpatient psychiatry service at Georgetown University Hospital. He is the former director of the Fellowship in Forensic Neuropsychiatry at Tulane University. He is board certified in Psychiatry and Forensic Psychiatry. Dr. Newman attended medical school and residency at the University of Arkansas, where he was elected to Alpha Omega Alpha. Dr. Newman was a 1996 Rappeport Fellow of the American Academy of Psychiatry and the Law and the 1997 Daniel X. Freedman Congressional Fellow, where he served on the Health Staff of the U.S. Senate Committee on Labor and Human Resources. He completed his Fellowship in Forensic Neuropsychiatry at Tulane University in 1998. He is the former chair of a 1999 Insanity Defense reform taskforce in Arkansas, which led to

substantial legislative changes in how criminal responsibility and trial competency evaluations are administered in Arkansas. Dr. Newman lectures extensively on forensic issues and has published articles and book chapters on a variety of forensic psychiatry topics, including cyberstalking, the misuse of hypnosis by police, admissibility of hypnotically refreshed testimony, and the treatment of stalking victims. Dr. Newman is a member of the Executive Council of the American Academy of Psychiatry and the Law. He is the former president of the Southern Chapter of American Academy of Psychiatry and the Law.

George B. Palermo

Dr. George B. Palermo graduated from the University of Bologna Medical School, Bologna, Italy, and was trained in general medicine and psychiatry in the United States. He was a Diplomate of the American Board of Psychiatry and Neurology in Psychiatry and held a Master of Science Degree in Criminology from the University of Rome, La Sapienza. In 2010 he earned his Ph.D. in Forensic Psychiatry from Erasmus University, Rotterdam. He was Clinical Professor of Psychiatry at the University of Nevada Medical School and at the Medical College of Wisconsin and Adjunct Professor of Criminology and Law Studies at Marquette University in Milwaukee, Wisconsin. For many years he was a lecturer at the Pontificia Università Gregoriana in Rome. Dr. Palermo was Editor-in-Chief of the *International Journal of Offender Therapy and Comparative Criminology* and a member of the Executive Board of the International Academy of Law and Mental Health. In addition, he was on the editorial board of various national and international psychiatric and criminology journals. He published numerous articles and book chapters on forensic psychiatry and criminology and several books. He was the court-appointed psychiatrist in the case of the serial killer Jeffrey Dahmer and in various other high-profile criminal cases.

Mark T. Palermo

Mark Tano Palermo is a neurologist and psychiatrist. He trained in neurology at the Medical College of Wisconsin and in Psychiatry in the Phipps Clinic of the Johns Hopkins School of Medicine. He is a founding member of the Law, Art and Behavior Foundation, a transnational organization with offices in the Netherlands, Italy and the USA. He was an attending neuropsychiatrist at the Sheppard-Pratt Hospital in Baltimore and is an Adjunct Clinical Assistant Professor at the Medical College of Wisconsin. As a clinical researcher, he has spent the past fourteen years fighting medicalization

of childhood via martial arts based approaches to commonly diagnosed clinical conditions and through critical writings in the field of developmental criminology. He is a forensic examiner for UN organizations in Rome, Italy and the Editor of the International Journal of Offender Therapy and Comparative Criminology. Mark is also an assemblage artist and painter, and in the Netherlands he is listed in the RKD files (Nederlands Instituut voor kunstgeschiedenis/Netherlands Institute for Art History). In 2013 he conceptualized "Agricubismo," an educational approach which underscores time, slowness, calm and attention to the world and travels throughout Europe speaking against "waste and haste."

Georgia Panayiotou

Dr. Georgia Panayiotou Ph.D. is Associate Professor of Clinical Psychology. She holds a BA degree in Psychology and Sociology from New College of Florida, and a Master's and Ph.D. in Clinical Psychology from Purdue University, Indiana. She completed her Doctoral Internship at McLean Hospital/Harvard Medical School. Her primary research interests are in the domain of emotions and emotional processes in psychopathology and their interaction with cognitive processes. She studies primarily anxiety disorders, alexithymia and antisocial disorders, with the use of both self-report and psychophysiological methods. She is especially interested in how people experience, process and regulate their emotions and how this is related to mental health and wellbeing. She has co-ordinated or was co-PI on multiple nationally funded projects and has participated in European projects and is also a core researcher and member of the Academic Board at the Center for Applied Neurosciences at the University of Cyprus. She is currently Chair of the Department of Psychology and elected member of the University of Cyprus Senate. She also chairs the temporary Board of the University of Cyprus Mental Health Center. She is a licensed clinical psychologist and served several terms as vice-chair of the Cyprus Psychologists Association and Cyprus Professional Psychology Licensing Board.

Phillip J. Resnick

Phillip Resnick, M.D. is Professor of Psychiatry at Case Western Reserve University and Director of the Division of Forensic Psychiatry at University Hospitals Cleveland Medical Center.

Louis B. Schlesinger

Louis B. Schlesinger, PhD is Professor of Forensic Psychology at John Jay College of Criminal Justice, Diplomate in Forensic Psychology of the Ameri-

can Board of Professional Psychology and a Fellow in the American Psychological Association. He has published nine books and numerous papers in peer reviewed scientific journals in the area of murder and extraordinary crime. Dr. Schlesinger is co-principal investigator in a major research project with the FBI Behavioral Science Unit and he has testified in court numerous times.

Charles L. Scott

Dr. Scott is Chief, Division of Psychiatry and the Law, Forensic Psychiatry Fellowship Training Director, and Professor of Clinical Psychiatry at the University of California, Davis Medical Center in Sacramento, California. He is Board Certified in Forensic Psychiatry, General Psychiatry, Child and Adolescent Psychiatry, and Addiction Psychiatry. Dr. Scott is a Past-President of the American Academy of Psychiatry and the Law (AAPL) and is also Past-President of the Association of Directors of Forensic Psychiatry Fellowships. Dr. Scott has served as a forensic psychiatric consultant to jails, prisons, maximum security forensic inpatient units, and the California Department of State Hospitals. He has performed suitability evaluations for NASA's Astronaut Selection Board. Dr. Scott has authored book chapters on juvenile violence, mental health law, and co-authored chapters on child psychiatry and the assessment of dangerousness. He has served as editor or co-editor for numerous books and is co-editor of the third edition of *Principles and Practice of Forensic Psychiatry*.

Leif A. Strömwall

Leif A. Strömwall is a professor of psychology at the University of Gothenburg, Sweden. He has published extensively on topics such as deception detection, credibility assessment, strategic use of evidence in suspect interrogations, and victim-blaming in rape cases. He has developed and given courses at Bachelor's, Master's and PhD levels in Legal and investigative psychology, and has supervised several PhD student projects. In addition, he has taught and trained legal professionals in legal and investigative psychological matters.

John W. Thompson, Jr.

John W. Thompson, Jr., received his medical degree at the University of Texas Medical Branch in Galveston, Texas. He completed psychiatry residency training and a forensic psychiatry fellowship at the University of Florida College of Medicine in Gainesville, Florida. He is board certified in psychiatry with added qualifications in forensic psychiatry and addiction

psychiatry. He is presently the Director of Forensic Neuropsychiatry and Vice-Chairman of Adult Psychiatry in the Department of Psychiatry and Neurology at Tulane University School of Medicine in New Orleans. In addition, Dr. Thompson is the Founding Director of the Tulane Fellowship in Forensic Psychiatry and is Clinical Director of Eastern Louisiana Mental Health System, a 500-bed civil and forensic hospital system in Louisiana. Dr. Thompson's major research interests include the fields of competency restoration, gambling, aggression and violent behavior, and the insanity defense.

Hjalmar J. C. van Marle

Hjalmar J. C. van Marle is Professor of Forensic Psychiatry at the Erasmus Medical Center and the School of Law of the Erasmus University in Rotterdam, The Netherlands. He is also the scientific adviser of the Center of Expertise for Forensic Psychiatry in Utrecht and a sworn expert witness. As a forensic psychiatrist, he works in the outpatient clinic Het Dok in Rotterdam.

Skye A. Woestehoff

Skye A. Woestehoff is a postdoctoral researcher at George Mason University. She has a Ph.D. in General Psychology, concentration in Legal Psychology, from the University of Texas at El Paso (2016). She has researched several topics at the intersection of psychology and the law, such as jurors' perceptions of interrogations and confessions; interrogations and interviewing; and police investigator decision making.

FOREWORD

I am delighted to welcome the second edition of this important book on forensic aspects of psychology, psychiatry, and behavioral sciences. This volume is introductory and wide-ranging and provides valuable information about many key forensic issues, including personality disorders, risk assessment, the forensic psychologist as an expert witness, detecting deception, eye-witness memory, cognitive interviewing, forensic hypnosis, false confessions, criminal profiling, and crisis negotiation. These are all topics where psychologists and other behavioral scientists have made great contributions. The book is international and interdisciplinary in its scope and focus. It should be of great interest to both scholars and practitioners and indeed is highly relevant to forensic practice.

Forensic psychology is a booming subject. Every year, there is a greater appreciation of the contributions of psychology to understanding and working with offenders, victims, and witnesses in prisons, hospitals, courts, and police settings. Consequently, the need for trained scholars and practitioners in forensic behavioral sciences increases every year, and their work is increasingly valued by government agencies. This book should be of great interest to students who are planning careers in forensic psychology, criminology, and policing.

The editor, Richard Kocsis, is well known especially for his contributions to criminal profiling. However, this book shows that criminal profiling, while extremely important, is only one of many topics that are included within forensic behavioral sciences. In this context, many of the contributors to this book are also well known scholars and/or practitioners. All of them have useful information to impart. The real contribution of applied criminal psychology is in applying scientific methods and scientific knowledge to problems involving human behavior and human decision-making. The work of psychologists should contribute greatly in reducing the prevalence of many troubling social problems, including crime and violence. This book is an excellent showcase of the contributions of applied criminal psychologists.

David P. Farrington
Emeritus Professor of Psychological Criminology,
Cambridge University

PREFACE

MEN, MONSTERS AND APPLIED CRIMINAL PSYCHOLOGY

Approximately 10 years have now elapsed since the first edition of this text was produced and with this passage of time it has become apparent that an updated second edition was warranted. In some areas the issues inherent to the field of criminal psychology have largely remained static whereas in others progression in the research has led to significant developments. Some are almost tumultuous¹ in their potential impact upon previously established paradigms.

Possibly the most dramatic change occurred in 2013 with the publication of the *DSM-5*² (American Psychiatric Association, 2013) and with it a number of flow-on effects concerning our conceptualization of mental disorders and ergo our consideration of criminality. Beyond the discontinuance of the multi-axial system for diagnosis³ the next most significant change pertinent to the field of criminal psychology has been the incorporation of the alternative model for personality disorders. Unlike its predecessors, the *DSM-5* provides some tacit acknowledgement of the dimensional nature to personality and thus personality disorders. In this context, we are no longer handicapped by considering these conditions as categorical constructs but instead have a more realistic model to work with wherein personality disorders are differentiated by the varying proportions of apparent personality attributes along a conceptual continuum.

This shift in paradigm has enhanced our analysis of many concepts at the core of traditional forensic psychology and criminal psychology. One of these being the phenomena of Psychopathy and the closely associated *DSM* category of Anti-Social Personality Disorder. For this reason, significant focus

1. These metaphorical upheavals are, however, far fewer in number. Nonetheless, it is these substantive changes which are the impetus for this second edition, and which are reflected in the various amendments and additions and which arguably reflect some of the most interesting developments in the field as a whole.

2. This circumstance will most likely be replicated with the pending release of the *ICD-11* (WHO, in press).

3. Which has been something of a benchmark synonymous to previous iterations of the *DSM*.

has been placed upon these issues in this second edition starting with the first two chapters outlining the major categories of mental disorders associated with criminal behavior and then the addition of an entirely new chapter exclusively focused upon the concept of the psychopathic personality (Chapter 3). Another new chapter has also been included dedicated to the principles of law associated with an accused person's mental status. This chapter explores a previously omitted dimension of the applied function of criminal psychology⁴ by examining the intersection of mental illness and the operation of the criminal justice legal system.

As previously mentioned, some of the changes over the past 10 years have been almost tumultuous with regard to the theoretical upheaval they have generated. One example of this concerns the topic of criminal profiling.⁵ Since the publication of the first edition research and debate has emerged culminating in empirically grounded evidence in support of the validity of the technique. Although this development is long overdue, the implications of this debate has also opened a veritable Pandora's Box with respect to what these findings pose. In particular such evidence appears incongruent with the postulates of some theorists who have touted that the proficient application of the technique can only be achieved via the adoption of their doctrines. Evidence however has emerged which suggests that proficiency in profiling independent of these doctrines indirectly points to the foibles of these tenets (Kocsis & Palermo, 2015, 2016).

Another dimension surrounding the impetus for this second edition has been the changing times. Possibly the most significant is the seemingly endless conflicts which have flared around the world and the apparent escalation that has occurred internationally in the form of terrorism. The past ten years have arguably ushered in an unsurpassed era of barbarity in humanity's collective schema with the regular promulgation by media of stories and images of indiscriminate stabbings, shootings, bombings, executions, beheadings and the seemingly endless glorification of rape, murder and other acts of extreme violence. The bitter reality of these veritable celebrations of monstrous acts—carried out predominantly by men—is not their obvious depravity, but rather, the dissolute reality of how common and internationally pervasive such violence has, it appears, now become throughout the world.⁶ These

4. Beyond investigative and response applications in field operations such as those typically undertaken by law enforcement, security and intelligence agencies.

5. The term 'criminal profiling' is used here for expediency in recognition of the common colloquial meaning it engenders in terms as referring to any form of behavioral analysis of crime features and patterns for the purpose of identifying the potential offender.

6. On the 14th of February 2018 many international media outlets were dominated by news concerning 19-year-old Nikolas Cruz who embarked on a mass shooting rampage at his former school in Florida, USA. Underlying the monstrous circumstances of this event where Cruz killed 17 people was its dissolute context in actually representing the 17th gun related incident to have occurred within a U.S. school since the beginning of that same year (Aiello, 2018).

developments reverberate in the material contained in this second edition.

I wish to conclude by canvassing some of the special characteristics inherent to this book which, in my view, separate it from others. The first of these is the particular ideological orientation of the topics examined and its emphasis upon issues which feature a pragmatic application of psychology, psychiatry and criminology in some legal, law enforcement or counter terrorism/national security context. It is this sentiment in attenuating upon operational applications which is hopefully conveyed in the title of the book, *Applied Criminal Psychology*.

A second distinguishing characteristic is what I regard as its atypical composition.⁷ In assembling this book, I have attempted to combine the scholastic merits associated with both authored and edited textbooks whilst concomitantly minimizing their respective limitations. Specifically, I have sought to assemble and present research and literature by authors who are regarded as authorities in their respective fields and thus optimally capture their insights and most importantly, the depth of their knowledge and expertise in the material conveyed in their respective chapters. In short, this book has adopted a chapter structure akin to those found in prescribed texts for training/educational purposes but at the same time incorporates the benefits of specialized expertise obtained from multiple contributing authors typically found in edited books.

The final aim of this book is to offer the reader an international and multidisciplinary perspective. To this end, effort has been expended on not just focusing upon any one country or jurisdiction but instead presenting a comprehensive analysis relevant to readers in various countries and jurisdictions. Likewise, this text uses authors from a host of disciplinary backgrounds including psychiatry, psychology, criminology and law. Additionally, the contributing authors reflect an important combination of being both academic

7. The more conventional approaches found amongst scholarly texts is to adopt one of three methods. The first is with the production of a textbook which provides a comprehensive analysis of topics within a field with a view to serving as a prescribed text for a course in its target area(s). Books following this design are typically co-authored by a small number of authors within a given area. The limitation to this approach is whilst academic authors are often knowledgeable scholars in many areas, it is arguably impossible for them to be genuinely regarded as authoritative experts in every issue covered in such books. As a consequence, irrespective of the erudite coverage of issues all such books often invariably feature some component which merely reflects the author(s)' own review and interpretation of the available literature in which they may have little to no substantive expertise. The second common approach to the production of scholarly texts is where they represent edited compilations by an august collection of authors all of whom contribute individual chapters to a book. The coordination of such a text is typically overseen by a number of authors who serve as the editors of the book. Unfortunately, texts which follow this formulation are typically structured around a more specialized area of focus and thus seldom feature the comprehensive scope of the aforementioned authored books. The third common approach to scholarly texts are authored books which are, likewise, focused upon a particular topic or item of research but are instead written by any number of authors as opposed to a conglomeration of contributors.

scholars as well as expert clinical practitioners. Thus, the book is not merely written from one disciplinary perspective, and nor is it exclusively written by ivory tower theorists or pure clinicians, but instead seeks to optimally blend the collective knowledge, skills and practical experience sourced in these disciplines and approaches. I am honored to have been able to assemble such a diverse collection of scholarly authors who hail from around the world and who have offered their unique insights and perspectives for producing a text which aims to enhance knowledge of key topics. It is the simultaneous integration of all of these characteristics which, I hope, sets this book apart. It has been my distinct honor to collaborate with all of the contributing authors in this book and it is my sincere ambition that our collective efforts result in the reader's intellectual enrichment and enjoyment.

R.N.K.

REFERENCES

- Aiello, C. (2018). 17 school shootings in 45 days—Florida massacre is one of many tragedies 2018. *CNBC U.S. News*. Retrieved from <https://www.cnb.com/2018/02/14/florida-school-shooting-brings-yearly-tally-to-18-in-2018.html>
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: American Psychiatric Association.
- Kocsis, R. N., & Palermo, G. B. (2016). New Horizons: The obstacles to space exploration and disentangling criminal profiling. *International Journal of Offender Therapy and Comparative Criminology*, *60*(10), 1226–1232.
- Kocsis, R. N., & Palermo, G. B. (2015). Disentangling criminal profiling: Accuracy, homology and the myth of trait-based profiling. *International Journal of Offender Therapy and Comparative Criminology*, *59*(3), 313–332.
- World Health Organization. (in press). *The ICD-11 Classification of mental and behavioural disorders: Clinical descriptions and diagnostic guidelines*. Geneva: WHO.

CONTENTS

	<i>Page</i>
<i>Foreword—David P. Farrington</i>	xv
<i>Preface: Men, Monsters and Applied Criminal Psychology— Richard N. Kocsis</i>	xvii

Chapter

PART A: CRIMINAL BEHAVIOR, MENTAL DISORDER AND THE LAW

1. MENTAL DISORDERS AND CRIMINAL BEHAVIOR	5
<i>Hjalmar van Marle</i>	
2. ANTISOCIAL BEHAVIORS AND PERSONALITY DISORDERS	23
<i>George B. Palermo</i>	
3. PSYCHOPATHIC PERSONALITY: CONCEPT, DISORDER, DIAGNOSIS	49
<i>Louis B. Schlesinger</i>	
4. THE ROLE OF THE FORENSIC PSYCHOLOGIST	69
<i>Andreas Kapardis and Georgia Panayiotou</i>	
5. MENTAL STATE DEFENCES AND THE LAW	95
<i>Ian Freckelton</i>	
6. RISK ASSESSMENT	125
<i>Charles L. Scott and Phillip J. Resnick</i>	

PART B: DECEIT, MEMORY AND CONFESSIONS

7. THE DETECTION OF DECEIT 157
Pär Anders Granhag and Leif A. Strömwall
8. NEW DEVELOPMENTS WITH DECEIT AND ITS
DETECTION 185
Richard N. Kocsis
9. EYEWITNESS MEMORY 199
Cara Laney and Elizabeth F. Loftus
10. COGNITIVE INTERVIEWING 229
Coral J. Dando and Rebecca Milne
11. FORENSIC HYPNOSIS 251
John W. Thompson, Jr. and Alan W. Newman
12. FALSE CONFESSIONS 273
Skye A. Woestehoff and Christian A. Meissner

PART C: INVESTIGATING OR RESPONDING TO CRIME

13. CRIMINAL PROFILING 293
Richard N. Kocsis
14. PSYCHOLOGICAL AUTOPSY 321
Richard N. Kocsis
15. CRISIS NEGOTIATION 349
James S. Herndon
- Index* 375

APPLIED CRIMINAL PSYCHOLOGY

Part A

**CRIMINAL BEHAVIOR, MENTAL
DISORDER AND THE LAW**

Chapter One

MENTAL DISORDERS AND CRIMINAL BEHAVIOR

HJALMAR VAN MARLE

In the criminal court, forensic psychiatrists and psychologists are sometimes called upon as expert witnesses to answer questions relating to responsibility for a crime, dangerousness for reoffending (i.e., risk-assessment), and treatment for the prevention of reoffending given the presence of a mental disorder. The main purpose of this chapter is to describe the connection, if any, between the presence of any mental disorder and the criminal behavior of the accused to enable a judgment to be made about the offender in court.

Forensic psychiatry entails both a medical and psychiatric/psychological assessment of the individual within a legal context. *Forensic* means that accumulated medical and psychological knowledge is interpreted according to the law in an explanation of the individual under examination (Rogers & Shuman, 2005). The results of the person's examination are interpreted in terms of the relevant law so that legal questions can be answered.

Forensic psychiatry has as its paradigm the biopsychosocial model (Engel, 1980), which is an interpretive philosophy and research model of a person as a unity of different levels of functioning—molecular, cellular, biological, psychological, and social—and leads to different forms of psychiatric and psychological treatment. The question of why one person develops one disorder but not another, or no disorder at all, is an important question in medicine. It leads researchers not only toward disease-promoting factors but also to *'resilience,'* the often unknown factors, that prevent illness. For contemporary psychiatry, it is biological research into neurological (i.e., brain) activity that strives to answer why some people develop a mental disorder but others do not. Personal and social factors should not be underestimated because their impact on criminal behavior is essential and determinative.

The effect of psychological and social factors on the functioning of our brain is the central question, because it is the seat of our actions. For forensic psychiatry, a key question is which patient becomes an offender and which offender becomes a patient (van Marle, 1996) and thereafter what came first, the proclivity toward crime or the mental disorder (Goethals, Fabri, Buitelaar & van Marle, 2007). There are many psychiatric patients and offenders. However, the field of the forensic mental health concerns itself with combinations such as *'mad and bad'* as well as *'disorder and offense'* coming together in one person. Forensic psychiatrists and psychologists evaluate a person in the totality of these factors and offer their professional opinion about that person.

Questions typically posed to forensic psychiatrists and forensic psychologists can include the following (Van Marle, 2012):

1. Is a mental disorder present now and was it present at the time of the crime? If so, does it comply with the legal definition of: *'Impaired development and/or disorder of the person's mental capacities'*?
2. Can a connection between the two be demonstrated?
3. If so, what is the nature of this connection and what is the strength of it?
4. What is the level of responsibility of the offender/patient for the crime?
5. What is the risk for reoffending, with regard to the impaired development and mental disorder and which risk factors are present?
6. Is treatment (and what kind of treatment) possible to reduce reoffending (i.e., recidivism)?

The objective of this chapter is to briefly explore the range of mental disorders and their relationship (if any) to criminal behavior. Emphasis is placed predominantly on mental disorders that are frequently observed among criminal offenders.¹

UNDERSTANDING AND DEFINING MENTAL DISORDER

The conceptualization of mental disorders has always traditionally been undertaken by mental health experts. That is, psychiatrists and psychologists typically identify and thus agree on a certain constellation of symptoms, their combination (as syndromes) and their possible interplay with causal factors. These constellations can then be labeled as a mental *'disorder,' 'disease'* or *'illness.'* Mental disorders only exist via the manifestation of symp-

1. Although some others will also be briefly canvassed.

toms and behaviors. The patient (i.e., the person with a disorder) is a unique person who demonstrates his or her own idiosyncratic depiction of the disorder dependent on their personality and circumstances. People with the same psychiatric disorder can present in a totally different manner due to these unique individual differences in the manifestation of the disorder.

For mental health researchers, the ideal disorder for scientific research is one that always has the same cause, a typical course, measurable organic abnormalities, agreed-upon characteristic treatments with a steady prognosis and a known terminal stage (with and without treatment). Thus, in assessing mental disorder a holistic perspective is required (Kaplan & Sadock, 1995). Unfortunately, psychiatric and psychological sciences are not currently able to describe mental disorders in this ideal way. This is the reason why the word *'illness'* in psychiatry and psychology is replaced by the broader term *"disorder."* Additionally, with mental disorder there is no such thing as a single definitive *'cause.'* Causality depends on many factors, including those of a biological, psychological, or social origin (or some combination of these factors). As such, vulnerabilities in childhood development and even in pregnancy may be involved as well as situational factors leading directly to the origin of the disorder and more circumstantial factors sustaining the disorder by their persisting influence. Some factors can be influenced by education whereas others relate to the brain's functioning. Treatments exist both in biologically influencing the brain's functions by medication and in psychological therapies.

In forensic psychiatry and psychology one has to be extremely cautious because of the danger that criminal behaviors (abnormalities in a social way) may be labeled as mental disorders. A conflict between a person and public authority can never be held as a mental disorder *per se*. Someone committing an offense, and as such being socially deviant, is not mentally ill until proven so by the existence of a mental disorder.

In mental health assessments the examiner does not avoid using the psychodynamic model. This is a model based on the axiom of psychic forces in the personality that strive together to produce a healthy balance between the person and his environment (adaptation). Central is the connection between this unique individual—his behavior and actions—and the context of the legal system in which he lives. That is, between his personality and his criminal behavior and his capacity as a human being to act responsibly. Why a person committed a crime or why a certain mental disorder has led to ascertain impairment can only be understood by looking at the functioning of this unique personality directly within the context of the crime. At this time, we cannot examine specific biological brain functions within any theory of aggression or crime as we cannot identify biological data that discriminates one person from another with respect to certain modes of criminal behav-

ior.² For example, to date no brain abnormality or structure can be identified that is commonly inherent to all individuals who commit crimes of arson. Likewise, social theories of crime cannot be applied to individual perpetrators in terms of determining questions about individual responsibility. Accordingly, individual psychiatric and psychological evaluations describe certain broad characteristics of the patient and often involve measuring personality traits by psychological tests that have good validity for the purposes of a court. Questions that a court and forensic mental health practitioners are often interested in understanding³ include the following:

1. How easily can somebody express himself or herself?
2. Is somebody able to continue and to end his or her actions?
3. How are somebody's standards and values in society compared with those within the society itself?
4. What is the ideal for which we should be striving?
5. How does somebody cope with stress factors?
6. How does somebody have control over his or her impulses and aggression?
7. How well is somebody able to endure uncertainty and misfortune?
8. What is the nature and quality of intimate relationships?
9. What is the capacity to create equilibrium between one's own needs and those of the environment?

The transition from deviancy to a mental disorder depends on the definition adopted from the *Diagnostic and Statistical Manual* (4th ed.) (*DSM-IV*) criterion and from 2013 defined by its successor the *DSM-5* (American Psychiatric Association [APA], 1994, 2013). A mental disorder should imply suffering or impairment for the patient in his or her professional or social functioning.

CLASSIFICATIONS OF MENTAL DISORDER: THE *DSM-5* AND THE *ICD-10/ICD-11*⁴

Although the *International Classification of Diseases* (10th ed.) (*ICD-10*) section on psychiatric disorders and the *DSM-IV* are comparable and can be translated by codes into each other, in many countries in the Western world

2. It is certainly possible to gain empirical insight into personal functioning on the level of probabilities within a research population but contemporary neuroscience is not (yet) able to define a certain psychiatric diagnosis for the individual patient.

3. That is, mental functions in a psychiatric/psychological interview.

4. A preview version of the *ICD-11* (i.e., the successor to the *ICD-10*) was released on the 18th of June 2018. The *ICD-11*, however, is expected to be presented at the World Health Assembly in May 2019 for adoption by Member States, and will come into effect on 1 January 2022.

the *DSM-IV* and *DSM-5* (APA, 1994, 2013) is used more often than the *ICD-10/ICD-11*. This circumstance is probably because most countries are oriented toward North America for their psychiatric and psychological research. There are two main differences between the *DSM-IV* and the subsequent (i.e., current) *DSM-5*. The first is the discontinuation (i.e., removal) of the Axis system in the *DSM-5*. The second are the divisions in classifications dependent on whether the patient is under or over 18 years of age.⁵ At the approximate time of this book's publication a large amount of psychiatric research is still underway using the framework of the *DSM-IV*. This circumstance is due to the publication of the *DSM-5* in 2013 which was subsequent to when many major long-term⁶ studies had already been commenced. As a consequence, the different disorders that will be discussed herein originally come from the *DSM-IV* but are all also found⁷ within the classifications of the current *DSM-5*. As previously mentioned *DSM-IV*⁸ utilizes a classification of disease over five axes. Each of these respective axes point to a domain of knowledge that deals with the planning of treatment for patients and predicting the outcome.⁹ The five axes¹⁰ to the *DSM-IV* are:

5. These changes are largely attributable to the findings of contemporary research which have increasingly highlighted the fluidity of mental disorders dependent on factors which span both the psychic and physical domain. Likewise, this fluidity has also been observed and thus extended to the identification of disorders during childhood, adolescence or adult stages of life.

6. Longitudinal studies with anticipated durations of 10 or more years.

7. Although some have undergone variations in their labelling and/or classification in terms of which category of disorder they are classified within.

8. It should be noted that subsequent to the development of the *DSM-IV* a text revision was also published (i.e., *DSM-IV-TR*; APA, 2000).

9. Once again, the reader is reminded that the Axis system has been discontinued in the current *DSM-5*.

10. The five axes are necessary to do justice to the complexity of psychiatric classification. Axis I is the category with the clinically well-known mental disorders. Axis II classifies the personality disorders into categories, with three main clusters: A, B and C. Mental handicaps are also classified here. Axis III classifies the somatic disorders, which are in some way relevant for the mental state of the patient. They can be a condition for the disorder in a biological or psychological way, and these somatic disorders may have implications for a particular treatment regime, for instance, as an indication for certain medications. With Axis IV, social problems can be present, such as problems in the individual's primary support network, in social relations, in work or study, with housing or economics, with health care, or in crime-related issues. With respect to Axis V a global assessment of the individual's personal functioning is performed, and classified from 0 to 100 percent. A value of 100 suggests functioning perfectly in a variety of activities, 70 stands for mild symptoms, 50 for serious symptoms or a serious impairment in social functioning, 10 means a persistent danger for injuries or the life of the patient or others. Zero (0) as a score means inadequate information. Axis V indicates the extent to which the mental disorder impairs the patient's daily life functioning as mentioned in the earlier axes. Consequently, Axis V indicates the severity of the impairment in social functioning. The overall evaluation of an individual is referred to as the status praesens (present state) and shows the combination of all symptoms present across all five axes. It should be noted that a number of different disorders from the same axis can potentially be diagnosed in a patient. This circumstance where different disorders may be present in a person is referred to as comorbidity.

- Axis I: Clinical Disorders

Other conditions that may be a focus of clinical attention:¹¹

- Axis II: Personality Disorders/Mental Handicap
- Axis III: General Medical Conditions
- Axis IV: Psychosocial and Environmental Problems
- Axis V: Global Assessment of Functioning (GAF)

The differing axes of the *DSM-IV* are independent of each other and most mental health experts agree that there is no theory *per se* behind the *DSM-IV* or *DSM-5*. Accordingly, these compendiums for mental disorders should be understood as descriptive lexicons. As such, the primary aim of the *DSM-IV* and *DSM-5* is to assist with understanding different mental states (according to the provided definitions within DSM) in a way that is an all-encompassing description of a potential patient's mental condition.

COMMON MENTAL DISORDERS IN CRIMINAL BEHAVIOR

In this section the main categories of Axis I mental disorders from the DSM-IV (which are all found in *DSM-5* under the title of '*Diagnostic Criteria and Codes*') will be discussed.¹² The main *DSM-IV* Axis II disorders (i.e., the Personality Disorders¹³) are explored separately in the following chapter. In this chapter, particular attention will be given to the following conditions—some of which can be associated with criminal behavior:¹⁴

11. *The Diagnostic and Statistical Manual*, 4th edition, edited by the American Psychiatric Association (1994) provides information about the different mental disorders and the criteria necessary for a certain classification in name and code. Comparable to the *DSM-IV* is the *International Classification of Diseases*, 10th edition, (*ICD-10*) edited by the World Health Organization (1992).

12. It should be noted that when a particular constellation of symptoms cannot be clearly classified within one of the main diagnostic definitions contained in the DSM, each of the major categories described in the DSM nonetheless includes a miscellaneous category referred to as Not Otherwise Specified (NOS). In *DSM-5* they are called '*Other specified*' and '*Not specified*' disorders.

13. Which are likewise all found in *DSM-5* under the '*Diagnostic Criteria and Codes*'

14. Mental disorders due to a general medical condition are not discussed in this chapter.

- Disorders usually first diagnosed in Infancy, Childhood, or Adolescence¹⁵
- Cognitive Disorders¹⁶
- Substance-Related Disorders¹⁷
- Schizophrenia and Other Psychotic Disorders¹⁸
- Mood Disorders¹⁹
- Anxiety Disorders
- Somatoform Disorders²⁰
- Factitious Disorders²¹
- Dissociative Disorders
- Sexual and Gender Identity Disorders²²
- Eating Disorders²³
- Sleeping Disorders²⁴
- Impulse-Control Disorders Not Elsewhere Classified²⁵
- Adjustment Disorder²⁶

**Disorders Usually First Diagnosed in Infancy,
Childhood or Adolescence (DSM-IV)
(DSM-5: *'Disruptive, Impulse-Control, and Conduct Disorders'*)**

Pervasive developmental disorders are disorders present from childbirth and continue for the entire length of a person's life. One of the most promi-

15. The various individual disorders collectively encompassed within this category heading in the *DSM-IV* are now largely encapsulated under the newly formulated category found in DSM-5 entitled *'Disruptive, Impulse-Control, and Conduct Disorders.'*

16. Akin to the aforementioned child/adolescence disorder category for *DSM-IV* the disorders formerly classified as *'Cognitive Disorders'* in *DSM-IV* are now encapsulated under the category heading of *'Neurocognitive Disorders'* within the *DSM-5*.

17. This category of mental disorder are now labelled as *'Substance-Related and Addictive Disorders'* in *DSM-5*.

18. This category of mental disorder are now labelled as *'Schizophrenia Spectrum and Other Psychotic Disorders'* in *DSM-5*.

19. This category of mental disorder are now labelled as *'Depressive Disorders'* in *DSM-5*.

20. This category of mental disorder are now labelled as *'Somatic Symptom and Related Disorders'* in *DSM-5*.

21. This category of mental disorder are now also encapsulated under the aforementioned *'Somatic Symptom and Related Disorders'* category found in *DSM-5*.

22. This category of mental disorder is now labelled as *'Sexual Dysfunctions'* in *DSM-5*.

23. This category of mental disorder is now labelled as *'Feeding and Eating Disorders'* in *DSM-5*.

24. This category of mental disorder is now labelled as *'Sleep-Wake Disorders'* in *DSM-5*.

25. The individual disorders which collectively made this category in *DSM-IV* have been relocated into various different categories within the *DSM-5*. That is, this category found in *DSM-IV* has been discontinued in *DSM-5*. The formulation and basis to the relocation of these disorders throughout *DSM-5* is subsequently discussed in this chapter.

26. The various individual disorders collectively encompassed within this category heading in the *DSM-IV* are now largely encapsulated under the newly formulated category found in *DSM-5* entitled *'Trauma- and Stressor-Related Disorders.'*

ment is Autism which is characterized by pathological introversion and the incapacity to communicate adequately with other people as well as the presence of stereotyped behavior patterns. Individuals with autism also have an excessive need for order. That is, a need to know what is happening next, which is referred to as *'the need for sameness.'* Another prominent developmental disorder is Asperger's Syndrome, which is characterized by demonstrations of impaired communication and relationships. These patients have a strong daily occupation with one or more stereotyped patterns of interest in an abnormal and restricted way (for example, collecting). Also within the rubric of developmental disorders are mental handicaps such as mental retardation²⁷ and borderline intellectual functioning that have a genetic origin or have been caused by difficulties in childbirth. Head injury or trauma can also cause these conditions.

Beyond the pervasive developmental disorders there are three disruptive behavior disorders in childhood which are quite relevant to criminal behavior. These include conduct disorder (in acronym referred to as 'CD'), oppositional defiant disorder (in acronym referred to as 'ODD') and attention-deficit hyperactivity disorder (in acronym referred to as 'ADHD'). CD is an externalizing disorder which implies a disorder in social functioning involving behaviors such as lying, stealing, fighting, and burglary. ODD is a mild form of conduct disorder and manifests itself in disobedience, temper tantrums or negativism but it does not directly imply criminal behavior. ADHD involves a deficit in attention and involves hyperactivity. Some patients suffer more from symptoms of attention deficit than from hyperactivity. Other patients have it the other way around. ADHD does not lead directly to delinquent or antisocial behavior but because individuals with ADHD often have social problems related to their disorder, over time more of them tend to drift toward antisocial or delinquent behavior because of their social discrimination and exclusion.

Finally, learning disorders and language disorders are also relevant to the considerations of forensic psychiatrists and psychologists as far as they may complicate social development in childhood. These complications, in turn, may lead to isolation, aggression and ultimately antisocial behavior.

Cognitive Disorders (DSM-IV) (DSM-5: *'Neurocognitive Disorders'*)

Delirium and dementia are disturbances in cognition and social functioning that typically have an organic basis in the brain itself. Dementia is characterized by dysfunction in memory, especially in terms of disorienta-

27. Mental retardation means an intelligence quotient of 70 or lower in an individual IQ test.

tion with time, place and people. These individuals have lost their awareness for time or place or are not able in any way at all to recognize one person from another. There are also problems in information processing, the planning and execution of activities, and recognizing things, together with malfunction in language and impaired motor skills.

Delirium disorders involve a lowering of consciousness with impairment of memory, anxiety attacks, hallucinations, and agitation. Often delirium has organic causes, such as fever, or it can be induced through the consumption of alcohol or drugs, or both. Withdrawal from substances of abuse is also able to cause delirium.

Substance-Related Disorders (DSM-IV) **(DSM-5: *'Substance Related and Addictive Disorders'*)**

Substance use can lead to medical conditions such as addictions, dependency, or social abuse of soft drugs (e.g., cannabis) and hard drugs or medications, including alcohol and nicotine. Intoxication, withdrawal, delirium and persistent dementia, amnesia, psychotic disturbances, affective disorders, anxiety disorders, sleep disorders and sexual dysfunction can all result from substance abuse and some of these may ultimately culminate in differing forms of criminal behavior. Additionally, the wide variety of affects and side-effects produced by different drugs (as well as criminal activities which a drug user may need to become involved in order to obtain drugs) may result in criminal offenses.

Schizophrenia and Other Psychotic Disorders (DSM-IV) **(DSM-5: *'Schizophrenia Spectrum and Other Psychotic Disorders'*)**

Schizophrenia is a disorder which features delusions and hallucinations along with identity loss and difficulty with interpersonal contact. In addition to these 'positive' symptoms there are also what are known as '*negative*' symptoms such as apathy, blunted and/or inappropriate affect, and deficits in speech and thought.²⁸ Delusions, especially those featuring themes of paranoia and/or grandeur²⁹ are the most common. Hallucinations are sensations from perception that are not real but cannot be corrected by the individual. Individuals experiencing hallucinations may hear voices or see certain things that have a special, often delusional, meaning for them. However, hallucinations can also be experienced through other senses such as smell and

28. Chaotic or catatonic behavior also belongs to the symptoms of schizophrenia.

29. For example, individuals may feel themselves sent by a magical power or messenger to save society.

touch.³⁰ Schizophrenia is widespread throughout the world with a prevalence of approximately one percent.³¹

For many years there has been debate about the degree of dangerousness (in terms of risk assessment and risk management) of individuals suffering from schizophrenia (Monahan & Steadman, 1994). Some researchers have found that patients suffering from Schizophrenia are more dangerous than ordinary people whereas other researchers have found the opposite.³² Central to these patients committing an offence is the degree of social pressure they may experience and loss of social coherence in the daily lives. Two examples of these factors are the pressures encountered in living within a big city or experiencing poverty (Weiser et al., 2007). The more chaotic the environment around them, the more aggressive and chaotic they are themselves (Cantor-Graae & Selten, 2005). Interestingly however, too much intimacy can also potentially be harmful to these patients. That is, intimate relationships can be a burden on them because of the emotional load of attachment and expectations (Gunn & Taylor, 1993).

Many individuals with schizophrenia who are in an adequate equilibrium are not more dangerous than other people although their situation is more prone to disruption. The immediate surroundings of patients influences their level of dangerousness and are probably the only cause, next to vulnerability, of the schizophrenic patient.³³ In addition, individuals with schizophrenia are more prone to abuse drugs and alcohol. Drugs might mitigate their symptoms in a subjective way but lead socially toward unpredictable and chaotic behavior that often lapses into aggression. Because circumstances are very important in terms of improving or worsening their condition, these patients should refrain from using alcohol and drugs and should also be housed in a clean and socially adjusted environment.

Mood Disorders (DSM-IV) **(DSM-5: *'Depressive Disorders'*)**

Mood disorders are disturbances in mood, affect or both and are characterized by certain episodes of depressive, hypomanic, or manic mood.

30. Hallucinations can be ameliorated by the use of antipsychotic medication. The end stage of schizophrenia symptomology is referred to as 'residual type' which features negative symptoms and two or more of the symptoms mentioned earlier.

31. The form in which schizophrenia manifests itself also depends on the culture in which the individual lives.

32. Selection of effectively different populations in the research is a very common factor, which may account for the differences in research outcomes (i.e., selection bias).

33. For instance, chaotic and catatonic behavior as primary symptoms of schizophrenia increase with circumstantial stress. The negative symptoms are mostly a negative sign for the progression of the treatment. The positive symptoms are easier to treat by antipsychotic medication.

Bipolar disorder is diagnosed when alternating mood episodes occur in the same person. With mood disorders, single episodes of depression or mania can be frequent and recurrent.³⁴

A major depressive disorder means a substantial depression not due to schizophrenia or a schizoaffective disorder or other psychotic disorders. In less severe forms of depression individuals comprehend reality, but a depressive mood pervades their thoughts. There is mental insight by the patient in the manifestation of the disease. Their thoughts are not psychotic, and they can be partly corrected sometimes. There is often a loss of interest and initiative. As the depression deepens, other symptoms may appear, including suicidal thoughts or tendencies, impairment of vital functions such as loss of appetite, loss of sleep or irregular sleep, and deterioration of movement and sexuality.³⁵

In a manic episode, the mood is elevated and expansive. There is often psychomotor agitation and hyperactivity with no real purpose. There are often disturbances in sleep patterns, with a decreased need for sleep while thoughts and language are disjointed and fast paced. There is poor concentration and easy distraction. These patients are irritable and prone to superficial aggressive outbursts. In the context of criminal behavior these patients are known to experience delusions of grandiosity and may make unwise decisions about financial matters.

Another notable mood disorder is that of dysthymic disorder (in DSM-5 this condition has been reformulated and is now labelled as *Persistent Depressive Disorder*), which is a less-severe depression than a major depressive disorder. The depressive mood of individuals with dysthymic disorder is not present all day, nor is it present for all days but only most days.³⁶ Some basic symptoms also exist here, such as deficiencies in concentration or decision making, feelings of helplessness and hopelessness, tiredness, loss of self-esteem, disturbances in sleep patterns, and decreased or increased appetite.³⁷

34. It is important to distinguish mood disorders, however, from schizoaffective disorder, in which symptoms of depression and symptoms of schizophrenia are combined.

35. A good indicator for requiring antidepressant medication is that the patient manifests mood swings within a day, with the patient feeling very depressed in the morning when he or she awakes but feeling better in the evening. The course of the depressive disorder changes, so there are periods of depression and spontaneous recoveries to normal, but sometimes the mood swings are so pronounced that after a period of depression a period of mania follows. In these cases not only is an antidepressant necessary for treatment but so are so-called mood stabilizers, such as lithium carbonate. Often a depressive disorder manifests itself mainly in somatic complaints such as tiredness, pains in the joints or in the back, headache, and not being able to enjoy things in life (anhedonia).

36. Additionally, there is more of a reactive component to dysthymic disorder and thus reactive depressions due to life events that have a negative impact on individuals also belong to dysthymic disorder.

37. For a dysthymic disorder, antidepressants can be of use but a far better treatment is cognitive behavioral therapy.

Anxiety Disorders (DSM-IV)
**(DSM-5: ‘Anxiety Disorders’ & ‘Trauma-
and Stressor-Related Disorders’)**

Anxiety disorders are characterized by abnormal degrees of anxiety³⁸ and can include panic attacks, specific phobias, as well as more general social phobias. Anxiety disorders of relevance in the context of criminal behavior may include obsessive-compulsive disorder (in acronym “OCD”) and posttraumatic stress disorder (in acronym “PTSD”). Obsessive-compulsive behavior is characterized by persistent thoughts, impulses, or fantasies acting upon the person. They are experienced as not belonging to the patient’s own values and thoughts, so they cause distress, anxiety, and self-doubt. The individual tries to suppress or ignore these impulses or fantasies or to neutralize them with other thoughts or engaging in behavioral routines. Resisting the urge for these behaviors leads to further anxiety and agitation.

PTSD relates to individuals who repeatedly relive and thus again experience a seriously traumatic event in their lives. Classic manifestations of this disorder include individuals involved in major disasters and combat within environments of war.

Somatoform Disorders (DSM-IV)
(DSM-5: ‘Somatic Symptom and Related Disorders’)

Somatoform disorders concern bodily complaints for which no somatic (i.e., organic) origin can be traced, although there are unexplained symptoms, complaints, and impairments. Somatoform disorders do not typically involve a person in criminal activity.

Factitious Disorders (DSM-IV)
(DSM-5: ‘Somatic Symptom and Related Disorders’)

Factitious disorders involve causing or malingering somatic or mental symptoms or complaints to give oneself the role of a patient. This disorder is also known as ‘*Munchausen Syndrome*’ when an individual harms himself or herself for this reason. Of particular relevance to criminal behavior is ‘*Munchausen Syndrome by Proxy*’ which commonly involves harming next of kin (typically a son or daughter). The apparent motive for this behavior is the recognition (often unconscious) that the perpetrator derives from being perceived by others as a supportive and loving family member or parent.

38. Also by routines or forms of behavior designed to potentially reduce anxiety.

Dissociative Disorders (DSM-IV) (DSM-5: ‘Dissociative Disorders’)

Dissociation in the context of dissociative disorders involves the separation of a person’s consciousness into two or more states. Thus, the individual may be within a certain state of mind that is not perceptible and consciously accessible by the individual. Some of the *DSM-IV* dissociative disorders that may be associated with criminal behavior include Dissociative Amnesia, Dissociative Fugue, Depersonalization Disorder, and Dissociative Identity Disorder (referred to acronym as ‘DID’).

Dissociative Amnesia is characterized by individuals who cannot remember one or more episodes of personal memory that are typically related to traumatic or stressful events. A notable feature of Dissociative Amnesia is that the manifested memory loss typically entails some type of important life event to the individual and as such cannot be easily explained by mere forgetfulness.

Dissociative Fugue³⁹ involves individuals who abruptly engage in travel far away from their home or work. This abrupt travel is accompanied with an inability to remember their own past and thus do not know anything about themselves such as who they are and from where they came. Depersonalization Disorder relates to individuals who experience persistent and/or repetitive experiences of alienation from the world around them such that they are an external observer of their own behavior as in a movie or dream.

Finally, within the dissociative disorders is the rare condition currently known as DID wherein a form of dissociation is believed to occur that gives rise to the presence of two or more discernible identities or states of mind within a single individual.⁴⁰ These differing identities are able to influence and regulate the individual’s behavior. Additionally, amnesia plays a role in the manifestation of this disorder because one state (i.e., identity) or another in the patient cannot remember the things he or she has done or thought.

Sexual Disorders and Gender Identity Disorders (DSM-IV) (DSM-5: ‘Sexual Dysfunctions’ & ‘Gender Dysphoria’)

Sexual disorders and gender identity disorders are only related to criminal behavior in so far as they can be the basis of abnormalities in sexual behavior to the extent that the behavior is regarded as deviant and thus contrary to law. As far as we are currently aware, sexual dysfunctions (with the exception of the paraphilias) do not have any clear significance to criminal

39. In *DSM-5* the diagnosis and thus distinct concept of ‘Dissociative Fugue’ has been reformulated as a possible subcomponent of ‘Dissociative Amnesia.’

40. This condition was formerly known as multiple personality disorder.

behavior. In *DSM-5* the Paraphilic Disorders have now been separated out into two categories entitled '*Sexual Dysfunctions*' and '*Gender Dysphoria*.' A distinction has been made between Paraphilia ('*any sexual interest greater or equal to normophilic interests*') and Paraphilic Disorder ('*causing distress or impairment to the individual or personal harm, or risk of harm, to others*').

Paraphilia involves recurrent, intense, sexually arousing fantasies, sexual urges, or behavior that can involve non-human objects and suffering or humiliation of oneself or another person, of children, and of other non-consenting persons. The object of the sexual desire is abnormal and thus is not typically directed at another person but rather at a part of a person or on other objects such as sexually appealing clothing, and so on. Some of the commonly recognized forms of paraphilia are discussed below.⁴¹

Pedophilia: Where children, usually before puberty, are the objects of sexual desire and sexual behavior. The sexual attraction does not necessarily need to be gender specific and can be manifested toward either boys or girls or both genders. If this behavior arises within a family, it is termed 'incest.'

Exhibitionism: Persistent and intense sexual feelings, urges, and deviant behavior to expose one's genitals to unsuspecting strangers.

Fetishism: Persistent intense sexual fantasies, urges, and behavior connected with the fondling of inanimate objects.

Frotteurism: Sexually exciting fantasies, urges, and behavior by touching and rubbing against somebody else without his or her consent.

Sexual masochism: Sexually arousing fantasies, urges, or behavior involving the act of being humiliated, beaten, or otherwise made to suffer.

Sexual sadism: Sexual excitement derived from the physical or psychological suffering (or both) of a victim.

Transvestic fetishism: Sexual arousal is derived from wearing the clothes of the other gender.

Voyeurism: Sexual arousal is attained from the act of observing an unsuspecting person who is naked, or disrobing, or engaging in a sexual activity.

The fantasies inherent to paraphilias can best be understood through the conceptualization of a sliding scale from normality through to pathology and thus transgressing the social and criminal laws. For example, some behaviors encapsulated within the domain of paraphilia are essentially accepted. One case in point is sadomasochism as an adjunct to regular sexual activity.

41. Paraphilia not otherwise specified is the classification for all other, typically rare, paraphilias such as necrophilia (i.e., sexual stimulation related to dead people), zoophilia (sexual stimulation related to animals), etc.

Another example is when both partners engaging in the paraphilia have consensual roles. For this reason, a second important criterion in understanding paraphilias is that they should cause significant suffering or impairment in social or professional functioning or in functioning in other important domains of life before diagnosis of such disorders. Accordingly, it is important to note that the involvement of minors is strictly prohibited by the criminal law because they are not able to have an opinion of their own in these matters (i.e., informed consent).

Finally, in the context of the sexual and gender identity disorders it is important to recognize that rape *per se* is not a mental disorder. It can, however, be the consequence of a paraphilia or compulsive sexual behavior.⁴² Sometimes individuals who commit rape may look to justify their crime (i.e., defend their actions) by claiming or feigning a mental disorder and in such circumstances a separate psychiatric/psychological examination is necessary to determine the veracity of such claims and thus the presence of any disorder.

Eating Disorders (DSM-IV) **(DSM-5: *Feeding and Eating Disorders*)**

Eating disorders such as anorexia and bulimia nervosa do not typically have specific forensic relevance in terms of the manifestation of criminal behavior.

Sleeping Disorders (DSM-IV) **(DSM-5: *'Sleep-Wake Disorders'*)**

Sleeping disorders do not typically have specific relevance in terms of criminal behavior. However, they may accompany other disorders and can often be persistent in nature.

Impulse Control Disorders Not Elsewhere Classified (DSM-IV) **(DSM-5: *'Disruptive, Impulse-Control, and Conduct Disorders,' 'Substance-related and Addictive Disorders'*** **& *'Obsessive-Compulsive and Related Disorders'*)**

Impulse control disorders not elsewhere classified represents a discrete category within the *DSM-IV* which is comprised of various disorders that share some attributes with other *DSM-IV* disorders (e.g., sub-related disorders such as paraphilias) but are sufficiently different such that they cannot

43. Similarly, sexual addiction is not a medical concept but belongs to the category of compulsive sexual behavior.

be classified in other *DSM* categories. In the *DSM-5* there have been significant changes to this *DSM-IV* category. The externalizing conduct disorders have been categorized together although their underlying causes can vary greatly. All conditions involving problems in the self-control of emotions and behaviors independent of age are placed in one category of '*Disruptive, Impulse-Control, and Conduct Disorders*.' The implementation of this change according to *DSM-5* (p. 461) is due to these disorders being "*unique in that these problems are manifested in behaviors that violate the rights of others (e.g., aggression, destruction of property) and/or that bring the individual into significant conflict with societal norm and authority figures.*" So, the Intermittent Explosive Disorder has been relocated next to the Conduct Disorder, Oppositional Defiant Disorder and Personality Disorders.

With respect to the manifestation of criminal behavior some of the relevant disorders in this category include Intermittent Explosive Disorder (recurrent episodes of failure to resist aggressive impulses resulting in damage to persons and property), Kleptomania (the irresistible impulse to steal), Pyromania (the impulse to frequently light fires), Pathological Gambling (compulsive and repeat gambling to the extent of losing all money, employment, and even friends) and Trichotillomania (pulling out one's hair for relief of tension). In the *DSM-5* Pathological Gambling has been relocated to the category of 'Substance-Related and Addictive disorders' as it has been recognized to hold more similarities with addictions. Likewise, Trichotillomania has been moved into the category of 'Obsessive-Compulsive Disorders' for the same reasons. That is, a greater recognition of compulsive aspects appears to be more dominant in this disorder.

Adjustment Disorder (DSM-IV) **(DSM-5: '*Trauma- and Stressor-Related Disorders*')**

An Adjustment Disorder is discerned when an identifiable stressing factor is apparent in the individual's life that thereafter leads to impaired functioning (e.g., deterioration in the individual's relationships in social life, work, etc.). Adjustment Disorder is distinguished by the need for a specific stress-causing factor that gives rise to the disorder. Accordingly, when the stress inducing factor is removed the adjustment disorder will likewise also disappear. In *DSM-5* the emphasis on the involved stressor has led to the relocation of the Adjustment Disorder into the newly formulated *DSM-5* category of '*Trauma and Stressor-related Disorders*.'

CONCLUSIONS

This chapter attempts to provide the reader with a brief outline of the most common DSM-IV Axis I mental disorders (and their concurrent delinquencies in DSM-5) that may manifest themselves in criminal behavior. One cannot assert that these disorders cause crimes, only that these disorders are frequently encountered in offenders who perpetrate some forms of crime. As a hypothetical illustration of this point, when these disorders are restricted purely to the cerebral realm of mental phenomenon alone there is no transgression of the criminal law and therefore no crime. Accordingly, it is untenable to make definitive causal links between any mental disorder and criminality *per se*. Finally, it should never be forgotten that if not diagnosed and treated the symptoms inherent to many of these disorders will persist and lead to increasing impairment, suffering and thus potentially offending.

REFERENCES

- American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: American Psychiatric Association.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text revision). Washington, DC: American Psychiatric Association.
- Cantor-Graae, E., & Selten, J. P. (2005). Schizophrenia and migration: a meta-analysis and review. *American Journal of Psychiatry*, *162*, 12–24.
- Engel, G. L. (1980). The clinical application of the biopsychosocial model. *American Journal of Psychiatry*, *137*, 534–544.
- Goethals, K. R., Fabri, V. A. S., Buitelaar, J. K., & van Marle, H.J.C. (2007). Temporal relationship between psychotic disorder and criminal offense: Review of the literature and File Review Study. *International Journal of Forensic Mental Health*, *6*, 153–168.
- Gunn, J., & Taylor, P. (1993). *Forensic psychiatry, clinical, legal & ethical issues*. Oxford: Butterworth-Heinemann.
- Kaplan, H. I., & Sadock, B. J. (Eds.) (1995). *Comprehensive textbook of psychiatry*/VI, Vol. 1. Baltimore: Williams & Wilkins.
- Monahan, J., & Steadman, H. J. (1994). *Violence and mental disorder*. Chicago: University of Chicago Press.
- Rogers, R., & Shuman, D.W. (2005). *Fundamentals of forensic practice, mental health and criminal law*. New York: Springer.
- van Marle, H. J. C. (1996). Psychodynamic approaches to assessment: A forensic psychiatric interactional perspective. In C. Cordess & M. Cox (Eds.), *Forensic psychotherapy, crime, psychodynamics and the offender patient* (pp. 37–45). London: Jessica Kingsley Publ.

- van Marle, H. J. C. (2012) Het strafrechtelijk psychiatrisch gedragskundig onderzoek. In B.C.M. Raes & F.A.M. Bakker (red.), *De psychiatrie in het Nederlands recht*. Deventer: Kluwer, (6e druk), pp. 113–136.
- Weiser, M., van Os, J., Reichenberg, A., Rabinowitz, J., Nahon, D., Kravitz, E., Lubin, G., et al. (2007). Social and cognitive functioning, urbanicity and risk for schizophrenia. *British Journal of Psychiatry*, *191*, 320–324.
- World Health Organization. (1992). *The ICD-10 classification of mental and behavioural disorders: Clinical descriptions and diagnostic guidelines*. Geneva: WHO.

Chapter Two

ANTISOCIAL BEHAVIORS AND PERSONALITY DISORDERS

GEORGE B. PALERMO¹

The relationship between antisocial behaviors and personality disorders is a rather complex one due to a number of reasons the first of which is the intrinsic difficulty in defining antisocial behaviors. Indeed, if one is to consider all behaviors infringing upon the rights of others as antisocial, then it becomes readily apparent that any such association, be this causal or statistical, becomes problematic in light of the multi-factorial nature of complex human behaviors, of which antisocial conduct is but one. If we wish to classify antisocial behavior as more serious deviations from normative interpersonal and social conduct, such as “crimes,” it becomes necessary to define the latter in an operational and not heuristic manner in order to convincingly ascribe any valence to purported links and associations between conduct—pro-social or antisocial—and personality, be this disordered or well-adjusted and healthy. Unfortunately, the study of the interface between deviant behavior and psychopathology (in particular) suffers from problems that are intrinsic to the nature and definition(s) of its objects of inquiry.

Psychiatry and psychology is a house divided when it comes to definitions. Imprecise ideas, as Chaslin noted in 1912 (cited in Berrios, 1996), lead to imprecise language, which, in a circular manner, furthers imprecise ideas. This fact only compounds the already existing epistemological quandary in matters of expert witness and testimony (Drogin, 2012; Muzzafar, 2011). In the area of personality disorders, the recent changes in *DSM-5* (*Diagnostic and Statistical Manual of Mental Disorders*, Fifth Edition) have only partially addressed the classificatory conundrum by adding to its essentially categorical framework a sort of dimensional appendix, the “Alternative DSM-5

1. The present chapter was updated and reorganized on behalf and in honor of Professor George B. Palermo by Mark T. Palermo MD, MSc Crim.

model for personality disorders” which endeavors to incorporate a clinical and practical reality which is the intrinsic dimensional nature of personality disorders (i.e., that personality, as other dimensional attributes, exists along a continuum—as well as the importance of personality traits).

In addition, there is still (understandably considering the unavoidable limitations of language) considerable overlap in the terminology of studied concepts. For example, the term antisocial behavior is used and/or interpreted at times by readers as synonyms for deviance, crime, delinquency, violence and aggression. While criminal behavior is relatively easy to describe (as it is defined in relation to specific cultural and social norms—which nonetheless can change over time), concepts such as violence and aggression, for example, require a multi-disciplinary definition, borrowing from ethology, psychology and anthropology. Nonetheless these terms are often used almost interchangeably leading to further misunderstandings within the abundant scientific literature.

Personality disorders may be somewhat easier to define in that they represent, theoretically, the describable unhealthy counterpart to a normal and well-adjusted personality. However, this may be easier said than done given the evident lack of uniformity in the criteria adopted for the definitions of the various personality disorders where some may be defined via observed behaviors—antisocial and histrionic personality disorders, for example, while others owe their diagnostic label to psychodynamically oriented formulations—borderline and narcissistic personality disorders; while others still borrow from other diagnostic categories altogether such as in the case of schizotypal and schizoid personality disorders. The *DSM* system, has furthermore grouped the various disorders in “clusters,” A, B and C on the basis of “descriptive similarities” (APA, 2013). While it is possible that indeed some of the shared features may correspond to common underlying biological or psychological vulnerabilities, it also allows for a relative lack of clarity when attempting to understand relationships between diagnostic category and behaviors (irrespective of the acknowledgement of a dimensional nature to personality).

PERSONALITY

Personality is the totality of emotional and behavioral traits characterizing an individual’s behavior in the daily manifestations of life. It is somewhat predictable due to its relative stability; however, in the long run, and because of the vicissitudes of life, it is an evolving construct. A personality is the outcome of attitudes, interests, and needs that stem from a complex of unconscious and conscious biological factors, psychological drives, and emotions that form the self, unique and distinct from others, with its affectivity and

intelligence. These components are in a certain equilibrium that allows social adaptability, self-esteem, and empathy, as well as a sense of responsibility and sensible planning for the self and others, especially for one's family. To achieve such a harmonious self, the individual must overcome infantile dependency needs, basic narcissism, and ambivalent attitudes toward the important object relations of the early developmental period (parental figures). This will give him or her interpersonal stability and, in essence, fairly good control of negative emotions.

The development of the personality, and later of character, is greatly determined by the way a young child resolves internal object relations and, in later years, in adolescence and early adulthood, how he or she relates to and incorporates parental models, and those of teachers and of other important people in life encounters. It will also depend on the way the child deals with peers and the influence of peers on the child.

Furthermore, alongside the concept of personality and character it is essential to consider temperament. Temperament may be thought of as an early appearing set of individual observable, and even measurable, characteristics which represent a combination of psychomotor, attentional and emotional constructs, that are relatively stable over time. It represents a sort of constitutional disposition and was known to the ancient Greeks, with their melancholic, phlegmatic, choleric and sanguine temperaments. Hans Eysenck was to later build upon this construct in his own formulations introducing the concepts of introverted/extraverted and stable/unstable dichotomies (Eysenck, 1970). We currently think in temperament terms when dealing with children, but the characteristics are not only seen as early as two weeks old but are relatively stable over a lifetime (Thomas & Chess, 1977). Activity level, attention, persistence, emotional and sensory responses, sociability and reactivity are all measurable domains of temperament which act, in a way, as a filter of experience. It is readily obvious that personality and temperament overlap, in both health and in clinical situations (Andersen & Bienvenu, 2011).

As individuals move into the world, at different stages of maturation they develop feelings, drives, and emotions and will attempt, successfully or not, to repress their instincts. They will become aware of anger, fear, love, humiliation, joy, and disappointment. Such emotions will interplay within the self as they relate to others, at times in a passive or aggressive manner, especially when their personality traits are dysfunctional. However, the person with a well-adjusted personality will be able to control his or her negative emotions and get along with others. It is only when personality traits become exaggerated that the personality may become disjointed and what is termed a personality disorder can be observed. The behavior of persons suffering with a personality disorder is pertinent to the discussion of personality, ag-

gression, and criminal manifestations and often, in the latter instance, in ascertaining criminal responsibility.

OBJECT RELATIONS THEORY

The scholarly studies of object relations theorists, including Kohut (1971), Klein (1935), Mahler (1972), Winnicott (2008), and Kernberg (1992), can be of great benefit in order to better understand the origin of aggression toward others. Kernberg is among the most influential object relations theorists in the United States. Kernberg's theory, influenced by Kohut and Klein and also by Edith Jacobson, places a great deal of emphasis on "the splitting of the ego, and on the elaboration of good and bad self-configuration and object-configuration" (Kaplan, Sadock & Grebb, 1994, p. 256). According to Kaplan, Sadock, and Grebb, the id is seen by Kernberg as made up of self-images, object images, and their affects. In his theory, good and bad self-relationships and object relationships become associated with libido and aggression. It is on the basis of object relations' good and bad dichotomy that an individual's drives are given birth. On this foundation, Kernberg described the borderline personality organization, with its weak ego; primitive defense mechanisms, such as splitting (good-bad) projective identification; and a tendency to revert to primary process thinking. It is clear that his theory addresses the underlying problem of those personality-disordered individuals who, because of a problematic childhood, are prone to aggression against others, seeing in them those early images—bad images—that they have been unable to properly resolve during their early development.

The theory of Kohut (1971) also may be helpful in understanding the pathological personality and criminal behavior. For Kohut, during infancy, the child is afraid of losing coveted relations with his or her mother and, because of that fear, reverts to a grandiose self, to an alter ego, or to an idealization of the mother. The grandiose tendency may turn into exhibitionism and a tendency to idealize others. It is easy to understand how this may bring about disappointment from others because of unreasonable expectations, with all the consequences as far as aggression is concerned.

Winnicott (2008) was the central figure in the British school of object relations theory. His theory of multiple self-organizations included a true self, which develops in the context of a responsive holding environment provided by a good-enough mother. However, according to Winnicott, after traumatic disruptive experiences, a false self emerges that monitors and adapts to the conscious and unconscious needs of the mother and, in so doing, provides a protective exterior behind which the true self is afforded the privacy that it requires to maintain its integrity. Transitional objects, Winnicott wrote,

such as a substitute mother, give a soothing sense of security. He viewed impulsive deviant behavior as the way in which a child hopes to recapture a primitive maternal relationship. Fenichel (1945) instead linked impulsive behavior to attempts to master anxiety, guilt, depression, and painful affects by means of actions, distorted aggression, or sexual gratification. All of these theories are helpful in understanding the disturbed aggressive behavior of those personality-disordered offenders who commit most of the antisocial actions in society.

PERSONALITY DISORDERS

Personality disorders are enduring patterns of inner experience and behavior that deviate markedly from the expectations of the individual's culture and are pervasive and inflexible in quality. A personality disorder begins in adolescence or early adulthood and leads to personal distress and social impairment. The character traits, not only inflexible but also maladaptive, are a variant of the normal that has gone beyond the range found in most people. The symptoms are ego-syntonic and alloplastic, capable of adapting and altering the external environment. Individuals diagnosed with a personality disorder are not always disturbed by their symptoms and thus may not complain about them; as a consequence, they do not ask for treatment unless the personality disorder is very severe.

Most offenders are classifiable as suffering from some type of personality disorder. From 64% to 78% of adult male inmates and 50% of the female incarcerated population in the United Kingdom meet criteria for a personality disorder diagnosis (Singleton N, Meltzer H, Gatward R. *Psychiatric morbidity among prisoners in England and Wales*. London: Office for National Statistics; 1998). Offenders who have a personality disorder are also more often recidivists (West, 2013).

Their criminal behavior has been defined as an intentional act that is committed without defense or excuse in violation of the criminal law and penalized by the law (Tappan, 1947). Basic to that behavior is impulsivity, which can be observed in the severe personality disorders, especially the antisocial personality disorder, the borderline personality disorder, the narcissistic personality disorder, and the paranoid personality disorder. Among the psychoses, the paranoid delusional type is more prone to cause an individual to act out impulsively and suddenly. However, only a minimal percentage of psychotics, whether schizophrenic, bipolar, or delusional paranoids, act out.

Many personality-disordered criminals are very young. Nevertheless, their antisocial behavior is often that of a superpredator. Their "identikit"

shows “*radically impulsive, brutally remorseless youngsters, [who] . . . do not fear the stigma of arrest, the pain of imprisonment, or the pangs of conscience . . . [and for whom] the words ‘right’ and ‘wrong’ have no fixed moral meaning*” (Bennett, DiTulio & Walters, 1996, p. 27). These are offenders whose behavior is motivated by a profound disregard for societal rules, who try to manipulate others while both in and out of jail or prison, and who generally display a macho attitude out of fear. They are frequently illiterate, but streetwise. They often abide by a group code of behavior, seemingly despising the social and moral codes shared by their communities. On further scrutiny, they are found to be repeat offenders and chronically irresponsible. Their character analysis often reveals hatred toward a nonexistent father and benevolent appraisal of a frequently non-giving mother, an ambivalent image of a good-bad object—an idealization of her—a previously frustrated longing for affection, and a misguided rebellion against authority in general. Many have a poor educational background, a lack of job training, or very scarce employment records. They are often dysfunctional and frequently search for escapism through the nirvana of drugs and alcohol, all of which are important contributory factors in their evolution as criminals.

The prison seems to be the right place for their unresolved emotional conflicts with their mother and father. It is in jail or prison that these young offenders unconsciously behave according to “a pathological, perceptual stance known as ‘splitting’” (Hofer, 1988, p. 99). This is a defense mechanism, present in the antisocial personality, usually used, however, in order to feel protected and nurtured despite real evidence to the contrary. As Hofer well-described, the splitting is between “the affection directed toward a fantasized, loving, perfect mother image and the aggression directed toward the fantasized abandoning, all-bad father image” (p. 99). The prison allows the inmates, especially the antisocial recidivist, to obtain, even though in a displaced fashion, a certain amount of the nurturing they crave and the possibility to ventilate their resentment toward the paternal authority figure who let them down, displacing it onto the correctional institution guards.

Although many offenders with a personality disorder belong to a low economic group and are without any basic training for a rewarding job in a competitive society, economic poverty cannot be subscribed to as the only determinant of their offensive behavior. In fact, as Bennett and colleagues wrote, “Among all economic classes, including low income people and the poor, it is the irritable, impulsive, and poorly socialized males who are most likely to commit crimes” (1996, p. 42). The question of moral poverty in these individuals should be raised. Is it the basis of their criminal acting out?

Just as the cognitive, intellectual self, with its moral and ethical structure, is important in decision making, so the affective state of an individual, with its variations, may influence human behavior. At times, fluctuations of a per-

son's mood, not clearly pathological but limited to a feeling of sadness or joy, may bring about changes in conduct in relation to the people within his or her usual habitat. Occasionally, when this affective fluctuation becomes greatly exaggerated and not controlled by the powers of objectivity, discrimination, and the anticipation of future consequences, the individual may not be strong enough to hold back the negative instinctual, impulsive drives. Indeed, as can be seen again and again, among the characteristic traits of individuals who commit crimes is an inability to exercise the effective will power necessary to control their behavior when under the influence of strong, instinctual negative emotions or alcohol and drugs.

In addition to impulsivity, among the major personality characteristics of the offender are restlessness and hostility. A propensity to rage and destructive violence are characteristic of many of them. That includes the criminal's proneness to rage following humiliation and guilt. Restlessness is a frequent anticipatory sign of rage and violence in many offenders. Frequently, it is during a moment of rage that individuals lose their objective, discriminatory powers and self-control.

A sense of lost power or downright impotence is also often the basis of the antisocial behavior of people with personality disorders. Many of them offend because they feel powerless, overwhelmed by and unable to face up to their duties and social demands. Their frustration brings about their acting out. Their hostility may be directed toward the self—a self that is hated because it is not responsive to what is demanded of it, a self that the offender believes must have no value because no one seems to accept him or her, a self that feels deeply rejected. Other characteristic traits of people with personality disorders who act in a criminal fashion are feelings of rejection, a tendency for self- and outer-destructive behavior, and, especially in the so-called psychopath, a lack of a sense of duty and justice. Obviously, previous experiences in school and the family played an important part in the foregoing.

Many offenders experience fluctuations of self-esteem and, more frequently, exhibit low self-esteem. Not only do they feel inferior, but also their conscience talks to them in derogatory ways, and they frequently pass negative judgments on themselves. A modicum of stable self-esteem is essential in the development of a mature individual within a social context. Good self-esteem can be viewed as a psychological vaccination against the ups and downs of life; it is behind the capacity for resiliency to adversity. At times, they experience sudden reactions—assertive reactions in self-defense—which assume the typical stance of antisocial behavior. Fluctuations of self-esteem in an upward manner may also bring about antisocial behavior in those individuals too proud of themselves, too sure of their capabilities, and inconsiderate of others and of the social consequences of their actions.

The most frequently diagnosed personality disorder in persons committing crimes is the antisocial personality disorder and its exaggerated form, psychopathy. Egoism, selfishness, a wish to control, and evilness are frequently present in psychopathic personalities. They show a lack of remorse for their offense and an amoral behavior. Reich (1990) defined psychopathic offenders as impulsive characters. Alexander (1948) called them neurotic characters and classified them as the primary psychopath and the symptomatic psychopath. The primary, or smaller, group is characterized by amoral behavior, lack of conscience, deficient superego, lack of anxiety, possibly violent aggression, and often sadism in their offending behavior. Others described them just as psychopathic personalities (Abrahamsen, 1952). Psychopaths may also suffer from schizophrenia. Sellin (1972) cited studies showing that the criminal psychopath is more likely than the criminal non-psychopath to have committed serious violent assaults and property crimes. He reported that psychological studies showed that violent psychopaths exhibit more impulsive tendencies and more aggressivity than the symptomatic psychopath (in Palermo, 2004).

Alexander also stated, as did Freud, that the psychopaths are a group of offenders “who engage in antisocial behavior in order to achieve punishment at the hands of the law . . . [because] they have intense guilt feelings over some deeply buried early life experiences” (Guttmacher, 1972, p. 298). They are often tortured individuals, easily apprehended because of clumsy, stupid crimes. Psychopaths may suffer from paranoia and their ego may be overwhelmed by primitive, aggressive, criminal drives. Arieti (1967) subdivided the psychopathic states into the pseudopsychopathic and the idiopathic, attributing the psychopath’s impulsivity and desire for immediate gratification to his attempt to overcome unbearable inner tension due to short-circuited anxiety. He asserted that when the paranoid psychopath is prevented from acting out, for instance by imprisonment or hospitalization, the individual becomes more paranoid. Karpman (cited in Wilson & Herrnstein, 1985, p. 206) reported that idiopathic psychopaths are less prone to fear, anxiety, or guilt, whereas secondary psychopaths show symptomatic anxiety, and their behavior is frequently accompanied or motivated by emotional disturbance.

The decisional capacity in offenders diagnosed with a severe personality disorder is generally impaired; even though they apparently seem to function normally, they usually reach a decision too rapidly. Strong unsublimated impulses may be disruptive. Wilson and Herrnstein (1985) wrote, “Impulsiveness can be thought of as either the cause or the effect of the poor conditionability of the psychopath” (p. 204) and “without the internal monologue, time horizons shrink; behavior becomes more tied to its immediate consequences” (p. 205). In fact, it is the quick decision making that is the

expression of the lack of reflection before acting that is usually found in the antisocial personality disorder or psychopath. Self-control is essential for a person's achievements after he or she properly channels impulses without giving vent to unbridled impulsivity.

Impulses were viewed by Nietzsche, for example, as important in a person's behavior. He believed that "a man without impulses [interests] could not do the good or create the beautiful any more than a castrated man could beget children" (Kaufmann, 1974, p. 244). Nevertheless, impulses need control, and Nietzsche viewed the man who is in control of his passions as powerful, able to organize the chaos, and able to give style to his character. He believed that the passionate person who is able to master his or her passions would also be a good, intuitive, and creative individual. He viewed the man who strives for power over others through bullying and offending activity as a weak person, deeply frustrated. The man who imposes restraints on himself is not only "a 'rational' animal, but also a 'moral' animal" (Kaufmann, 1974, p. 213). The two are inseparable. Baruk (cited in DiTullio, 1960) viewed the total lack of moral values, visible in the true psychopathic offender, as "one of the worst calamities that can affect a human being, because of its personal and social consequences" (p. 41). In assessing the characteristic traits of these offenders it can be observed that they often lack self-criticism in regard to their criminal acting out. Kaufmann (1974) stated that their offenses are not only irrational but also intrinsically immoral because their impulsivity undermines their critical reflection.

To appreciate the workings of the mind of those offenders suffering from personality disorders, character and temperament should be considered. The ideas of Boven (cited in DiTullio, 1960) are interesting for the understanding of human behavior. Boven's belief was that individuals tend to overcome their biological selves throughout their lifetime. He viewed character as the result of a struggle among the lower instinctive, vegetative, and attitudinal strata; the egocentric forces of the central stratum; and the higher stratum, which comprises the intelligence and the will power. DiTullio (1960), an Italian psychiatrist, stated that individuals tend to develop their character based on their natural instinctive and affective propensities, aided in their maturation by the environment and education, leading to habit patterns that become an intrinsic part of their daily activities.

Character is the composite of distinctive qualities formed by mental and ethical traits that, stimulated by an individual's emotional sensitivity and habitual mode of reaction, give to each one's personality its dynamism. It is the personality in action and is due to the temperamental propensity of the individual. It is the outcome of life experiences; togetherness; of give and take; and a conscious or unconscious adaptation of id and ego tendencies to the social dictates or appropriate modes of practical, moral, and ethical be-

havior when confronted with choices. Absence of character is usually found behind much senseless crime, and the knowledge of the personality traits shared by many non-psychotic offenders is fundamental for the understanding of the criminal behavior that relegates any person to a jail or prison.

Sheldon (1942), well-known for his biotypology (endo-, meso- or ectomorphic body types), which he considered fixed elements of a personality, stressed the importance of human temperament, which adds a dynamic component to the personality itself. Verdun (cited in DiTullio, 1960) stressed the interaction among environment, constitution, and temperament. His emphasis on the importance of the neurovegetative system and its excitability as the basis of human behavior and human emotions anticipated the present-day neurotransmitter hypothesis in normal and disorderly conduct. Such theories lead one to consider the possible predisposition to offending behavior of many personality-disordered offenders and to the theory that, during the past fifty years, has attributed such behavior mostly to negative environmental factors, since many offenders seem to be recalcitrant to change, even though attempts have been made to change their environmental conditions. The pendulum of nature versus nurture as the basis of human conduct could seem to be more on the side of nature.

Gemelli and Zunini (1949) recognized the importance of personality traits and attitudinal disposition in the formation of character. They believed in the plasticity and variability of character and subscribed to the idea that character is the outcome of an interplay of traits, attitudes, and stimuli in a given moment for a given individual. They believed that, although a person's hereditary or organic personality traits are important, education is basic to the manifestation of human conduct. They posited that an individual without education and lacking a notion of morality cannot be considered a mature being because without them the basic self has not evolved to a level of acceptable adaptation to society. Many present-day offenders drop out of school around the tenth or twelfth grade, often displaying only an elementary school level of knowledge, and they exhibit a distinct lack of a moral sense, seemingly confirming the ideas of Gemelli and Zunini.

As throughout past centuries, the common offender today lacks a mature personality and his or her behavior is primarily driven by instinctual drives, drives that in the non-offender are usually sublimated, channeled toward more acceptable behavior. Lack of education, and not of basic intellectual endowment, and the lack of exposure to the sociomoral values shared by the community at large have not allowed the psychological self of the future offender to acquire that sociocivic sense of responsibility that allows one to live in the human consortium.

In fact, crime can be seen as a psychobiological social phenomenon. Offenders give a clue to their criminal character through the type of offense.

This is the reason why crimes have been described as essentially aggressive (e.g., murder, robbery, and rape) or passive-aggressive in nature (e.g., burglary, forgery, arson, etc.) or as essentially related to psychophysiological stress (e.g., sexual crimes, pedophilia, indecencies in public, exhibitionism).

Can one perceive the personality of the offender from his or her crime? Toch (1969) thought that “we should be able to reconstruct the man from a sample of his violent acts” (p. 133), and he formulated a typology of the violence-prone individual, and Bromberg (1965) took into consideration the personality characteristics of the offenders from a psychiatric and psychological point of view. Bromberg listed various types of offenders: the aggressive (antisocial, released by alcohol, or a reaction to feelings of inferiority), the emotionally unstable, the unethical (criminal type), the maladjusted adolescent, and the immature adult type. Among the latter, the egocentric, inadequate, shiftless, suggestible, adynamic, or dull types stand out. Bromberg further proposed the interesting classification of the nomadic type—unattached, schizoid to a degree—and the primitive type, whose behavior is simple and instinctive (1965, p. 86). Among adjusted individuals he included those “adjusted to a low cultural level with its own ideologies and mores” and “those obviously maintaining a relationship to the so-called stable world” (p. 86). His first category of so-called adjusted individuals is quite interesting and is reminiscent of those groups described as belonging to the specific subculture of violence.

Necessary conditions for persons with personality disorders or psychotics to act out lie in the vicissitudes of the life instinct, the fate of affects, and the state of ego-consciousness. Frequently, they are socially isolated, but they may become members of groups in an attempt to overcome their feelings of inadequacy and low self-esteem, as is the case with many young people who join gangs. However, many feel isolated even in the presence of others and have a low capacity for interpersonal interaction. Often, they live in a fantasy world and are reactively depressed. It may be that their depression originated in their infancy, because many of them grew up in a dysfunctional family, with the absence of parents, especially the nurturing mother. These psychologically weak individuals, because they are affected by either severe personality disorders or a psychotic personality disorder, usually untreated, under the effect of an unbearable affect of guilt or humiliation, suffer ego decompensation, and their unconscious repressed pathological complexes surface and lead them to serious antisocial behaviors, even murder.

The major and severe personality disorders involved in crimes are borderline personality disorder, paranoid personality disorder, schizoid personality disorder, antisocial personality disorder, narcissistic personality disorder, sadistic personality disorder, and the schizotypal personality disorder; each of which will now be discussed.

Borderline Personality Disorder

Even though the borderline personality disorder is an integral part of the personality disorder classification, it is questionable whether it is an autonomous entity. The characteristics of this personality disorder, according to Gunderson and Singer in their seminal study (1975), were intense depressive or hostile affectivity, impulsivity, mild to moderate social adaptation, brief psychotic episodes, a tendency to disorganization in unstructured situations, and superficial or very dependent relationships. Persons with borderline personality disorder have a weak ego. Their symptomatology is diverse. They may go through sudden mood changes, such as anger, depression, anhedonia, sense of futility, loneliness, and isolation. Their behavior is marginal and transient, and their interpersonal relationships appear to be good only on the surface. They seem unable to control their impulses due to their sudden psychotic thinking because of internal and external stress. At times, they suffer from transitory and fleeting hallucinations or delusions. Their personality disorder can be summarized as stably unstable.

It is important to realize that the psychotic experiences of the borderline-personality individual are ego-dystonic, because the person does not recognize them as part of the self. Their disorder is reminiscent of what Deutsch (Kaplan et al., 1994) stated regarding the “as if” personality. Indeed, the essential characteristics of borderline personality-disordered individuals are that outwardly they conduct their lives “as if” they were essentially normal and in control of the self. Because they often have acceptable social behavior, and function fairly well in social activities, it is sometimes difficult to make an accurate diagnosis. Their reality testing is quite faulty; they are highly vulnerable to stress and emotionally unbalanced. Their inability to test reality and to contain their impulsivity, which at times motivates their conduct, is a mixture of depressive and delusional symptoms and is difficult to predict. In these persons, a psychotic breakdown may take the form of an acute schizoaffective disorder, a break with reality due to intense feelings of depression. The antisocial acting out of some adolescents at times seems to be the forerunner of a prepsychotic borderline state. It may be akin to a psychofunctional disorder of the mind, almost a necessary transitional period prior to achieving a stability of the personality. During this highly unstable period, one can observe in the adolescent’s behavior the intermingling of two worlds: the real and the psychotic.

Kernberg (1992) distinguished three stages in the personality borderline organization. In the first stage, the individual still possesses fairly discrete reality testing, with an absence of delusions or hallucinations, and an ability to differentiate the self from the non-self. The second stage is the identity diffusion syndrome (feelings of emptiness, an inability to react well to others), and the third stage is that in which primitive defense mechanisms are resort-

ed to. These include splitting—in which feelings of ambivalence divide people into good and bad—projective identification, feelings of omnipotence, denial, idealization, and devaluation.

In patients with borderline personality organization, wrote Kernberg, “projective identification weakens the ability to differentiate the self from external objects by producing an interchange of character with the object, so that something internally intolerable now appears to be coming from outside . . . [and] tends to diminish the reality testing” (1992, p. 196).

Paranoid Personality Disorder

The prevalence of the paranoid personality disorder varies from 0.5 percent to 2.5 percent in the general population (Kaplan, et al., 1994). The main characteristics of persons with this disorder are chronic suspiciousness and general mistrust. They displace onto others their own shortcomings and responsibilities. Often hostile, irritable, and angry, they rarely seek treatment on their own, being convinced that there is nothing wrong with them. They are usually forced into treatment by family members or the courts, which they resent, and in situations in which such forced treatment is being sought, they are bright enough and able enough to put on a normal facade. They show pathological jealousy, extreme litigiousness, and, under stress, many become clearly delusional and paranoid. At those times they should be considered not responsible for any antisocial actions, because they are unable to conform to the requirements of the law due to a misperception of the behaviors and intentions of others. In essence, the basic problem with their thinking is that they interpret the actions or demeanors of others as threatening, exploitative, or harmful to themselves. They even mistrust family members, friends, and associates. The mechanism of defense used by them is projection: they project onto others feelings that they harbor but that they are unable or willing to accept—It’s not me. It’s you! Often, they suffer from ideas of reference and illusions. They are cautious and somewhat distant in their interpersonal relationships. In their professional endeavors, they are efficient, but their expectations of themselves, and especially of others, create interpersonal difficulties. Nevertheless, they claim to be rational and objective, and, as Shakespeare would say, they protest too much in their attempt to prove it. They have a tendency to be grandiose, to have superiority feelings, and to disdain the weak, the sickly, and passive individuals. That may be the precursor of paranoia, a psychotic condition, or of a schizophrenic type of psychosis. It may occur because, having a fragile ego structure, they often react to stress in a catastrophic manner.

Individuals with this type of personality disorder are rigid, tense, and unable to relax. In their daily life they are so cautious and suspicious that they seem to search the environment for clues or criticism from others that

they misinterpret as being directed at undermining them. This behavior may be reminiscent of the monomania of Esquirol, the persecutory delirium of La Segue, or the slow cognitive delusional disorder of Kahlbaum and Kraepelin (in DiTullio, 1960). The thinking of persons with this type of a personality disorder is seemingly logical. The conclusions they reach, however, are faulty because of incorrect initial premises, and their cognitive distortions are quite evident when they lose control.

Schizoid Personality Disorder

The schizoid personality disorder shows a lifelong pattern of social withdrawal. Individuals suffering from it are usually introverted and lonely. Their affect is constricted, and they isolate themselves because of the discomfort felt in social interactions. They appear to be cold, aloof, distant, unsociable, unemotional, and uninvolved. They frequently hold lonely non-competitive jobs and lack an intimate life. They have difficulty in expressing anger. They often involve themselves with astronomy, philosophy, mathematics, and dietary health fads. They are in touch with reality but do a great deal of day-dreaming and entertain fantasies of omnipotence. This type of personality disorder is not uncommon, reportedly affecting 7.5 percent of the general population, with a male to female ratio of two to one (Kaplan et al., 1994).

Even though the schizoid personality disorder is fairly stable, at times those who suffer from it move into a schizophrenic breakdown, from which they usually go into remission. Some scholars believe that this personality disorder is a prodromal phase of schizophrenia.

Antisocial Personality Disorder and Psychopathy

Even though the *Diagnostic and Statistical Manual (5th ed)* (*DSM-5*) (American Psychiatric Association [APA], 2013) includes under antisocial personality disorder (ASPD) some of the basic characteristics of the psychopathic personality, the consensus is that a distinction should be made between the two. Most persons with ASPD can be viewed as reactors to social stresses, whereas the psychopaths are “real” actors. The characteristics of the latter, as reported by Hare (1993), who seems to retrace Cleckley’s (1955) definitions of the psychopath, that a psychopath is a self-centered, callous, and remorseless person, profoundly lacking in empathy with an inability to form warm relationships with others, a person who functions without the restraint of a conscious self. The untreatability and the recidivism of the psychopath are well-known. The concept of psychopathy dates back to the time of Lombroso (1889), with his characterization of the so-called born criminal, and Pinel, with his emphasis on the lack of morals in offenders.

Many authors have stressed the etiology of psychopathy, presenting it, for example, as congenital, biological, personal, and environmental (Arrigo & Shipley, 2001). Pinel considered the psychopath to be mentally ill, in need of moral treatment, suffering from a *manie sans delire*. Rush (1812) proposed organic causes for psychopathy, which he considered a disease. Prichard (1835) described it as a disorder of a person's feelings and attitudes, without involvement of higher mental faculties but with a predisposition to behave as a morally insane person. In 1891, Koch, coined the term psychopathic inferior, which he considered to be a hereditary disease with emotional and moral aberrations and abnormal behaviors. Maudsley (1898), as well, considered the psychopath to be suffering from moral imbecility due to cerebral dysfunctions. Von Krafft-Ebing (1922) referred to these persons as savages and believed that they should be kept isolated in mental asylums for their own sake and that of society. Kraepelin (1915) described them as liars and manipulators who employed charm and glibness but were impulsive and remorseless.

It was Cleckley (1955), however, who in his seminal work *The Mask of Sanity*, made a distinction between the psychopath who ends up in jail and the one who does not, describing them as grandiose, arrogant, callous, superficial, and manipulative. The latter, he believed, keeps a far better and more consistent appearance of being normal. His distinction between the ordinary criminal and the psychopath still holds true. He believed that the first possessed purposive behavior and his aims are well-understood by the average person, even though not accepted and shared with him. "The criminal, in short, is usually trying to get something we all want, though he uses methods we shun," he wrote (1955, p. 292). Ordinary criminals are consistent and persistent in conniving in order to reach their own ends and are aware of the possible legal consequences of their actions. They are shrewd in their planning and in their attempt to avoid being apprehended.

Cleckley pointed out the recidivistic tendencies of psychopaths in the commission of their crimes. He added that psychopathic conduct "varies in severity from a mild or borderline degree up through a great degree of disability" (1955, p. 279). Many paranoid characters show antisocial behavior as well. He postulated that persons diagnosed with an ASPD or a psychopathic disorder have "a genuine and often a very serious disability" (p. 422). He added that "to say that this is merely queer or perverse or in some borderline state between health and illness does little or nothing to account for the sort of behavior he demonstrates objectively and obviously."

In the psychopaths, we are confronted, as Cleckley says, with a mask of sanity, and "all the outward features of this mask are intact. . . . The thought processes retain their normal aspect under psychiatric investigation and also in technical testing. . . . An example of *la folie lucide*," while their expres-

sions, tone of voice, and general demeanor seem normal, but they fail “altogether when [they are] put into the practice of actual living.” Their “failure is so complete and so dramatic that it is difficult to see how such a failure could be achieved by anything less than a downright madman, or by one who is totally or almost totally unable to grasp emotionally the major components of meanings or feelings implicit in the thoughts which he expresses or the experiences [they appear] to go through” (p. 124). Their distorted affectivity, their tragic persistence in their antisocial behavior, their inability to learn from their mistakes bespeaks a profound childish immaturity that causes them to move, without reflection, from thought to action, without appraising and discerning what type of decision they should make and act upon. “Our concept of the psychopath’s functioning,” says Cleckley, “postulates a selective defect . . . which prevents important components of normal experience from being integrated into the whole human reaction, particularly an elimination or attenuation of those strong effective components that ordinarily arise in major personal and social issues” (1955).

The emotions of a psychopath are just pseudoemotions. They use a pantomime of feelings. They are full of rationalizations, their judgment is poor, and their sense of value is almost nonexistent. Their outward behavior seems to be the outcome of a deeply distorted inner personality, akin to a schizophrenic process, at times largely concealed by good reasoning and their ability to go through life in a quasi-sane manner. After years of socially restricted but apparently non-psychotic lives, a few psychopaths commit murder or carry out other tragic misdeeds “for which they show little evidence of remorse or other adequate and understandable reactions” (Cleckley, 1955, p. 437). Generally, the psychopaths’ masks are very deceptive. They show no obvious signs of traditional psychotic behavior, yet they manifest a conduct not less serious than that of a schizophrenic. Inwardly, they harbor an “incapacity to react with sufficient seriousness to achieve much more than pseudo-experience or quasi experience” (p. 437). Often, they seem to belong to those disorders classically thought of as psychoses, which appear in varying degrees of severity.

Macdonald (1961) described the psychopath as lacking “the capacity to ‘feel’ with others and devoid of affection, callous and cynical . . . egocentric and immature” (p. 247), adding that “their impulsivity and intolerance of frustration may lead to repeated antisocial acts” (p. 248). However, “antisocial personalities may often be quite successful in whatever their chosen professional activity. They may have paradoxically reached their position of success, power, and wealth by ruthless exploitation of others” (Stoudemire, 1994, p. 186).

Psychopaths are usually of average or above average intelligence, have an apparent lack of guilt and remorse, and do not learn from experience.

They show a great deal of “impulsivity as manifested by frequent physical fights and abusive behavior . . . [and] encounters with the law and other authorities are frequent, . . . in repetitive criminal behavior” (Stoudemire, 1994, p. 186).

Alexander and Ross (1952) believed that the presence of unconscious conflicts could be expressed in the symptomatic behavior of the psychopath’s irrationality, stereotyped repetitive behavior and self-destructive tendencies. They thought that “the actual crime, . . . is often a substitute for incestuous or patricidal impulses” (p. 133).

Halleck (1967) thought that “the psychopath is an activist, who in his efforts to suit the world to his own needs often finds that it is necessary to violate the law” (p. 109). The same type of behavior, cunning and goal directed, can be observed in the paranoid, with variations in the clinical manifestations along the paranoid spectrum. Other authors (Reichard & Tillman, in Macdonald, 1961) suggested that, when lacking an understandable motive, a murder committed by a psychopath with paranoid tendencies represents “an attempted defense against the outbreak of a schizophrenic psychosis, in which the ego seeks to protect itself from disintegration by discharging unassuageable anger through an act of violence” (p. 115). Often, these psychopaths are sentenced to repeated terms in prison or even life terms.

Arieti (1967) subdivided the psychopathic states into the pseudo psychopathic and the idiopathic. He attributed the psychopath’s impulsivity and his desire for immediate gratification to an attempt to overcome unbearable inner tension due to short-circuited anxiety. He “is unable to change, repress, postpone or neutralize his need for hostility,” he stated (p. 248), and his acting out may be in the form of murder, rape, seduction in men, or promiscuity and prostitution in women. More important and relevant to this discussion, however, is Arieti’s reflection on the paranoid psychopath. While pointing out that psychopathic traits or behavior “generally preceded a definite paranoiac symptomatology, or, in some cases, periods of acting out with no freely expressed delusions alternate with obvious delusional periods,” he suggested that, most probably, “when the paranoid psychopath is prevented from acting out, for instance, by imprisonment or hospitalization, he becomes more paranoid” (1967, p. 248).

Narcissistic Personality Disorder

People who suffer from a narcissistic personality disorder show a heightened sense of self-importance and grandiose feelings, considering themselves to be special and deserving of special treatment. They have a sense of entitlement and handle criticism poorly. They are ambitious and wish to be

famous, are strongly exhibitionistic, almost demanding admiration. At the same time, they are selfish and exploitative. Their relationships are superficial and they do not show empathy for others. They refuse to obey conventional rules. They are vulnerable to middle-life crises. Their judgment is not objective. They seem to exhibit the so-called “mirror hunger” of Kohut and Wolf (1978). When they are frustrated, their manipulative personalities may explode in a narcissistic rage. They are egocentric, like a child, and when they do not achieve their expectations they fall into a state of inner emptiness.

Various theories of behavior can be considered in the attempt to understand malignant narcissism. Kohut (1971) hypothesized that a narcissistic trauma suffered by the child during the process of individuation prevents him or her from taming the archaic, grandiose, and exhibitionistic self, necessary for wholesome development. Originally described by Freud, narcissism was later subdivided by Kohut into primary and secondary narcissism. Primary narcissism is seen as the investment of libidinal energy in the achievement of object love, empathy, and possible creativity; secondary narcissism is the withdrawing of the original psychic libidinal energy from objects back to the ego. This latter mechanism seems to be present in the psychodynamics of serial killers. They are not only pathologically narcissistic but also unrealistically grandiose, and their exaggerated self-importance is very fragile and sensitive to shame. Narcissistic tendencies, part of the grandiose self are often present in the serial killer.

Sadistic Personality Disorder

People suffering with a sadistic personality disorder show a pervasive pattern of cruel, demeaning, and aggressive behavior. They have a tendency to inflict pain on others or to humiliate others. They are fascinated by violence, weapons, injury, and torture. When sexually aroused, they become paraphilic and sexually sadistic.

During the eighteenth century, the erotic and licentious writings of the libertine Marquis de Sade (Pauvert, 1965) shocked the world with their descriptions of cruel sadistic violence and unbound perverted lust. De Sade believed that instincts are the motivating force in life and that pleasure is the most important goal for which one should aim. Years later, in 1869, von KrafftEbing coined the term sadism, and the term acquired the meaning of a sexual perversion in which the pervert forced physical or moral suffering on the subject of his or her sexual attraction, deriving sexual pleasure from his or her actions. The infliction of pain seems to be part of the complete mastery of another person. The most radical aim of a sadistic act is to make the person suffer, since there is no greater power over another person than

inflicting pain. Nevertheless, it has been hypothesized that rather than to express cruelty in and of itself, the object of sadism is to procure strong emotions (MacCulloch, Snowden, Wood & Mills, 1983).

Brittain's seminal work in 1970 laid the foundation for a possible typology of a sexual sadist, and his description is that which fits some present-day sadistic murderers. He described the sadist as a secretive male individual who is generally non-violent in everyday life but obsessive, insecure, and narcissistic, a loner with a rich fantasy life. He believed that the sexual sadist creates sadistic scenes in his fantasies that he later acts out in his killings. This type of killer is single, his perversion starts early in life, he exhibits an interest in pornography, and he is excited by cruelty. Brittain's description of the sexual sadistic murderer is reminiscent of the serial killer Jeffrey Dahmer who, a typical charming psychopath, behaved well even on apprehension, but hidden behind his calm and socialized appearance were destructive sexual fantasies of a possible psychotic nature.

Many of the fantasies found in the serial killer, as stated earlier, are sadistic sexual fantasies. Most of these offenders are eventually diagnosed with severe personality disorders. It can be theorized that the behavior of the sadistic, power and control-driven serial killer reflects the conduct of a curious child in the demolition of his toys. Sexual fantasies, at times violent in type, are also present in juvenile offenders and, when frequent, may degenerate into sadistic sexual fantasies. In such cases they may be the forerunner of homicidal acting out. According to MacCulloch and colleagues (1983), sadistic sexual fantasies have their origins at the time of traumatic episodes, such as sexual or physical abuse during early childhood. It has been theorized that the sadist may suffer from an arrest of psychosexual development, possibly at the anal stage (the anal-sadistic stage), or from a neurotic regression to that level. Fantasies of rape or murder were found in 86 percent of the cases of adults in one study of serial sexual homicide conducted by Prentky and colleagues (1989). Similarly, Warren and colleagues (1996) found evidence of violent fantasies in 80 percent of their cases. The important role of sadistic fantasies, especially repetitive masturbatory fantasies, in these killers was emphasized by MacCulloch and colleagues (1983), and that of daydreaming and compulsive masturbation was reported by Prentky and colleagues (1989), and by others.

Although Freud (1960) first viewed sadistic drives as primary instincts camouflaged by the drive to dominate, he later came to believe that sadism is the excessive outward manifestation of the death instinct. The gratuitous cruelty of sadism is possible because of insufficient control by the basic mechanism of defense.

Schizotypal Personality Disorder

Persons with schizotypal personality disorders are strikingly odd or strange, even to lay persons. They entertain magical thinking, bizarre ideas, ideas of reference, suspiciousness or paranoid ideation, and illusions and may have derealization feelings. The diagnosis is based on their peculiar thinking, their unusual way of communicating with others, and their generally strange behavior. They lack close friends, and their manner of speech frequently needs interpretation. Under stress, they become depressed or may fully decompensate into frank psychotic symptomatology of brief duration.

NEUROPSYCHOLOGICAL AND NEUROIMAGING STUDIES

Pertinent to this discussion, scientists and criminologists are presently of the opinion that biopsychological factors may contribute to the understanding of criminal behavior. Redding (2006) wrote that “neuropsychological studies show that the prevalence rate of brain dysfunction among the offender population is extremely high, with prevalence rates of ninety-four percent among homicide offenders, sixty-one percent habitually aggressive adults, forty-nine to seventy-eight percent among sex offenders, and seventy-six percent among juvenile offenders (by comparison, the prevalence rate in the general population is only three percent)” (p. 57). Most of these offenders belong to the diagnostic category of personality disorders. Diamond (1994), a well-known forensic psychiatrist, writing about people suffering from severe personality disorders stated, “Their appearance of normalcy, their apparent ability to exercise free will, choice, and decision (and somehow invariably choose the wrong instead of the right) is purely a facade, an artifact that conceals the extent they are victims of their own brain pathology” (p. 257). At the same time, and that was fourteen years ago, he ventured the following prediction: “Within ten years, biochemical and physiological tests will be developed that will demonstrate beyond a reasonable doubt that a substantial number of our worst and most vicious criminal offenders are actually the sickest of all” (p. 257).² Indeed, Redding (2006) reported that

2. The following studies seem to offer support for the previous statements: The Vietnam Veteran Head Injury Study examined aggressive behavior in 279 Vietnam War veterans with frontal lobe lesions with 57 non-injured veterans as controls. It found that the brain-injured veterans were more aggressive; 20 percent became aggressive right after the injury. Fourteen percent were violent (Grafman et al., 1996); The Prison Inmate Study reported that 73 percent of the brain-injured inmates had committed crimes of violence compared to 28 percent of those not injured (Bryant, Scott & Golden, 1984); A study by Raine and colleagues (2001) found that psychopathic and violent offenders had structural/functional abnormalities in frontal lobes. Also, on PET scans less frontal lobe activity was found, along with low-volume prefrontal gray matter and excessive activity of the amygdala and hippocampus.

“[i]ndividuals with extensive frontal lobe damage may develop episodic dyscontrol characterized by rage attacks in response to minimal provocation. . . . [T]he dyscontrol may lead to unplanned homicide, assaults, spousal and child abuse, reckless driving. . .” (p. 66).

To detect these dysfunctions, neuropsychologists employ various tests, including the Maze Tests and the Bender-Gestalt test, the Twenty Question Test, and the Tinker toy™ test. These tests elicit dysfunctions of conceptual thinking, reasoning, abstraction, and problem solving. The Wisconsin Card Sorting Test (WCST) and the Halstead Category Test evaluate concept formation, hypothesis testing, problem solving and flexibility of thinking. Block Designs and Puzzles tests check verbal reasoning, interpretation, perceptual reasoning, sequential reasoning, and problem solving. Many of these tests require choices and making a decision.

When people confront a social choice or decision making, they call on the neurocortical system, the evolutionary modern sector of the brain, which, as Damasio (1994) stated, “handles basic biological regulations . . . while up above the neocortex deliberates with wisdom and subtleties” (p. 128). In a study by Raine, Buchsbaum, and LaCasse (1997) performed on the brains of convicted murderers, the positron emission tomography (PET) scan found abnormalities in the prefrontal cortex, with an 11 percent reduction in the gray matter of the brain. These and other structural and functional abnormalities, especially in the frontal and temporal brain regions, have been found to be associated with violence, especially in those persons with a severe personality disorder—those most frequently involved in crime. Although these offenders are not clinically psychotic, their neuroimaging brain findings may show similarities to those found in psychotics. Thus, it can be opined that at times their sudden criminal acting out is basically psychotic in nature; that is also supported by underlying structural and functional disruptive activity of their brains. The changes found in persons with a personality disorder appear to be of the same quality but of somewhat less quantity than those found in schizophrenics. Although knowing the difference between right and wrong, many of these individuals cannot translate their knowledge into effective inhibitions (Goldberg, 2001).³ This appears to provide more evidence that personality disorders may be an early stage of psychotic illness. At the same time, the quality of personality disturbances probably influences the predisposition, manifestation, course and treatment of many *DSM-IV-TR* Axis I conditions. The previous discussion is important in the assessment of offenders suffering from personality disorders.

3. Goldberg (2001) asserted that a new legal construct, such as “the inability to guide one’s behavior despite the availability of requisite knowledge,” may better serve the individual with a dysfunctional frontal lobe in a court of law (p. 149).

NEUROIMAGING IN BORDERLINE PERSONALITY DISORDER

Various investigators have found that the impulsive aggression of persons diagnosed with a borderline personality disorder is most probably the consequence of a disruption of the emotional modulation circuits. These circuits include parts of the brain such as the anterior cingulate cortex (ACC), the orbital frontal cortex (OFC), the ventromedial prefrontal cortex (VMC), and the dorsolateral prefrontal cortex (DLPFC). The ACC and the OFC have extensive connections with the amygdala and it is thought that they are “involved in the evaluation of emotional stimuli, responses to conflict, regulation of emotional responses and play an inhibitory role in regulating the amygdala” (Goodman, Triebwasser, Shah & New, 2007, p. 101). The DLPFC, which integrates cognition with emotion to better control emotions, is neurophysiologically deficient in PET studies on persons with borderline personality disorder, just as in schizophrenia. Also, structural neuroimaging studies of the brains of patients suffering from borderline personality disorder show a significant reduction in volume of the right ACC and of the total frontal lobes, also as in schizophrenia. The finding of a reduced concentration of N-acetylaspartate of almost one-fifth (19%) supports a reduction of neuronal density in the DLPFC. The amygdala and the hippocampus are smaller in volume, as are the left OFC and the right ACC. Because of the magnetic resonance imaging (MRI) and functional magnetic resonance imaging (fMRI) findings, borderline personality disorder also is described as a hyperarousal-dyscontrol syndrome due to the lack of inhibitory control by the frontal lobe and the hyperactivity of the amygdala (Goodman et al., 2007). This is also referred to as a deficiency of the top-down control of negative emotions. In impulsive aggression by borderline personality disorder patients, there is an actual frontal disinhibition, and this finding is important in the assessment of their legal responsibility in alleged criminal acting out. A deficiency of the neurotransmitter serotonin, which controls the homeostasis of the brain, has also been reported in these persons.

Neuroimaging in Schizotypal Personality Disorder

The schizotypal personality disorder has a cognitive-perceptual disturbance similar to that found in schizophrenia. In this personality disorder, the activities of the prefrontal regions are reduced. On MRI examination, the lateral ventricles of the brain are sometimes found to have a larger volume and, when that is so, the schizotypal personality disorder is of greater severity. Other radioimaging findings are a larger right hippocampus and increased pointedness of the caudate nucleus (Goodman et al., 2007), which may interfere with memory and responsivity.

Neuroimaging in Antisocial Personality Disorder and Psychopathy

Neuroimaging findings in ASPD on MRI show that the prefrontal gray matter of the brain is diminished in volume (thinning) and the volume of the amygdala is decreased, especially when the level of psychopathy is high. On fMRI the activity of the amygdala, which is at the base of the brain, is at times decreased. Also, the amygdala, the PFC, and the DLPFC show dysfunction. One study found that in “criminal psychopaths, the fMRI showed decreased activity in the amygdala, hippocampal formation, parahippocampal gyrus, ventral striatum and anterior and posterior cingulated gyrus” (Goodman et al., 2007, p. 103), all of which are important for normal brain functioning.

CONCLUSION

It is possible that “neurocentrism” and the growing field of neuroimaging “profiling,” rather than adding clarity in the court room, may represent yet another pseudo-justificatory scientific explanation. This will need to be dealt with on a case by case basis due to the obvious lack of generalizability of neuroimaging studies (Schweitzer & Saks. 2011) and the not infrequent sampling bias. Furthermore there may well be epigenetic mechanisms underlying the observed anatomical differences and the so called “bad brain” may indeed be more related to nurture than to nature (Weaver, 2014). We are coming to understand how, in fact, environment and experience may impact on one’s genes and hence on phenotype. This in itself would lead one to seriously question much of contemporary biological and neuroanatomical certainties relevant to criminal behavior and its underlying purported responsible structural anomalies.

Nonetheless, in order to delineate the most comprehensive as possible picture of an offender in the context of a committed felony, alongside a thorough psychological assessment, particularly in the presence of commonly seen personality disorders, neuroradiological and neuropsychological investigations may add information as to the functioning of the brain structures responsible for behavior disinhibition which may indeed underlie, if not cause a propensity towards offending. Given the overrepresentation of disinhibition in offending behavior and in the personality disordered offender in particular, neuroimaging may prove useful as substantiating evidence in criminal court. However, its generalizability is far from realistic given the multi-factorial nature of human behavior, be this criminal or socially acceptable.

REFERENCES

- Abrahamsen, D. (1952). *Who are the guilty?* New York: Rinehart & Co.
- Alexander, F. (1948). *Fundamentals of psychoanalysis*. New York: W.W. Norton.
- Alexander, F., & Ross, H. (1952). *Dynamic psychiatry*. Chicago: University of Chicago Press.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders (DSM-5)*. Washington, DC
- Arieti, S. (1967). *The intrapsychic self*. New York: Basic Books.
- Arrigo, B., & Shipley, S. (2001). The confusion over psychopathy (I): Historical considerations. *International Journal of Offender Therapy and Comparative Criminology*, *45*, 325–344.
- Bennett, W. J., DiIulio, J. J., Jr., & Walters, J. P. (1996). *Body count*. New York: Simon & Schuster.
- Berrios, G. E. (1996). *The history of mental symptoms: Descriptive psychopathology since the nineteenth century*. New York, NY: Cambridge University Press, p. 109.
- Brittain, R. P. (1970). The sadistic murderer. *Medicine, Science and the Law*, *10*, 198–207.
- Bromberg, W. (1965). *Crime and the mind: A psychiatric analysis of crime and punishment*. New York: Macmillan.
- Bryant, E. T., Scott, M. L., & Golden, C. J. (1984). Neuropsychological deficits, learning disability, and violent behavior. *Journal of Consulting and Clinical Psychology*, *52*, 323–324.
- Cleckley, H. (1955). *The mask of sanity*. St. Louis: Mosby.
- Damasio, A. (1994). *Descartes' error: Emotion, reason, and the human brain*. New York: Penguin Books.
- Diamond, B. (1994). From M'Naghten to Currens, and beyond. In J. M. Quen (Ed.), *The psychiatrist in the courtroom: The selected papers of Bernard L. Diamond, M.D.* (pp. 249–266). Hillsdale, NJ: The Analytic Press.
- DiTullio, B. (1960). *Principi di criminologia clinica e psichiatria forense* [Principles of clinical criminology and forensic psychiatry]. Rome, Italy: Istituto di Medicina Sociale.
- Drogin, E. Y., Commons, M. L., Gutheil, T. G., Meyer, D. J., & Morris, D. M. (2012). "Certainty" and expert mental health opinions in legal proceedings. *International Journal of the Law and Psychiatry*, *35*, 348–353.
- Eysenck, H. J. (1970). Principles and methods of personality description, classification and diagnosis. In H. J. Eysenck (Ed.), *Readings in extraversion-intraversion, I. Theoretical and methodological issues* (Chapter 3). New York: Wiley-Interscience, p. 36.
- Fenichel, O. (1945). *The psychoanalytic theory of neurosis*. New York: Norton.
- Freud, S. (1960). *The ego and the id*. (F. Riviere, Trans.), J. Strachey (Ed.). New York: W. W. Norton & Company.
- Gemelli, A., & Zunini, G. (1949). *Introduzione alla psicologia* [Introduction to psychology]. Milan, Italy: Vita e Pensiero.
- Goldberg, E. (2001). *The executive brain: Frontal lobes and the civilized mind*. New York: Oxford University Press.

- Goodman, M., Triebwasser, J., Shah S., & New, A.S. (2007). Neuroimaging in personality disorders: Current concepts, findings, and implications. *Psychiatric Annals*, 37, 100–108.
- Grafman, J., Schwab, K., Warden, D., Pridgen, A., Brown, H.R., & Salazar, A. M. (1996). Frontal lobe injuries, violence and aggression: A report of the Vietnam head injury study. *Neurology*, 46, 1231–1238.
- Gunderson, J. G., & Singer, M. (1975). Defining borderline patients: An overview. *The American Journal of Psychiatry*, 132, 1–10.
- Guttmacher, M. S. (1972). The psychiatric approach to crime and correction. In D. Dressler (Ed.), *Readings in criminology and penology* (pp. 294–300). Glencoe, IL: The Free Press.
- Halleck, S. L. (1967). *Psychiatry and the dilemma of crime*. New York: Harper and Row/Hoeber Medical Books.
- Hare, R. D. (1993). *Without conscience: The disturbing world of the psychopaths among us*. New York: Pocket Books/Simon & Schuster.
- Hofer, P. (1988). Prisonization and recidivism: A psychological perspective. *International Journal of Offender Therapy and Comparative Criminology*, 32, 95–106.
- Kaplan, H. I., Sadock, B. J., & Grebb, J. A. (1994). *Kaplan and Sadock's Synopsis of psychiatry: Behavioral sciences/clinical psychiatry* (7th ed.). Baltimore: Williams & Wilkins.
- Kaufmann, W. (1974). *Nietzsche* (4th ed.). Princeton: Princeton University Press.
- Kernberg, O. F. (1992). *Aggression in personality disorders and perversions*. New Haven, CT: Yale University Press.
- Klein, M. (1935). A contribution to the psychogenesis of manic-depressive states. *International Journal of Psychoanalysis*, 16, 145–174.
- Koch, J. L. (1891). *Die psychopathischen mindwertigkeiten* [The psychopathic inferiorities]. Ravensburg, Germany:
- Kohut, H. (1971). The psychoanalytic study of the child. Monograph No. 4. In *The analysis of the self*. New York: International University Press.
- Kraepelin, E. (1915). *Psychiatrie: Ein lehrbuch* [Psychiatry: A textbook] (8th ed., Vol. 4). Leipzig, Germany: Barth.
- Lombroso, C. (1889). *Luomo delinquente* [The criminal man] (4th ed.). Torino, Italy: Bocca.
- MacCulloch, M. J., Snowden, P. R., Wood, P. J. W., & Mills, H. E. (1983). Sadistic fantasy, sadistic behaviour, and offending. *British Journal of Psychiatry*, 143, 20–29.
- Macdonald, J. M. (1961). *The murderer and his victim*. Springfield, IL: Charles C Thomas.
- Mahler, M. (1972). A study of the separation-individuation process. *Psychoanalytic Study Child*, 26, 403–424.
- Maudsley, H. (1898). *Responsibility in mental disease*. New York, D. Appleton and Co.
- Palermo, G. B. (2004). *The faces of violence* (2nd ed.). Springfield, IL: Charles C Thomas.
- Pauvert, J. J. (1965). *Vie du marquis de Sade*. Paris, France: Édition Jean-Jacques Pauvert et Éditions Gallinard.
- Muzaffar, S. (2011). Psychiatric evidence in criminal courts: The need for better understanding. *Medicine, Science and the Law*, 51(3), 141–145.

- Pinel, P. ([1901] 1962). *A treatise on insanity* (D. Davis, Trans.). New York: Hafner.
- Prentky, R. A., Burgess, A. W., Rokous, F., Lee, A., Hartman, C., Ressler, R., & Douglas, J. (1989). The presumptive role of fantasy in serial sexual homicide. *American Journal of Psychiatry*, *146*, 887–891.
- Prichard, J. C. (1835). *A treatise on insanity and other disorders affecting the mind*. London: Sherwood, Gilbert, and Piper.
- Raine, A., Buchsbaum, M., & LaCasse, L. (1997). Brain abnormalities in murderers indicated by positron emission tomography. *Biological Psychiatry*, *42*, 495–508.
- Redding, R. E. (2006). The brain disordered defendant: Neuroscience and legal insanity in the twenty-first century. *Villanova Public Law and Legal Theory Working Paper Series*, No. 2006-17 [Online]. Available: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=937349. Accessed March 21, 2008.
- Reich, W. [1972] (1990). *Character analysis* (V. R. Carfagno, Trans.) (3rd, enl. ed.). New York: Noonday Press.
- Rush, B. (1812). *Medical inquiries and observations upon the diseases of the mind*. Philadelphia: Kimber & Richardson.
- Sellin, T. (1972). Crime as violation of conduct norms. In D. Dressler (Ed.), *Readings in criminology and penology* (pp. 10–19). Glencoe, IL: The Free Press.
- Sheldon, W. H. (with S. S. Stevens). (1942). *The varieties of temperament: A psychology of constitutional differences*. New York: Harper & Brothers.
- Stoudemire, A. (1994). *Clinical psychiatry for medical students*. New York: Lippincott.
- Schweitzer, N. J., & Saks, M. J. (2011). Neuroimage evidence and the insanity defense. *Behavior Sciences and the Law*, *29*(4), 592–607.
- Tappan, P. (1947). Who is the criminal? *American Sociological Review*, *97*–102.
- Thomas, A., & Chess, S. (1977). *Temperament and development*. New York: Brunner/Mazel.
- Toch, H. (1969). *Violent men*. New York: Aldine.
- von Krafft-Ebing, R. (1922). *Psychopathis sexualis: With special reference to the antipathic sexual instinct. A medico-forensic study* (rev. ed.) (F. J. Rebman, Trans.). New York, Medical Art Agency.
- Warren, J. I., Hazelwood, R. R., & Dietz, P. E. (1996) The sexually sadistic serial killer. *Journal of Forensic Sciences*, *41*, 970–974.
- West L. (2013). *Personality disorder and serious further offending*. Nottingham: University of Nottingham.
- Wilson, J. Q., & Herrnstein, R. J. (1985). *Crime and human nature*. New York: Simon & Schuster.
- Winnicott, D. (2008). Accessed May 25, 2008. Available: <http://changingminds.org/disciplines/psychoanalysis/theorists/winnicott.htm/>
- Weaver, I. C. (2014). Integrating early life experience, gene expression, brain development, and emergent phenotypes: unraveling the thread of nature via nurture. *Advances in Genetics*, *86*, 277–307.

Chapter Three

PSYCHOPATHIC PERSONALITY: CONCEPT, DISORDER, DIAGNOSIS

LOUIS B. SCHLESINGER

Psychopathic personality as a concept and a disorder was first described by the nineteenth-century alienists (e.g., Prichard, 1835). Later on, psychoanalysts (e.g., Greenacre, 1945) and forensic psychiatrists (e.g., Cleckley, 1941) weighed in, and, by the mid-1980s, the beginning of an explosion of empirical research on the topic occurred—initiated by Hare’s (1980) work—which continues today. Notwithstanding the historical and time-honored importance of psychopathic personality as a concept and a disorder, it has never been an official ‘diagnosis’ and has never held a spot in any of the editions of the American Psychiatric Association’s Diagnostic and Statistical Manual of Mental Disorders or the World Health Organization’s International Classification of Diseases. However, two other constructs—sociopathic personality disorder and antisocial personality disorder—have been official diagnoses, and the differences among and uses of all these terms have remained unclear at best.

HISTORICAL EVOLUTION OF PSYCHOPATHIC PERSONALITY

Nineteenth-Century Alienists

One of the first to attract attention to a condition he termed ‘*moral insanity*’ or ‘*moral imbecility*’ was Prichard (1835). In his work with prisoners, he observed many who led lifelong criminal careers; yet, they had no mental illness at a psychotic level, and they were not intellectually disabled (mentally retarded). He questioned why these individuals constantly committed crimes and were repetitively arrested. Prichard concluded that they suffered from a mental disorder:

the intellectual functions appeared to have sustained little or no injury, while the disorder is manifested principally or alone in the state of feelings, temper, and habits. . . . The moral or active principles of the mind are strangely perverted or depraved; the power of self-government is lost or greatly impaired. . . . The individual is found to be incapable, not of talking or reasoning about any subject proposed to him, but of conducting himself with decency and propriety in the business of life. (pp. 20–21)

Thus, the concept of psychopathic personality and its connection to criminal behavior was born.

Krafft-Ebing (1886) described cases of individuals who were not treated in hospitals but who exhibited a complete lack of moral judgment, ethics, and behavior. Bianchi (1906) and Tanzi (1909) also studied and reported on similar individuals. In 1888, Koch coined the term '*constitutional psychopathic inferiority*'—essentially, he concluded that some individuals are basically "*born criminals*." He documented the histories of people who, from childhood to adulthood, constantly committed crimes and did not change, notwithstanding incarceration, punishment, and lack of success.

Twentieth Century Psychiatrists

In the early years of the twentieth century, Kraepelin (1913) discussed psychopathic states and psychopathic personality. He believed that sex offenders experience psychopathic states, as do nervous and despondent individuals, primarily liars and swindlers—behavior that Kraepelin believed has some connection to neurosis and psychosis.

Kahn (1931) defined an individual with a psychopathic personality as having inadequate social functioning caused by impulsivity and problems with temperament and character. He believed these individuals cannot contain an impulse because of their genetics and that they continue their self-defeating behavior throughout their lives. Noyes (1944) viewed psychopathic personality as a result of inadequacies and deviations in the personality structure. Such individuals, Noyes believed, are not overtly psychotic or intellectually disabled; rather, the disorder lies in the motivational, emotional, and characterological aspects of the personality.

Partridge (1928) considered psychopathic personality to be a result of a lack of socialization. He preferred the term '*sociopath*,' earlier referred to by Birnbaum (1914), who considered sociopathy to be a result of social learning and defective early environmental influences. Henderson (1947) used the concept of psychopathic personality to cover a wide range of problems such as general instability, explosiveness, and egocentricity. He considered some well-known historical figures to have been psychopathic.

In the mid-twentieth century, Revitch (1950) described his view of psychopathic personality, which centered on emotional immaturity. “Emotional immaturity is the basic characteristic of a psychopath. . . . [It involves the] inability to form deep feelings such as lasting friendships, love or for that matter, lasting deep hatred” (p. 3). Such immaturity is often manifested by histrionic displays, including unsuccessful suicide attempts to attract attention, escape unpleasant situations, or release of tension. Revitch believed that psychopaths can also experience anxiety, which was a controversial view at that time. He considered the etiology of psychopathy to be organic as well as psychological, referencing certain conditions in psychopaths such as head injuries, encephalitis, and abnormal electroencephalographs, which support the possibility of an underlying organic component. Guttmacher (1953) found that a psychopathic personality is “generally the result of affect starvation during the first years of life . . . plus sadistic treatment in early childhood” (p. 155).

The Mask of Sanity: The Landmark Work of Cleckley

Cleckley’s (1941) book *The Mask of Sanity*—which has gone through multiple editions (Cleckley, 1976, 1988)—is considered a landmark, in large part because of its content but also because of the iconic title itself. In essence, Cleckley believed that the psychopath appears normal on the surface, but the psychological disturbance essentially involves a lack of interpersonal bonding. This deficit is so significant that it approaches the level of a psychosis—not a psychosis in an overt sense (with hallucinations and delusions) but rather a major disruption of the personality structure that is at the same level as a psychosis.

I believe that the relative state of this outward appearance is not necessarily consistent with the degree to which the person is really affected by the essential disorder. An analogy is at hand if we compare the catatonic schizophrenic, with his obvious psychosis, to the impressively intelligent paranoid patient who outwardly is much more normal and may even appear better adjusted than the average person. The catatonic schizophrenic is more likely to recover and, despite his appearance, is often less seriously disordered than the paranoiac (Cleckley, 1976, pp. 191–192).

Cleckley believed that the observer of a psychopath is confronted with “a convincing mask of sanity” (p. 368). “All the outward features of this mask are intact. . . . The examiner never hits upon the chaos sometimes found on searching beneath the outer surface of a paranoid schizophrenic” (p. 368).

The diagnosis of psychopathy, in Cleckley’s view, is often difficult to make. “Only very slowly and by a complex estimation or judgment, based on a multitude of small impressions does the conviction come upon us that,

despite these intact rational processes, these normal emotional affirmations, and their consistent application in all directions, we are dealing here not with a complete man at all but with something that suggests a suddenly constructed reflex machine which can mimic the human personality perfectly” (p. 369).

Cleckley was uncertain as to the etiology of psychopathy. He believed that psychopaths are not at all overtly psychotic nor do they have a mental disorder in the traditional sense. But he was certain something is wrong with them. “If some practical means of controlling the psychopath can be devised, perhaps eventually, we might find his disorder to be not all together beyond our practice” (p. 446).

The 16 traits found in a psychopath that Cleckley (1976) described in his text include characteristics such as superficial charm, good intelligence, an absence of psychotic-like symptoms, an absence of nervousness, unreliability, untruthfulness, insincerity, lack of remorse or shame, poor judgment, and failure to learn by experience. He believed psychopaths are pathologically egocentric with an inability to love. They have shallow emotional reactions, lack insight, sometimes abuse substances, rarely make successful suicide attempts, and have an inability to follow a life plan, with their sexual lives being impersonal, trivial, and poorly integrated. It is also important to note that Cleckley believed the psychopath is different from the “ordinary criminal” (p. 261).

Psychoanalytic Contributions

Freud had little to say directly about psychopathic personality, but he did develop a theory of crime, in general, as emanating from a sense of guilt. “Paradoxical as it may sound, I must maintain that the sense of guilt was present before the misdeed, and that it did not arise from it, but conversely—the misdeed arose from the sense of guilt. These people might justly be described as criminals from a sense of guilt. The preexistence of the guilty feeling had of course been demonstrated by a whole set of manifestations and efforts” (Freud, 1915/1959, p. 332). In a more direct reference to what we might call psychopathic personality, Freud (1915) provided a description of individuals who commit crimes without any sense of guilt:

Among adult criminals, we must no doubt except those who commit crimes without any sense of guilt, who have either developed no moral inhibitions or who, in their conflict with society, consider themselves justified in their actions. But as regards the majority of other criminals, those for whom punitive measures are really designed, such a motivation for crime might very well be taken into consideration; it might throw light on some obscure

points in the psychology of the criminal, and furnish punishment with a new psychological basis. (p. 333)

Over the years, many psychoanalysts discussed criminality, including individuals with psychopathic traits, characteristics, and dynamics who were considered essentially untreatable from a psychoanalytic perspective. In fact, almost every psychoanalytic author from the 1930s (e.g., Levy, 1937) through to the present (e.g., Kernberg, 2004) has had something to say about psychopathy, criminality, and antisocial behavior. Karpman (1948)—one of the most notable psychoanalysts at the time—believed that individuals who had been diagnosed as having a psychopathic personality were really displaying a form of neurosis or schizophrenia. According to Karpman, true psychopathic personality is an inborn state, characterized by an inability to develop a conscience. After years of experience with such individuals, he concluded that there is no psychogenic cause for this condition. Accordingly, he preferred the term ‘*anethopathy*’ (instead of psychopathy) for what he considered the true psychopathic personality, in which, essentially, antisocial conduct is inborn as opposed to being a result of psychogenesis. Greenacre (1945) also directly discussed the deficit of conscience in a psychopath. She, like Karpman, noted that few psychoanalytic practitioners treat psychopaths because “they generally are not amenable to treatment, they pass from view fairly quickly and it is seldom possible to study them intensively” (p. 508).

Lindner (1944) asserted that psychopathy is a behavior disorder impacting the relationship of individuals to society. And their conflict with society, Lindner asserted, results from psychosexual immaturity. Lindner believed psychopaths never develop beyond the pregenital stage of psychosexual development; consequently, planning, perseverance, and other types of more mature behaviors are impossible for them.

Fenichel (1945), also writing during this time period, believed that individuals with psychopathic personalities are unable to achieve a goal or direct their behavior in a positive way. Instead, psychopaths behave to get rid of tension, like a child who has not learned to postpone gratification. Accordingly, Fenichel considered psychopathy to be essentially an impulse disorder. Other psychoanalysts, such as Levy (1937), obliquely referred to psychopathic personality as bordering on affect hunger, while Bowlby (1944) emphasized deficits in attachment.

One of the most prominent contemporary psychoanalytic thinkers with a view on psychopathy is found in the work of Meloy (1988), especially in his well-known text, *The Psychopathic Mind*. Meloy was one of the first to apply psychoanalytic object-relations theory to psychopathy, while integrating biological underpinnings as well. He relies heavily on the work of Kernberg (1975) concerning malignant narcissism. Meloy describes affective

versus predatory aggression, wherein the psychopath is most likely to become involved in predatory-type violence. And Meloy believes—contrary to the early and even more contemporary psychoanalytic theorists—that the psychopath can, in many instances, be treated psychotherapeutically.

PSYCHOPATHY AND THE *DIAGNOSTIC AND STATISTICAL MANUAL (DSM)*

Notwithstanding psychopathy being a focus of psychiatric, psychoanalytic, and psychodynamic literature for almost two hundred years, it has never been established as an official '*diagnosis*' in any of the five editions of the American Psychiatric Association's *Diagnostic and Statistical Manual*. Prior to the first edition of the *DSM* (1952), for about forty years a number of professional interest groups had attempted to establish standard diagnostic nomenclature. The early diagnostic systems—put forth by the Navy, the Veterans Administration, as well as the American Psychiatric Association—did refer to psychopathic personality, because it was prominently mentioned in the literature at that time. These attempts at classification are reviewed in the Foreword to the *DSM* (1952).

But in the first edition of the *DSM* (1952), psychopathic personality was not listed as an official diagnosis: sociopathic personality disturbance, antisocial reaction, and dissocial reaction were listed instead. These disorders were grouped under a general category of '*personality disorders*,' in which the individual's basic personality results in behavior that leads to maladjustment, in contrast to disorders that involve symptoms rather than behaviors. Personality disorders were "patterns of action or behavior" (p. 13). "In most instances, the [personality] disorder is manifested by a lifelong pattern of action or behavior, rather than by mental or emotional symptoms" (p. 34). Individuals with sociopathic trait disturbance "under stress may at times regress to a lower level of personality organization and function without development of psychosis" (p. 35). In other words, sociopathic trait disturbance could result in nonpsychotic disturbed and regressive behavior—that is, in extreme forms of violence.

Individuals diagnosed as having a sociopathic personality disturbance were considered "ill primarily in terms of society and of conformity with the prevailing cultural milieu" (p. 38). Individuals with an antisocial reaction were considered chronically antisocial, "always in trouble, profiting little from experience nor punishment, and maintaining no real loyalties to any person, group, or code" (p. 38). The latter group of individuals were previously classified as having a 'constitutional psychopathic state' and 'psychopathic personality' (p. 38). Individuals with sociopathic personality disturbance with a

dissocial reaction were defined as those who come into “conflict as a result of having lived their lives in an abnormal moral environment” (p. 38). Accordingly, they are essentially a result of the social environment in which they find themselves rather than of their own personality. Such individuals develop adherence to “values or a code of their own predatory, criminal, or other social group” (p. 38). The dissocial reaction includes other diagnoses such as “pseudosocial personality” and “psychopathic personality with asocial and amoral trends” (p. 38).

In the second edition of the *DSM* (1968), sociopathic personality disorder was dropped and was replaced by antisocial personality disorder: [These are individuals who are] basically “unsocialized and whose behavior pattern brings them repeatedly into conflict with society. . . . They are grossly selfish, callous, irresponsible, impulsive, and unable to feel guilt or learn from experience and punishment. Frustration tolerance is low. They tend to blame others or offer plausible rationalizations for their behavior” (p. 43). The *DSM-II* manual explained the change in terminology:

The subcategory sociopathic personality disturbance [noted in *DSM-I*] has been eliminated, and three of its subtypes, sexual deviation, alcoholism, and drug dependence, are listed separately in the *DSM-II* at the same higher level of organization as the major category personality disorders. Another subtype of sociopathic personality disturbance, the dissocial reaction, is listed in the *DSM-II* under conditions without manifest psychiatric disorder. Only one disorder from the *DSM-I* sociopathic group—antisocial reaction—remained in the personality category of *DSM-II*. (p. 123)

The *DSM-III* (1980) was a major departure from the two prior editions. The change is immediately noted visually by the size of the *DSM-III* (494 pages versus the pamphlet size of the first two editions). The purpose of a classification manual from the pre-*DSM* systems up to and including the *DSM-5*, is to objectify the criteria on which a diagnosis is based. *DSM-III* lists specific criteria for antisocial personality; the essential feature is “a history of continuous and chronic antisocial behavior in which the rights of others are violated, a persistence into adult life, a pattern of antisocial behavior that began before the age of 15, and failure to sustain good job performance over a period of several years” (p. 318). Specific associated features are levels of impairment, complications, predisposing factors, and a number of discreet symptoms and behaviors necessary for a diagnosis. The *DSM-5* (2013) also refers to conduct disorder (for children and adolescents) and adult antisocial behavior, which is not caused by a personality disorder but includes the behavior of “some professional thieves, racketeers, or dealers in illegal substances” (p. 332); noting that some individuals who engage in these behaviors are not necessarily lifelong criminals.

It is ironic that while psychopathic personality has never been an official diagnosis, it is used constantly, while sociopathic personality, which was an official diagnosis, is now used less frequently. In fact, Meloy (2001) considers sociopathic personality to be anachronistic. Hare (2006), however, notes that sociopathic personality and psychopathic personality are often used interchangeably. And a review of the recent scientific literature finds continued—but much less—use of the term sociopathic personality or sociopath (e.g., Black, 2013; Edens & Cox, 2012; King, 2014). Psychopathic personality and, to a much lesser extent, sociopathic personality have even become popularized, entering our common parlance in non-psychiatric literature, film, and the lay press as well.

EMPIRICAL FINDINGS

Assessment

Interest in the assessment, etiology, and management of individuals who engage in criminal behavior has been ongoing since the 1800s. That individuals who engage in criminal conduct do so as a result of various personality traits, characteristics and biological factors, in addition to social influences, has been universally accepted. The various methods used to assess the personality of those who engage in criminal conduct, apart from a free-form clinical interview, can be dated to the 1940s and the introduction of the Minnesota Multiphasic Personality Inventory (Hathaway & McKinley, 1940), particularly the psychopathic deviant (Pd) scale. Since the 1940s, many psychological tests and instruments have been developed, including rating scales and other indices, in an attempt to objectively assess an individual's tendency toward antisocial or criminal behaviors.

But not until Hare (1980) introduced the Psychopathy Checklist (PCL) and later the Psychopathy Checklist-Revised (PCL-R) (Hare, 1991)—based, in large part, on Cleckley's (1941) criteria of psychopathy—did empirical research on this topic explode. The primary reason is that Hare's instrument provided a numerical assessment of the extent of psychopathy in an individual, and numbers make empirical research much easier. The PCL and the PCL-R have been considered, by many, to be the gold standard for assessing psychopathy (Skeem, Polaschek, Patrick, & Lilienfeld, 2011). But as Litwack and Schlesinger (1999) point out, underneath the numbers is nothing more than a series of subjective or clinical impressions used to rate an individual on the various traits and characteristics that are listed: "An evaluator must make a clinical judgment regarding the extent to which the evaluatee manifests such traits as superficial charm, a grandiose sense of self-worth,

a lack of remorse or empathy, and conning and being manipulative. That is, obtaining a PCL-R score, even from file data, is not simply a ‘mechanical’ operation” (pp. 188–189).

Other scales, such as the Psychopathic Personality Inventory (Lilienfeld & Widows, 2005), have never achieved the widespread use as the PCL-R. The Psychopathic Personality Inventory is a self-report scale—as opposed to a clinician rater scale—which derives factors such as fearlessness, impulsivity, and cold-heartedness. The subjects essentially rate themselves on the various factors, and the overall score indicates the extent of psychopathy.

The research on the assessment of psychopathic personality is voluminous (Skeem et al., 2011) and covers just about every aspect of individuals who might engage in criminal behavior, including children, adolescents, and sex offenders. Scores on the various instruments, primarily the PCL-R, have been used to predict future violence, potential for rehabilitation, civil commitment, juvenile transfer decisions, and other serious legal/criminal justice determinations (Skeem et al., 2011). In fact, the presence of psychopathic traits has even been used to guide police interrogations (O’Toole, Logan, & Smith, 2012).

Etiology

Notwithstanding the debate and lack of general consensus on what constitutes psychopathy, and how to assess for the disorder, research has been extensive as to its cause. Although contemporary research has certainly been aided by empirical assessments like the PCL-R, research to understand differences between those individuals who repetitively commit crimes and those who do not can be traced back to the early work of Eysenck (1965, 1967), which demonstrated differences in arousal and temperament that were based, in part, on eye-blink reaction times. Extensive empirical investigation has indicated genetic factors (Glenn, Kurzban, & Raine, 2011), environmental factors (Patrick, 2005), neurological factors (Blair, 2003), biochemical factors (Glenn & Raine, 2008), and the like. Research based on biochemical markers is considered quite promising (e.g., Tikkanen et al., 2011); it attempts to pinpoint a specific abnormality that leads individuals to commit crime.

CASE REPORTS

The following cases illustrate some of the complex and controversial issues involved in understanding criminal behavior and in determining the value of each of the diagnostic categories—psychopathic, antisocial, and sociopathic personality disorders.

Case 1. Psychopathy and White-Collar Crime

A 35-year-old male was evaluated following his guilty plea for tax fraud. Prior to his arrest, A.A. had been investigated for over twenty years by the Internal Revenue Service (IRS). His multiple businesses were extensive and involved transfers of money between companies, foreign bank accounts, and the like. Notwithstanding his lavish lifestyle—expensive cars, yachts, mansions—he claimed on his tax filings that he earned no income.

A.A. was raised in a working-class community; he did not do well in school and only briefly attended a junior college. Not graduating from college bothered him his whole life. “It’s embarrassing. . . . I tell people I dropped outta college. I dropped out because I thought I was smarter than everybody. I tell them I went to college but I never mentioned it was a junior college. I knew I’d never work for anybody, so I said why do I need the sheepskin.” A.A. was married twice and had four young children with his second wife. He never had any mental health treatment but he did abuse alcohol for a period of time. There was one prior criminal charge involving failure to pay fuel tax, which was downgraded to a misdemeanor.

Beginning at around age twenty, A A. started his first in a string of businesses, almost all of which failed. He gave a long and complicated story about how all his companies wound up in bankruptcy. Business after business was started and went bankrupt, and taxes were not paid. In one business, he said, “I lost a million dollars a week. The bank seized the assets, I didn’t file bankruptcy. . . . I was always trying to swing to the fence to get a homerun and to be financially successful.” He knew that he was under investigation for about twenty years but approached the IRS in a combative way. “I didn’t get scared at all. I thought we had some type of working relationship. I even hired my former IRS agent—after he was indicted for tax evasion and a land-selling fraud—once he got outta prison. I shouldn’t have done it; they treated him like a cop that goes bad, but we parted ways and stayed friends.”

“I didn’t have enough money so I didn’t pay payroll taxes. I thought that was a civil issue. I wanted to hit the homerun and then I said [to myself] I would pay them. I knew it was wrong; I should have been paying the taxes. I shouldn’t have bought a big house, a Porsche, a yacht, and all that dumb stuff. . . . My number one concern was paying the employees. They were the squeaky wheel.”

The defendant described his view of authority. “I looked at authority differently than I should have. I looked at authority as being inept. I thought they were stupid and that I could not pay them and they wouldn’t do anything. They didn’t ask the right questions and they didn’t probe or push. It was the easy way out. . . . I thought I was smarter than everyone. I thought

I would outsmart people, especially authority. I pushed that way over the edge. I always took the approach that I'm smarter."

Notwithstanding A.A.'s self-assessment of his brilliance, he was not a particularly intelligent individual, as he had a full-scale IQ of 107.¹ Psychological testing showed some impulsive personality traits but certainly no evidence of any type of psychosis. The MMPI revealed a moderate level of depression with anxiety, as a result of his current legal predicament and his facing several years in prison. Traits of narcissism were obvious. He seemed to compensate for feelings of inadequacy by attempting to appear highly intelligent, super-successful, wealthy, and important; these attempts reflected not only feelings of inadequacy but immaturity as well.

Discussion. This offender falls within the psychopathic personality concept and disorder. He would not meet diagnostic criteria for antisocial personality disorder, as he did not persistently violate the rights of others since adolescence. The *DSM* diagnosis of narcissistic personality with immature traits was used because psychopathic personality is not an official diagnosis and it is not a good idea to use an unofficial diagnosis in court, since it can be argued that it is not generally accepted and does not meet the legal standard for the admissibility of scientific evidence (*Frye v. United States*, 1923; *Daubert v. Merrell Dow Pharmaceuticals*, 1993).

Interestingly, the evaluation took place around the same time that the notorious Bernard Madoff was arrested and charged with a multimillion dollar Ponzi scheme, wherein he defrauded numerous people and institutions of their savings (Henriques, 2011). A.A.'s psychopathic traits emerged clearly as he discussed the *Madoff* case. "If those people were stupid enough to give their money to Madoff, they deserved what they got. I don't blame him [Madoff]; he was feeding off their stupidity. He was smarter than them, but he got caught." Notwithstanding A.A.'s attempt to appear empathetic and sympathetic during the evaluation—as he knew the report would go to the judge for sentencing purposes—his real view of people and his complete lack of empathy and interpersonal bonding slipped out when discussing Madoff. This case supports Cleckley's (1976) observation years earlier that a diagnosis of psychopathy often takes time and is "based on a multitude of small impressions" (p. 369).

Case 2. Psychopathy and Serial Sexual Homicide

A 30-year-old-male was convicted of the murder of a 25-year-old woman, a 26-year-old woman and her two children, and two other women ages 40 and 62 (whom he confessed to killing although was not charged legally with

1. The numerical values for the 'average' IQ range are delineated by scores from 85 to 115.

their murder). B.B. killed all victims by manual strangulation after torturing and beating them. He hog-tied the women, raped them vaginally and anal, and made small cuts all over their bodies with a knife. The murders were thoroughly planned and were dominated by sadism.

The offender entered the women's homes naked, except for socks pulled over his sneakers. He shaved his entire body of all hair with the intent on not leaving any hair or fiber evidence at the crime scene. B.B. had studied criminal behavior and investigation by reading detective magazines and various books on forensic psychology and law enforcement in order to avoid detection and apprehension. The offender also poured alcohol into the vaginas and rectums of his victims. He did this because he thought alcohol would remove any trace evidence of DNA, an idea he said he got from watching the film *Presumed Innocent*, whose subplot involved the use of a spermicide. The offender reasoned that "doctors use alcohol prior to giving injections in order to eliminate germs." He did not know, however, that alcohol preserves semen rather than obliterating it, and a perfect DNA match was obtained.

B.B. had a history of torturing and killing cats as an adolescent and of lifelong manipulative behavior. He was narcissistic and had an enormous need for power and control not only through the murders but through his general interpersonal interactions with others. Raised in an intact family with middle-class values, B.B. was a career soldier but was expelled from the military because of his intimidation and exploitation of subordinates.

Discussion. This offender displayed distinct psychopathic traits throughout his life. However, contrary to what so many people profess in the popular media, his serial sexual killings were not a result of his being a psychopath. Psychopathy is not a cause of serial sexual murder (Schlesinger, 2004). Serial sexual murder is a result of an abnormal sexual-arousal pattern; however, psychopathic traits and related disorders such as narcissism do not significantly interfere with the individual's ability to plan. Accordingly, psychopathy is connected to serial sexual murder only insofar as it does not interfere in the offender's ability to plan the crimes, avoid detection, and accumulate a high number of victims. If an offender has a compulsion to kill—based on a fusion of sex and aggression—and he also has serious psychopathology such as borderline personality disorder or schizophrenia, his level of psychopathology can easily interfere with his ability to plan. He is likely to be apprehended quickly because he is acting without thought and is not concerned with detection. So many serial sexual murderers—particularly those with high numbers of victims—have psychopathic traits because psychopathy (or narcissistic personality) does not significantly interfere with the ability to plan and avoid apprehension. As a result, many in the popular media have incorrectly concluded that the cause of serial sexual murder is psychopathic personality, when nothing could be further from the truth.

Case 3. Antisocial Personality Disorder and Serial Sexual Murder

A 28-year-old male (C.C.) was evaluated after his arrest for the murder of a 42-year-old woman whom he stabbed multiple times. He was observed leaving the victim's apartment covered in blood. C.C. told the authorities that for the prior four days he had thought about stabbing the victim, and just before he carried out the act, he stabbed himself superficially in the stomach to see what it felt like. When he spotted the victim, C.C. grabbed her by the neck, stabbed her in the chest and stomach area, as well as under her chin. "I just kept cutting her. She tried to talk but she didn't; she couldn't talk." The offender also said to the police, "There was another girl there. I turned the corner, she was there. I was gonna get her too. I would've choked her because I didn't have the knife." He also said he had stabbed a male. "I hit him in the neck like three weeks ago." C.C. then admitted to killing yet another woman behind a restaurant but did not want to talk about that incident.

During these revelations, C.C. said to the police that he might as well tell them about yet another murder he committed in the parking lot of a shopping mall. He said he approached a young woman while she had her back to him as she was putting packages in the trunk of her car. He killed her by ligature strangulation and then posed the body with her pants pulled down.

C.C. grew up in an intact family; his father was a truck driver and his mother had a clerical job for a business. However, from around age 17 to 18, he lived on the street, as he had left home because he did not want to be told what to do. He was living in cars and on benches and staying at friends' homes, as well as at the homes of relatives. C.C. worked for several years loading trucks when he was an adolescent, but, as an adult, he only worked for less than a year at a restaurant.

The defendant had an extensive criminal record extending back to age 13. His juvenile offenses included theft, burglary, terroristic threats, trespassing, assault, and violation of probation. At 14 years old, he stabbed a classmate in school. "I stabbed him in the neck. It wasn't severe; I got suspended." The offender was also in juvenile detention centers for numerous offenses, as well as in residential homes. C.C.'s adult record included six felony convictions in two different states for offenses involving assault, terroristic threats, disorderly conduct, larceny, trespassing, robbery, burglary, criminal mischief, and aggravated manslaughter. He served time in county jails as well as state prison. He also had the distinction of being one of the few individuals to attempt to rob a police station. "I robbed a police station. They caught me buying drugs. They wanted me to set the people up. They got a drawer in the station where they [the police] kept their money. I came back to the police station, walked in, and went to the desk. An officer said, 'You

know where the office is.' I went upstairs; I kicked the door down, got the money, and got caught. I served 18 months in prison."

The offender also had numerous psychiatric hospitalizations, which he used primarily to get off the street and to have a place to stay. He knew that if he told the evaluation staff in the hospital emergency room that he wanted to commit suicide, they would admit him. He typically said he was hearing voices directing him to kill himself or to kill others. C.C. had a variety of incorrect diagnoses including paranoid schizophrenia and bipolar disorder, based on his untruthful self-reports.

The offender also spoke of his need for notoriety and admiration. He enjoyed having all his crimes covered in the newspapers. "It made me feel famous, a warped sense of reality. In the jail, it gives you notoriety. I came in the jail with notoriety. They labeled me a serial killer. I don't know why I liked it. The only attention I ever got in my life was when I done something wrong. So, I wanted attention. I wanted the attention and I got it."

C.C. had average intelligence and psychological testing showed no evidence of any structural disorganization such as schizophrenia or psychosis. Thematic Apperception Test (TAT) stories involved references to anger, power, sexual conflict, and violence and revealed some morbidly violent fantasies. For example, he said the following in response to one TAT card, "one guy is slicing open a guy. He's killing the dude. This young man has a fascination with death, to see how a body looks from the inside, to open it up. The same process they use for an autopsy. They open them up. There's no expression or emotion on his face. When he opened the chest cavity, the guy bled to death and the organs stopped functioning and he couldn't fulfill his fantasy to see how the organs work." The MMPI showed such an excessive exaggeration of psychopathology that the test was uninterpretable. Malingering was noted on the Miller Forensic Assessment of Symptoms Test (Miller, 2001), as well as on the Structured Interview of Reported Symptoms (Rogers, Bagby, & Dickens, 1992).

This offender had many of the behavior patterns of the compulsive, repetitive serial sexual murderer cited by Schlesinger (2004): a strong probability of a history of abuse, chronic lying and manipulation and repetitive acts of animal cruelty, particularly against cats. "I tied flares to cats. I would burn them. I used to watch my father clean rabbits, and I'd do it to the cats, what my father did to the rabbits, gut `em and skin `em. That's what my head was telling me to do. I shot a few dogs, I don't know why, right before I was incarcerated. They were my father's dogs; I shot `em." In addition, C.C. engaged in repetitive fire setting. "I set numerous fires, books, garbage cans, just to see the fire. The way it consumes stuff. Nothing can stop it; it was just fascinating."

Discussion. Using *DSM-5* criteria, C.C. falls squarely within the spectrum of severe antisocial personality disorders. He is not a psychopath, at least in the Cleckleyan sense. Typical characteristics such as superficial charm, lack of insight, and other traits of an individual who is smooth and whose abnormality is often missed or masked, were not found at all in this case. C.C. could be considered a psychopath only if we consider psychopathy and antisocial personality disorder to be equivalent, which they are not. This case is another good example of how psychopathic personality—or any other personality disorder—is not an explanation for serial sexual murder. In Case 1 and Case 2—which did involve psychopathy—the individuals’ disturbances would be difficult to diagnose without spending sufficient time with them and observing how their lack of interpersonal bonding slips out in interviews. In Case 3, however, the diagnosis is not at all difficult to make. C.C.’s conduct and behavior are grossly abnormal, with constant violation of the rights of others since early adolescence. And his behavior during the various murders was not well thought out at all. Instead, they involved crude antisocial and violent acts. It is obvious that the personality disturbance was not the cause of the murders, but it certainly affected the manner in which the murders were carried out.

Case 4. Sociopathic Personality Disorder and Murder

A 29-year-old male was charged along with two co-defendants in the murder of a woman. One of D.D.’s co-defendants got into an argument with the victim at a picnic, as she made some demeaning comments about him. He, along with D.D. and another individual also present at the picnic, took the woman to a remote area, sexually assaulted her, and then killed her by smashing her head with a rock. D.D. was the least involved offender in the murder and was greatly influenced by his two friends. When interviewed by the police the next day, D.D. implicated himself in the homicide stating that he essentially went along with his two friends, all high on drugs at the time.

The offender was raised in an intact family until early adolescence, when his parents divorced. He dropped out of high school and attended numerous drug-rehabilitation programs for a longstanding heroin addiction. D.D. held many jobs over the years but only for short periods of time, as he was usually fired for not showing up. He had no prior contacts with mental health professionals except for some evaluations while he was incarcerated or in substance-abuse programs. D.D. had an extensive arrest record beginning as a juvenile. All his arrests were in some way drug-related. And almost all his offenses—as a juvenile as well as an adult—occurred as a result of his involvement with various friends. Everyone he associated with was a drug addict

and all had extensive criminal records. He lived in a drug-infested and high-crime area.

Discussion. Using *DSM-5* diagnostic guideline criteria, we can see that D.D. falls within the spectrum of the antisocial personality disorders. However, a careful look at this case reveals that all his criminal activities were drug-related and occurred with his drug-addict friends and associates. He was an emotionally weak and inadequate individual who was greatly influenced by external social and environmental pressures. Diagnostically, psychopathic and antisocial personality disorder do not capture the motivational dynamics of his criminal behavior. The most appropriate diagnosis, in this case, is sociopathic personality. Hinsie and Campbell (1970) noted that a sociopath is one “who is ill in terms of society and social conformity—it does not include those whose behavior is symptomatic of a more primary personality disturbance” (p. 705). According to this criterion, people with a sociopathic personality would include heroin addicts who commit crimes for drug money and even those who are born into certain ‘crime families’ and become involved in organized crime (Schlesinger, 2001).

CONCLUSION

Psychopathic personality is a time-honored concept and disorder that has been discussed in the scientific literature for close to two hundred years. Psychopathic personality is used in risk assessments, parole and probation decisions, and other serious legal matters. The empirical research on psychopathic personality is voluminous, especially since the mid-1980s. Accordingly, there is no legitimate reason why psychopathic personality disorder should not be included in the next edition of the *Diagnostic and Statistical Manual* as an official diagnosis. The reasons for noninclusion are unclear; supposedly, they center on difficulty in operationally defining such traits as superficial charm, insincerity, and shallow emotions. But such difficulties are not an acceptable reason for lack of inclusion. In fact, Hare (1991) offers some guideline criteria for the various traits which are listed in the PCL-R manual.

Not including psychopathic personality in the *Diagnostic and Statistical Manual*—and relying solely on the diagnosis of antisocial personality disorder—demonstrates a clear lack of sophistication with respect to the complexities of criminal behavior and criminal conduct. Moreover, some criminal behavior is due to the influence of social pressure and environmental circumstances. This influence was noted in the *DSM-I*, and it certainly comports with the experience of almost all mental health professionals who regularly engage in forensic practice (Schlesinger, 2007, 2017). Accordingly, it

is unclear why sociopathic personality cannot also reclaim its place in the *Diagnostic and Statistical Manual*. Case 4 is a good example of criminal conduct that is a result—in large part—of environmental and social pressure and influences. Although not all drug addicts engage in crime, many do, and in Case 4 almost all of D.D.'s behavior, including the murder, was a result of external social/environmental influences. D.D.'s personality is not accurately captured by antisocial personality disorder or psychopathic personality disorder. Schlesinger (1980) noted distinctions between sociopathic, psychopathic, and antisocial personality disorders; these distinctions are real and legitimate and are not just an academic argument. It is difficult to understand why all three personality disorders cannot become official diagnoses. In addition to being accurate, their inclusion would encourage research and further our understanding of various types of criminal behavior and the different types of individuals who engage in such conduct.

The *Diagnostic and Statistical Manual* is not now, and has never been, a good diagnostic guideline for differentiating various forensic-related disorders (Schlesinger, 2007). Psychopathic personality as a concept and disorder has been around for almost two hundred years, with extensive empirical research, and it is used regularly in the criminal justice system to help make serious decisions. Sociopathic personality, based on the notion that some criminal behavior is a result of social and environmental influences, seems an obvious choice for inclusion also. Not including psychopathic and sociopathic personality disorders, along with antisocial personality disorder, in the *Diagnostic and Statistical Manual* has been a significant error that should be corrected.

REFERENCES

- American Psychiatric Association. (1952, 1968, 1980, 2013). *Diagnostic and statistical manual of mental disorders*. Washington, DC: Author.
- Bianchi, L. (1906). *A textbook of psychiatry*. London: Bailliere, Tindall & Cox.
- Birnbaum, K. (1914). *Die psychopathischen verbrecker* (2nd ed.). Leipzig: Thieme.
- Black, D. W. (2013). *Bad boys, bad men: Confronting antisocial personality disorder (sociopathy)*. New York: Oxford University Press.
- Blair, R. J. R. (2003). Neurobiological basis of psychopathy. *British Journal of Psychiatry*, 182, 5–7.
- Bowlby, J. (1944). Forty-four juvenile thieves: Their characters and home life. *International Journal of Psychoanalysis*, 25, 107–128.
- Cleckley, H. (1976/1988). *The mask of sanity* (5th ed.). St. Louis, MO: Mosby. (Original work published 1941).
- Daubert v. Merrell Dow Pharmaceuticals. 509 U.S. 579–601 (1993).

- Edens, J., & Cox, J. (2012). Examining the prevalence, role, and impact of evidence regarding antisocial personality, sociopathy and psychopathy in capital cases. *Behavioral Sciences and the Law*, *30*, 239–255.
- Eysenck, H. J. (1965). Extraversion and the acquisition of eyeblink and GSR conditioned responses. *Psychological Bulletin*, *63*, 258–270.
- Eysenck, H. J. (1967). *The biological basis of personality*. Springfield, IL: Charles C Thomas.
- Fenichel, O. (1945). *The psychoanalytic theory of neurosis*. New York: Norton.
- Freud, S. (1915/1959). Some character-types met with in psychoanalytic work. *Collected papers of Sigmund Freud* (Vol. 4, pp. 309–337) New York: Basic Books.
- Frye v. United States, 54 App.D.C. 46, 293 F. 1013 (1923).
- Glenn, A., Kurzban, R., & Raine, A. (2011). Evolutionary theory and psychopathy. *Aggression and Violent Behavior*, *16*, 371–380.
- Glenn, A., & Raine, A. (2008). The neurobiology of psychopathy. *Psychiatric Clinics of North America*, *31*, 463–475.
- Greenacre, P. (1945). Conscience in the psychopath. *American Journal of Orthopsychiatry*, *15*, 495–509.
- Guttmacher, M. S. (1953). Diagnosis and etiology of psychopathic personalities as perceived in our time. In P. Hoch & J. Zubin (Eds.), *Current problems in psychiatric diagnosis*. New York: Grune & Stratton.
- Hare, R. D. (1980). A research scale for the assessment of psychopathy in criminal populations. *Personality and Individual Differences*, *1*, 111–119.
- Hare, R. D. (1991). *Manual for the Hare Psychopathy Checklist—Revised*. Toronto: Multi-Health Systems.
- Hare, R. D. (2006). *Snakes in suits: When psychopaths go to work*. New York: Harper Collins.
- Hathaway, S. R., & McKinley, J. (1940). A multiphasic personality schedule: Constitution of the schedule. *Journal of Psychology*, *10*, 249–254.
- Henderson, D. K. (1947). *Psychopathic states*. New York: Norton.
- Henriques, D. (2011). *The wizard of lies: Bernie Madoff and the death of trust*. New York: St. Martin's Griffin.
- Hinsie, L. E., & Campbell, R. (1970). *Psychiatric dictionary* (4th ed.). New York: Oxford University Press.
- Kahn, E. (1931). *Psychopathie*. Berlin: Gruyter.
- Karpman, B. (1948). The myth of psychopathic personality. *American Journal of Psychiatry*, *104*, 523–534.
- Kernberg, O. (1975). *Borderline conditions and pathological narcissism*. New York: Jason Aronson.
- Kernberg, O. (2004). *Aggressivity, narcissism, and self-destructiveness in the psychotherapeutic relationship*. New Haven, CT: Yale University Press.
- King, A. R. (2014). Childhood physical abuse and sociopathy: Is this link magnified among first born children? *Journal of Aggression, Maltreatment & Trauma*, *23*, 963–981.
- Koch, J. L. (1888). *Psychopathic inferiorities*. Ravensburg, Germany: Dorn.
- Kraepelin, E. (1913). *Lecture on clinical psychiatry* (3rd ed.). New York: William Wood.

- Krafft-Ebing, R. (1886). *Psychopathia sexualis* (C. G. Chaddock, Trans.). Philadelphia: Davis.
- Levy, D. M. (1937). Primary affect hunger. *American Journal of Psychiatry*, *94*, 643–652.
- Lilienfeld, S., & Widows, M. R. (2005). *Psychopathic personality inventory—revised*. Odessa, FL: Psychological Assessment Resources.
- Lindner, R. M. (1944). *Rebel without a cause*. New York: Grune & Stratton.
- Litwack, T. R., & Schlesinger, L. B. (1999). Dangerousness risk assessments: Research, legal, and clinical considerations. In A. K. Hess & I. B. Weiner (Eds.), *Handbook of forensic psychology* (2nd ed., pp. 171–217). New York: Wiley.
- Meloy, J. R. (1988). *The psychopathic mind*. New York: Jason Aronson.
- Meloy, J. R. (Ed.). (2001). *The mark of Cain: Psychoanalytic insight and the psychopath*. Hillsdale, NJ: Analytic Press.
- Miller, H. A. (2001). *Miller forensic assessment of symptoms test*. Lutz, FL: Psychological Assessment Resources.
- Noyes, A. P. (1944). *Modern clinical psychiatry*. Philadelphia: Saunders.
- O’Toole, M. E., Logan, M., & Smith, S. (2012, July). Looking behind the mask: Implications for interviewing psychopaths. *FBI Law Enforcement Bulletin*, 14–19.
- Partridge, G. D. (1928). A study of cases of psychopathic personality. *American Journal of Psychiatry*, *7*, 953–974.
- Patrick, C. (2005). *Handbook of psychopathy*. New York: Guilford Press.
- Prichard, J. L. (1835). *A treatise on insanity and other disorders affecting the mind*. London: Sherwood, Gilbert & Pifer.
- Revitch, E. (1950). The concept of psychopathic personality. *Diseases of the Nervous System*, *11*, 1–4.
- Rogers, R., Bagby, R. M., & Dickens, S. (1992). *Structured interview of reported symptoms*. Lutz, FL: Psychological Assessment Resources.
- Schlesinger, L. B. (1980). Distinctions between psychopathic, sociopathic and anti-social personality disorders. *Psychological Reports*, *47*, 15–21.
- Schlesinger, L. B. (2001). The contract murderer: Patterns, characteristics and dynamics. *Journal of Forensic Sciences*, *46*, 1119–1123.
- Schlesinger, L. B. (2004). *Sexual murder: Catathymic and compulsive homicides*. Boca Raton, FL: CRC Press.
- Schlesinger, L. B. (Ed.). (2007). *Explorations in criminal psychopathology: Clinical syndromes with forensic implications* (2nd ed.). Springfield, IL: Charles C Thomas.
- Schlesinger, L. B. (Ed.). (2017). *Psychiatric aspects of criminal behavior: Collected papers of Eugene Revitch*. Springfield, IL: Charles C Thomas.
- Skeem, J., Polaschek, D., Patrick, C., & Lilienfeld, S. O. (2011). Psychopathic personality: Bridging the gap between scientific evidence and public policy. *Psychological Science in the Public Interest*, *12*, 95–162.
- Tanzi, E. (1909). *A textbook of mental diseases*. New York: Rebman.
- Tikkan, R., Auvinen-Lintunen, L., Ducci, F., Sjoberg, R., Goldman, D., Tilhonen, J., . . . Virkkunen, M. (2011). Psychopathy, PCL-R, and MADA genotype as predictors of violent reconvictions. *Psychiatry Research*, *185*, 382–386.
- World Health Organization. (2016). *International statistical classification of diseases and related health problems* (10th ed.). New York: Author.

Chapter Four

THE ROLE OF THE FORENSIC PSYCHOLOGIST

ANDREAS KAPARDIS AND GEORGIA PANAYIOTOU

Being admitted by a judge as an expert witness to testify in a trial confers status on a professional and his or her specialist scientific field. This chapter first considers forensic psychologists as expert witnesses in the court and then focuses on their role in the assessment of defendants and the impact of crime on victims. The earliest description of the role of expert evidence in common law courts is to be found in the case of *Buckley v. Rice Thomas* in 1554 (Freckelton & Selby, 2005).¹ One of the earliest psychologists to testify in a criminal trial was J. Varendonck in Belgium in about 1911 (Bartol & Bartol, 2004), but it was in 1921 that an American psychologist testified as an expert in a courtroom for the first time in 1921.² Lawyers' and other professionals' demands for expert evidence by psychologists have increased significantly since the 1980s, reflecting growing recognition that psychologists "have a unique contribution to make to judicial proceedings" (Gudjonsson, 1993). Although the specialization most involved in forensic psychology (in practice) is clinical psychology, other fields which show increasing involvement of psychologists as experts in English-speaking Western common law countries include confessions by suspects, battered woman syndrome, victim profile evidence, parental alienation syndrome, eyewitness testimony, and family law. In fact, with regard to family law, the British Psychological Society together with the Family Justice Council in 2016 provided psychologists as expert witnesses in the Family Courts in England and Wales with detailed guidance in the area of eyewitness identification, psychologists are seldom allowed to give expert evidence in the United Kingdom, Australia and New Zealand on matters such as the pro-

1. 1 Plowd 118 at 124; 75 ER E2 at 191. The first psychologist to testify in the U.S. at a civil trial was Karle Marbe in around 1911.

2. 88 W, Va 479, 107 SE 189 (1921)—cited by Bartol and Bartol (2004) p. 9.

cesses and limitations of memory and recognition, whereas the situation is significantly more liberal in the United States (Freckelton, 2013).

THE ROLE OF THE EXPERT WITNESS IN LAW

The role of witnesses in a civil or criminal trial is to state the facts as they have been directly observed by them. In other words, witnesses do not give their opinions. However, the law makes an exception to this basic rule in the case of an expert when a tribunal of fact decides that a specific issue calls for an expert witness because the particular expertise does not fall within the knowledge and experience of the judge or jury and a witness qualifies as an expert. In some jurisdictions (for example, the United States) an expert witness is allowed to also express an opinion on the ultimate issue, the very question that the tribunal itself has to answer.

The question of whether a witness is an expert is a question of fact for the judge to decide. A particular and special knowledge of a subject that has been acquired through scientific study or experience can qualify a witness as an expert (Cattermole, 1984). Haward (1981) identified four roles for forensic psychologists (using the term forensic in a broad sense) appearing as expert witnesses:³

Experimental: informing the court (1) about the state of knowledge relevant to some cognitive process or (2) carrying out an experiment directly relevant to the individual's case before the court.

Clinical: testifying, for example, on their assessment of a client's personality, IQ, neuropsychological functioning, mental state, or behavior.

Actuarial: in a civil case, for example, estimating the probability that a plaintiff claiming damages for a psychological deficit caused by someone's negligence could live on his or her own or be gainfully employed, or both.

Advisory: advising counsel before and during a trial about what questions to ask the other side's witnesses, including their expert witnesses.

Kraus and Sales (2001) used 208 psychology undergraduates as subjects and a Texas death penalty case involving the issue of dangerousness to investigate whether mock jurors are more influenced by clinical opinion expert testimony or actuarial expert testimony. They found that mock jurors weigh clinical expert opinion more heavily than they do actuarial expert testimony. However, because the authors of the study do not report any evidence concerning its external validity, their results should be treated with caution.

3. See Blau (2001) for a thorough text on the psychologist as expert witness in the United States.

Psychologists in the United States have been appearing as experts more frequently and in a larger range of cases than do their counterparts in other western English-speaking common law countries. Regarding the “hired gun” effect idea, a mock juror study by Cooper and Neuhaus (2000) used 140 jury eligible residents in New Jersey aged 18 to 72 years as subjects, and the legal case used involved the scientific issue of whether a chemical to which the plaintiff had been exposed was the immediate cause of his cancer. It was found that: (1) the experts who are highly paid for their testimony and testify frequently are perceived as “hired guns,” and (2) they are neither liked nor believed, especially if the expert testimony adduced is complex and cannot be easily processed.

In Western common law countries, expert witnesses testify for the side that has retained them and pays their fees. In contrast to this practice, in continental European jurisdictions expert witnesses are normally appointed by the court to assist the court. Cooper and Hall (2000) found that mock jurors sided with the court-appointed expert in every condition except when the expert favored a corporate defendant. Let us next look at expert testimony by a forensic psychologist in the United States but also, briefly, in England, Australia, New Zealand, and Canada for comparison purposes.

United States of America

As far as the courts’ criteria for admitting expert testimony is concerned, in the landmark decision in the case of *Frye v. United States* (1923), the District of Columbia Court of Appeals rejected (1) testimony by a lie-detector expert⁴ that the defendant was telling the truth when he denied having committed the alleged offence on the grounds that the scientific theory on which it was based was not generally accepted within the relevant professional community and (2) a request by the defense attorney that the lie-detector expert conduct his test in the jury’s presence. The decision in *Frye* made “general acceptance in the particular [scientific] field” (1923, p. 1014) the standard criterion for admitting expert testimony into courts. The *Federal Rules of Evidence* (FRE) were adopted by Congress in 1975 and included a modified standard for admitting expert testimony, namely that the scientific evidence proffered be relevant and reliable. The FRE and *Frye* standards continued to be applied by courts in the United States until 1993 when a landmark unanimous decision was handed down by the U.S. Supreme Court in *Daubert v. Merrell Dow Pharmaceuticals* (1993). According to the ruling in *Daubert*, the test for expert witnesses is “vigorous cross-examination, pre-

4. The expert concerned was William Marston, a pioneer in the use of the polygraph to detect lying.

sentation of contrary evidence, and careful instruction.”⁵ More specifically, the *Daubert* judgment stated, *inter alia*, that, “the subject of an expert’s testimony must be ‘scientific . . . knowledge’ . . . in order to qualify as ‘scientific knowledge,’ an inference or assertion must be derived by the scientific method” (p. 2795) and: “the criterion of the scientific status of a theory is its falsifiability, or refutability, or testability. . . . Another pertinent consideration is whether the theory or technique has been subjected to peer review and publication” (pp. 2796–2797).

The next significant Supreme Court decision was handed down in *General Electric Co. v. Joiner* (1997). The issue in that case was whether Joiner’s exposure over sixteen years to electrical transformer chemicals at work (The Water and Light Department of Thomasville in Georgia) contributed to his lung cancer even though he was a smoker. The trial judge excluded the testimony provided by Joiner’s expert witnesses on the grounds that it “did not rise above ‘subjective belief or unsupported speculation.’” In other words, the expert witness in *General Electric Co. v. Joiner* did not show the scientific link between his lung cancer and the exposure to chemicals. The appellate court reversed the trial judge’s decision, but the Supreme Court reversed it again, reinstating the trial judge’s exclusion, stating that the legal standard for allowing expert testimony to be put to the jury is the same as that which the relevant professional community uses (Gutheil & Stein, 2000).

The question of whether the *Daubert* guidelines apply to all forms of technical or otherwise specialized knowledge, or just scientific knowledge, was addressed by the U.S. Supreme Court in *Kumho Tire Co. v. Patrick Carmichael* (1999). *Kumho* concerned the expert testimony of an engineer testifying that a defective car tire caused a car accident. *Kumho* clarified that the *Daubert* analysis applies not only to scientific knowledge but also to scientific, technical, and otherwise specialized knowledge. The reader should note in this context that although the threesome of *Daubert*, *General Electric Co.*, and *Kumho* is the basis for federal courts in the United States deciding whether to admit expert testimony, according to Kassin, Tubb, Hosch, and Memon (2001), a large number of state courts continue to use the *Frye* standard of “general acceptance.” What, then, has been the impact of the three cases on judges and attorneys in the United States?

Krafka and colleagues (2002) carried out three questionnaire surveys (one each of federal judges in 1991 and 1998 and another of attorneys in 1999) and found that practices and beliefs changed regarding expert testimony in the wake of *Daubert* in 1993. More specifically, the clarification of the admissibility criteria has encouraged both judges and attorneys to scrutinize proffered testimony more actively. One third of judges admit expert

5. Quoted in Landsman (1995, p. 155).

evidence less frequently than were admitted before *Daubert*. There has been a reduction in the number of trials in which all of the proffered expert testimony has been allowed; judges hold more pretrial *Daubert*-like hearings than in the past. Attorneys increasingly scrutinize the qualifications of the experts they hire as well as file more motions to have the expert of the other side excluded. Finally, attorneys are more involved in preparing their expert's testimony. Krafka and coworkers (2002) also found that the *Daubert* and post-*Daubert* decisions have not affected the problems faced by judges (e.g., partisan experts) and attorneys (e.g., excessive fees charged by experts). Finally, Krafka et al's research suggests that judges limit or exclude expert testimony for the same reasons as in the past, namely for being irrelevant, because the expert witness is not qualified, or because the testimony will not assist the trier of fact (2002, p. 17). The findings of Krafka and colleagues, however, should be treated with caution because of the unrepresentativeness of their self-selected sample of judges.

Daubert, *Kumho*, and *General Electric Co.* assume that American judges are capable of making judgments about the scientific reliability and validity of proffered scientific evidence. Gatowski and coworkers (2001) surveyed a proportionate stratified random sample of state court judges and found that:

- Many of the judges surveyed did not possess the scientific literacy apparently required by *Daubert* in order to perform the "gate keeping" role defined in *Daubert*.
- Only 5 percent knew the meaning of the term "falsifiability" and only 4 percent knew the meaning of "error rate."
- There was little consensus about the relative importance of the *Daubert* guidelines, and judges emphasized they required more "general acceptance" as an admissibility criterion.
- Most did not apply judicial guidelines in differentiating between "scientific" and "nonscientific" expert evidence.

Gatowski and colleagues' findings are undoubtedly a cause for concern. Interestingly enough, Post-*Kumho* decisions such as *United States v. Plaza* (2002) show a preparedness by courts in the United States to admit expert testimony concerning a technique that may not be based on falsifiable theory but enjoys general acceptance within the community of its practitioners. In other words, American courts do not appear to adhere to a strict application of the *Daubert* criteria for admissibility of expert evidence as had been feared.

England and Wales

Until recently, British courts have been rather unenthusiastic about expert evidence by psychologists (Sheldon & McCleod, 1991), their approach better characterized as ‘benevolent acquiescence’ (Freckelton and Selby, 2013). The landmark decision in a provocation case *R. v. Turner* (1975) has meant that, unlike in the United States, expert testimony has had to surmount a rather difficult impediment to admissibility, namely the “common knowledge and experience” rule of evidence. This common law principle can be traced to the case of *Folkes v. Chadd* in 1782 in which Lord Mansfield ruled that an expert’s opinion is admissible if it provides the court with information that is likely to lie outside the common knowledge and experience of the jury. The gist of the *R. v. Turner* decision is that, until recently, the courts in England and Wales have adhered to the view that they do not need a psychologist’s or psychiatrist’s expert knowledge when it comes to psychological processes except when mental abnormality is involved.

Examination of English authorities since *R. v. Turner* shows that psychological evidence that is not abnormal or does not directly concern the defendant’s state of mind or the issue of intent has generally been excluded. However, there have been a number of encouraging decisions indicating greater readiness to admit psychological evidence (Thornton, 1995). The restrictive interpretation of the rule in *R. v. Turner* was relaxed by the Court of Appeal in the case of *R. v. Sally Loraine Emery* (and another) (1993) that concerned the admissibility of expert testimony about posttraumatic stress disorder (PTSD), learned helplessness, and the battered woman syndrome. The reader should note in this context that defense lawyers most often enlist the services of an expert to testify but in the battered woman syndrome an effort is made to strengthen the argument that their client was acting in self-defense.

According to Colman and Mackay (1995), “The effect of the Emery judgment therefore appears to open the door to psychological evidence in a far wider range than has hitherto been the case” (p. 264). In *Frost v. Chief Constable of the South Yorkshire Police* ([1997] 1 All ER 540) police officers sued for damages for psychiatric injury, claiming negligence on the part of the chief constable and senior police officers in crowd control arising out of the circumstances of the Hillsborough Stadium collapse as a result of which ninety-six spectators were crushed to death and approximately 730 were injured. It was claimed that the plaintiffs sustained psychiatric injury. The judgment in *Frost* showed a preparedness to extend the categories of compensability to include those in rescue efforts. More recently, in *R. v. Bowman* (2006), in addition to reiterating a list of duties owed to the court by an expert witness in a criminal trial as set out primarily⁶ in *R. v. Harris* and oth-

ers (2005), it adopted a less restrictive approach to the whole issue of expert testimony admissibility criteria than the U.S. Supreme Court in *Daubert* and post-*Daubert* decisions. The Court of Appeal emphasized the importance of a court having the benefit of developments in scientific thinking and techniques, even if such knowledge and techniques are still at the stage of hypothesis.

In recent years, courts in England have opened the door to a broader range of cases than would have been possible under the restrictive interpretation of the rule in *R. v. Turner*. The common knowledge rule itself, of course, has not been abandoned but has been interpreted more broadly than in *R. v. Turner*. Other examples in which the *R. v. Turner* rule was relaxed and courts have shown a readiness to admit expert evidence are in relation to psychological profiling evidence (see *Guilfoyle* [2001]; Kocsis & Palermo, 2016) and the psychological vulnerability of particular suspects to confess to a crime during police questioning (Gudjonsson, 2002).

Further evidence that courts in England and Wales are readier to admit expert evidence by psychologists on matters that do not fall within abnormal behavior is seen in the fact that well-known forensic psychologists have now testified as experts on a broad range of psycholegal issues in a number of cases (Kapardis, 2014).

Australia, New Zealand, and Canada

Drawing on Freckelton and Selby's (2013) book and Freckelton (2014) for this section, expert testimony by mental health professionals in Australian and New Zealand courts has been allowed for example, for sentencing, post-accident impairment, competence to stand trial, criminal responsibility, capacity to work, degree of mental retardation, trauma suffered by victims of crime, behavior of victims, insanity defense, operation of memory, trademark infringement and fraudulent advertising, causation of death as a result of mental state, custodial and access arrangements, and effects of discrimination. Interestingly enough, the existing precedent (*Johnson and Johnson*, unreported Full Court of Family Court of Australia, 7 July 1997) offers but limited support to the parental alienation syndrome (Freckelton & Selby, 2013). Evidence from mental health professionals has been disallowed on the working of memory (*R. v. Fong*, 1981; *R. v. Smith*, 1987); the typical behavior of children after they have been molested (*R. v. B*, 1987), the likelihood of a defendant having made a particular record of interview to the police (*Murphy v. R.*, 1989; Freckelton, 1990), and polygraph evidence (New

6. See also *The Ikarian Reefer* [1993] 2 Loyds Rep. 68. *R. v. Kai-Whitewind* [2005] All ER (D) 14 (May) that was also considered.

South Wales District Court in *R. v. Murray*, 1982; *Mallard v. The Queen*, 2003). Evidence that courts in Australia and New Zealand are readier to admit expert testimony by psychologists than allowed by a strict interpretation of the rule in *Turner* is to be found in the New Zealand case of *R. v. Taaka* [1982] 2 NZLR 1982 in which psychiatric evidence was admitted to show that the defendant had an ‘obsessively compulsive personality’ and in *R. v. Leilua* [1985] NZ Recent Law 118 pertaining to chronic post-traumatic stress disorder.

In Canada, the Supreme Court’s decisions⁷ in *R. v. Mohan* (1994) and in *R. v. J-L* (2000) “have opened the door to criminal profiling evidence” (Freckelton & Selby, 2013) but have disallowed evidence on the operation of memory and eyewitness identification in (see *R. v. M. (W)* (1997) 115 CCC (3d) 233, and *R. v. McCarthy* [1997] 117 CCC (3d) 385 respectively).

THE IMPACT OF EXPERT TESTIMONY BY PSYCHOLOGISTS

Testimony by an expert witness can have a significant effect on the outcome of a trial. The impact of an expert testifying in a real case in court can vary, of course, from the size of damages awarded in a civil suit, and jurors’ assessment of a witness’s reliability to a jury’s verdict in a criminal case and even the freeing of persons wrongly convicted and imprisoned for life. Drawing on Kraus and Sales’ (2001) discussion of the literature, researchers have reported that juror decision making is influenced if expert testimony is presented on the following issues:

- The fallibility of eyewitness identifications
- Clinical syndromes (for example, battered wife syndrome, rape trauma syndrome, child sexual abuse syndrome, and repressed memory syndrome)
- Insanity
- Future dangerousness of a defendant

Bornstein (2004) reported that in a personal injury case the expert witness had greater impact on mock jurors’ verdict when presenting anecdotal case histories than did experimental data and also that the expert’s perceived credibility correlated with the subject’s liability judgments. Experimental

7. See, also, the decisions in *R. v. Ranger* (2003) 178 CCC (3d) and *R. v. Clark* (2004) 182 CCC (ed) which mean that profiling experts may well be allowed to testify if they confine themselves to explaining to the court what the crime scene shows and how the crime was committed and not why they believe the defendant behaved in a particular way and what attributes the offender is likely to possess (Freckelton & Selby, 2013, p. 454).

simulation work on the battered woman syndrome has found that expert testimony correlates with verdict leniency, especially when mock jurors are told they are free to disregard the law if they believe a strict application of the law would result in an unjust verdict (Schuller and Rzepa, 2002).

Appearing as Experts

Poor evidence by forensic psychologists appearing as experts can be very damaging for psychologists in general, undermining the positive impact that psychologists can have on developments within the legal system, and can have a disastrous effect on individual cases, causing miscarriages of justice (Gudjonsson, 1993). For Gudjonsson, poor psychological evidence is testimony that does not inform and is misleading or incorrect. Furthermore, the characteristics of such poor evidence are “poor preparation, lack of knowledge and experience, low level of thoroughness, and inappropriate use or misinterpretation of test results” (p. 120). In fact, an identifiable trend toward expert witnesses, particularly including psychologists, being made more accountable both under regulatory and civil law is identifiable (see *General Medical Council v. Meadow* [2007] 1 All ER 1 (see Freckelton 2007). In *Jones v. Kaney* [2011] 2 AC 398 (see Freckelton and Selby, 2013) the Supreme Court of the United Kingdom took the next step and declined to allow a psychologist to rely on the doctrine of witness immunity after she had failed to apply her mind properly to issues relating to the mental state of a driver after a motor vehicle accident at a meeting with a psychiatrist that had been ordered by a judge prior to personal injury litigation. Fortunately, psychologists appearing as experts in courts, tribunals or oral hearings in England and Wales have the benefit of detailed guidance and procedure (see BPS, 2015)

Advice for forensic psychologists, like other expert witnesses,⁸ who wish to avoid the embarrassing and unpleasant experience of seeing their expert testimony being distorted and their professional reputation damaged, includes the following:

- Be very familiar with courtroom procedure, rules of evidence, and ways of presenting psychological data to a bench or a jury, and be aware of the conduct expected of an expert witness (Wardlaw, 1984).
- Have well-prepared reports and other evidence and, if inexperienced, undertake some training in how to best handle lawyers’ cross-examination (Carson, 1990; Nijboer, 1995).

8. See Freckelton and Selby (2005, p. 873–906) for detailed advice to expert witnesses by two very experienced and highly respected barristers.

- Stick to one's own area of expertise and be explicit and open (Nijboer, 1995).
- Be even-handed, objective and neutral (Freckelton & Selby, 2013).
- Retaining dignity and professionalism (Matson, 2012).
- American attorney Michael Lee⁹ lists the following top five mistakes expert witnesses make: (1) relying only on information provided by the lawyer, (2) forgetting that he or she is an advocate for his or her own opinions and methodology but not for the case itself, (3) putting too much in writing too soon and too casually, (4) being myopic, and (5) sounding too much like an "expert." Regarding cross-examination, Wardlaw (1984) lists a number of rules likely to prove helpful for the witness. These include:
 - Answer all questions and do not allow counsel for the other side to put words in your mouth. Do not make guesses and take as much time as you need to reply to questions.
 - If under attack, keep calm and avoid getting angry or unreasonably defensive.
 - Prepare for the cross-examination by trying to anticipate the questions by imagining that you are the one who is to cross-examine.

As already mentioned, a forensic psychologist who will testify in a court case must have a well-prepared report. Let us next focus on what forensic psychological assessment of crime suspects and defendants as well as victims entails.

THE ROLE OF FORENSIC PSYCHOLOGISTS IN THE ASSESSMENT OF CRIMINAL BEHAVIOR AND ITS IMPACT ON VICTIMS

Psychological assessment is one of the chief activities of clinical, forensic, and other applied psychologists. It involves a systematic and ongoing evaluation of the individual. The decisiveness of psychological expert opinion in these settings accentuates the need for applied psychologists to perform evaluations in an ethical, professional, thorough, and, as best as possible, empirically validated manner. The clinical or forensic psychologist may be called in to answer a variety of questions within forensic settings in order to aid legal decision makers through providing scientifically based information (Grisso, 1986). Questions posed to the psychologist include competency to stand trial, appropriate disposition, danger to self and others, possibility of malingering and so on. Assessment of a suspect's fitness to stand trial

9. Source <http://library.findlaw.com/2005/jul/22/186441.html>

may involve an evaluation of the client's cognitive ability (i.e., ability to understand the proceedings), mental status (state of consciousness, psychiatric symptoms that interfere with comprehension of the situation, sensory and perceptual deficits), and organic deficits or use of substances as well as emotional reactivity to certain events that may interfere with his or her judgement. In the case of victims of crime, the psychologist may be asked to determine the severity of the psychological impact of the crime and the degree of disability this may have caused. In both cases, the psychologist may have to judge, based on empirical evidence, whether the perpetrator or the victim is engaged in malingering (faking bad or faking good) for the purposes of securing a better outcome for himself or herself, a task that can prove challenging if appropriate scientific guidelines are not maintained (Rogers & Cruise, 2000). Thus, the role of the forensic psychologist is multifaceted, and the expert will need to rely on a wide array of tools in order to answer the referral questions.

The Process of Psychological Assessment in Forensic Settings

Psychological assessment involves several methods and stages. It almost always includes a clinical interview, often supplemented by the use of standardized tests, behavioral observations, life records, and less frequently the collection of biological and psychophysiological data. Assessment in forensic settings poses some special challenges. The assessment is often court ordered or requested by lawyers, which means that the individual involved may lack the motivation to be fully cooperative in disclosing personal information or presenting an accurate picture of his or her strengths and weaknesses. Limitations aside, the forensic psychologist continues to be ethically bound to carry out the evaluation in an objective manner, treat the subject with respect, and constantly keep in mind the benefit of the person and society in general (which are at times contradictory).

Assessment of Perpetrators of Violence

One of the primary goals of assessment is diagnosis and classification. Although most people with psychological and organic disorders are not violent and do not commit crimes, for those who do act violently, psychopathological processes or organic problems are often the driving force behind their behavior. Through a thorough assessment the clinician will be in a position to give an enlightened expert opinion to courts, direct the perpetrator to appropriate interventions, and help protect potential future victims.

The purpose of the psychological assessment of perpetrators is usually to: (1) gather information about the circumstances of the crime; (2) construct

a personality profile of the suspect or criminal in order to evaluate his or her potential for committing the crime, and the circumstance under which he or she could have reacted in the specific manner; (3) determine the probability of future danger to self and others; and (4) suggest the best-fitting rehabilitation setting if the suspect is judged to be responsible for the crime.

The Clinical Interview

As in every psychological assessment, the evaluation of a perpetrator or potentially violent client begins with a thorough clinical interview and history, which can be further informed with the use of archival information from previous psychiatric or police records and interviews with family members, former therapists, and others who know the client in various contexts. The clinical interview, in order to be informative, needs to be carried out in a context of rapport.

Once the ice has been broken, the clinician can proceed with gathering the essential components of the client's history, including the history of the present problem (violent or criminal behavior). Was the violent outbreak an atypical behavior that only occurred once or has there been a history of violent actions that happen under specific conditions or provocations or that escalate in predictable ways? As psychologists are well aware, previous behavior is the best predictor of future behavior, so uncovering a history of violence or criminality is crucial. What is the frequency, target, and precursor of violence? Is there a history of other impulsive or violent behavior such as suicide attempts, use of drugs, dangerous sexual activity, or criminality? Answers to these questions may help predict the likelihood of a future expression of violence as well as point to particular diagnostic hypotheses, such as a brief psychotic episode versus a personality disorder. A developmental, medical, social and family history is also essential. Taking the client's history helps form initial diagnostic hypotheses that will then be evaluated through further testing and more targeted interviews. It also allows the client to tell his or her story and the clinician to demonstrate interest, thus further helping to build rapport. Clinical interviews can then extend to family members, employers, or others who know the client (with the client's consent or with a court order) in order to validate and supplement the information gathered and to better understand the family and social context in which the person routinely functions.

Mental Status Examination

The mental status examination is an essential component of assessment, particularly when competency to stand trial or ability to be aware of the con-

sequences of one's actions at the time the criminal act was committed are in question. Some of the information required in this examination will already be obtained through the history interview; the clinician will be able to see if the client is currently oriented, fully conscious, or blatantly psychotic. Richness of vocabulary, long-term memory, concentration, and organization of thought will also usually be apparent through the interview, although specific questions are included in standardized mental status exams to assess these processes (e.g., Folstein, Folstein, & McHugh, 1975). Many organic disorders manifest with impairments in cognitive and affective processes, consciousness and overt behavior. Patients who are in delirium, caused by intoxication, withdrawal from substances, or another medical condition, may be disoriented, demonstrate perceptual and memory disturbances, and show psychomotor agitation (American Psychiatric Association [APA], 2013). Patients with dementia may also occasionally be violent because of paranoid ideas or increased frustration due to realization of their cognitive deterioration. Most importantly, in the context of the mental status exam, the clinician should determine if the client is under the influence of a psychotropic substance or undergoing withdrawal symptoms, because it is often the case that violence and criminal behavior happen during intoxication or in association with the turmoil caused by withdrawal (Haggard-Grann, Hallqvist, Langstrom & Moller, 2006).

Diagnostic Interviews

Diagnostic interviews usually attempt to identify the presence of symptoms as listed in formal taxonomic systems such as the *Diagnostic and Statistical Manual* (5th ed.; APA, 2013) (*DSM-5*) or *International Classification of Diseases* (10th ed.) (*ICD-10*). To aid in this process, several structured and semi-structured interviews have been developed that include standardized questions that assess the presence and severity of the criteria required for a diagnosis. Commonly used structured interviews include the SCID, SCIDII (Spitzer, Williams, Gibbon & First, 1992) and ADIS-R/ADIS-IV (DiNardo & Barlow, 1988). The purpose of diagnostic interviews is to verify or rule out hypotheses regarding the presence of certain disorders sometimes associated with violence. Such disorders include schizophrenia, schizophrenia spectrum and other psychotic disorders, mood disorders, personality disorders, disruptive behavior disorders, and mental retardation. Reaching the appropriate diagnosis will help determine the appropriate disposition for the forensic client and suggest specific circumstances under which violence may take place. Arriving at a formal diagnosis is crucial in cases in which a suspect may plead insanity or in which mitigating factors are sought for criminal behavior. Diagnosis is also important when trying to predict how a con-

victed criminal will cope with confinement and with interactions with others within the correctional or rehabilitation facility.

Among children and adolescents who have engaged in violent or criminal behavior the most common diagnoses are oppositional defiant disorder and conduct disorder (Barkley, 1997). Dissociative identity disorder and other dissociative disorders are rare and intriguing conditions that have sometimes been implicated in criminal behavior, or at least have been called for in the context of insanity pleas (Orne, Dinges & Orne, 1984).

DSM-5 personality disorders also need to be assessed since the presence of either such a long standing disorder or of intellectual disability may also have contributed to criminal behavior etiologically. Although patients with intellectual disability or low cognitive ability are not typically violent or aggressive, low IQ may be associated with low tolerance for frustration, poor judgment, and lack of coping and verbal skills for solving problems and resisting provocations. When there is a suspicion that low IQ may be implicated in violence, formal testing with tests like the WAIS-IV and evaluation of functional skills is in order.

Assessment of Antisocial Personality Disorder and Psychopathy

People commit crimes or engage in violent behaviors for a multitude of reasons that will need to be uncovered. A group of individuals who are at high risk for repetitively engaging in criminal and violent behavior, who show little remorse for their actions and are therefore poor candidates for rehabilitation, are those often described as psychopaths or individuals with antisocial personality disorder (APD) (APA, 2013). Many adults with APD were diagnosed with conduct disorder or oppositional defiant disorder, or both as children (Robins, 1978) and, therefore, show long histories of rule violations and aggression against others.

APD is similar but by no means identical to a diagnostic category that is not listed in the *DSM-5*—namely, psychopathic personality. In an early description Cleckley (1941) described the psychopathic personality as someone who was egocentric; deceitful; shallow; manipulative; and lacking in empathy, guilt, and remorse. This description focuses on personality characteristics rather than overt behavior, highlighting the motivating factors behind criminal acts. As Hare (1993) described psychopaths, they are people who “charm, manipulate and ruthlessly plow their way through life,” selfishly disregarding the rights and happiness of others. The psychopath looks out for himself or herself, seems to lack a conscience, and shows little empathy toward the pain of others. More recent versions of the *DSM* (*DSM-III*, *DSM-IV*, *DSM-5*) base their diagnostic criteria for APD on much more behavioral and observable terms (Hare, 1983). The rationale for this change is that per-

sonality traits are often hard to measure and are unreliable, whereas the presence of overt behaviors is easier for clinicians to agree upon.

In addition, the focus on observable behavior aids in the attempt made in the recent versions of the *DSM* to maintain an atheoretical approach to diagnosis. Thus, APD, as it is recently conceptualized, is not identical to psychopathic personality, and this discrepancy has fueled many debates in the scientific literature. Most psychopaths meet the criteria for APD, but most people with APD are not psychopaths. Many APD individuals do have the ability to feel guilt and loyalty and may demonstrate this through their allegiance to gangs and other groups and subcultures. Similarly, a substantial percentage of people with APD and psychopathy will not demonstrate criminal behavior, or at least will not be “caught” and have contact with the legal system. In fact, many psychopaths function well in society, holding prominent roles in politics or business, putting their egocentric traits in the service of acquiring them high positions of power and personal achievement. According to Hart and Hare (1997), a diagnosis of APD does not have good predictive power for future recidivism, whereas psychopathic offenders are three to four times more likely to reoffend. APD can be diagnosed through structured and unstructured interviews that reflect the criteria of the taxonomic system; psychopathy can be assessed through the use of standardized and well-validated psychometric tests.

The Psychopathy Checklist and its twenty-item revised version (PCL-R) (Hare, 1991) have evolved into the golden standard for the assessment of psychopathy and rely on interviews and archival data. Factor analytic results (Cooke & Michie, 2001) yield a three-factor structure of (1) arrogant and deceitful interpersonal style, (2) deficient affective experience, and (3) impulsive and irresponsible behavioral style. Both the two- and three-factor structures have received empirical validation by showing reliable associations with other personality constructs and actual criminal behavior. For instance, the third factor has shown good predictive validity for frequency and severity of arrest and crimes against property, whereas the second factor predicts violence and crimes against people (Hall, Benning & Patrick, 2004).

A self-report measure of psychopathy is the Psychopathic Personality Inventory (PPI) (Lilienfeld & Andrews 1996), which seeks to overcome the common problems associated with self-report measures in this field that have to do with the potential for dishonest responding and lack of validity scales. The PPI contains eight subscales and four validity scales; factor analytical findings reveal that the same two dominant factors previously found in the PCL (affective-interpersonal and social deviance) can also be extracted (Patrick, 1995). This evidence supports the view that the two constructs supported by the factors are indeed valid aspects of psychopathic personality. To reconcile theories regarding the main aspects of psychopathic per-

sonality, the Triarchic Psychopathy Measure (TriPM; Patrick, 2010) was developed more recently, based on a model suggesting that the trait is characterized by three core phenotypic dispositions, namely disinhibition, boldness, and meanness.

In addition to trait-specific tests, even more specific variants of psychopathy can be traced in an individual through a thorough assessment that includes widely used global measures of personality such as the Minnesota Multiphasic Personality Inventory-2 (MMPI-2), MPQ and NEO-PI-R (Benning et al., 2005). Furthermore, assessment can be supplemented, and information can be extracted through trait-specific tests that may appear less threatening and less likely to be faked by the respondent. These can include measures of traits conceptually associated with the core characteristics of psychopathy such as impulsivity (measured with Barratt Impulsiveness Scale-11 for example; Barratt & Slaughter, 1998), sensation seeking (Sensation Seeking Scale; Zuckerman, 1994), low agreeableness and conscientiousness measured with the NEO-PI-R, and high sensitivity to rewards, low sensitivity to punishment measured with the SPSRQ (Torrubia, Avila, Molto & Caseras, 2001).

Several indexes of the MMPI-2, perhaps the most commonly used measure of personality, can be used to make inferences regarding the presence of psychopathy and APD. Sellbom, Ben-Porath, Lilienfeld, Patrick, and Graham (2005) argue that other MMPI scales can be used to supplement the evidence from Scales 4 and 9. Such relevant MMPI-2 scales include the newly developed Restructured Clinical Scales (4, 9). In fact, Sellbom, Ben-Porath, Lilienfeld, Patrick and Graham (2005) found that the optimal predictors of psychopathy were RC4 and RC9 for measurement of social deviance, coupled with low scores on RC7 (anxiety) and RC3 (depression) that tap into the interpersonal-affective characteristics (see also Sellbom, Ben-Porath & Stafford, 2007).

Of special concern is the assessment of psychopathy among juvenile offenders. Several rating scales and self-report measures exist for children and adolescents including the Psychopathy Checklist: Youth Version (Forth, Hart & Hare, 1990), Psychopathic Screening Device (Frick & Hare, 2002), Child Psychopathy Scale (Lynam, 1997), MMPI-A, and others. Evidence exists that all of these measures correlate significantly with other indicators of aggressive behavior and predict at least to some degree recidivism for violent crimes over a short period (Brandt, Kennedy, Patrick & Curtin, 1997). A critical feature to assess pertains to youth who meet criteria for Conduct Disorder, a precursor of adult Antisocial Personality Disorder. In *DSM-5*, the presence of a specifier needs to be evaluated corresponding to Low Prosocial Emotions, typically operationalized as the presence of Callous Unemotional

Traits. These traits are considered as developmental precursors of adult psychopathy and their presence is associated with worse prognosis and more severe antisociality, particularly with more premeditated and “cold-blooded” types of aggression (Fanti, Panayiotou, Lazarou, Michael & Georgiou, 2015).

Finally, another useful tool in the hands of the clinician who assesses for the presence of psychopathy and antisocial traits is psychophysiological assessment. This is not used very frequently because it is time consuming and costly, but as the neurosciences develop and psychology evolves into a health science, the validity of these measures, due to their objectivity and non-reliance on self-report, may make them an attractive addition to the process of assessment. With further research into their validity, psychophysiological indexes can become valuable in the assessment of psychopathy because of their ability to tap into basic motivational systems and their relative resilience to faking. Evidence as of now is most supportive of findings that low resting heart rate may be a distinct marker of antisocial behavior in youth (Ortiz and Raine, 2004), while reduced startle reflex potentiation to fear and other negative emotion may characterize both youth and adults with psychopathic traits (Fanti et al., 2015; Patrick, 1994). Among individuals with callous-unemotional traits, reduced facial electromyographic response to negative contexts (e.g., others’ sadness) at the corrugator (frown) muscle, has also received empirical support (Fanti, Panayiotou, Lombardo & Kyranides, 2016).

Assessment of Malingering

Both perpetrators of crime and victims may have reasons to fake good or fake bad in the process of assessment. It is important for the forensic psychologist to use every available tool for assessing the possibility of malingering. In this context, observation of the behavior and emotional reactions of the interviewee who is lying, and noticing inconsistencies in stories, erroneous descriptions of symptoms and symptom clusters, and exaggerated symptomatology can be important strategies (Palermo, Perracuti & Palermo, 1996) that can be supplemented with the use of valid psychometric tests.

A standard way of assessing malingering involves the validity scales of psychometric tests, such as the traditional F, K, and L scales of the MMPI-2. A T score of 100 on the F scale of the MMPI-2 has often been used to identify with good success (95–100%) those research subjects who have been asked to fake bad, but there was less predictive accuracy in forensic populations (Austin, 1992; Roman, Tuley, Villanueva & Mitchell, 1990). The F-K index and Obvious-Subtle scales are other frequently used tools that may, however, be less discriminating than is the F scale alone.

LEGAL AND ETHICAL ISSUES IN THE ASSESSMENT OF CRIMINAL AND VIOLENT BEHAVIOR

When dealing with suspects of crime or clients who have demonstrated violent behavior, the clinician is often faced with various ethical challenges. In all cases the clinician's best bet is to follow closely the regulations of the ethical code by which he or she abides and to consult with colleagues and supervisors when in doubt. Peer consultation is also important because the constant contact of a forensic clinician with crime and violence may quickly lead to burnout, which alone can lead to suboptimal professional practice and compromise the services offered to clients.

Assessment of Victims of Violence

The role of the clinician should be guided by similar ethical and professional principles when assessing victims, for which assessment questions are somewhat different. Victims of violent crimes require assessment in forensic settings in order to verify the claim that the crime was committed, evaluate the degree of damage, and propose corrective measures required to remedy the situation. Among persons who have experienced sexual or physical abuse, or both, for instance, common outcomes may include anxiety (panic, generalized anxiety disorder, phobias), depression, low self-esteem, somatization, dissociation, and sexual and relationship problems (Briere & Jordan, 2004). For abused children, the possibility of becoming abusers themselves is also a possible outcome. The most common diagnoses, particularly when the traumatic event was life threatening or severe involves PTSD or acute stress disorder (diagnosed within the first month after the event).

PTSD occurs when a person has experienced or witnessed an event or felt threatened by experiencing an event such as "exposure to actual or threatened death, serious injury, or sexual violence" (APA, 2013). It includes symptoms of re-experiencing the event, such as intrusive recollections, dreams, or flashbacks; intense psychological distress and physiological reactivity when in contact with stimuli that are reminiscent of the traumatic event; avoidance of stimuli associated with the trauma; and general numbing or restriction of emotional experience that may impair relationships and intimacy. Increased startle response is a strong indicator of PTSD, bringing to the forefront psycho-physiological methods of assessment as an important auxiliary to more traditional approaches. Not all persons who have experienced violence or other major traumatic events develop PTSD, which testifies to the power of human resiliency.

Other taxonomic categories that are used with declining frequency for female victims of violence include the rape trauma syndrome (Burgess & Hol-

strom, 1974) and battered woman syndrome (Walker, 1984). In part, the reason why these constructs are now less in use is that they have not showed good discriminant validity, because the symptoms are not specific to the conditions described (i.e., raped and battered women) or even to recent victimization. Rather, the PTSD taxonomy is usually preferred because it is encompassing for many types of trauma and symptoms. It may not represent the full range of psychological problems faced by victims, however. As mentioned earlier, many other disorders are instigated by exposure to trauma, and particularly to criminal behavior that is viewed as uncontrollable. A woman who has been victimized may suffer depression as a result of her perceived helplessness (Seligman, 1975) and the loss of her ability to feel safe. Dissociative disorders are often the outcome of severe and repeated victimization of children in as high as 95 percent of cases (Ross, 1997). Dissociation is one of the symptoms of PTSD, and dissociative disorders, such as dissociative identity disorder, may represent a special case of the same disorder with these symptoms as its dominant manifestation. The multiplicity of symptoms that can arise from trauma necessitates a global assessment on the part of the psychologist.

In addition to assessing current response to trauma, it is important for the clinician to assess various other situational and person-specific characteristics because they modify the response to violence. Many victims of abuse, particularly women, have had a history of childhood physical or sexual abuse (Stermac, Reist, Addison & Millar 2002), and this may magnify the impact of the recent victimization experience. Additionally, the interpretation of the violent event by the victim and his or her reaction to it is important in determining the development and degree of symptomatology because a response that includes terror, dissociation and a sense of helplessness is associated with worse psychological symptoms (Bernat, Ronfeldt, Calhoun & Arias, 1998). Thus, many factors make the response of the victim rather idiosyncratic, calling for personalized assessment and treatment. In the assessment package, broad measures of symptomatology and personality should be included, such as the MMPI-2 and the Symptom Checklist-90 or Brief Symptom Inventory (Derogatis, 1983) to determine the range of symptoms and personality characteristics that may determine prognosis and response to trauma. Symptom-specific measures of PTSD such as the Post-traumatic Stress Diagnostic Scale (Foa, 1995), can then be used, along with structured diagnostic interviews such as the ADIS-IV, to determine the presence of PTSD and other Trauma and Stress-Related disorders (APA, 2013). At a behavioral level, fear hierarchies of situations and stimuli that provoke anxiety and PTSD symptoms (flashbacks, startle response, numbness) should be constructed using ratings of Subjective Units of Distress (SUDS). These hierarchies can then be used in the context of systematic desensitization, and declining levels of distress can be continually assessed after repeated, grad-

uated exposures. Modern developments in this area make use of technologies such as Virtual Reality to recreate situations that resemble the initial traumatic context, without re-traumatizing the patient (Beidel et al., 2017). Because of the risk of re-traumatization, it is recommended that care must be taken by the clinician when assessing and treating trauma victims by the use of empirically validated methods, well-adapted to the needs of the individual.

CONCLUSION

The courts in the United States, Canada, England, Australia, and New Zealand have opened the door to psychologists to testify as expert witnesses. In a number of areas (e.g., psychological research on hypnosis; child abuse witness credibility, unless the syndrome evidence has been framed as a medical condition; and the polygraph), the courts have disallowed such evidence (Freckelton & Selby, 2013). Psychologists as expert witnesses in English-speaking common law countries have appeared in cases involving child sexual abuse, child custody cases, the battered woman syndrome, eyewitness testimony, PTSD, profiling, and false confessions.

The significance of the U.S. Supreme Court's important judgments in *General Electric Co. v. Joiner* and *Kumho*, which followed in the wake of the *Daubert* decision in 1993, depend on the ability of American judges to understand and implement crucial concepts in *Daubert*, but empirical evidence points to the contrary for most of the American judiciary. Post-*Kumho* decisions such as *United States v. Plaza* (2002) show a preparedness by courts in the United States to admit expert testimony concerning a technique that may not be based on falsifiable theory but enjoys general acceptance within the community of its practitioners. In other words, American courts do not appear to adhere to a strict application of the *Daubert* criteria for admissibility of expert evidence as had been suspected. In England and Wales, further relaxation of the *R. v. Turner* rule is evidenced in the Court of Appeal's admitting in a number of cases expert testimony by forensic psychologists on a defendant's psychological vulnerability (i.e., his or her suggestibility) to make a false confession to the police while in custody. Additional evidence can be found in the same court's decision in *R. v. Bowman* that the court should have the benefit of any development in scientific thinking, including expert testimony about scientific knowledge and techniques that are at the stage of hypothesis. Thus, the courts in England and Wales do not seem to consider "general acceptance" as the main admissibility criterion for expert testimony as do American courts.

The task of the forensic psychologist in assessing both offenders and the impact of their criminal acts on victims, as well as in testifying as an expert

in the courtroom, is by no means an easy one and calls for professionalism. The role is multifaceted and the expert needs to rely on a wide array of tools in order to answer the referral questions. Particular difficulties are involved in being asked to assess APD and psychopathy. The task is even more challenging when we bear in mind that the forensic psychologist may well have to judge whether the offender or the victim is engaged in malingering. To meet the challenge successfully in assessing suspects, defendants, and victims, the forensic psychologist simply cannot afford but to be guided by ethical and professional principles.

REFERENCES

- Austin, J. S. (1992). The detection of fake-good and fake-bad on the MMPI-2. *Educational and Psychological Measurement, 52*, 669–674.
- Barratt, E. S., & Slaughter, L. (1998). Defining, measuring, and predicting impulsive aggression: A heuristic model. *Behavioral Sciences and the Law, 16*, 285–302.
- Bartol, C. R., & Bartol, A. M. (2004). *Introduction to forensic psychology*. Sage.
- Beidel, D. C., Frueh, B. C., Neer, S. M., Bowers, C. A., Trachik, B., Uhde, T. W., & Grubaugh, A. (2017). Trauma management therapy with virtual-reality augmented exposure therapy for combat-related PTSD: A randomized controlled trial. *Journal of Anxiety Disorders*. Available Online 23 August 2017: <https://doi.org/10.1016/j.janxdis.2017.08.005>
- Benning, S. D., Patrick, C. J., Hicks, B. M., Blonigen, D. M., Hicks, & Iacono, W. G. (2005). Estimating facets of psychopathy from normal personality traits: A step toward community epidemiological investigations. *Assessment, 12*, 3–18.
- Bernat, J. A., Ronfeldt, H. M., Calhoun, K. S., & Arias, I. (1998). Prevalence of traumatic events and peritraumatic predictors of posttraumatic stress symptoms in a nonclinical sample of college students. *Journal of Traumatic Stress, 11*, 645–664.
- Blau, T. H. (2001). *The psychologist as expert witness* (2nd ed.). Hoboken, NY: Wiley.
- Bornstein, B. H. (2004). The impact of different types of expert scientific testimony on mock jurors' liability verdicts. *Psychology, Crime and Law, 10*, 429–446.
- Brandt, J. R., Kennedy, W. A., Patrick, C. J., & Curtin, J. J. (1997). Assessment of psychopathy in a population of incarcerated adolescent offenders. *Psychological Assessment, 9*, 429–435.
- Briere, J., & Jordan, C. E. (2004). Violence against women: Outcome complexity and implications for treatment. *Journal of Interpersonal Violence, 19*, 1252–1276.
- British Psychological Society. (2015). *Psychologists as expert witnesses: guidelines and procedures* (4th ed.). https://www1.bps.org.uk/system/files/Public%20files/Policy/inf129_april_2015_web.pdf
- British Psychological Society. (2016). Psychologists as expert witnesses in the family courts in England and Wales: Standards, competencies and expectations. Available at: <https://www.judiciary.gov.uk/wp-content/uploads/2016/05/psychologists-as-expert-witnesses.pdf>

- Burgess, A. W., & Holstrom, L. L. (1974). Rape trauma syndrome. *American Journal of Psychiatry*, *131*, 981–986.
- Carson, D. (1990). *Professionals and the courts: A handbook for expert witnesses*. Birmingham: Venture Press.
- Cattermole, G. A. (1984). The psychologist as an expert witness. In M. Nixon (Ed.), *Issues in psychological practice* (pp. 121–32). Melbourne: Longman Cheshire.
- Cleckley, H. (1941). *The mask of sanity*. St. Louis: Mosby.
- Colman, A. M., & Mackay, R. D. (1995). Psychological evidence in court: Legal developments in England and the United States. *Psychology, Crime and Law*, *1*, 261–268.
- Cooke, D. J., & Michie C. (2001): Refining the construct of psychopathy: towards a hierarchical model. *Psychological Assessment*, *13*, 171–188.
- Cooper, J., & Neuhaus, I. M. (2000). The “hired gun” effect: Assessing the effect of paying, frequency of testifying and credentials on the perception of expert testimony. *Law and Human Behavior*, *24*, 149–171.
- Cooper, J., & Hall, J. (2000). Reactions of mock jurors to testimony of a court-appointed expert. *Behavioral Sciences and the Law*, *18*, 719–729.
- Daubert v. Merrell Dow Pharmaceuticals, 113 S.Ct. 2786 (1993)
- Derogatis, L.R. (1983). *The Psychosocial Adjustment to Illness Scale*. Towson, MD: Clinical Psychometric Research.
- DiNardo, P. A., & Barlow, D. H. (1988). *Anxiety Disorders Interview Schedule-Revised (ADIS-R)*. Albany, NY: Graywind.
- Fanti, K. A., Panayiotou, G., Lazarou, C., Michael, R., & Georgiou, G. (2015). The better of two evils? Evidence that children exhibiting continuous conduct problems high or low on callous-unemotional traits score on opposite directions on physiological and behavioral measures of fear. *Development and Psychopathology*, *28*, 185–198.
- Fanti, K. A., Panayiotou, G., Lombardo, M. V., & Kyranides, M. N. (2016). Unemotional on all counts: Evidence of reduced affective responses in individuals with high callous-unemotional traits across emotion systems and valences. *Social Neuroscience*, *11*, 72–87.
- Foa, E. B. (1995). *Posttraumatic Stress Diagnostic Scale (PDS)*. Minneapolis: National Computer Systems.
- Folkes v. Chadd [1782].
- Folstein, M. F., Folstein, S. E., & McHugh, P. R. (1975). Mini-mental state. A practical method for grading the cognitive state of patients for the clinician. *Journal of Psychiatric Research*, *12*, 189–98.
- Forth, A. E., Hart, S. D., & Hare, R. D. (1990). Assessment of psychopathy in male young offenders. *Psychological Assessment: A Journal of Consulting and Clinical Psychology*, *2*, 342–344.
- Freckelton, I. (2007). Expert witness immunity and the regulation of experts. *Psychiatry, Psychology and Law*, *14*, 185–193
- Freckelton, I. (2014). Psychologists as expert witnesses. In A. Kapardis, *Psychology and law* (4th ed., pp. 212–246). New York: Cambridge University Press.

- Freckelton, I., & Selby, H. (2005). *Expert evidence: Law, practice, procedure and advocacy* (3rd ed.). Sydney: Lawbook Co.
- Freckelton, I., & Selby, H. (2013). *Expert evidence: Law, practice, procedure and advocacy* (5th ed.). Sydney: Lawbook Co.
- Frick, P. J., & Hare, R. D. (2002). *The Psychopathy Screening Device*. Toronto: Multi-Health Systems.
- Frye v. United States, 293 F. 1013 (1923).
- Gatowski, S. I., Dobbin, S. A., Richardson, J. T., Ginsbury, G. P., Merlino, M. L., & Dahir, V. (2001). Asking the gatekeepers: A national survey of judges on judging expert evidence in a post-Daubert world. *Law and Human Behavior, 25*, 433–458.
- General Electric Co. v. Joiner, 522 US 136, 118 S.Ct. 512 (1997).
- Grisso, T. (1986). *Evaluating competencies: Forensic assessments and instruments*. New York: Plenum Press.
- Gudjonsson, G. H. (2002). Unreliable confessions and miscarriages of justice in Britain. *International Journal of Police Science and Management, 4*, 332–343.
- Gudjonsson, G. H. (1993). The implications of poor psychological evidence in court. *Expert Evidence, 2*, 120–124.
- Gutheil, T. G., & Stein, M.D. (2000). Daubert-based gatekeeping and psychiatric/psychological testimony in court: Review and proposal. *Journal of Psychiatry and Law, 22*, 235–251.
- Haggard-Grann, U., Hallqvist, J., Langstrom, N., & Moller, J. (2006). The role of alcohol and drugs in triggering criminal violence: A case-crossover study. *Addiction, 101*, 100–108.
- Hall, J. R., Benning, S. D., & Patrick, C. J. (2004). Criterion-related validity of the three-factor model of psychopathy. *Assessment, 11*, 4–16.
- Hare, R. D. (1983). Diagnosis of antisocial personality disorder in two prison populations. *American Journal of Psychiatry, 140*, 887–890.
- Hare, R. D. (1991). *The Hare Psychopathy Checklist-Revised*. Toronto, Ontario: Multi-Health Systems.
- Hare, R. D. (1993). *Without conscience: The disturbing world of the psychopaths among us*. New York: Pocket Books.
- Hare, R.D. (1996). Psychopathy and antisocial personality disorder: A case of diagnostic confusion. *Psychiatric Times, 13*, 39–40.
- Hart, S. D., & Hare, R. D. (1997) Psychopathy: Assessment and association with criminal conduct. In D. M. Stoff, J. Breiling, & J. D. Maser (Eds.), *Handbook of antisocial behavior*. New York: Wiley.
- Haward, L. R. C. (1981). Expert opinion based on evidence from forensic hypnosis and lie detection. In S. M. A. Lloyd-Bostock (Ed.), *Psychology in legal contexts: Applications and limitations* (pp. 107–118). London: Macmillan.
- Kapardis, A. (2014). *Psychology and law* (4th ed.). Cambridge University Press.
- Kassin, S. M., Tubb, V. A., Hosch, H. M., & Memon, A. (2001). On the “general acceptance” of eyewitness testimony research: A new survey of the experts. *American Psychologist, 56*, 405–416.

- Kocsis, R. N., & Palermo, G. B. (2016). Criminal profiling as expert witness evidence: The implications of the profiler validity research. *International Journal of Law and Psychiatry*, *49*, 55–65.
- Krafka, C., Dunn, M. A., Johnson, M.T., Cecil, J. S., & Miletich, D. (2002). Judges and attorney experiences, practices, and concerns regarding expert testimony in federal civil trials. *Psychology, Public Policy, and Law*, *8*, 309–332.
- Kraus, S. J., & Sales, B. D. (2001). The effects of clinical and scientific expert testimony on juror decision making in capital sentencing. *Psychology, Public Policy and Law*, *7*, 267–310.
- Kumho Tire Co. v. Patrick Carmichael, 526 US, 13, 152, 119 S.Ct. 1167, 1176 (1999).
- Landsman, S. (1995). Of witches, madmen, and products liability: An historical survey of the use of expert testimony. *Behavioral Sciences and the Law*, *13*, 131–157.
- Lilienfeld, S. O., & Andrews, B. P. (1996). Development and preliminary validation of a self report measure of psychopathic personality traits in non-criminal populations. *Journal of Personality Assessment*, *6*, 488–524.
- Lynam, D. R. (1997). Pursuing the Psychopath: the fledging psychopath in a nomological net. *Journal of Abnormal Psychology*, *106*, 425–438.
- Mallard v. The Queen [2003] 28 WAR 1; WASC 296.
- Meloy, J. R. (1990). *Symposium on the psychopath and the death penalty*. Presented at the 21st Annual Meeting of the American Academy of Psychiatry and the Law, San Diego, California.
- Murphy v. R [1989] 86 alr 35.
- Nijboer, H. (1995). Expert evidence. In R. Bull & D. Carson (Eds.), *Handbook of psychology in legal contexts* (pp. 555–564). Chichester: Wiley.
- Orne, M. T., Dinges, D. F., & Orne, E. C. (1984). On the differential diagnosis of multiple personality in the forensic context. *International Journal of Clinical and Experimental Hypnosis*, *2*, 118–169.
- Ortiz, J., & Raine, A. (2004). Heart rate level and antisocial behavior in children and adolescents: A meta-analysis. *Journal of the American Academy of Child and Adolescent Psychiatry*, *43*, 154–162.
- Palermo, G. B., Perracuti, S., & Palermo, M. T. (1996). Malingering: A challenge for the forensic examiner. *Medicine and Law*, *15*, 143–160.
- Patrick, C. J. (1994). Emotion and psychopathy: Startling new insights. *Psychophysiology*, *31*, 319–330.
- Patrick, C. J. (1995, Fall). Emotion and temperament in psychopathy. *Clinical Science*, 5–8.
- Patrick, C. J. (2010). *Operationalizing the triarchic conceptualization of psychopathy: Preliminary description of brief scales for assessment of boldness, meanness, and disinhibition*. Unpublished test manual, Florida State University, Tallahassee, FL.
- R. v. B. [1987] 1 NZLR 362.
- R. v. Bowman [2006] EWCA Crim 41.
- R. v. Fong [1981] Qd R 90.
- R. v. Guilfoyle [2001] 2 Cr. App. Rep. 57.
- R. v. Harris & Ors [2005] EWCA Crim 1980.

- R. v. J-L [2000] 2 SCR 600; 148 CCC (3d) 487.
- R. v. Johnston [1992] 69 CCC 395.
- R. v. M. (W) [1997] 115 CCC (3d) 233.
- R. v. McCarthy [1997] 117 CCC (3d) 385.
- R. v. Mohan [1994] 2 SCR 9; (1994) 89 CCC (3d) 402.
- R. v. Murray [1982] 7 A Crim. R 48.
- R. v. Sally Loraine Emery and Another (1993) 14 Cr. App. R. (S.) 394.
- R. v. Smith [1987] VR 907 at 910-11, (1990) 64 ALJR 588.
- R. v. Turner [1975] Q.B. 834.
- Robins, L. N. (1978). Aetiological implications in studies of childhood histories relating to antisocial personality. In R. D. Hare & D. Schalling (Eds.), *Psychopathic behavior: Approaches to research* (pp. 255–271). Chichester, England: Wiley.
- Rogers, R., & Cruise, K.R. (2000). Malingering and deception among psychopaths. In C. B. Gacono (Ed.), *The clinical and forensic assessment of psychopathy: A practitioner's guide*. Silver Spring, MD: Erlbaum, Lawrence & Associates.
- Roman, D. D., Tuley, M. R., Villanueva, M. R., & Mitchell, W. E. (1990). Evaluating MMPI validity in a forensic psychiatric population: Distinguishing between malingering and genuine psychopathology. *Criminal Justice and Behavior*, 17, 186–198.
- Ross, C. A. (1997). *Dissociative identity disorder: diagnosis, clinical features and treatment of multiple personality*. New York: Wiley.
- Seligman, M. E. P. (1975). *Helplessness: On depression, development and death*. San Francisco: W. H. Freeman.
- Sellbom, M., Ben-Porath, Y. S., & Stafford, K. S. (2007). A comparison of MMPI-2 measures of psychopathic deviance in a forensic setting. *Psychological Assessment*, 19, 430–436.
- Sellbom, M., Ben-Porath, Y. S., Lilienfeld, S. O., Patrick, C. J., & Graham, J. R. (2005). Assessing psychopathic personality traits with the MMPI-2. *Journal of Personality Assessment*, 85, 334–343.
- Serin, R. C., & Amos, N. L. (1995). The role of psychopathy in the assessment of dangerousness. *International Journal of Law and Psychiatry*, 18, 231–238.
- Sheldon, D. H., & MacLeod, M. D. (1991). From normative to positive data: Expert psychological evidence re-examined. *Criminal Law Review*, 811–820.
- Spitzer, R. L., Williams, J. B., Gibbon, M., & First, M. B. (1992). The structured clinical interview for DSM-III-R (SCID). I: History, rationale and description. *Archives of General Psychiatry*, 49, 624–629.
- Stermac, L., Reist, D., Addison, M., & Millar, G. M. (2002). Childhood risk factors for women's sexual victimization. *Journal of Interpersonal Violence*, 17, 647–670.
- Thornton, P. (1995). The admissibility of expert psychiatric and psychological evidence: Judicial training. *Medicine, Science and the Law*, 35, 143–149.
- Torrubia, R., Avila, C., Molto, J., & Caseras, X. (2001). The Sensitivity to Punishment and Sensitivity to Reward Questionnaire (SPSRQ) as a measure of Gray's anxiety and impulsivity dimensions. *Personality and Individual Difference*, 31, 837–862.
- United States v. Plaza, 188 F. Supp 2d (2002).

- Walker, L. E. (1984). *The battered woman syndrome*. New York: Springer.
- Wardlaw, G. (1984). The psychologist in court: Some guidelines on the presentation of psychological evidence. In M. Nixon (Ed.), *Issues in psychological practice* (pp. 133–143). Melbourne: Longman Cheshire.
- Zuckerman, M. (1994). *Behavioral expressions and biosocial bases of sensation seeking*. New York: Cambridge University Press.

Chapter Five

MENTAL STATE DEFENCES AND THE LAW

IAN FRECKELTON

There are a number of mental states which preclude a person accused of a criminal offence being brought to trial or which afford them a defence or a partial defence. This chapter reviews the approach of the law to fitness (competency) to stand trial, insanity (mental impairment), diminished responsibility, and automatism. It does so with a focus upon the law in the United Kingdom and the United States but also refers to the law in Canada, Australia and New Zealand, and to a lesser degree Europe. It does not deal with the law relating to intellectual disability and criminal responsibility and culpability (see Brookbanks & Freckelton, 2018).

FITNESS TO STAND TRIAL

A person's competence or fitness to stand trial or fitness/capacity to plead, as historically the issue was known, is a threshold matter in respect of whether they are able to participate in their criminal trial process (see Brookbanks & Mackay, 2018). The term "fitness to stand trial" is utilised in this chapter as it is more common than the other options. It is a separate and distinct issue from the issue of the fitness of a suspect to be interviewed by police (see Gudjonsson, 1995; Norfolk, 1997; Gall & Freckelton, 1999; Ventress, 2008; Peel, 2017) and also from the fitness of a person to be executed, where the death penalty exists (see *Ford v. Wainwright*, 1986; Appelbaum, 2007; Dillard, 2012 Bordenave & Kelly, 2012).

To compel an unfit person to stand trial would be a fundamental breach of their human rights because it would be oppressive and unfair; it would bring the criminal trial justice system into disrepute. The more difficult issues are what should be the indicia of unfitness to stand trial, how the ques-

tion of unfitness should be determined and what should be the consequences of a finding of unfitness.

Unfitness can have a number of aetiologies—psychiatric illness, intellectual disability, mutism, brain injuries, or physical ailments (see *Eastman v. The Queen*, 2000). In an influential English case in the early nineteenth century which dealt with the fitness of a deaf mute to be brought to trial, it was held that:

There are three points to be inquired into—First, whether the prisoner is mute of malice or not; secondly, whether he can plead to the indictment or not; thirdly, whether he is of sufficient intellect to comprehend the course of proceedings in the trial, so as to make a proper defence—to know that he might challenge any of you to whom he may object—and to comprehend the details of the evidence, which in a case of this nature must constitute a minute investigation. Upon this issue, therefore, if you think that there is no certain mode of communicating the details of the trial to the prisoner, so that he can clearly understand them, and be able properly to make his defence to the charge; you ought to find that he is not of sane mind. It is not enough, that he may have a general capacity of communicating on ordinary matters. (*R. v. Pritchard*, 1836: 304; see generally Mackay, 2018)

However, the issue is more complex than simply whether a person has a mental illness, an intellectual disability or a brain injury, or is physically unwell. What matters is the effect that such a condition has upon their capacity to discharge their functions as an accused person during the criminal process. This point was made emphatically in 1992 by the Ontario Court of Appeal in *R. v. Taylor* (1992: 564–565):

- (a) The fact that an accused person suffers from a delusion does not, of itself, render him or her unfit to stand trial, even if that delusion relates to the subject-matter of the trial.
- (b) The fact that a person suffers from a mental disorder which may cause him or her to conduct a defence in a manner which the court considers to be contrary to his or her best interests does not, of itself, lead to the conclusion that the person is unfit to stand trial.
- (c) The fact that an accused person's mental disorder may produce behaviour which will disrupt the orderly flow of a trial does not render that person unfit to stand trial.
- (d) The fact that a person's mental disorder prevents him or her from having an amicable, trusting relationship with counsel does not mean that the person is unfit to stand trial.

Thus, in *R. v. Berry* (1978) Lord Lane CJ said that even a high degree of abnormality does not necessarily mean that the defendant is incapable of fol-

lowing a trial or giving evidence or instructing counsel. He held that the mere fact that a defendant may not be capable of acting in his or her best interests during the trial is not sufficient to warrant a finding of disability and a jury should not be directed that the issue is whether the defendant is able “properly” to instruct counsel, or to give “proper” evidence (see too *Robertson* (1968); *R. v. M.* (2003) at [30]); *Solicitor-General v. Dougherty* (2012)). However, the Law Commission of England and Wales has questioned the continued viability of the *Pritchard* test for failing to provide an adequate legal test for unfitness to plead, and for setting too high a threshold for a finding of unfitness (Law Commission, 2012).

It has been held that the questions that must be addressed are essentially for the court, not for mental health expert witnesses, although practice in this regard varies significantly between jurisdictions. White and colleagues, for instance, identified in a study assessing the views of lawyers and mental health experts in relation to neuropsychological assessment that a majority of clinicians reported that they regularly commented on the ultimate issue, such as fitness, often because that was what judges expected of them (White, Batchelor, Pulman & Howard, 2015).

The Privy Council in *Taitt v. The State (Trinidad and Tobago)* (2012: at [16]) held that the relevant criteria can be summarised as follows:

Does the defendant understand the charges that have been made against him? Is he able to decide whether to plead guilty or not? Is he able to exercise his right to challenge the jurors? Is he able intelligently to convey to his lawyers the case which he wishes them to advance on his behalf, and the matters which he wishes to put forward in his defence? Is he able to follow the proceedings when they come to court? And is he able, if he wishes, to give evidence on his own behalf? . . . the quality of his instructions to counsel or of any evidence that he may wish to give is not to the point. The emphasis is on his ability, or his inability, to do those things.

Of course, such an approach presupposes that the offender possesses a basic level of capacity sufficient to enable such functioning within the criminal trial. When such capacity is lacking, a court has no alternative but to declare an offender unfit to stand trial.

In *SC v. United Kingdom* (2004) 40 EHH, for instance, an 11-year-old boy argued successfully that his youth and impaired intellectual capacity rendered it unfair to try him in the Crown Court. The European Court of Human Rights linked his participation with legal representation and considered that “. . . effective participation . . . presupposes that the accused has a broad understanding of the nature of the trial process and of what is at stake for him or her, including the significance of any penalty which may be imposed. It means that he or she . . . should be able to understand the general thrust of

what is said in court” (at [29]). It also determined that when there was a risk of a defendant being unable to participate effectively in criminal proceedings because of youth or “limited intellectual capacity” it was “essential” that the courts “give full consideration to, and make proper allowance for, the handicaps under which he labors, and adapt its procedure accordingly” (at [35]).

In *R. (on the Application of TP) v. West London Youth Court* (2000: at [7]) Scott Baker LJ approved the minimum requirements for a fair trial as being that:

1. the defendant had to understand what he or she is said to have done wrong;
2. the court had to be satisfied that the defendant when he or she had done wrong by act or omission had the means of knowing that he or she was wrong;
3. the defendant had to understand what, if any, defences were available to him or her;
4. the defendant had to have a reasonable opportunity to make the relevant representations if he or she wished;
5. the defendant had to have the opportunity to consider what representations he or she wished to make after having understood the issues involved.

This may be said to be indicative of a slowly moving evolution in the approach toward fitness to stand trial within the United Kingdom. By 2012 the Law Commission of England and Wales (2012) proposed replacement of the test based on the *Pritchard* criteria with a new legal test assessing whether the accused has the decision-making capacity for trial or can effectively participate in their trial (see too Bevan and Ormerod, 2018). To a similar effect, some years before Scotland, introduced legislation based on an accused person’s capacity for “effective participation” (Scottish Law Commission, 2004; Maher, 2018). While such a concept covers similar ground to decision-making capacity, it is a wider concept that arguably includes the capacity for full or rational appreciation by the accused of the proceedings.

In Australia the most influential decision on the question of fitness is that of the Victorian Supreme Court in *R. v. Presser* (1958, at 48) which set out six factors:

- an understanding of the nature of the charges;
- an understanding of the nature of the court proceedings;
- the ability to challenge jurors;
- the ability to understand the evidence;
- the ability to decide what defence to offer; and
- the ability to explain his or her version of the facts to counsel and the court.

A closely related version of the Presser test exists under section 6(1) of the *Crimes (Mental Impairment and Unfitness to be Tried) Act 1997* (Vic):

A person is unfit to stand trial for an offence if, because the person's mental processes are disordered or impaired, the person is or, at some time during the trial, will be—

- (a) unable to understand the nature of the charge; or
- (b) unable to enter a plea to the charge and to exercise the right to challenge jurors or the jury; or
- (c) unable to understand the nature of the trial (namely that it is an inquiry as to whether the person committed the offence); or
- (d) unable to follow the course of the trial; or
- (e) unable to understand the substantial effect of any evidence that may be given in support of the prosecution; or
- (f) unable to give instructions to his or her legal practitioner. (see *SM v. The Queen*, 2013).

Each of the criteria stands alone and only one need not be satisfied for a defendant to be found unfit to stand trial. In 2012 the Victorian Law Reform Commission (2012) declined to recommend significant changes to this formulation, although it acknowledged different perspectives on the issue. In 2014 The Australian Law Reform Commission (ALRC) (2014: 7.9) noted that the justifications advanced for the requirement of fitness to stand trial as being to:

- avoid inaccurate verdicts—forcing the defendant to be answerable for his or her actions when he or she is incapable of doing so could lead to an inaccurate verdict;
- maintain the ‘moral dignity’ of the trial process—requiring that a defendant is fit to stand trial recognises the importance of maintaining the moral dignity of the trial process, ensuring that the defendant is able to form a link between the alleged crime and the trial or punishment and be accountable for his or her actions; and
- avoid unfairness—it would be unfair or inhumane to subject someone to the trial process who is unfit.

It identified the following criticisms of the test:

- the test, by focusing on intellectual ability, generally sets too high a threshold for unfitness and is inconsistent with the modern trial process;
- the test is difficult to apply to defendants with mental illness because the criteria were not designed for them;

- a defendant may not be unfit to stand trial even where the court takes the view that he or she is not incapable of making decisions in his or her own interests.

In most jurisdictions in Australia, the consequences of a determination of unfitness is that a person is detained (no longer at the Governor's pleasure) but until such time as an independent review by a mental health tribunal or a court determines that it is safe for them to be released from confinement, which is usually in forensic mental health facilities (see Gooding, McSherry, Arstein-Kerslake and Andrews, 2017; Freckelton, 2018a).

The law on fitness to stand trial in Canada bears many features in common with that in Australia (see Ferguson, 2018). Section 2 of the Canadian Criminal Code (RSC, c C-46, as amended in 1992) provides that:

- “unfit to stand trial” means unable on account of mental disorder to conduct a defence at any stage of the proceedings before a verdict is rendered or to instruct counsel to do so, and, in particular, unable on account of mental disorder to
- understand the nature or object of the proceedings,
 - understand the possible consequences of the proceedings, or
 - communicate with counsel.

A finding of unfitness to stand trial can result in a finding of Not Criminally Responsible and a hearing (in Ontario by the Ontario Review Board) to determine what disposition should be imposed, such as detention, absolute discharge or conditional discharge.

By contrast, very few defendants are found unfit to stand trial in European countries such as The Netherlands (van Kempen, 2018) and Italy (see Cadoppi & Celva, 2018), the contrast being explained by differences in the conceptualisation of criminal responsibility (see van der Wolf, van Marle, Mevis & Roesch, 2010). However, protection exists for an accused person who may be unfit under the fair trial entitlement of Article 6 of the European Convention on Human Rights. Case law in The Netherlands provides that:

- An accused must still be able to defend himself. If this ability is compromised due to a mental problem, the suspension of the prosecution must follow. Under the ability to defend oneself in court, the following is understood:
- the ability to respond to the charges and to the matters raised during the course of the proceedings;
 - the ability to instruct counsel;

- the ability to give comments and explanations to counsel. (van der Anker, 2011)

Significantly too in *Liebreich v. Germany* (2009) the European Court of Human Rights, dealing with a decision of the Tiergarten District Court in relation to a defendant suffering from depression and the effects of pharmacotherapy initially found to be unfit to plead (*verhandlungsunfähig*) affirmed the right of a person pursuant to Article 6 to be able to participate effectively in his or her trial:

“Effective participation” in this context presupposes that the accused has a broad understanding of the nature of the trial process and of what is at stake for him or her, including the significance of any penalty which may be imposed. The defendant should be able, *inter alia*, to explain to his own lawyer his version of events, point out any statements with which he disagrees and make them aware of any facts which should be put forward in his defence. The circumstances of a case may require the Contracting States to take positive measures in order to enable the applicant to participate effectively in the proceedings.

Ultimately, the Court concluded that there was nothing to indicate that the defendant, due to his depression and the effects of his medication, was unable to have a broad understanding of the trial process and unable to understand what was at stake for him (see too *Stanford v. United Kingdom*, 1994).

In the United States, the Supreme Court has ruled upon the criteria for fitness to stand trial on a number of occasions (see Chafetz, 2015; Bonnie, 2018; Morse, 2018). In the first of the major decisions, *Dusky v. United States* (1960), Milton Dusky had been charged with assisting in the kidnapping and rape of a young girl. He suffered from schizophrenia but was found fit to stand trial. The Court formulated a test of incompetence which seeks to ascertain whether a defendant in a criminal trial “has sufficient present ability to consult with his lawyer with a reasonable degree of understanding—and whether he has a rational as well as factual understanding of the proceedings against him.” Thus, the issues that arise go to the capacity of a person for both understanding and communication. Both require a measure of sophistication in the form of rationality (see Bonnie, 1993; Freckelton, 1996; Victorian Law Reform Commission, 2012).

In *Pate v. Robinson* (1966), the Supreme Court dealt with an important procedural issue bearing upon when the issue of fitness is dealt with. It held that a trial judge must raise the issue of competency if either the court’s own evidence or that presented by the prosecution or defence raises a “bona fide doubt” about the defendant’s competency.

In *Drope v. Missouri* (1975), the Supreme Court clarified that evidence of the defendant's irrational behaviour, demeanour at trial, and any prior medical opinion on competence to stand trial are relevant to determining whether further inquiry is required. The defendant was charged with raping his wife. A psychiatric report and Drope's wife confirmed strange behaviour on the part of the defendant. On day two of the trial Drope attempted to commit suicide. However, the trial was permitted to proceed and a jury found Drope guilty and sentenced him to life imprisonment. The Supreme Court quashed the conviction and found that the jury had been denied the opportunity to evaluate the relationship between Drope's mental illness and his incompetence to stand trial without his presence at trial. It concluded that the trial should have been suspended until such a proper evaluation of his condition could be made. Chief Justice Burger, delivering the decision of the Court, noted that: "It has long been accepted that a person whose mental condition is such that he lacks the capacity to understand the nature and object of the proceedings against him, to consult with counsel, and to assist in preparing his defense may not be subjected to a trial." He conceded that in practice, though, the issue can be difficult as "There are, of course, no fixed or immutable signs which invariably indicate the need for further inquiry to determine fitness to proceed; the question is often a difficult one in which a wide range of manifestations and subtle nuances are implicated. That they are difficult to evaluate is suggested by the varying opinions trained psychiatrists can entertain on the same facts" (at 181).

Particularly difficult issues arise when defendants are paranoid or grandiose to a point where their capacity for rationality is impaired. An example in this regard is the case involving the well known United States poet, Ezra Pound, who was extradited from Italy immediately after World War II to stand trial for the capital offence of treason—providing propaganda assistance to Benito Mussolini's fascist government (Freckelton, 2014d). He embraced a complex and offensive set of anti-Semitic ideologies and appeared insightful about the impact of his unrestrained expostulations. He had difficulty concentrating, was incoherent in his rambling accounts and did not trust his legal representatives. He was diagnosed at the time to have a delusional disorder although more modern diagnoses have oscillated between bipolar disorder/cyclothymic disorder and narcissistic personality disorder. He was found to be unfit to stand trial, confined in a forensic psychiatric hospital in Washington DC and ultimately permitted to return to Italy. The case is exemplary of the diagnostic difficulties that can attend persons with a variety of disorders that impact adversely upon rational decision-making and capacity for lucid communication.

Under international criminal law, the principles underlying courts' refusal to coerce a person unfit to stand trial into the trial process date back to

the cases before the Nuremberg Tribunal and the Far East Tribunal set up immediately after the Second World War to try war criminals (see Freckelton & Karagiannakis, 2014b). The most authoritative modern decision is that relating to Pavle Strugar, a Lieutenant-General of the Yugoslav People's Army, who was charged with six counts of war crimes arising out of artillery and mortar shelling of the old town of Dubrovnik by forces under his command commencing on 6 December 1991. At the time he was brought to trial he was retired and seventy years of age (Freckelton & Karagiannakis, 2014c).

After examining national and international authorities comprehensively, it concluded that the issue of fitness is not confined to the question of whether a particular condition is present but is better approached by determining whether the defendant is able to exercise his or her rights effectively (*Prosecutor v. Strugar*, 2008). It found that a non-exhaustive list of the capacities to be evaluated when assessing an accused person's fitness to stand trial includes the capacity to plead; understand the nature of the charges; understand the course of the proceedings; understand the details of the evidence; instruct counsel; understand the consequences of the proceedings; and testify. It held that "the applicable standard is that of meaningful participation which allows the accused to exercise his fair trial rights to such a degree that he is able to participate effectively in his trial, and has an understanding of the essentials of the proceedings." This bears some similarity to the approach in the European Union, which requires "effective participation." It held that the ability of the accused to participate in his or her trial should be assessed by looking at whether the person's capacities, viewed overall and in a reasonable and common sense manner, are at such a level that it is possible for him or her to participate in the proceedings and sufficiently exercise their rights. It also found that when an accused person asserts he or she is unfit to stand trial, it is incumbent upon him or her to prove the contention on the balance of probabilities.

The Appeals Chamber did not adopt the United States approach to the issue and rejected the proposition that the test requires the accused person "to fully comprehend the course of the proceedings in the trial, so as to make a proper defense." Instead, it required a lower level of capacity to participate meaningfully in the trial, but it declined to set out clear reference points for when this will be satisfied.

The Strugar decision, however, leaves a number of complex issues as to how the broad considerations delineated as relevant factors are to be applied in practice in international criminal law trials and also how defendants found unfit to stand trial should be dealt with after such a decision (see Freckelton & Karagiannakis, 2018).

INSANITY/MENTAL IMPAIRMENT

The insanity defence caters for defendants in criminal trials whose responsibility for their conduct is compromised by mental illness or serious intellectual disability or brain injury (see Grachek, 2006). The criminal justice system is predicated upon the proposition that persons who engage in conduct that may be criminal do so of their own free will, understanding in general terms what they are doing and that they ought not to do it. If those preconditions are not satisfied, they are not regarded as criminally responsible for their conduct—as Bazelon J observed in *Durham v. United States* (1954: 876), “Our collective conscience does not allow punishment where it cannot impose blame.”

Defendants are presumed to be sane and therefore criminally responsible until the obverse is established. The early versions of the insanity test in England spoke in terms of an insane defendant having no more responsibility than a wild animal (see Crotty, 1924). Thus, for instance, in *R. v. Arnold*, the trial judge told the jury that: “where a man is totally deprived of his understanding and memory and does not know what he is doing any more than an infant or wild beast, he will properly be exempted from punishment.”¹

Although of course there were many occasions when persons accused of criminal offences were concluded to be mentally ill at the time of the crime, it was not until the seventeenth century that considered analysis emerged as to whether an accused person should be considered criminally responsible if at the time of engaging in the conduct they were mentally ill (see Finnane, 2012). For Matthew Hale, the author of *History of Pleas of the Crown* (1678), the question was one of rationality. His view was that when insanity was such as to deprive an offender of all of his use of reason, he should be excused from responsibility for the commission of capital crimes: “And it is all one, whether the phrenzy be fixed and permanent, or whether it were temporary by force of any disease, if the fact were committed while the party was under that distemper” (Hale, I, 36). A distinction was drawn historically between “idiocy” and “lunacy,” although authorities such as Blackstone in his *Commentaries on the Laws of England* (1769) continued to conflate them late into the eighteenth century:

The second case of a deficiency in will, which excuses from the guilt of crimes, arises also from a defective or vitiated understanding, *viz.*, in an *idiot* or a *lunatic* . . . In criminal cases, therefore, idiots and lunatics are not chargeable for their own acts, if committed when under these incapacities:

1. *Re Arnold* (1724) 16 St Tr 695.

no, not even for treason itself . . . a total idiocy, or absolute insanity, excuses from the guilt, and of course from the punishment, of any criminal action committed under such deprivation of the senses.

Focus upon the complexities of assessment of insanity took place when Laurence Shirley, the 4th Earl Ferrers, was charged with murdering his family steward in 1760. He had a family history of insanity and had been regarded as eccentric and dissolute from an early age. His wife took the unusual step of obtaining a formal separation from him on the ground of his cruelty. The jury was told that they should find him guilty if they concluded that the defendant could comprehend the nature of his actions and could discriminate between moral right and wrong. He was found guilty by his peers in Westminster Hall, the Attorney-General himself leading the prosecution. His execution (the last of a peer of the realm) prompted much debate (see Eigen, 2003).

During the eighteenth century in England insanity was pressed as a defence to serious criminal charges on a number of occasions. The cases tended to be highly sensational (see Ramsey, 2012) but it was the notorious case of Hadfield, a former soldier who had received a head injury in the service of his country and was indicted for high treason for shooting at King George III as he entered the royal box at Drury Lane Theatre on 15 May 1800, that saw the impetus for reform (*Trial of James Hadfield*; Moran, 1985; Moriarty, 2013). After defence counsel called Dr Crichton of Bethlem Hospital who had examined Hadfield the night before, the Lord Chief Justice stopped the trial and directed the jury to find Hadfield not guilty by reason of insanity. Immediately afterwards the statute of 39 and 40 George III c94 (1800) was passed with retrospective effect: it provided that where a jury, in the case of any person charged with treason, murder or a felony, found the accused insane at the time of the commission of the conduct, they should declare him to be kept in custody until his Majesty's pleasure was known. Hadfield was committed to Bethlem Hospital where he was cared for until his death in 1841, save a period in Newgate after he had escaped from Bethlem Hospital (see Halpern & Baird, 2008).

There was a complexity as to the pathology of Hadfield which generated further jurisprudence. As Stephen observed in his *History of the Criminal Law* (1883: 159):

In this case Hadfield clearly knew the nature of his act, namely, that he was firing a loaded horse pistol at George III. He also knew the quality of his act, namely, that it was what the law calls high treason. He also knew that it was wrong (in the sense of "being forbidden by law"), for the very object for which he did it was that he might be put to death so that the world might

be saved; and his reluctance to commit suicide shows he had some moral sentiments.

The next case in the sequence of attempted regicides that challenged the common law of England was the prosecution of Edward Oxford for shooting at Queen Victoria with a loaded pistol (see Moriarty, 2013). He too was found not guilty on the basis of insanity in part on the basis of collateral evidence that was gathered from his father and grandfather about earlier conduct and in which he had engaged and delusions which he harboured.

In 1843 the case that has generated modern insanity/mental impairment law was determined. Daniel M’Naghten shot dead Edward Drummond, whom he mistook for his intended victim, the Prime Minister, Robert Peel (Schneider, 2009). M’Naghten provided a variety of delusional and paranoid explanations to police when questioned. Nine expert witnesses testified that M’Naghten was insane and the jury accepted their evidence after being informed that the outcome was that he would be committed for care in a psychiatric hospital. As a result of the verdict and Queen Victoria’s dissatisfaction with it, the House of Lords asked the Privy Council to answer five questions of law about the defence of insanity. Their answers became known as the M’Naghten test:

[T]he jurors ought to be told in all cases that every man is presumed to be sane, and to possess a sufficient degree of reason to be responsible for his crimes, until the contrary be proved to their satisfaction; and that to establish a defence on the ground of insanity, it must be clearly proved that, at the time of the committing of the act, the party accused was labouring under such a defect of reason, from disease of the mind, as not to know the nature and quality of the act he was doing; or, if he did know it, that he did not know he was doing what was wrong.

The M’Naghten decision has formed the essence of insanity law in a number of parts of the common law world. In Victoria, Australia, the term “mental impairment” has been substituted for insanity and section 20 of the *Crimes (Mental Impairment and Unfitness to be Tried) Act 1997* (Vic) provides that:

- (1) The defence of mental impairment is established for a person charged with an offence if, at the time of engaging in conduct constituting the offence, the person was suffering from a mental impairment that had the effect that—
 - (a) he or she did not know the nature and quality of the conduct; or
 - (b) he or she did not know that the conduct was wrong (that is, he or she could not reason with a moderate degree of sense and compo-

sure about whether the conduct, as perceived by reasonable people, was wrong).

- (2) If the defence of mental impairment is established, the person must be found not guilty because of mental impairment.

The *Criminal Lunatics Act 1800* (UK) was incorporated into Canadian law in 1892, enabling a verdict of “not guilty by reason of insanity. If successful, the individual was deemed criminally insane and automatically detained without a hearing to assess his or her dangerousness. All decisions regarding release were made by the Lieutenant Governor and his decisions did not require input from an advisory review board. In 1991, a landmark Supreme Court decision (*R. v. Swain*, 1991) declared the law to be in conflict with the Charter of Rights and Freedoms and ordered the government to remedy the problem. The result was Bill C-30, the NCRMD (not criminally responsible on account of mental disorder) defence which became law in 1992.

What is now section 16 of the Criminal Code provides that: “No person is *criminally responsible* [italics added] for an act committed or an omission made while suffering from a mental disorder that rendered the person incapable of appreciating the nature and quality of the act or omission or of knowing that it was wrong.” An individual found NCRMD is neither acquitted nor found guilty; the court or Review Board may make one of three dispositions: absolute discharge, conditional discharge, or detention in a hospital (*Criminal Code, R.S.C. 1985, s.672.54*) (see Lacroix et al., 2017).

In Europe there is a wide diversity of approach in relation to the requirements for the defence of insanity, how often it is utilised, and what its consequences are (see e.g., La Fond, 1984; Salize & Drebing, 2005; Simon & Ahn-Redding, 2006).

In the United States the M’Naghten test was widely used until it was broadened by the decision in *Durham v. United States* (1954). Monte Durham was a 23-year-old man who had been in and out of prison and psychiatric institutions since he was 17. He was convicted of housebreaking and appealed, prompting the appellate court to reformulate the M’Naghten rule. It held that a defendant is not criminally responsible if his or unlawful act was the product of mental illness or mental defect. It determined that it is for juries to find a defendant is not guilty by reason of insanity. However, the Durham rule was rejected in due course by the federal courts, because it was regarded as casting too broad a net: alcoholics, drug addicts and compulsive gamblers successfully used the defence to exculpate themselves of a wide variety of crimes.

The 1962 Model Penal Code, published by the American Law Institute (“the ALI test”), provides a standard for legal insanity that serves as a compromise between the strict M’Naghten test, the more generous *Durham* rul-

ing, and the irresistible impulse test. Under the Code a defendant is not responsible for criminal conduct “if at the time of such conduct as a result of mental disease or defect he lacks *substantial capacity* either to appreciate the criminality of his conduct or to conform his conduct to the requirements of the law” (see Allen, 1962). This formulation of the test takes into account both the cognitive and volitional capacity of insanity.

A number of states still use the ALI substantial capacity definition of the insanity defence, but most have amended their statutes since the *Hinckley* case (see below). In addition, the ALI definition was adopted by all of the federal courts of appeal but has now been supplanted. The Illinois and Wisconsin formulations of this defence are as follows:

A person is not criminally responsible for conduct if at the time of such conduct, as a result of mental disease or mental defect, he lacks substantial capacity to appreciate the criminality of his conduct (720 Ill. Comp. Stats. Ann. § 5/6-2(a)).

A person is not responsible for criminal conduct if at the time of such conduct as a result of mental disease or defect the person lacked substantial capacity either to appreciate the wrongfulness of his or her conduct or conform his or her conduct to the requirements of the law (Wis. Stat. § 971.15(1)).

Jeffrey Dahmer invoked Wisconsin’s substantial capacity insanity defence when prosecuted for the murder, and in some cases dissection and cannibalism, of 17 young men. Although his attorneys allowed the jury to hear the gruesome details of his acts, the prosecution was able to rebut the defence and convince the jury that Dahmer not only knew his acts were criminal, but also had the capacity to appreciate the wrongfulness of his acts (see Fersch & Fersch, 2005; Palermo & Knudten 1994).

By 1982 when John Hinckley Jr, the perpetrator of President Reagan’s assassination attempt was found not guilty by reason of insanity, there was an eruption of public malcontent with the M’Naghten test (see Hans & Slater, 1983). James Brady, the President’s Press Secretary was seriously wounded. Hinckley who was suicidal and haunted by violent stories from films and books he had read, said that he shot President Reagan to win the attention of the actress Jodie Foster and to become famous. The prosecution and defence agreed that he was seriously mentally ill—he had paranoid schizophrenia at the time of the shooting. A jury found him not guilty by reason of insanity (see Bonnie, Jeffries & Low, 2008; Stone, 1984).

In response, Congress passed the *Insanity Defense Reform Act of 1984*, 18 USC § 4241. Under this Act, the burden of proof was shifted from the prosecution to the defence and the standard of evidence in federal trials was

increased from a preponderance of evidence to “clear and convincing evidence.” The ALI test was discarded in favour of a test closer to the M’Naghten test—only perpetrators suffering from severe mental disease or defect at the time of the commission of the crime could successfully employ the insanity defence. It removed the volitional component, that a defendant lacked capacity to conform their conduct to the law, from the ALI test. Defendants are exculpated only if “as the result of a severe mental disease or defect, [they were] unable to appreciate the nature and quality or wrongfulness of [her] acts.” The defendant’s ability to control himself or herself ceased to be a consideration. The Act also curbed the scope of mental health expert testimony—expert witnesses for either side are prohibited from testifying directly as to whether the defendant was legally sane or not but can only testify as to their mental health and capacities, with the question of sanity itself to be decided by the finder-of-fact at trial. The Act also adopted stricter procedures regarding the hospitalization and release of those found not guilty by reason of insanity.

Francisco Martin Duran, another man with paranoid schizophrenia who tried to assassinate a president, invoked the reformed insanity defence in a federal court in 1995. Mr. Duran had attempted to kill President Bill Clinton by shooting at the White House—a place he viewed as a symbol of the government he hated. Duran’s insanity plea under the reformed standard was rejected and he was found guilty of the numerous charges against him (see Meloy, Sheridan & Hoffmann, 2008: 376-377).

United States insanity law has become significantly fragmented. Some states, including Montana, Kansas and Utah opted to ban the insanity defence altogether (see Rolf, 2006). Other states, such as South Carolina and Pennsylvania, allow for a guilty but mentally ill verdict:

A defendant is guilty but mentally ill if, at the time of the commission of the act constituting the offense, he had the capacity to distinguish right from wrong or to recognize his act as being wrong . . . , but because of mental disease or defect he lacked sufficient capacity to conform his conduct to the requirements of the law (S.C. Code Ann. § 17-24-20(A)).

A person who timely offers a defense of insanity . . . may be found ‘guilty but mentally ill’ at trial if the trier of facts finds, beyond a reasonable doubt, that the person is guilty of an offense, was mentally ill at the time of the commission of the offense and was not legally insane at the time of the commission of the offense (Pa. Con. Stats. § 314(b)).

Thus, for example, when John E du Pont was convicted in Pennsylvania in 1997 of the shooting death of former Olympic gold medalist David Schultz, he was found guilty of third degree murder but insane. Du Pont suf-

ferred from a variety of delusions and claimed he heard talking walls and saw Nazis in trees. He also cut off his own skin to remove bugs he believed were invading from outer space. A number of experts diagnosed him as having paranoid schizophrenia (see Longman, 2010).

By contrast in California the two-pronged test under s25(b) of the California Penal Code is still a close variant of the M'Naghten rules, requiring a defendant to understand the nature and quality of their act and to be able to distinguish between right and wrong. A 1994 amendment prevents Californian courts from finding a defendant insane solely on the basis of a personality or adjustment disorder, a seizure disorder or addiction to, or abuse of intoxicating substances.

However, the insanity defence is only currently raised in about 1% of cases, and even then only has about a 25% success rate (Schouten, 2012).

In *Ford v. Wainwright* (1986) the United States Supreme Court upheld the common law that a person who is insane cannot be executed and held that a person subject to the death penalty is entitled to a competency evaluation (see Brodsky, Zapf & Boccaccini, 2001).

DIMINISHED RESPONSIBILITY

The diminished responsibility partial defence to murder enables account to be taken of mental states that have played a causative role in the commission of homicide, reducing what would otherwise be a conviction for murder to a conviction for the lesser offence of manslaughter. The initiative originated in Scotland, the notion of “weakness of mind” altering the character of a criminal offence being recognised by Lord Deas in *HM Advocate v. Dingwall* (1867) where the defendant was charged with murdering his wife after he had consumed a substantial quantity of whisky. It was established that Dingwall’s mind had been weakened by repeated attacks of *delirium tremens* and that he had most likely suffered from epileptic fits. In charging the jury, Lord Deas instructed that the defences of insanity and drunkenness were untenable, but that a verdict of culpable homicide (manslaughter) could be returned if weakness of the mind was found:

The state of mind of the prisoner might be an extenuating circumstance although not such as to warrant an acquittal on the ground of insanity; and he [the trial judge] therefore could not exclude it from the consideration of the jury here, along with the whole other circumstances in making up their minds whether, if responsible to the law at all, the prisoner was to be held guilty of murder or culpable homicide. (*HM Advocate v. Dingwall* (1867: 479–480))

The jury returned a verdict of manslaughter and the accused was sentenced to ten years' imprisonment. The partial defence was introduced into English law by section 2 of the *Homicide Act 1957* (UK) which provided that:

[w]here a person kills or is a party to the killing of another, he shall not be convicted of murder if he was suffering from such abnormality of mind (whether arising from a condition of arrested or retarded development of mind or any inherent causes or induced by disease or injury) as substantially impaired his mental responsibility for his acts or omissions in doing or being a party to the killing.

Thus, the major requirements were that the defendant be suffering from an "abnormality of mind" and it must have "substantially impaired his mental responsibility for the killing." Over time the defence was interpreted as covering a wide range of medical conditions, including psychopathy, volitional insanity and alcoholism. It was highly controversial, both in England and Wales (see Glazebrook, 1976; Sparks, 1964) and internationally (see Kerr, 1997; Hemming, 2008).

After law reform reports (Law Reform Commission, 2004; Law Reform Commission, 2006), the provision was replaced by section 52 of the *Coroners and Justice Act 2009* (UK) with the object of identifying more clearly what aspects of a defendant's functioning must be adversely affected for a defendant to qualify for the partial defence:

- (1) A person ("D") who kills or is a party to the killing of another is not to be convicted of murder if D was suffering from an abnormality of mental functioning which—
 - (a) arose from a recognised medical condition,
 - (b) substantially impaired D's ability to do one or more of the things mentioned in subsection (1A), and
 - (c) provides an explanation for D's acts and omissions in doing or being a party to the killing.
- (1A) Those things are—
 - (a) to understand the nature of D's conduct;
 - (b) to form a rational judgment;
 - (c) to exercise self-control.
- (1B) For the purposes of subsection (1)(c), an abnormality of mental functioning provides an explanation for D's conduct if it causes, or is a significant contributory factor in causing, D to carry out that conduct.

A consequence of the amendments is that psychiatric classificatory systems (such as the *Diagnostic and Statistical Manual of Mental Disorders* (the *DSM*) and the *International Classification of Diseases* (the *ICD*) are likely to play a more significant role in establishing the existence of a recognised medical

condition resulting in an abnormality of mental functioning (Kennefick, 2011). In addition, the 2006 amendment introduced an additional volitional component, as had been postulated in *R. v. Byrne* (1060).

In *R. v. Golds* (2016) the United Kingdom Supreme Court, through the judgment of Lord Hughes, with which all agreed, held that the meaning of “substantially” was to be understood not in the sense of “present rather than illusory or fanciful, thus having some substance” but “important or weighty,” as in “a substantial meal” or “a substantial salary” or “significant and appreciable.”

In a major application of the defence, the conviction of Royal Marine Acting Colour Sergeant Alexander Blackman for murder of a badly injured Afghan insurgent was quashed by the Court of Appeal on the basis that he was suffering from an adjustment disorder and therefore the defence of diminished responsibility was open (*R. v. Blackman*, 2017).

The defence of diminished responsibility exists in New South Wales, Queensland, the Northern Territory and the Australian Capital Territory (Bronitt and McSherry, 2017) where it has been controversial (see Yeo, 1991), but not in New Zealand (Wright, 1998).

The defence has had an equivocal existence in the United States, being adopted in about one third of states, mainly in cases where the defendant has been charged with first-degree murder although in principle it applies to all crimes involving specific intent as an element in the prosecution. The option always exists of the entry of an adverse finding for a lesser charge (see Slovenko, 2009: 227).

A defence of diminished responsibility has had its proponents in the United States. (see eg Morse, 2003), Canada (Gannage) and New Zealand (Wright, 1998). For instance, Morse (2003) noted that in *Atkins v. Virginia* (2002: 318-319), the United States in its prohibition of capital punishment for persons with intellectual disability, recognised differentials in criminal responsibility:

Mentally retarded persons frequently know the difference between right and wrong. . . . Because of their impairments, however, by definition they have diminished capacities to understand and process information, to communicate, to abstract from mistakes and to learn from experience, to engage in logical reasoning, to control impulses, and to understand the reactions of others. . . . Their deficiencies do not warrant an exemption from criminal sanctions, but they do diminish their personal culpability. . . . With respect to retribution—the interest in seeing that the offender gets his ‘just deserts’—the severity of the appropriate punishment necessarily depends on the culpability of the offender.

While the decision dealt with sentencing, Morse has argued that it recognises that a variety of conditions can impact upon the extent to which (on a spectrum) a defendant is criminally responsible for his or her actions. He argued that adoption of a diminished responsibility or Guilty But Partially Responsible defence “would produce more proportionate justice and would not compromise public safety or the integrity of the criminal trial process” (Morse, 2003: 308). A further fillip to the relevance of diminished responsibility may come with escalating knowledge of the neurobiology of capacity (see Jepperson, 2014; Morse, 2015), as it increasingly demonstrates that a variety of conditions may impair defendants’ criminal responsibility.

AUTOMATISM

Automatism is not strictly a defence but rather a denial of one of the elements of a criminal offence—that it was voluntary. Automatism arises in circumstances where the defendant to a criminal action maintains that they were not fully conscious at the time of the commission of the act with which they are charged (Yannoulidis, 2016). Acts occurring in such circumstances are regarded as lacking voluntariness. The defence was defined in the following terms by Greeson P of the New Zealand Court of Appeal:

Automatism which strictly means action without conscious volition, has been adopted in criminal law as a term to denote conduct of which the doer is not conscious—in short doing something without knowledge of it, and without memory afterwards of having done it—a temporary eclipse of consciousness that nevertheless leaves the person so affected able to exercise bodily movements. In such a case, the action is one which the mind in its normal functioning does not control. (*R. v. Cottle*, 1958: 1077)

It requires evidence to be disproved by the prosecution. The defence evolved from a failure on the part of the law to extend the concept of insanity as far as some circumstances of significant mitigation might require (Samuels, O’Driscoll & Allnutt, 2007).

The English decision which clearly established automatism as a distinct defence leading to a complete acquittal was *R. v. Charlson* (1955) (see Edwards, 1958) where the defendant was charged with three counts of assault against his 10-year-old son. For no apparent reason Charlson had struck his son twice on the head with a mallet and, when the boy attempted to ward off further blows, had picked him up and thrown him from a window. Medical evidence was given to the effect that the Charlson was not suffering from such a disease of the mind as to render him insane at the time of the commission of the acts; but that his actions were consistent with his having

a cerebral tumour, a condition rendering a person liable to outbursts of impulsive, motiveless violence over which he or she has no control. In directing the jurors the trial judge, Barry J, said that if they were satisfied that, owing to his condition, the accused did not knowingly strike his son, but was acting as an automaton without any knowledge of, or control over, his acts, it was open to them to acquit the accused. The jury returned a verdict of not guilty on all charges.

In Australia the seminal case was a decision by Smith J in *R. v. Cogden* (1950) in which Mrs Cogden, who had a history of bizarre dreams and excessive worry about her nineteen-year-old daughter, dreamed that the Korean War was taking place “all around the house” and that a North Korean soldier was on her daughter’s bed attacking her. Mrs. Cogden fetched an axe and struck at the imaginary soldier, killing her daughter. At the trial for murder, insanity was not pleaded. The medical evidence established that Mrs. Cogden was suffering from hysteria and depression and likely to fall into states of dissociation such as fugue, amnesia, and somnambulism. Her defence was that her act was involuntary. She was acquitted (see Morris, 1951; Fairall, 1994).

The distinction between insanity and automatism depends upon whether unconsciousness arises from a disease of the mind, a term which has proved elusive and subject to a number of different interpretations (McSherry, 1993; Bronitt & McSherry, 2017). If it arises from a disease of the mind, it permits of a defence of insanity, or, put differently, insane automatism. However, if it does not arise from a disease of the mind, sane automatism can arise as a defence. The conditions which may give rise to a defence of sane automatism include reflexive reactions, spasms and convulsions. However, other conditions have proved to be more contentious as to whether they qualify for the defence of sane automatism, including concussion caused by a blow to the head, sleepwalking (see Poceta, 2011), the consumption of alcohol and drugs, hypoglaecemia, dissociation arising from stress, and epilepsy (Yannoulidis, 2003).

However, other approaches have been taken, Lord Denning in *Bratty v. Attorney-General (Northern Ireland)* (1963: 412), for instance, adopting the recurrence or continuing danger test, held that: “Any mental disorder which has manifested itself in violence and is prone to recur is a disease of the mind. At any rate it is the sort of disease for which a person should be detained in hospital rather than be given an unqualified acquittal.”

Another approach was the internal-external test which draws a distinction between those states of automatism produced by external causes as against internal. The Canadian Court of Appeal in *R. v. Rabey* (1977: 44; affirmed in *Rabey v. The Queen* (1981) summarised it as follows:

In general, the distinction to be drawn is between the malfunctioning of the mind arising from some cause that is primarily internal to the accused, having its source in his [or her] psychological or emotional make-up, or in some organic pathology, as opposed to a malfunctioning of the mind which is the transient effect produced by some specific external factor such as, for example, concussion (see too *R. v. Quick*, 1973).

One of the best known cases on non-insane automatism is the Australian High Court decision of *R. v. Falconer* (1990). Mary Sandra Falconer was convicted before the Supreme Court of Western Australia of the wilful murder of her husband Gordon Robert Falconer as a result of Mrs Falconer firing a shotgun, the blast of which struck the deceased at close quarters. She gave evidence at her trial of the difficulties she had had with her husband during their marriage. They had separated as the result of Mrs Falconer having discovered from her adult married daughters that, in their earlier years, their father had interfered with them sexually. Just before the shooting, he taunted her in a way which suggested to her that he had had some sexual dealings with a young girl who had been in her custody. In the week preceding the shooting Mrs Falconer had exhibited fear, depression, emotional disturbance and an apparently changed personality. On the day of the shooting, according to her, her husband had entered the house unexpectedly; sexually assaulted her, taunted her with the suggestion that neither the daughters nor she would be believed in court; and reached out at her apparently to grab her by the hair. From that point she said she remembered nothing until she found herself on the floor with her shotgun by her and her husband dead on the floor nearby.

The Court was split 4:3. Mason CJ, Brennan and McHugh JJ held (1993: at [34]-[35]) that:

the issue for the jury on this aspect of the case would be whether an ordinary woman of Mrs Falconer's age and circumstances, who had been subjected to the history of violence which she alleged, who had recently discovered that her husband had sexually assaulted their daughters, who knew that criminal charges had been laid against her husband in respect of these matters and who was separated from her husband as the result of his relationship with another woman, would have entered a state of dissociation as the result of the incidents which occurred on the day of the shooting... Evidence which was prima facie relevant and essential to the defence of non-insane automatism was improperly rejected.

Toohey J held that:

In so far as the evidence of the psychiatrists supported a thesis that, at the time she discharged the shotgun that killed her husband, Mrs Falconer was in a dissociative state, that evidence was relevant to a defence that the act of killing was independent of the exercise of Mrs Falconer's will. It went further than to raise a mere possibility that, at the time of the shooting of her husband, Mrs Falconer was acting in a dissociative state. The evidence should therefore have been admitted. Whether Mrs Falconer's actions were in truth independent of the exercise of her will was a question which should have been left to the jury in accordance with the principles discussed in this judgment.

He commented that:

There is a useful warning in the judgment of Dickson J. in *Rabey*, at p 552: In principle, the defence of automatism should be available whenever there is evidence of unconsciousness throughout the commission of the crime, that cannot be attributed to fault or negligence on his part. Such evidence should be supported by expert medical opinion that the accused did not feign memory loss and that there is no underlying pathological condition which points to a disease requiring detention and treatment.

All seven members of the High Court were of the view that automatism encompasses involuntariness arising from a mental disease, natural mental infirmity or disorder of the mind. All judges were of the view that a test more sophisticated than a simple internal/external test was required. They agreed that automatism could result from a psychological blow. Mason CJ, Brennan and McHugh JJ expressed the view that a mental condition must be temporary and not prone to recur for it to qualify as sane automatism. This leaves difficulties in relation to both sleepwalking and hypoglaecemia which are episodic but generally have been regarded as qualifying for sane automatism (see McSherry, 1991).

The role of expert evidence from psychiatrists and psychologists, as well as neurologists, has proved fundamental in automatism cases (Wells & Wilson, 2004; Joubert & van Staden, 2016). However, over the years criticism of automatism has mounted (see, for example, Mackay, 1987).

The automatism defence is relatively rarely availed of in the United States (see Melton, Poythress, Petrila, & Slobogin, 2007: 219) and remains contentious both legally and clinically (see Rolnick & Parvizi, 2011). The tendency for United States defendants who have experienced dissociation at the time of the commission of an offence has been to rely on the insanity defence rather than the automatism doctrine (see Weiss & Watson, 2015: 112).

However, in North Carolina, for instance, an appellate court reversed a conviction and remanded the matter to the lower court to determine whether, due to his posttraumatic stress disorder, the defendant committed the crime charged while in a state of unconsciousness (*North Carolina v. Jerrett*, 1983). The automatism defence is treated differently from the insanity defence in two key respects: (1) a mental disorder is not a prerequisite; and (2) the burden of proof lies on the prosecution, since it is being alleged that the condition precludes the actus reus, namely that the act was voluntary. However, as Parry and Drogin (2006: 215) have observed: “Automatism cases are rare, in part, because courts do not tend to recognize the automatism defense if the defendant knew about the condition or the circumstances that caused the unconsciousness, yet failed to take reasonable steps to avoid the resulting crime.”

Because of the controversies relating to automatism, there has been some law reform activity in relation to it. In its substantial report on defences to homicide the Victorian Law Reform Commission found that there was concern that automatism was susceptible to abuse and that cases relating to “psychological blow” automatism are problematic because of the difficulty, if not impossibility, of verifying a person’s claim that they were acting in a dissociative state. It noted that: “these claims are also frequently made in circumstances where the person who kills has been extremely upset or traumatised because of something which has been done by the person they subsequently kill, and has a clear motive for the killing” (Victorian Law Reform Commission, 2004: xl). The Commission recommended that, despite the conceptual problems the doctrine of automatism should remain unchanged and commented that: “Automatism is rarely raised and, where it is, rarely successful. In the very few cases when automatism is argued, the Commission believes the jury is best placed to determine whether or not the acts of the accused were involuntary, based on the evidence presented” (Victorian Law Reform Commission, 2004: xl).

CONCLUDING OBSERVATIONS

From the time when a person is arrested on suspicion of having committed a criminal offence, their mental state is relevant both in terms of impacting upon the extent to which they can participate in the criminal justice system—to be interviewed and then to be tried- and then to determine whether they are criminally responsible and, if so, the extent to which they are criminally culpable. This chapter has compared the law relating to four issues—fitness to stand trial, insanity, diminished responsibility and automatism. All of these are determined by the mental state of the defendant, prin-

cipally at the time of the commission of the criminal act, but also at the time of trial in relation to fitness to stand trial.

The extensive international consideration by courts and scholars of each of these four issues highlights the complexities in them at both a conceptual and a practical level. There are differences in their formulation and their application from jurisdiction to jurisdiction but each one of them grapples with how most fairly the assertion that a person's mental state impairs their capacity to discharge their role as a defendant or to be held responsible for their criminal behaviour. These are enormously important issues that go to the heart of how our various systems of criminal justice deal with persons who stand in jeopardy of very serious consequences flowing from their conduct and of how mental health professionals can contribute to ensuring that persons whose mental state is significantly compromised are not dealt with by the courts in ways which are unreasonable and inhumane.

REFERENCES

- Allen, F.A. The Rule of the American Law Institute's Model Penal Code. *Marquette Law Review* 45, 494–505.
- Appelbaum, P. (2007). Death Row Delusions: When is a Prisoner Competent to be Executed? *Psychiatric Serv*, 58(10), 1258–1260.
- Bevan, M., & Ormerod, D. (2018) Reforming the law of unfitness to stand trial in England and Wales. In R. Mackay & W. Brookbanks (Ed.), *Fitness to stand trial: International and comparative perspectives*. Oxford: Oxford University Press.
- Bonnie, R. (1993). The competence of criminal defendants: Beyond *Dusky* and *Drope*. *Miami Law Review*, 47, 539–601.
- Bonnie, R. J., Jeffries, J. C., & Low, P. W. (2008). *A case study in the insanity defense: The trial of John W Hinckley Jr.* Foundation Press.
- Bonnie, R. J. (2018). Fitness for criminal adjudication: The emerging significance of decisional competence in the United States. In R. Mackay & W. Brookbanks (Ed.), *Fitness to stand trial: International and comparative perspectives*. Oxford: Oxford University Press.
- Bordenave, F., & Kelly, D. (2010). Death penalty and mentally ill defendants. *Journal of the American Academy of Psychiatry and Law*, 38(2), 284–286.
- Bratty v. Attorney-General (Northern Ireland) [1963] AC 386.
- Brodsky, S. L., Zapf, P. A., & Boccaccini, M. T. (2001). The last competency: An examination of legal, ethical, and professional ambiguities regarding evaluation of competence for execution. *Journal of Forensic Psychology Practice*, 1(2), 1–25.
- Bronitt, S., & McSherry, B. (2017). *Principles of criminal law* (4th ed.). Sydney: Thomson Reuters.
- Brookbanks, W., & Freckelton, I. (2018). Legal issues in offenders with intellectual and developmental disabilities. In B. Lindsay & J. Taylor (Ed.), *The Wiley hand-*

- book of offenders with intellectual and developmental disabilities: Research, training and practice.* London: Wiley.
- Cadoppi, A., & Celvi, M. (2018). Competency to stand trial in Italy. In R. Mackay & W. Brookbanks (Ed.), *Fitness to stand trial: International and comparative perspectives.* Oxford: Oxford University Press.
- Crotty, H. D. (1924). History of insanity as a defence to crime in English criminal law. *California Law Review, 12*(2), 105–123.
- Dillard, A. (2012). Madness alone punishes the madman. The search for moral dignity? In the Court's Competence Doctrine as Applied to Capital Cases. *Tennessee Law Review, 79*, 461–516.
- Drope v. Missouri*, 420 US 302 (1975).
- Dusky v. United States*, 362 US 402 (1960).
- Durham v. United States*, 214 F 2d 862 (DC Cir 1954).
- Earl of Ferrers Trial (1760) 19 St Tr 886.
- Eastman v. The Queen* (2000) 203 CLR 1.
- Edwards, J. Li. J. (1958) Automatism and criminal responsibility. *Modern Law Review, 21*(4), 375–386.
- Eigen, J. E. (2003). *Unconscious crime: Mental absence and criminal responsibility in victorian London.* Johns Hopkins University Press.
- Fairall, P. The exculpatory force of delusions—A note on the insanity defence. *Bond Law Review, 6*(1), 57–63.
- Ferguson, G. (2018). Unfit to stand trial: Canadian law and practice. In R. Mackay & W. Brookbanks (Ed.), *Fitness to stand trial: International and comparative perspectives.* Oxford: Oxford University Press.
- Fersch, E., & Fersch, E. (2005). *Thinking about the insanity defense.* iUniverse.
- Finnane, M. (2012). Irresistible impulse. *History of Psychiatry, 23*(4), 454–468.
- Ford v. Wainwright*, 477 US 399 (1986).
- Ford v. Wainwright*, 477 US 399 (1986).
- Freckelton, I., & Karagiannakis, M. (2014a) Fitness to stand trial under international criminal law: The historical background. *Journal of Law and Medicine, 21*, 747–760.
- Freckelton, I., & Karagiannakis, M. (2014b). Unfitness to stand trial: The authoritative Strugar decision in the international criminal tribunal for the former Yugoslavia. *Psychiatry Psychology and Law, 21*, 475–485.
- Freckelton, I., & Karagiannakis, M. (2014c) Fitness to stand trial under international criminal law: Legal and policy issues. *International Journal of Criminal Justice, 12*(4), 705–729.
- Freckelton, I. (2014d). Fitness to stand trial: Learning from the Ezra Pound saga. *Psychiatry, Psychology and Law, 21*(5), 625–644.
- Freckelton, I., & Karagiannakis, M. (2018). Fitness to stand trial under international criminal law. In R. Mackay & W. Brookbanks (Ed.), *Fitness to stand trial: International and comparative perspectives.* Oxford: Oxford University Press.
- Freckelton, I. (2018) Fitness to stand trial under Australian law. In R. Mackay & W. Brookbanks (Ed.), *Fitness to stand trial: International and comparative perspectives.* Oxford: Oxford University Press.

- Gall, J., & Freckelton, I. (1999). Fitness for interview: Current trends, views and an approach for the assessment procedure. *J Clin Forensic Med*, 6(4), 213–223.
- Gannage, M. (1981). The defence of diminished responsibility in Canadian criminal law. *Osgoode Hall Law Journal*, 19(2), 301–320.
- Glazebrook, P. R. (1976). Dealing with mentally disordered offenders. *Cambridge Law Journal*, 35, 9–20.
- Gooding, P., McSherry, B., Arstein-Kerslake, A., & Andrews, L. (2017). Fitness to stand trial: Detention of persons with disabilities in Australia: Human rights challenges and proposals for change. *Melbourne University Law Review*, 40, 816–865.
- Grachek, J. E. (2006). The insanity defense in the twenty-first century: How recent United States Supreme Court case law can improve the system. *Indiana Law Journal*, 81(4), 1479–1501.
- Gudjonsson, G. (1995). “Fitness for interview” during police detention: A conceptual framework for forensic assessment. *Journal of Forensic Psychiatry*, 6(1), 185–197.
- Haag, A. H., Cheng, J., & Wirove, R. (2016). Describing the not criminally responsible population in Alberta’s history: Sociodemographic, mental health and psychological profiles. *Journal of Community Safety and Wellbeing*, 1(3): <https://www.journalcswb.ca/index.php/cswb/article/view/24/55>
- Halevy, G. *The matrix of insanity in modern criminal law*. New York: Springer.
- Halpern, A. L., & Baird, J. A. Letter. *Journal of the American Academy of Psychiatry and Law*, 34(3), 426–427.
- Hans, V. P., & Slater, D. (1983). John Hinckley Jr. and the insanity defense: The public’s verdict. *Public Opinion Quarterly*, 47(2), 202–212.
- Hemming, A. (2008). It’s time to abolish diminished responsibility, the coach and horses’ defence through criminal responsibility for murder. *UNDALR*, 10, 1–35.
- HM Advocate v. Dingwall (1867), 5 Irv 446, 4 SLR 249 (Ct Just).
- Jepperson, S. M. I. (2014). Responsibility problems for criminal justice. *Frontiers in Psychology*, 5, 281.
- Joubert, P. M., & van Staden, C. W. (2016). Behaviour that underpins non-pathological criminal incapacity and automatism: Toward clarity for psychiatry testimony. *International Journal of Law and Psychiatry*, 49, 10–16.
- Keedy, E. R. (1910). Tests of criminal responsibility of the insane. *Journal of Criminal Law and Criminology*, 1, 393–402.
- Kennefick, L. (2011). Introducing a new diminished responsibility defence for England and Wales. *Modern Law Review*, 74(5), 750–766.
- Kerr, J. A. (1997). A licence to kill or an overdue reform? The case of diminished responsibility. *Otago Law Review*, 9, 1.
- Krash, A. The Durham rule and judicial administration of the insanity defense in the District of Columbia. *Yale Law Journal*, 70, 905–952.
- Lacroix, R., O’Shaughnessy, R., McNiel, D. E., & Binder, R. L. (2017). Controversies Concerning the Canadian Not Criminally Responsible Reform Act. *Journal of the American Academy of Psychiatry and the Law*, 45(1), 44–51.
- La Fond, J. (1984). Observations on the insanity defense and involuntary civil commitment in Europe. *University of Puget Sound Law Review*, 7, 527–545.

- Law Commission of England and Wales. (2004). *Partial defences to murder*. Report No. 290.
- Law Commission of England and Wales. (2006). *Murder, manslaughter and Infanticide*. Report No. 304.
- Liebreich v. Germany (2008). ECt HR. Applicn No 30443/03: <http://echr.ketse.com/doc/30443.03-en-20080108/view/>
- Longman, J. (9 December 2010). John E du Pont, Heir Who Killed an Olympian, Dies at 72. *The New York Times*: http://www.nytimes.com/2010/12/10/sports/olympics/10dupont.html?rref=collection%2Ftimestopic%2FDu%20Pont%2C%20John%20E.&action=click&contentCollection=timestopics®ion=stream&module=stream_unit&version=latest&contentPlacement=7&pgtype=collection
- Mackay, R. D. (1987). M'Naghten Rules OK? The need for revision of the automatism and insanity defences in English criminal law. *Dickinson Journal of International Law*, 5(2), 167–192.
- Mackay, R. (2018). The development of unfitness to plead in English law. In R. Mackay & W. Brookbanks (Ed.), *Fitness to stand trial: International and comparative perspectives*. Oxford: Oxford University Press.
- Maher, G. (2018). Unfitness for trial in Scots Law. In R. Mackay & W. Brookbanks (Ed.), *Fitness to stand trial: International and comparative perspectives*. Oxford: Oxford University Press.
- McSherry, B. (1991). The Queen v. Falconer. *Melbourne University Law Review*, 18, 476–481.
- McSherry, B. (1993) Defining what is a 'disease of the mind': The untenability of current legal interpretations. *Journal of Law and Medicine*, 1, 76–90.
- Meloy, J. R., Sheridan, L., & Hoffmann, J. (2008). *Stalking, threatening and attacking public figures: A psychological and behavioral analysis*. New York: Oxford University Press.
- Melton, G. B., Petrila, J., Poyhtress, N. G., & Slobogin, C. (2007). *Psychological evaluations for the courts: A handbook for mental health professionals and lawyers* (3rd ed.). Guilford Press.
- Memon, R. (2006) Legal theory and case law defining the insanity defence in English and Welsh Law. *Journal of Forensic Psychiatry and Psychology*, 17, 230–252.
- Moran, R. (1985). The origin of insanity as a special verdict: The trial for treason of James Hadfield (1800). *Law & Society Review*, 19(3), 487–519.
- Moran R. (1985). The modern foundation for the insanity defense: The cases of James Hadfield (1800) and Daniel McNaughten (1843). *Annals of the American Academy of Political and Social Science*, 477(1), 31–42. doi: 10.1177/0002716285477001004
- Moriarty, J. (2013). *The history of mental illness in criminal cases: The English tradition*. Routledge.
- Morse, S. J. (2018). Involuntary competence in united states law. In R. Mackay & W. Brookbanks (Ed.), *Fitness to stand trial: International and comparative perspectives*. Oxford: Oxford University Press.
- Mossis, N. (1951). Somnambulistic homicide: Ghosts, spiders and North Koreans. *Res Judicatae*, 5, 29.

- Morse, S. J. (2003). Diminished rationality, diminished responsibility. *Ohio State Journal of Criminal Law*, 1, 289–308.
- Morse, S. J. (2015). Neuroscience, free will and criminal responsibility. *University of Pennsylvania Faculty Scholarship Paper 1604*: http://scholarship.law.upenn.edu/cgi/viewcontent.cgi?article=2605&context=faculty_scholarship
- Norfolk, G. A. (1997). Fitness to be interviewed—A proposed definition and scheme of examination. *Medicine, Science and the Law*, 37(3), 228–234.
- North Carolina v. Jerrett, 307 SE 2d 339 (MC Ct App, 1983).
- Palermo, G. B., & Knudten, R. D. (1994) The insanity plea in the case of a serial killer. *International Journal of Offender Therapy and Comparative Criminology*, 38, 3–16.
- Parry, J., & Drogin, Y. (2007). *Mental disability law, evidence, and testimony: A comprehensive manual for lawyers, judges, and mental disability professionals*. Chicago: American Bar Association.
- Pate v. Robinson, 383 US 375 (1966).
- Peel, M. (2017). Assessing fitness to be interviewed in police custody. *Nurs Stand*, 31, 42–50.
- Poceta, J. S. (2011). Zolpidem ingestion, automatism, and sleep driving: Clinical and legal case series. *Journal of Clinical Sleep Medicine*, 76, 632–638.
- Prosecutor v. Pave Strugar (17 July 2008). Appeals Chamber, International Tribunal for the Prosecution of Persons Responsible for Serious Violations of International Humanitarian Law in the Territory of the Former Yugoslavia since 1991: <http://www.icty.org/x/cases/strugar/acjug/en/080717.pdf>
- Rabey v. The Queen (1981) 54 CCC 1.
- Ramsey, N (2012). Reframing regicide: Symbolic politics and the sentimental trial of James Hadfield. *Journal for Eighteenth-Century Studies*, 36, 317–334.
- R (on the Application of TP) v. West London Youth Court [2005] EWHC 2583 (Admin).
- R. v. Berry (1978) 66 Cr App R 156.
- R. v. Byrne [1960] 2 QB 396.
- R. v. Charlson [1955] 1 WLR 317.
- R. v. Cogdon, unreported, Supreme Court of Victoria, December 1950.
- R. v. Cottle [1958] NZLR 999.
- R. v. Falconer [1990] HCA 49; (1990) 171 CLR 30.
- R. v. Golds [2016] UKSC 61, [2016] 1 WLR 5231.
- R. v. M [2003] EWCA Crim 3452.
- R. v. M'Naghten (1843) 10 C & F 200.
- R. v. Presser [1958] VR 45.
- R. v. Pritchard (1836) 7 & P 303.
- R. v. Quick [1973] QB 910.
- R. v. Rabey (1977) 37 CCC (2d) 461.
- R. v. Radford (1985) 42 SASR 266.
- R. v. Robertson (1968) 52 Cr App R 690.
- R. v. Swain [1991] 1 SCR 933.
- R. v. Taylor (1992) 77 CCC (3d) 51.

- Rolf, C. A. (Spring 2006). From *M'Naghten to Yates*: Transformation of the insanity defense in the United States—Is it still viable? *Rivier College Online Law Journal*, 2(1).
- Rolnick, J., & Parvizi, J. (2011). Automatism: Bridging clinical neurology with criminal law. *Epilepsy and Behavior*, 20(3), 423–427.
- Salize, H. J., & Drebing, H. (2005). Placement and treatment of mentally ill offenders: Legislation and practice in EU member states. <http://www.krim.dk/undersider/straffuldbyrdelse/forvaring/psykisk-afvigende-indsatte-placering-europa-eu2006.pdf>
- Samuels, A. O'Driscoll, C., & Allnutt, S. (2007). When killing isn't murder: Psychiatric and psychological defences to murder when the insanity defence is not applicable. *Australasian Psychiatry*, 15(6), 474–479.
- SC v. United Kingdom (2004) 40 EHHR 10.
- Schneider, R. (2009). *The lunatic and the lords*. Toronto: Irwin Law.
- Schouten, R. (2012). The insanity defense: An intersection of morality, public policy and science. *Psychology Today*: <https://www.psychologytoday.com/blog/almost-psychoopath/201208/the-insanity-defense>
- Simon, R., & Ahn-Redding, H. (2006). *The insanity defense, the world over*. Lexington Books.
- Slovenko, R. (2009) *Psychiatry in law/law in psychiatry* (2nd ed.). New York: Routledge, Taylor & Francis.
- SM v. The Queen [2013] VSCA 342.
- Solicitor-General v. Dougherty [2012] 3 NZLR 586.
- Sparks, R. (1964). Diminished responsibility in theory and practice. *Modern Law Review*, 27, 9–30.
- Stanford v. United Kingdom, European Court of Human Rights, 23 February 1994, Series A no. 282-A.
- Stone, A. A. (1984). *Law, psychiatry and morality: Essays and analysis*. Washington DC: American Psychiatric Press.
- Taitt v. The State (Trinidad and Tobago) [2012] UKPC 38.
- Van der Anker. (2011). Fitness to stand trial: A general principle of European criminal law? *Utrecht Law Review*, 7(3), 120–136.
- Van Kempen, P. H. The Right to Fair Preliminary Investigation and Trial for Vulnerable Defendants: The Case for the Netherlands. In R. Mackay & W. Brookbanks (Ed.), *Fitness to stand trial: International and comparative perspectives*. Oxford: Oxford University Press.
- Van der Wolf, M. van Marle, H., Mevis, P., & Roesch, R. (2010). Understand evaluating contrasting unfitness to stand trial practices: A comparison between Canada and The Netherlands. *International Journal of Forensic Mental Health*, 3, 245–258.
- Ventress, M. (2008). Keeping PACE: Fitness to be interviewed by police. *Advances in Psychiatric Treatment*, 14(5), 369–381.
- Victorian Law Reform Commission. (2004). *Defences to homicide: Final report*. Melbourne: VLRC.
- Weiss, K. J., & Watson, C. (2015). *Psychiatric expert testimony*. New York: Oxford University Press.

- Wells, H., & Wilson, P. (2004). *The role of expert witnesses in psychological blow automatism cases*. Bond University epublications: http://epublications.bond.edu.au/cgi/viewcontent.cgi?article=1035&context=hss_pubs
- White, M. D. (2017). *The insanity defence: Multidisciplinary views on its history, trends and controversies*. ABC-CLIO.
- Williams, C. R. (2000). Development and change in insanity and related defences. *Melbourne University Law Review*, 711.
- Wright, F. (1998). Does New Zealand need a diminished responsibility defence? *Yearbook of New Zealand Jurisprudence*, 2, 109.
- Yannoulidis, S. T. (2003). Mental illness, rationality, and criminal responsibility. *Sydney Law Review*, 25(2), 189.
- Yannoulidis, S. T. (2016). *Mental state defences in criminal law*. Routledge.
- Yeo, S. (1991). *Partial excuses for murder*. Sydney: The Federation Press.

Chapter Six

RISK ASSESSMENT

CHARLES L. SCOTT AND PHILLIP J. RESNICK

Mental health clinicians are often asked to determine an individual's risk of future violence. Dangerousness assessments are required in a wide variety of situations that include involuntary commitments, emergency psychiatric evaluations, seclusion and restraint release decisions, inpatient care discharges, probation/parole decisions, death penalty evaluations, domestic violence interventions, fitness for duty evaluations, and after a threat is made. The term dangerousness is not a psychiatric diagnosis; the concept of dangerousness is a legal judgment based on social policy. In other words, dangerousness is a broader concept than either violence or dangerous behavior; it indicates an individual's propensity to commit dangerous acts (Mulvey & Lidz, 1984).

Unfortunately, no psychological test or interview can predict future violence with high accuracy. Relatively infrequent events (e.g., homicide) are more difficult to predict than more common events (e.g., domestic violence) because they have a low base rate of occurrence. The accuracy of a clinician's assessment of future violence is related to many factors, including the circumstances of the evaluation and the length of time over which violence is predicted.

In a classic review of clinicians' accuracy at predicting violent behavior toward others, Monahan concluded in 1981 that psychiatrists and psychologists were accurate in no more than one out of three predictions of violent behavior among institutionalized patients followed over many years who had both committed violence in the past and who were diagnosed as mentally ill (Monahan & Steadman, 1994). However, subsequent studies indicate that clinicians' accuracy in assessing future violence improves when the prediction is limited to briefer periods of time. For example, Lidz, Mulvey, and Gardner (1993), found that the accuracy of clinicians' predictions of violence by male patients (but not female patients) examined in an acute psychiatric

emergency room significantly exceeded chance based on patient self-reports of violent incidents, corroborating information from someone who knew the patient well, and a review of official records.

When conducting a violence risk assessment, the clinician may find it helpful to divide the concept of dangerousness into five components. The first component is the magnitude of potential harm that is threatened. Behavior may involve physical harm to persons or property, as well as psychological harm to others. In addition to identifying the likely target of violence, the degree of anticipated harm should be understood. For example, threatening to shoot someone in the head foreshadows a much greater risk of serious harm than does threatening to kick someone in the leg.

The second component of dangerousness is the likelihood that a violent act will take place. Here it is important to clarify the seriousness of the person's intent to cause harm. A person's past history of acting on violent thoughts is the best predictor that violent intentions will be carried out. The third component is the imminence of the harm. For example, is the person threatening harm in the next ten hours or the next ten days? The fourth component examines the frequency of a behavior. Frequency is defined as the number of times a particular act has occurred over a specified period of time. The greater the frequency of an aggressive act, the higher the risk that the behavior will reoccur in the future. Situational factors constitute the fifth component of potential dangerousness. Situational factors that increase the risk of future violence include association with a criminally offending peer group, lack of financial resources and housing, easy access to weapons, and exposure to alcohol or illicit drugs.

GENERAL RISK FACTORS ASSOCIATED WITH VIOLENCE

Demographic Factors

Four demographics factors should be considered when assessing violence risk. First, data from the Epidemiologic Catchment Area study showed violent behavior was generally associated with younger age groups (Swanson et al., 1990). Second, males perpetrate violent acts approximately 10 times more often than females (Tardiff & Sweillam, 1980). However, among people with severe mental disorders, men and women do not significantly differ in their base rates of violent behavior. In fact, rates are remarkably similar and in some cases slightly higher for women (Lidz, Mulvey & Gardner, 1993; Newhill, Mulvey & Lidz, 1995). The MacArthur Foundation's Violence Risk Assessment Study monitored male and female psychiatric inpatients (aged 18 years to 40 years) released in the community with mental disorders for

acts of violence toward others (Monahan et al., 2001). During the one-year follow-up, men were “somewhat more likely” than women to be violent, but the difference was not large. Women were more likely than men to direct their aggression toward family members in the home environment. Violent acts by men were more likely to result in an arrest or need for medical treatment (Monahan et al., 2001).

Third, a person’s socioeconomic status is relevant for assessing future dangerousness as violence is nearly three times as common among individuals in lower income brackets (Borum, Swartz & Swanson, 1996). However, one study (Silver, Mulvey & Monahan, 1999) reported that the actual socioeconomic status of individual patients was less predictive of violent behavior than was concentrated poverty in the neighborhood. Finally, the risk of violence also increases for those with lower intelligence and mild mental retardation (Borum et al., 1996; Quinsey & Maquire, 1986). Hodgins (1992) reported that intellectually handicapped men were five times more likely to commit violent offenses, and intellectually handicapped women were twenty-five times more likely to commit violent offenses. In addition, persons with less education have also been shown to have a higher rate of violent acts (Borum et al., 1996; Link, Andrews & Cullen, 1992).

Past History of Violence

A past history of violence is the single best predictor of future violent behavior (Klassen & O’Connor, 1988). The MacArthur study found that all measures of prior violence—self-report, arrest records, and hospital records—were strongly related to future violence (MacArthur Foundation, 2001). It is helpful to ask individuals about the most violent thing that they have ever done. Obtaining a detailed history of violence involves determining the type of violent behavior, why violence occurred, who was involved, the presence of intoxication, and the degree of injury.

Criminal and court records are particularly useful in evaluating the person’s past history of violence and illegal behavior. For example, the age at first arrest for a serious offense is highly correlated with persistence of criminal offending (Borum et al., 1996). Each prior episode of violence increases the risk of a future violent act (Borum et al., 1996). Given four previous arrests, the probability of a fifth is 80 percent (Wolfgang, Thornberry & Figlio, 1987).

Additional sources of information relevant in assessing a person’s potential for violence include a military and work history. For those individuals who have served in the military, the clinician should review any history of fights, absences without leave (AWOL), disciplinary measures (Article 15 in the *Uniform Code of Military Justice*), as well as the type of discharge. An eval-

uation of the work history should review frequency of job changes and reasons for each termination. Frequent terminations increase the risk for violence. Persons who are laid off from work are six times more likely to be violent than are their employed peers (Catalano, Dooley, Novaco, Wilson & Hough, 1993).

A person who has used weapons against others in the past may pose a serious risk of future violence. The main difference between assault and homicide is the lethality of the weapon used. Loaded guns have the highest lethality of any weapon. An assault with a gun is five times more likely to result in a fatality than is an attack with a knife (Zimring, 1991). According to the Department of Justice, an estimated 40 percent of U.S. households contain a gun and 20 percent of all gun-owning households keep the gun loaded and unlocked (Cook & Ludwig, 1997). Subjects should be asked whether they own or have ever owned a weapon. The recent movement of a weapon, such as transferring a gun from a closet to a nightstand, is particularly ominous in a paranoid person. The greater the psychotic fear, the more likely the paranoid person is to kill someone he or she misperceives as a persecutor in misperceived self-defense.

Mental Disorders and Violence

Studies examining whether individuals with mental illness are more violent than are the non-mentally ill have yielded mixed results (Steadman et al., 1998; Torrey, 1994). Reported prevalence rates of violence by mentally ill individuals have varied by the sample type studied and the time frame examined (Choe, Teplin & Abram, 2008). In a study of civilly committed psychiatric patients released into the community, most mentally ill individuals were not violent (Monahan, 1997). Although a weak relationship between mental illness and violence was noted, violent conduct was greater only during periods in which the person was experiencing acute psychiatric symptoms. Individuals with a diagnosis of schizophrenia had lower rates of violence compared to individuals with a diagnosis of depression or bipolar disorder. In addition, Monahan and colleagues noted that substance abuse was a much greater risk factor for violence than mental illness was (Monahan et al., 2001). The relationship of specific diagnoses to violence risk is outlined in more detail below.

Substance Use and Violence Risk

Drugs and alcohol are strongly associated with violent behavior (Monahan et al., 2001; Pulay et al., 2008). The majority of persons involved in violent crimes are under the influence of alcohol at the time of their aggression (Murdoch, Pihl & Ross, 1990). Nearly 90% of intravenous drug users have

committed a violent offense (Darke, 2005). Stimulants, such as cocaine, crack, amphetamines, and PCP are of special concern.

Research indicates that methamphetamine use is particularly problematic. Over 25% of methamphetamine users experience psychosis; clinically significant hostility was more common with severe psychotic symptoms that last longer than two days (McKetin et al., 2008). In their study of 278 methamphetamine users who did not meet criteria for schizophrenia or bipolar disorder, McKetin et al. (2014) found that violent behavior was over six times more likely when patients were using methamphetamine compared to when they were not. In addition, this increased risk was dose dependent, with heavier use (16 or more days in the past month) producing a 15-fold increase in violent behavior. For intravenous drug users, two factors are associated with future violent offending: having committed violence under the influence and having more impulsive trait personalities (Torok et al., 2014).

Although persons with an alcohol or substance use disorder are more than twice as likely as those with schizophrenia to report violent behavior in the past year, substance use comorbid with a mental disorder poses an even greater risk of future violence than either condition alone (Swanson et al., 1990). Moreover, the comorbidity of substance abuse and dependence accounts for a significant portion of the violence committed by individuals with mental disorders (Monahan et al., 2001). Substance use may increase violence risk in individuals with mental illness through their acute pharmacological effects, the exacerbation of psychiatric symptoms, or resulting treatment non-adherence (Volavka & Swanson, 2010).

Although the relationship of alcohol and stimulant use to violence has been well established, the contribution of cannabis use to violent behavior in psychiatric behavior has been more limited. Two important studies indicate that cannabis use may not be as benign in regard to its use and relationship to violence as many may assume. For example, Dugre et al. (2017) followed 1,136 psychiatric patients included in the MacArthur Risk Assessment Study, over five ten-week intervals after discharge from an acute psychiatric hospitalizations and examined the relationship of cannabis use to violence. Their findings indicate that those patients who reported having used cannabis at each follow-up period were 2.44 times more likely to display violent behaviors. Furthermore, this association was unidirectional, meaning that cannabis use was determined as increasing the risk of violence rather than more violent patients seeking out cannabis to use. Schoeler et al. (2016) prospectively followed 411 boys between the ages of 8 and 56 years to research the potential relationship to cannabis use to violence. These researchers found that those individuals with continued exposure to cannabis over their lifetime had a 7-fold greater odds for a subsequent violent conviction when compared to non-users, suggesting a possible causal effect.

PSYCHOSIS AND VIOLENCE

Psychotic symptoms are particularly important to explore when conducting a violence risk assessment. In an analysis of 204 studies examining the relationship between psychopathology and aggression, Douglas, Guy and Hart (2009) found that psychosis was the most important predictor of violent behavior. Delusions and command auditory hallucinations are among the most common psychotic symptoms that increase future dangerousness.

Delusions and Violence

Threat/control-override (TCO) type delusions are characterized by the presence of beliefs that one is being threatened (e.g., being followed or poisoned) or that one is losing control to an external source (e.g., one's mind is dominated by forces beyond the person's control) (Link & Stueve, 1995). Swanson and colleagues, using data from the Epidemiologic Catchment Area surveys, found that people who reported threat/control-override symptoms were about twice as likely to engage in assaultive behavior as those with other psychotic symptoms (Swanson, Borum & Swartz, 1996).

In contrast, results from the MacArthur Study of Mental Disorder and Violence (Monahan et al., 2001) showed that the presence of delusions did not predict higher rates of violence among recently discharged psychiatric patients. In particular, a relationship between the presence of threat/control-override delusions and violent behavior was not found. In a study comparing male criminal offenders with schizophrenia found not guilty by reason of insanity to matched controls of non-offending schizophrenics, Stompe et al. (2004) also found that threat/control-override symptoms showed no significant association with the severity of violent behavior nor did the prevalence of threat/control-override symptoms differ between the two groups. However, nondelusional suspiciousness, such as misperceiving others' behavior as indicating hostile intent, has demonstrated a relationship with subsequent violence (Monahan et al., 2001).

Nederlof, Muris and Hovens (2011) conducted a cross-sectional multicenter study to further examine whether the experience of threat/control-override symptoms is related to aggressive behavior. The study sample included 124 psychotic patients characterized by the following diagnostic categories: 70.2% paranoid schizophrenia; 16.1% "other forms" of schizophrenia; 3.2% schizoaffective disorder, 0.8% delusional disorder; and 9.7% psychosis NOS. These researchers developed the Threat/Control-Override Questionnaire (TCOQ), a 14-item self-report scale designed to measure both delusional threat and control-override symptoms in a more detailed manner than in previous research. The six *Threat* items specific to this instrument are (Nederlof, Muris & Hovens, 2011):

- Other people have tried to poison me or to do me harm.
- Someone has deliberately tried to make me ill.
- Other people have been secretly plotting to ruin me.
- Someone has had evil intentions against me.
- I have the thought that I was being followed for a special reason.
- People have tried to drive me insane.

The eight *Control-Override* items on the TCOQ are (Nederlof, Muris & Hovens, 2011):

- I am under the control of an external force that determines my actions.
- Other people control my way of movements.
- Other people can insert thoughts into my head.
- My thoughts are dominated by an external force.
- I have the feeling that other people can determine my thoughts.
- Other people can insert thoughts into my mind.
- I have the feeling that other people have control over me.
- My life is being determined by something or someone except for myself.

The authors determined that TCO symptoms were a significant correlate of aggression in their study sample. When the two domains of TCO symptoms were evaluated separately, only threat symptoms made a significant contribution to aggressive behavior. In their attempt to reconcile conflicting findings from earlier research regarding the relationship of TCO symptoms to aggressive behavior, the authors suggested that various methods of measuring TCO symptoms may underlie the seemingly contradictory findings among various studies (Nederlof, Muris & Hovens, 2011).

In addition to research examining the potential relationship of particular delusional content to aggression, Appelbaum, Robbins, and Roth (1999) utilized the MacArthur-Maudsley Delusions Assessment Schedule to examine the contribution of non-content related delusional material to violence. The seven dimensions covered by the MacArthur-Maudsley Delusions Assessment Schedule (with brief definitions) are:

1. *Conviction*: The degree of certainty about the delusional belief.
2. *Negative affect*: Whether the delusional belief makes the individual unhappy, frightened, anxious, or angry.
3. *Action*: The extent to which the individual's actions are motivated by the delusional belief.
4. *Inaction*: Whether the individual has refrained from any action as a result of the delusional belief.

5. *Preoccupation*: The extent to which the individual indicates that their thoughts focus exclusively on the delusion.
6. *Pervasiveness*: The degree to which the delusional belief penetrates all aspects of the individual's experiences.
7. *Fluidity*: The degree to which the delusional belief changed frequently during the interview.

These authors found that individuals with persecutory delusions had significantly higher scores on the dimensions of "action" and "negative affect," indicating that persons with persecutory delusions may be more likely to react in response to the dysphoric aspects of their symptoms (Appelbaum, Robbins & Roth, 1999). Other research has demonstrated that individuals suffering from persecutory delusions and negative affect are more likely to act on their delusions (Buchanan et al., 1993) and to act violently (Cheung et al., 1997).

Command Hallucinations and Violence

An evaluator should carefully assess if the person is experiencing auditory hallucinations when determining violence risk. Auditory hallucinations that command the patient to do something are experienced by approximately half of psychiatric patients who experience auditory hallucinations (Shawyer et al., 2003). Because many patients do not report their command hallucinations to others, the frequency of these hallucinations is likely even higher (Zisook et al., 1995). The majority of command hallucinations are non-violent in nature and patients are more likely to obey nonviolent instructions than violent commands (Chadwick & Birchwood, 1994). However, between 30 to 65% of individuals comply with command to harm others (Fox et al., 2004; Shawyer et al., 2003).

Research establishing specific factors associated with a person acting on harm-other command hallucinations has been mixed. In a review of seven controlled studies examining the relationship between command hallucinations and violence, no study demonstrated a positive relationship between command hallucinations and violence and one found an inverse relationship (Rudnick, 1999). In contrast, McNiel, Eisner and Binder (2000) found in their study of 103 civil psychiatric inpatients, that 33% of patients reported having had command hallucinations to harm others during the prior year and 22% of the patients reported that they complied with such commands. The authors concluded that patients in their study who experienced command hallucinations to harm others were more than twice as likely to be violent than those without such commands.

Four factors have been described as increasing a person's willingness to comply with harm-other command hallucinations. First, persons are more likely to act on auditory hallucinations to harm others when they perceive the voice they hear as powerful (Fox, Gray & Lewis, 2004; Shawyer et al., 2008). Birchwood and Chadwick (1997) noted that persons who perceive a voice as powerful experience a subjective loss of control over the voice with associated feelings of powerlessness and helplessness. Evaluators should ask the individual what he or she believes would be the consequence for failing to obey the voice with more dire perceived outcomes increasing compliance (Barrowcliff & Haddock, 2010). Second, individuals who have a positive appraisal of a harm-other hallucination are more likely to act when compared to an individual who interprets the voice as threatening. In other words, if the person believes that following the directive of the command hallucination will benefit them, they are more likely to comply (Shawyer et al., 2008). Third, persons are more likely to follow harmful command hallucinations when they are associated with a congruent delusion (Shawyer et al., 2008). As an example, a person who hears a voice to kill his wife is more likely to act on this command if he has the delusional belief that his wife has been invaded by an evil alien who is preparing to kill him. Finally, Cheung et al. (1997) noted in their study of patients with schizophrenia that those whose hallucinations generated negative emotions (e.g., anger, anxiety, and sadness) were more likely to act violently than those individuals with voices that generated a positive emotion.

When evaluating a patient with persecutory delusions, the clinician should also inquire if the patient has employed "safety actions." Safety actions are specific behaviors (such as avoidance of a perceived persecutor or an escape from a fearful situation) that the individual has employed with the intention of minimizing a misperceived threat. In one study of 100 patients with current persecutory delusions, over 95% reported using safety behaviors in the past month. In this study, individuals with a prior history of violence reported a greater current use of safety behaviors (Freeman et al., 2007).

Schizophrenia and Violence Risk

Delusions and hallucinations are prominent symptoms of schizophrenia and there is evidence that a diagnosis of schizophrenia is associated with an increase in criminal offending. In a retrospective review of 2,861 Australian patients with schizophrenia followed over a 25-year period, Wallace, Mullen and Burgess (2004) found that patients with schizophrenia were significantly more likely to have been convicted of a criminal offense (including violent offenses) relative to matched comparison subjects. These authors noted

that the criminal behaviors committed by schizophrenic patients could not be entirely accounted for by co-morbid substance use, active symptoms, or characteristics of systems of care (Wallace, Mullen & Burgess, 2004). Fazel et al. (2014) determined that over 10% of men diagnosed with schizophrenia were convicted of a violent offense within five years of their diagnosis.

A typology consisting of three groups indicates different pathways to violence among individuals with schizophrenia. The first group includes persons with a history of childhood conduct disorder who demonstrate aggressive behavior and antisocial acts before and after being diagnosed with schizophrenia. The second group becomes involved in aggressive behavior concomitant with the onset of their illness. The third group involves schizophrenics who engage in a physical assault after many years of their illness, i.e., a “late first offender” (Hodgins, Piatosa & Schiffer, 2014). Van Dongen, Buck and Van Marle (2014) found that although persecutory delusions were associated with all three groups, they were more likely to be associated in the late first offender group.

Mood Disorders and Violence Risk

The majority of studies evaluating the relationship of mood disorders to violence do not differentiate between bipolar disorder, mania and depression (Graz et al., 2009). To evaluate if criminal behavior and violent crimes were more common in the diagnosis of depression versus mania, Graz et al. (2009) examined the national crime register for 1,561 patients with an affective disorder who had been released into the community. The rate of criminal behavior and violent crimes was highest in the manic disorder group (15.7%) compared to patients with major depressive disorder (1.4%). The authors concluded that different mood disorders have different risks of violence. Other studies have examined violence risk factors unique to different mood disorders and these are summarized below.

Depression and Violence Risk

Individuals who are depressed may exhibit violent behavior, particularly when they are in emotional despair and strike out against others. After committing a violent act, the depressed person may attempt suicide. Depression is the most common diagnosis in murder-suicides (Marzuk, Tardiff & Hirsch, 1992). Studies examining mothers who kill their children (filicide) have found that they were often suffering a depressive illness.

In their analysis of 386 individuals from the MacArthur Violence Risk Assessment Study with a categorical diagnosis of depression, Yang et al. (2012) noted two important findings relevant to depression and future vio-

lence risk. First, violence that had occurred within the past ten weeks was a strong predictor of violence by participants with depression, but not by participants with a psychotic disorder. This finding suggests that a past history of *recent* violence may represent a higher risk of future violence in depressed patients than in those with psychosis. Second, this risk of future harm by depressed patients was further increased with alcohol use.

To further evaluate if depression independently increases a person's risk of future violence, Fazel et al. (2015) compared over 47,000 outpatients diagnosed with depression to nearly 900,000 population controls. These researchers determined that those individuals with depression were three times more likely to commit a violent crime compared to the general population and twice as likely to commit a violent crime when compared to their unaffected siblings. Of note, depressed patients' increased risk of future violence remained even when a history of substance use disorders, prior history of violent and non-violent crime, and self-injurious behavior were all excluded.

Yu et al. (2017a) examined three longitudinal studies in adolescents and young adults (ages 15-27) that estimated the risk of violent convictions in those with clinically diagnosed depression. The researchers found elevated risks of violence in adolescents and young adults with heightened depressive symptoms and in those with a clinical diagnosis of depression, independent of socioeconomic status and prior history of violence. In a further analysis of one of the three above longitudinal studies, Yu et al. (2017b), found that those adolescents who were depressed were at an increased risk of victimization and this victimization mediated the association between depressive symptoms and violent behaviors from early to late adolescence.

Bipolar Disorder and Violence Risk

Patients with mania show a high percentage of assaultive or threatening behavior, but serious violence itself is rare (Krakowski et al., 1986). Patients with mania most commonly exhibit violent behavior when they are restrained or have limits set on their behavior (Tardiff & Sweillam, 1980).

Active manic symptoms have been suggested as playing a substantial role in criminal behavior. In particular, Fazel et al. (2010) compared violent crime convictions for over 3700 individuals diagnosed with bipolar disorder with general population controls and unaffected full siblings. This longitudinal study had two main findings. First, although individuals with bipolar disorder exhibited an increased risk for violent crime compared to the general population, most of the excess violent crime was associated with substance abuse comorbidity. Second, unaffected siblings also had an increased risk for violent crime highlighting the contribution of genetics or early environmental factors in families with bipolar disorder.

Yoon et al. (2012) investigated characteristic of homicide in the depressive and manic phases of 219 offenders with a diagnosis of bipolar 1 disorder. Five key findings from this study include the following: (1) the rate of homicide was higher in the depressive phase than in the manic phase; (2) victims of homicide were more likely to be family members when the person was in the depressive phase; (3) parricide (the killing of a parent) was committed only in manic phases; (4) killing for altruistic reasons was higher in individuals during depressive phases compared to manic phases; and (5) impulsivity was the most common motivation for homicides committed by persons who were manic.

Cognitive Impairment and Violence Risk

Individuals with intellectual disabilities have a significant increased risk of aggressive behavior. In an American survey of over 91,164 people with intellectual disabilities, 14% had a history of problematic behaviors and of these, 9.2% had a history of physical aggression or property destruction (Borthwick-Duffy, 2004). In a review of 3165 adults with intellectual disabilities receiving rehabilitation services in Canada, Crocker (2006) found that approximately 25% were physically aggressive during a 12-month period. In their study of 181 people with profound intellectual and multiple disabilities (PIMD) Poppes et al. (2010) noted that 45% of individuals with profound intellectual disability or multiple disabilities (PIMD) had a history of aggressive/destructive behavior.

Aggression is also common following a traumatic brain injury (Roy et al., 2017). Post-traumatic brain injury (TBI) aggression often includes irritability, anger, disinhibition with behavioral and emotional dyscontrol characterized by verbal outbursts and physical violence to self, others, or property (Alderman 2003; Arciniegas & Wortzel, 2014). The prevalence of post-TBI aggression ranges from 11% to 34% (Roy et al., 2017). In their prospective follow up of 103 individuals with first-time TBI over a 12-month period, Roy et al. (2017) noted that post-TBI social functioning, new-onset depression, and early aggression (within 3 months of the TBI) were particularly important predictors for aggression within the first year following a TBI.

Epilepsy has also been described as having a relationship to violence. However, the evidence for this relationship has focused primarily on small prisoner samples or children with epilepsy (Fazel et al., 2011). In their study of 22,000 individuals with traumatic brain injury and 22,000 individuals with epilepsy, Fazel et al. (2011) evaluated if persons with either of these disorders were at an increased risk for violent crime compared with the general population or unaffected siblings. The authors reported several important findings. First, individuals with traumatic brain injury had a significantly increased

risk of violent crime, particularly in cases involving focal brain injuries and injury after age 16. Second, after adjusting for familial factors, epilepsy was not associated with an increased risk of violent crime. Therefore, although evaluators should consider traumatic brain injury a risk factor for future violence, such causality does not appear to have been established for epilepsy (Fazel et al., 2011).

Personality Factors and Violence Risk

The most common personality disorder associated with violence is antisocial personality disorder (ASPD) (Monahan, 2001). The violence by those with antisocial personality disorder is often motivated by revenge or occurs during a period of heavy drinking. Violence among these persons is frequently cold and calculated and lacks emotionality (Williamson, Hare & Wong, 1987). In addition to *DSM-5* diagnosis of antisocial personality disorders or traits, the clinician should also be familiar with the psychological construct known as psychopathy. The term psychopath was described by Cleckley (1976) as an individual who is superficially charming, lacks empathy, lacks close relationships, is impulsive, and is concerned primarily with self-gratification. Hare and colleagues developed the Psychopathy Checklist-Revised (PCL-R) (Hare, 1991) as a validated measure of psychopathy in adults. Psychopathy is a strong predictor of criminal behavior generally and violence among adults (Salekin, Rogers & Sewell, 1996). When the PCL-R is used for risk assessment, its performance varies with the type of offending and the length of the prediction period. When using the PCL-R to assess future violence risk, evaluators should consider two important factors. First, the PCL-R has better predictive efficacy for general and nonviolent than violent recidivism. Second, The PCL-R has better predictive efficacy for shorter vs. longer follow-up periods. Therefore, evaluators need to exercise special caution when assessing long term outcomes for future violence based solely on the PCL-R (Olver & Wong 2015).

ASSESSING CURRENT DANGEROUSNESS

When conducting an assessment of current dangerousness, pay close attention to the individual's affect. Individuals who are angry and lack empathy for others are at increased risk for violent behavior (Menzies, Webster & Sepejak, 1985). In their meta-analysis of 610 individuals, Reagu et al. (2013) found a consistent and significant association between angry affect and violent behavior in the context of psychotic illness.

All threats should be taken seriously so the clinician should attempt to gather additional details. An important line of inquiry involves understand-

ing the exact relationship of the person making the threat to their intended victim. Understanding how a violent act will be carried out and the expected consequences for the patient helps the clinician in assessing the degree of danger. In addition, fully considering the consequences of an act may help the patient elect an alternative coping strategy. For example, a patient may be focused on revenge against his wife because of her infidelity. When confronted with the likelihood of spending many years in prison, he may decide to divorce his wife instead. Additional information that should be elicited includes potential grudge lists, and an investigation of the subject's fantasies of violence (Monahan et al., 2001). The clinician should also assess the suicide risk in any patient making a homicidal threat. One study found that 91% of outpatients who had attempted homicide also had attempted suicide and that 86% of patients with homicidal ideation also reported suicidal ideation (Asnis et al., 1997). In their study of 1460 adults with schizophrenia, Witt, Hawton and Fazel (2014) found that suicidal threats were independently associated with violence risk in both males and females.

Inquiring about access to a weapon is particularly important in evaluating a person's risk for imminent dangerousness. A person who has used weapons against others in the past has an increased risk of future violence. The main difference between assault and homicide is the lethality of the weapon used.

Finally, the evaluator should ask the person to rate his or her own likelihood of future violence. Roaldset and Bjorkly (2010) asked 489 patients admitted to a psychiatric hospital to rate their risk of future threatening or violent actions towards others. Moderate or high risk scores on self-ratings of future violence remained significant predictors of violence one year post-discharge. However, persons who rated themselves as "no risk" or refused to answer the question also had a considerable number of violent episodes, indicating that a self-report of low risk of violence may produce false negatives.

When organizing strategies to decrease risk factors that may contribute to future violence, clinicians should distinguish static from dynamic risk factors. By definition, static factors are not subject to change by intervention. Static factors include such items as demographic information and past history of violence. Dynamic factors are subject to change with intervention and include such factors as access to weapons, acute psychotic symptoms, active substance use, and a person's living setting. The clinician may find it helpful to organize a chart that outlines violence risk factors, management and treatment strategies to address dynamic risk factors, and the current status of each risk factor. This approach will assist in the development of a violence prevention plan that addresses the unique combination of risk factors for a particular patient and organizes interventions to manage those risks.

EVALUATION OF SPECIAL POPULATIONS

Stalking

Approximately one in twelve women and one in forty-five men will be stalked at some point in their lifetime. Nearly 90 percent of stalkers are men, and most female and male victims know their stalker. Women are more likely than men (59% vs. 30%) to be stalked by an intimate partner. Although the average duration of stalking is 1.8 years, the duration increases to 2.2 years when the stalking relationship involves an intimate partner. More than 70 percent of current or former intimate partners verbally threaten their victim with violence. Eighty-one percent of women stalked by a current or prior partner are eventually physically assaulted; more than 30 percent will be sexually assaulted (Tjaden & Thoennes, 1998).

Stalking can occur in a variety of circumstances, including attempts to contact the victim directly or indirectly through the phone, mail, faxes, or personal notes left at a particular location. With the advent of electronic communication, stalkers may employ cyberspace technology and the Internet to maintain contact with their victim through emails. They may also gather information about the victim using common search engines (McGrath & Casey, 2002). Text messaging or short message service (SMS) via a mobile phone represents yet another developing method for the stalker to maintain communication with the victim without physical contact (Eytan & Borrás, 2005).

All fifty states, the federal government, and the District of Columbia now classify stalking as a crime. Although precise statutory definitions vary, most stalking statutes incorporate the following elements:

- A course of conduct
- The conduct is directed at a specific person
- The conduct results in a reasonable person experiencing fear

Logan and Walker (2017) describe a framework for assessing stalking that involves similar components included in most statutes as outlined above. First, there is an intentional course of conduct that may involve surveillance, life invasion, intimidation, and interference through sabotage and attack. Second, the victim experiences reasonable fear from implicit or explicit threats, and third, the stalker persists despite victim resistance. The degree of danger posed by a stalker depends on a variety of factors. Intervention plans to curb or stop stalking behavior should be tailored to each specific case. General recommendations noted to reduce the impact of stalking include the following (Mullen, Pathe & Purcel, 2000):

- Communicating early and clearly that any contact and attention is unwanted
- Carefully protecting personal information, including limiting distribution of home address, telephone numbers, and cyberspace information
- Informing trusted others at home and work to prevent inadvertent disclosure of information and to protect their safety
- Contacting appropriate agencies such as police, victim support organizations, mental health clinics, and domestic and sexual violence programs when applicable
- Documenting and preserving all stalker contacts
- Recording all phone calls on an answering machine and keeping a separate private line for personal calls
- Obtaining self-defense training
- Avoiding all contact and confrontations

The decision to obtain a restraining order against the stalker is one that requires careful consideration and may be ineffective or actually inflammatory in certain situations. In particular, Orion (1997) emphasized that restraining orders are likely to be ineffective against ex-intimates, who are heavily invested in the relationship, and erotomaniac or delusional stalkers, who view legal orders as not applicable to their situation. DeBecker (1997) notes that restraining orders are most likely to be effective in those situations that involve a casual acquaintance with limited emotional investment and no prior history of violence. If a decision is made to obtain a restraining order, the victim should be aware that stalkers are at higher risk to act violently immediately following the issuance of the order, so additional precautions should be taken. A protection order should be viewed as only one component of a comprehensive plan designed to minimize risk to the victim and may not be appropriate for every case.

Murder-Suicide

Murder-suicide occurs when an individual commits suicide after taking the life of another person. The National Violent Death Reporting System (NVDRS) defines a murder-suicide as including only those suicides that occur within a twenty-four-hour period after a murder (Bossarte, Simon & Barker, 2006), whereas other authors extend this period up to one week (Marzuk et al., 1992). Various labels have been used to describe the phenomenon of murderers who subsequently take their life and include homicide-suicide, dyadic death, doubly violent aggression, and despondent killers.

Because there is no national surveillance system for murder-suicide in the United States, the exact prevalence is difficult to determine. In most studies, murder-suicide rates have been reported to range from 0.2 to 0.3 per 100,000 persons (Coid 1983; Marzuk et al., 1992; Milroy, 1995) although rates as high as 0.4 to 0.5 per 100,000 persons have also been noted (Hannah, Turf & Fierro, 1998; Hanzlick & Koponen, 1994).

Marzuk and associates (1992) proposed a murder-suicide typology based on the relationship between the perpetrator and the victim. The proposed categories of murder-suicide are (1) spousal/consortial, (2) familial, and (3) extrafamilial.

Spousal/Consortial Murder-Suicides

Numerous studies indicate that most murder-suicides involve male perpetrators who kill spouses or intimates (Aderibigbe, 1997; Felthous & Hempel, 1995; Malphurs & Cohen, 2002; Marzuk et al., 1992; Milroy, Dratsas & Ranson, 1997; Palermo et al., 1997). Nearly one third of men who kill their spouse or partner will commit suicide, a statistical phenomenon not matched by females who kill intimate partners (Bossarte et al., 2006). Common psychiatric diagnoses in perpetrators of couple murder-suicides include depression (Rosenbaum, 1990) and alcohol intoxication or abuse (Comstock et al., 2005).

Marzuk et al. (1992) divided spousal/consortial murder-suicides into two subtypes: (1) *amorous jealous* and (2) *declining health*. The *amorous-jealous* subtype is the most common, representing between 50 percent and 75 percent of all spousal/consortial murder-suicides. In the *amorous-jealous* subtype, the perpetrator is commonly a young man who kills his spouse or girlfriend with a firearm in a jealous rage during a period of actual or impending separation (Marzuk et al., 1992). More recent studies of homicide-suicide in older persons also note that interpersonal conflict remains a potential trigger for these deaths, particularly in an older man married to a younger woman (Cohen, Llorente & Eisdorfer, 1998).

In the *declining health* subtype, the murderer is typically an older man (potentially in poor health) caring for his ailing wife. The perpetrator may believe his actions are altruistic and serve as a mercy homicide. Sometimes both parties view their deaths as a dual suicide pact, but usually the male is the decision maker.

Murder-Suicides of Family Members

Murder-suicides may involve a perpetrator who kills one or more family members other than a spouse or intimate partner. In an Australian study examining murder-suicides of children over a twenty-nine-year period,

researchers found that when fathers killed their children, they were more likely to also kill their spouse in contrast to mothers who killed only their children. Furthermore, compared to men, women tended to use less violent methods to commit murder and suicide (Byard, Knight, James & Gilbert, 1999). Filicide is broadly defined as the murder of a child by a parent. Three types of filicide include: (1) *neonaticide*, the murder of a child less than one day old; (2) *infanticide*, the murder of a child older than one day and less than one year old; and (3) *pedicide*-murder of a child older than one year and less than age sixteen.

High rates of suicide following a filicide have been noted, with between 16 percent and 29 percent of mothers and 40 percent and 60 percent of fathers taking their life after murdering their child (Hatters-Friedman et al., 2005; Marzuk et al., 1992; Rodenburg, 1971). In a study of thirty family filicide-suicide files, the most common motive involved an attempt by the perpetrator to relieve real or imagined suffering of the child, an action known as an altruistic filicide. Eighty percent of the parents in this study had evidence of a past or current psychiatric history, with nearly 60 percent suffering from depression, 27 percent with psychosis, and 20 percent experiencing delusional beliefs (Hatters-Friedman et al., 2005).

Familicide is defined as the murder of an entire family. These family annihilators are usually men suffering from depression, intoxication, or both (Dietz, 1986). Risk factors associated with family annihilation include ongoing marital conflict, anger over separation, illness in a child, and financial stress (Hatters-Friedman et al., 2005; Morton et al., 1998). In certain cases, the perpetrator believes that murdering the family members will alleviate future suffering and views his action as altruistic. Rare cases of depressed or psychotic adolescents have also been described in which children kill their entire family prior to taking their own life (Malmquist, 2006).

Because of the high rates of mental illness in parents who kill their children, evaluators should carefully consider the possibility that their depressed, suicidal, or psychotic patients who are parents may represent a potential risk of harm to their child. In addition to a standard suicide risk assessment, the clinician should explore areas that may assist in preventing a tragic death (Hatters-Friedman et al., 2005). Suggested questions include the following:

- What do you believe will happen to your child if you die or commit suicide?
- Do you have any fears or concerns that your child may be harmed by others?
- Do you have any worries regarding your child's health or unnecessary suffering?
- Are you having any thoughts about harming your child?

- Have you taken any steps to harm your child?
- If you have had thoughts of harming your child, what has kept you from doing so thus far?

Extrafamilial Murder-Suicides

Suicides following the murder of a nonfamily member or intimate partner are relatively rare. Murder-suicides outside the family have occurred in the workplace; schools; and public settings, such as malls or tourist locations. Such perpetrators have also been referred to as mass killers or rampage killers. The definition of mass murderer typically involves multiple victims at one location. However, the number of victims to qualify the crime as a mass murder varies on the definition used and ranges from a minimum of two, three, or four victims. Gill et al. (2017) reviewed characteristics of 115 U.S. mass murderers (defined in their study as having four or more victims). These authors noted that mass murder attacks resulted from a complex mix of personal, political, and social influences with no uniformly defining narrative explaining all attacks. In particular, the mass murderers in this study had no particular sociodemographic profile though many were described as socially isolated. The perpetrators typically engaged in a wide range of criminal behavior prior to the attack and the mass murder episode was rarely sudden or impulsive. In most cases, someone else knew of the perpetrator's grievance or knew something about the plot. Finally, 48 of these 115 perpetrators committed suicide at the scene and 13 were killed by the police.

STRUCTURED RISK ASSESSMENTS OF VIOLENCE

Standardized risk assessment instruments for the prediction of violence are being used increasingly by clinicians in conjunction with their clinical violence risk assessments. The goals of these prediction schemes are to assist the clinician in gathering appropriate data and to anchor clinicians' assessments to established research. Skeem and Monahan (2011) describe that the current risk assessment process involves a continuum of rule-based structure rather than a simple clinical-actuarial dichotomy. On one pole of this continuum are completely unstructured risk assessments (known as the clinical judgment approach), whereas on the opposite pole are completely structured assessments (known as the actuarial approach). Four components that may be present in the continuum of risk assessment approaches include the following: identifying risk factors; measuring risk factors; combining risk factors; and producing a final risk estimate (Skeem & Monahan, 2011).

The authors define five approaches based on the number of structured components included in the assessment process. The five approaches, from least to most structured, are (Skeem & Monahan, 2011):

1. No structured component. The “clinical judgment” approach to risk assessment has no structured component. According to the authors, in this approach, “the clinician selects, measures, and combines risk factors and produces an estimate of violence risk solely according to his or her clinical judgment” (Skeem & Monahan, 2011, p. 39).
2. One structured component. This approach is titled the “standard list of risk factors” method of risk assessment and involves identifying risk factors as the only structured component. The authors note that this risk assessment approach is conducted by referencing “a standard list of risk factors that have been found to be empirically valid (e.g., age, past violence), such as the lists provided in psychiatric texts. . . . Such lists function as memory aids to help clinicians identify which risk factors to attend to in conducting their assessments, but such lists do not further specify a method for measuring these risk factors” (Skeem & Monahan, 2011, p. 39).
3. Two structured components. The authors describe this approach as “Structured Professional Judgment (SPJ)” and provide the HCR Historical-Clinical-Risk Management-20 (HCR-20) assessment scheme as an example of the SPJ approach (Webster et al., 1997). The authors write that the HCR “structures two components of the process: both the identification and the measurement of risk factors. . . . Structured professional judgments do not go further to structure how the individual risk factors are to be combined in clinical practice” (Skeem & Monahan, 2011, p. 39).
4. Three structured components. The authors identify two risk assessment schemes with three structured components, which are the Classification of Violence Risk (COVR) (Monahan et al., 2001) and the Level of Service Inventory (LSI) (Andrews & Bonta, 2004). According to the authors, “these instruments structure the identification, measurement, and combination of risk factors (via a classification tree design or summing scores)” (Skeem & Monahan, 2011, p. 39). Although these evaluation schemes combine risk factors to provide estimates of risk levels, evaluators are permitted to modify the overall score based on their clinical impression.
5. Four structured components. The authors note that the Violence Risk Appraisal Guide (VRAG) (Quinsey et al., 2006) is the best-known instrument that structures all components of the violence risk assessment process. In describing the VRAG, the authors write, “This instrument not only structures the identification, measurement, and combination of risk factors; it also specifies that once an individual’s violence risk has been actuarially characterized, the risk assessment process is complete” (Skeem & Monahan, 2011, p. 39).

Actuarial models have inherent limitations when used exclusively. Specific criticisms of actuarial instruments include the following: they pro-

vide only approximations of risk, their use is not generalizable beyond the studied populations on which they are based, they are rigid and lacking sensitivity to change and they fail to inform violence prevention and risk management (Douglas, Ogloff & Hart, 2003). Although actuarial models attempt to standardize the practice of dangerousness assessment, they are not designed to be the sole standard for violence assessment. Actuarial tools are useful in assisting clinicians in reaching reasonable conclusions based on research findings (Borum et al., 1996), but the evaluator must also consider the imminence and severity of violence that may not be reflected in an actuarial instrument alone (Glancy & Chaimowitz, 2005).

DUTY TO POTENTIAL VICTIMS

The duty of clinicians to third parties (individuals with whom the clinician does not have a treating relationship) has expanded significantly during the last thirty years. In the United States, one person is not ordinarily responsible for the violence that a second person inflicts on a third, unless the first person had a special relationship with the second. The seminal U.S. case establishing that the outpatient-therapist relationship is such a “special” relationship is *Tarasoff v. Regents of the University of California* (1976).

In *Tarasoff* the court held that “When a therapist determines, or pursuant to the standards of his profession should determine that his patient presents a serious danger of violence to another, he incurs an obligation to use reasonable care to protect the intended victim against such danger. The discharge of this duty may require the therapist to take one or more of various steps. Thus, it may call for him to warn the intended victim, to notify police, or to take whatever steps are reasonably necessary under the circumstances.”

Clinicians have various options in fulfilling their requirement to protect under the *Tarasoff* doctrine. When possible, the threat of violence should be handled as a treatment issue. In some cases, the patient can be involved in the notification of the victim. If necessary, the therapist may notify the intended victim and police against the patient’s wishes. Another option is voluntary hospitalization of the patient. If the individual refuses and there is an imminent risk of harm, the clinician must consider involuntary commitment. If the patient does not meet involuntary commitment criteria, other “reasonable steps” that may be implemented include (1) increasing the frequency of outpatient appointments, (2) adjusting medications, (3) involving family or friends in an attempt to control the patient, and (4) removing weapons from the home (Tardiff, 1989).

CONCLUSIONS

The assessment of potential violence is an important area when evaluating psychiatric patients in both an outpatient and an inpatient setting. The clinician should be familiar with the relationship of various mental health symptoms to a patient's potential future aggression. Despite improvement in the field of risk assessment, the prediction of violence remains an inexact science. Predicting violence has been compared with forecasting the weather. Like a good weather forecaster, the clinician does not state with certainty that an event will occur. Instead, he or she estimates the likelihood that a future event will occur. Like weather forecasting, predictions of future violence will not always be correct. However, gathering a detailed past history and using appropriate risk assessment instruments help make the risk assessment as accurate as possible.

REFERENCES

- Aderibigbe, Y. A. (1997). Violence in America: A survey of suicide linked to homicides. *Journal of Forensic Sciences, 42*, 662–665.
- Alderman, N. (2003). Contemporary approaches to the management of irritability and aggression following traumatic brain injury. *Neuropsychological Rehabilitation, 13*, 211–240.
- Andrews, D., & Bonta, J. (1995). *LSI-R: The Level of Service Inventory: Revised user's manual*. Toronto: Multi-Health Systems.
- Appelbaum, P. S., Robbins, P. C., & Roth, L. H. (1999). Dimensional approach to delusions: Comparison across types and diagnoses. *American Journal of Psychiatry, 156*, 1938–1943.
- Arciniegas, D. B., & Wortzel, H. S. (2014). Emotional and behavioral dyscontrol after traumatic brain injury. *Psychiatric Clinics of North America, 37*, 31–53.
- Asnis, G. M., Kaplan, M. L., Hundorfean, G., & Saeed, W. (1997). Violence and homicidal behaviors in psychiatric disorders. *Psychiatric Clinics of North America, 20*, 405–425.
- Barrowcliff, A., & Haddock, G. (2010). Factors affecting compliance and resistance to auditory command hallucinations: perceptions of a clinical population. *Journal of Mental Health, 19*, 542–552.
- Birchwood, M., & Chadwick, P. (1997). The omnipotence of voices: testing the validity of a cognitive model. *Psychol Med, 27*, 1345–1353.
- Borthwick-Duffy, S. A. (1994). Epidemiology and prevalence of psychopathology in people with mental-retardation. *Journal of Consulting and Clinical Psychology, 62*, 17–27.
- Borum, R., Swartz, M., & Swanson, J. W. (1996). Assessing and managing violence risk in clinical practice. *Journal of Practical Psychiatry and Behavioral Health, 4*, 205–214.

- Bossarte, R. M., Simon, T. R., & Barker, L. (2006). Characteristics of homicide followed by suicide incidents in multiple states, 2003–04. *Injury Prevention, 12* (Suppl 2), ii33–ii38.
- Buchanan, A., Alison, R., Wessely, S., Garety, P., Taylor, P., Grugin, D., & Dunn, G. (1993). Acting on delusions, II: the phenomenological correlates of acting on delusions. *British Journal of Psychiatry, 163*, 77–81.
- Byard, R.W., Knight, D., James, R.A., & Gilbert, J. (1999). Murder-suicides involving children: A 29-year study. *American Journal of Forensic Medicine and Pathology, 20*, 323–327.
- Catalano, R., Dooley, D., Novaco, R.W., Wilson, G., & Hough, R. (1993). Using ECA survey data to examine the effect of job layoffs on violent behavior. *Hospital and Community Psychiatry, 44*, 874–879.
- Chadwick, P., & Birchwood, M. (1994). The omnipotence of voices: a cognitive approach to hallucinations. *British Journal of Psychiatry, 164*, 190–201.
- Cheung, P., Schweitzer, I., Crowley, K., & Tuckwell, V. (1997). Violence in schizophrenia: Role of hallucinations and delusions. *Schizophrenia Research, 26*, 181–190.
- Choe, J.Y., Teplin, L.A., & Abram, K.M. (2008). Perpetration of violence, violent victimization, and severe mental illness: Balancing public health concerns. *Psychiatric Services, 59*, 153–164.
- Cleckley, H. M. (1976). *The mask of sanity*. St. Louis, MO: Mosby.
- Cohen, D., Llorente, M., & Eisdorfer, C. (1998). Homicide-suicide in older persons. *American Journal of Psychiatry, 155*, 390–396.
- Coid, J. (1983). The epidemiology of abnormal homicide and murder followed by suicide. *Psychological Medicine, 13*, 855–860.
- Comstock, R. D., Mallonee, S., Kruger, E., Rayno, K., Vance, A., & Jordan, F. (2005). Epidemiology of homicide-suicide events: Oklahoma, 1994–2001. *American Journal of Forensic Medicine and Pathology, 26*, 229–235.
- Cook, P. J., & Ludwig, J. (1997, May). Guns in America: National survey on private ownership and use of firearms [Online]. Retrieved March 18, 2008. Available: www.ncjrs.org/txtfiles/165476.txt.
- Crocker, A. G., Mercier, C., Lachapelle, Y., Brunet, A., Morin, D., & Roy, M. E. (2006). Prevalence and types of aggressive behavior among adults with intellectual disabilities. *Journal of Intellectual Disability Research, 50*, 652–661.
- Darke, S., Ross, J., Teesson, M., Ali R., Cooke R., Ritter A., & Lynskey, M. (2005). Factors associated with 12 months continuous heroin abstinence: findings from the Australian Treatment Outcome Study (ATOS). *Journal of Substance Abuse Treatment, 28*, 255–263.
- DeBecker, G. (1997). *The gift of fear: Survival signals that protect us from violence*. London: Bloomsbury.
- Dietz, P. E. (1986). Mass, serial and sensational homicides. *Bulletin of the New York Academy of Medicine, 62*, 477–491.
- Douglas, K. S., Ogloff, J. R., & Hart, S. D. (2003). Evaluation of a model of violence risk assessment among forensic psychiatric patients. *Psychiatric Services, 54*, 1372–1379.

- Douglas, K., Guy, L.S., & Hart, S. D. (2009). Psychosis as a risk factor for violence to others: A meta-analysis. *Psychological Bulletin, 135*, 679–706.
- Dugre, J. R., Dellazizzo, L., Giguere, C-E., Potvin, S., & Dumais, A. (2017). Persistency of cannabis use predicts violence following acute psychiatric discharge. *Frontiers in Psychiatry, 8*, 176. doi:10.3389/fpsy.2017.00176
- Eytan, A., & Borras, L. (2005). Stalking through SMS: A new tool for an old behavior? *Australian and New Zealand Journal of Psychiatry, 39*, 204.
- Fazel, S., Lichtenstein, P., Grann, M., Goodwin, G., & Langstrom, N. (2010). Bipolar disorder in violent crime. New evidence from population-based longitudinal studies and systematic review. *Archives of General Psychiatry, 67*, 931–938.
- Fazel, S., Lichtenstein, P., Grann, M., & Langstrom, N. (2011). Risk of violent crime in individuals with epilepsy and traumatic brain injury: A 35-year Swedish population study. *PLOS Med, 8*(12), e1001150. doi:10.1371/journal.pmed.1001150.
- Fazel, S., Wolf, A., Palm, C., & Lichtenstein, P. (2014). Violent crime, suicide, and premature mortality in patients with schizophrenia and related disorders: A 38-year total population study in Sweden. *Lancet Psychiatry, 1*, 44–54.
- Fazel, S., Wolf, A., Chang, A., Larsson, H., Goodwin, G. M., & Lichtenstein, P. (2015). Depression and violence: A Swedish population study. *Lancet Psychiatry, 2*, 224–32.
- Felthous, A. R., & Hempel, A. (1995). Combined homicide-suicides: A review. *Journal of Forensic Sciences, 40*, 846–857.
- Fox, J., Gray, N., & Lewis, H. (2004). Factors determining compliance with command hallucinations with violent content: The role of social rank, perceived power of the voice and voice malevolence. *Journal of Forensic Psychiatry & Psychology, 15*, 511–531.
- Freeman, D., Garety, P. A., Kuipers, E., Fowler, D., Bebbington, P. E., & Dunn, G. (2007). Acting on persecutory delusions: The importance of safety seeking. *Behavior Research and Therapy, 45*, 89–99.
- Gill, P., Silver, J., Horgan, J., & Corner, E. (2017). Shooting alone: The pre-attack experiences and behaviors of U.S. solo mass murderers. *Journal of Forensic Sciences, 62*, 710–714.
- Glancy, G. D., & Chaimowitz, G. (2005). The clinical use of risk assessment. *Canadian Journal of Psychiatry, 50*, 12–17.
- Graz, C., Etschel, E., Schoech, H., & Soyka, M. (2009). Criminal behavior and violent crimes in former inpatients with affective disorder. *Journal of Affective Disorders, 117*, 98–103.
- Hannah, S. G., Turf, E. E., & Fierro, M. F. (1998). Murder-suicide in central Virginia: A descriptive epidemiologic study and empiric validation of the Hanzlick-Koponen typology. *American Journal of Forensic Medicine and Pathology, 19*, 275–283.
- Hanzlick, R., & Koponen, M. (1994). Murder-suicide in Fulton County, Georgia, 1988–1991. Comparison with a recent report and proposed typology. *American Journal of Forensic Medicine and Pathology, 15*, 168–173.
- Hare, R. (1991). *The Hare Psychopathy Checklist-Revised*. Toronto: Multi-Health Systems.

- Hatters-Friedman, S., Hrouda, D. R., Holden, C. E., Noffsinger, S. G., & Resnick, P. J. (2005). Filicide-suicide: Common factors in parents who kill their children and themselves. *Journal of the American Academy of Psychiatry and Law*, 33, 496–504.
- Hodgins, S. (1992). Mental disorder, intellectual deficiency, and crime: Evidence from a birth cohort. *Archives of General Psychiatry*, 49, 476–483.
- Hodgins, S., Piatosa, M., & Schiffer, B. (2014). Violence among people with schizophrenia: Phenotypes and neurobiology. *Current Topics in Behavioral Neurosciences*, 17, 329–368.
- Klassen, D., & O'Connor, W. A. (1988). A prospective study of predictors of violence in adult male mental health admissions. *Law and Human Behavior*, 12, 143–158.
- Krakowski, M., & Czobor, P. (2004). Gender differences in violent behaviors: Relationship to clinical symptoms and psychosocial factors. *American Journal of Psychiatry*, 161, 459–465.
- Krakowski, M., Volavka, J., & Brizer, D. (1986). Psychopathology and violence: A review of literature. *Comprehensive Psychiatry*, 27, 131–148.
- Lidz, C. W., Mulvey, E. P., & Gardner, W. (1993). The accuracy of predictions of violence to others. *Journal of the American Medical Association*, 269, 1007–1011.
- Link, B. G., Andrews, H., & Cullen, F. (1992). The violent and illegal behavior of mental patients reconsidered. *American Sociological Review*, 57, 275–292.
- Link, B. G., & Stueve, A. (1995). Evidence bearing on mental illness as a possible cause of violent behavior. *Epidemiologic Reviews*, 17, 172–181.
- Logan, T. K., & Walker, R. (2017). Stalking: A multidimensional framework for assessment and safety planning. *Trauma, Violence, and Abuse*, 18: 200–222.
- MacArthur Foundation. (2001). The MacArthur Violence Risk Assessment Study Executive Summary [Online]. Retrieved March 18, 2008. Available: <http://macarthur.virginia.edu/risk.html>.
- Malmquist, C. P. (2006). Combined murder-suicide. In R. I. Simon & R.E. Hales (Eds.), *Textbook of suicide assessment and management* (pp. 495–509). Washington, DC: American Psychiatric Publishing, Inc.
- Malphurs, J. E., & Cohen, D. (2002). A newspaper surveillance study of homicide-suicide in the United States. *American Journal of Forensic Medicine and Pathology*, 23, 142–148.
- Marzuk, P. M., Tardiff, K., & Hirsch, C. S. (1992). The epidemiology of murder-suicide. *Journal of the American Medical Association*, 267, 3179–3183.
- McGrath, M. G., & Casey, E. (2002). Forensic psychiatry and the internet: Practical perspectives on sexual predators and obsessional harassers in cyberspace. *Journal of American Academy of Psychiatry and Law*, 30, 81–94.
- McKetin, R., Dan, L., Jake, N., Sharon D., Butterworth, P., & Baker, A. (2014). Does methamphetamine use increase violent behaviour? Evidence from a prospective longitudinal study. *Addiction*, 109, 798–806.
- McKetin, R., McLaren, J., Lubman, D., & Hides, L. (2008). Hostility among methamphetamine users experiencing psychotic symptoms. *American Journal of Addiction*, 17, 235–240.
- McNiel, D. E., Eisner, J. P., & Binder, R. L. (2000). The relationship between command hallucinations and violence. *Psychiatric Services*, 51, 1288–1292.

- Menzies, J. R., Webster, C. D., & Sepejak, D. S. (1985). The dimensions of dangerousness: Evaluating the accuracy of psychometric predictions of violence among forensic patients. *Law and Human Behavior, 9*, 49–70.
- Milroy, C. M. (1995). The epidemiology of homicide-suicide (dyadic death). *Forensic Science International, 71*, 117–122.
- Milroy, C. M., Dratsas, M., & Ranson, D. L. (1997). Homicide-suicide in Victoria, Australia. *American Journal of Forensic Medicine and Pathology, 18*, 369–373.
- Monahan, J. (1997). Actuarial support for the clinical assessment of violence risk. *International Review of Psychiatry, 9*, 167–170.
- Monahan, J., & Steadman, H. J. (1994). *Violence and mental disorder: Developments in risk assessment*. Chicago: University of Chicago Press.
- Monahan, J., Steadman, H. J., Silver, E., Appelbaum, P. S., Clark-Robbins, P., Mulvey, E. P., et al. (2001). *Rethinking risk assessment: The MacArthur study of mental disorder and violence*. New York: Oxford University Press.
- Morton, E., Runyan, C. W., Moracco, K. E., & Butts, J. (1998). Partner homicide-suicide involving female homicide victims: A population-based study in North Carolina, 1988–1992. *Violence and Victims, 13*, 91–106.
- Mullen, P. E., Pathe, M., & Purcell, R. (2000). *Stalkers and their victims*. New York: Cambridge University Press.
- Mullen, P. E. (2004). The autogenic (self-generated) massacre. *Behav Sci Law, 22*, 311–323.
- Mulvey, E. P., & Lidz, C. W. (1984). Clinical considerations in the prediction of dangerousness in mental patients. *Clinical Psychology Review, 4*, 379–401.
- Murdoch, D., Pihl, R. O., & Ross, D. (1990). Alcohol and crimes of violence: Present issues. *International Journal of Addiction, 25*, 1065–1081.
- Nederlof, A., Peter, M., & Hovens, J. (2011). Threat/control-override symptoms and emotional reactions to positive symptoms as correlates of aggressive behavior in psychotic patients. *Journal of Nervous and Mental Disease, 199*, 342–347.
- Newhill, C. E., Mulvey, E. P., & Lidz, C. W. (1995). Characteristics of violence in the community by female patients seen in a psychiatric emergency service. *Psychiatric Services, 46*, 785–789.
- Olver, M. E., & Wong, S. C. (2015). Short- and long-term recidivism prediction of the PCL-R and the effects of age: A 24-year follow-up. *Personality Disorders, 6*, 97–105.
- Orion, D. (1997). *I know you really love me: A psychiatrist's journal of erotomania, stalking, and obsessive love*. New York: Macmillan.
- Palermo, G. B., Smith, M. B., Jenzten, J. M., Henry, T. E., Konicek, P. J., Peterson, G. F., et al. (1997). Murder-suicide of the jealous paranoia type: A multicenter statistical pilot study. *American Journal of Forensic Medicine and Pathology, 18*, 374–383.
- Poppe, P., van der Putten, A. J. J., & Vlaskamp, C. (2010). Frequency and severity of challenging behaviour in people with profound intellectual and multiple disabilities. *Research in Developmental Disabilities, 31*, 1269–1275.
- Pulay, A. J., Dawson, D. A., Hasin, D. S., Goldstein, R. B., Ruan, W. J., Pickering, R. P., et al. (2008). Violent behavior and DSM-IV psychiatric disorders: Results

- from the national epidemiologic survey on alcohol and related conditions. *Journal of Clinical Psychiatry*, 69, 12–22.
- Quinsey, V. L., & Maquire, A. (1986). Maximum security psychiatric patients: Actuarial and clinical predictions of dangerousness. *Journal of Interpersonal Violence*, 1, 143–171.
- Quinsey V. L., Harris, G. T., Rice M. E., et al. (2006). *Violent offenders: Appraising and managing risk* (2nd ed.). Washington, DC: American Psychological Association.
- Reagu, S., Jones, R., Kumari, V., & Taylor, P. (2013). Angry affect and violence in the context of a psychotic illness: a systematic review and meta-analysis of the literature. *Schizophrenia Research*, 146, 46–52.
- Roaldset, J., & Bjorkly, S. (2010). Patients' own statements of their future risk for violent and self-harm behavior: A prospective inpatient and post-discharge follow-up study in an acute psychiatric unit. *Psychiatry Research*, 178, 153–159.
- Rodenburg, M. (1971). Child murder by depressed parents. *Canadian Psychiatric Association Journal*, 16, 41–48.
- Rosenbaum, M. (1990). The role of depression in couples involved in murder-suicide and homicide. *American Journal of Psychiatry*, 14, 1036–1039.
- Roy, D., Vaishnavi S., Han, D., & Rao, V. (2017). Correlates and prevalence of aggression at six months and one year after first-time traumatic brain injury. *Journal of Neuropsychiatry & Clinical Neurosciences*, 29, 334–342.
- Rudnick, A. (1999). Relation between command hallucinations and dangerous behavior. *Journal of the American Academy of Psychiatry and Law*, 27, 253–257.
- Salekin, R. T., Rogers, R., & Sewell, K. W. (1996). A review of meta-analysis of the Psychopathy Checklist and Psychopathy Checklist-Revised: Predictive validity of dangerousness. *Clinical Psychology: Science and Practice*, 3, 203–213.
- Shawyer, F., Mackinnon, A., Farhall, J., Trauer, T., & Copolov, D. (2003). Command hallucinations and violence: Implications for detention and treatment. *Psychiatry Psychology and Law*, 10, 97–107.
- Shawyer, F., Andrew, M., Farhall J., Sims E., Blaney, S., Yardley, P., Daly, M., Mullen, P., & Copolov, D. (2008). Acting on harmful command hallucinations in psychotic disorders. An integrative approach. *J Nerv Ment Dis*, 196, 390–398.
- Schoeler, T., Theobald, D., Pingault, J. B., Farrington, D. P. Jennings, W. G., Piquero, A. R., et al. (2016). Continuity of cannabis use and violent offending over the life course. *Psychological Medicine*. 46, 1663–1677.
- Skeem J. L., & Monahan, J. (2011). Current directions in violence risk assessment. *Current Directions Psychological Science*, 20, 38–42, 2011.
- Silver, E., Mulvey, E. P., & Monahan, J. (1999). Assessing violence risk among discharged psychiatric patients: toward an ecological approach. *Law and Human Behavior*, 23, 237–255.
- Steadman, H. J., Mulvey, E. P., Monahan, J., Robbins, P. C., Appelbaum, P. S., Grisso, T., et al. (1998). Violence by people discharged from acute psychiatric inpatient facilities and by others in the same neighborhoods. *Archives of General Psychiatry*, 55(5), 393–401.
- Stompe, T., Ortwein-Swoboda, G., & Schanda, H. (2004). Schizophrenia, delusional symptoms, and violence: The threat/control override concept reexamined. *Schizophrenia Bulletin*, 30, 31–44.

- Swanson, J. W., Borum, R., & Swartz, M. (1996). Psychotic symptoms and disorders and risk of violent behavior in the community. *Criminal Behavior and Mental Health, 6*, 317–338.
- Swanson, J. W., Holzer, C. E., III, Ganju, V. K., & Jono, R. T. (1990). Violence and psychiatric disorder in the community: Evidence from the Epidemiologic Catchment Area surveys. *Hospital and Community Psychiatry, 41*, 761–770.
- Tarasoff v. Regents of the University of California, 17 Cal 3d 425, 131 Cal Rptr 14, 551, Prd 334, 1976 C.F.R.
- Tardiff, K. (1989). *Assessment and management of violent patients*. Washington, DC: American Psychiatric Press.
- Tardiff, K., & Sweillam, A. (1980). Assault, suicide, and mental illness. *Archives of General Psychiatry, 37*, 164–169.
- Tjaden, P., & Thoennes, N. (1998, April). *Stalking in America: Findings from the National Violence Against Women Survey*. Research in Brief. Washington, DC: U.S. Department of Justice.
- Torok, M., Darke, S., Shand, F., & Kaye, S. (2014). Violent offending severity among injecting drug users: Examining risk factors and issues around classification. *Addictive Behaviors, 39*, 173–1778.
- Torrey, E. F. (1994). Violent behavior by individuals with serious mental illness. *Hospital and Community Psychiatry, 45*, 653–662.
- Van Dongen, J., Nicole, B., & Van Marle, H. (2014). Unravelling offending in schizophrenia: factors characterizing subgroups of offenders. *Criminal Behavior and Mental Health*. doi:10.1002/cmb.1920
- Volavka, J., & Jeffrey, S. (2010). Violent behavior in mental illness: the role of substance abuse. *Journal of the American Medical Association, 304*, 563–564.
- Wallace, C., Mullen, P. E., & Burgess, P. (2004). Criminal offending in schizophrenia over a 25-year period marked by deinstitutionalization and increasing prevalence of comorbid substance use disorders. *American Journal of Psychiatry, 161*, 716–727.
- Webster, C. D., Douglas, K. S., Eaves, D., & Hart, S. D. (1997). *HCR-20: Assessing the Risk for Violence (Version 2)*. Vancouver, BC: Mental Health, Law, and Policy Institute, Simon Fraser University.
- Williamson, S., Hare, R., & Wong, S. (1987). Violence: Criminal psychopaths and their victims. *Canadian Journal of Behavioral Sciences, 19*, 454–462.
- Witt, K., Hawton, K., & Fazel, S. (2014). The relationship between suicide and violence in schizophrenia: Analysis of the Clinical Antipsychotic Trials of Intervention Effectiveness (CATIE) dataset. *Schizophrenia Research, 154*, 61–67.
- Wolfgang, M. E., Thornberry, T. P., & Figlio, R. M. (1987). *From boy to man, from delinquency to crime*. Chicago: University of Chicago Press.
- Yang, S., Mulvey, E., Loughran, T., & Hanusa, B. (2012). Psychiatric symptoms and alcohol use in community violence by person with a psychotic disorder or depression. *Psychiatric Services, 63*, 262–269.
- Yoon, J., Kim, J., Choi, S. S., Lyu, M. K., Kwon, J., Jang, Y., & Park, G. (2012). Homicide and bipolar I disorder; a 22-year study. *Forensic Science International, 217*, 113–118.

- Yu, R., Aaltonen, M., Branje, S., Ristikari, T., Meeus, W., Salmela-Aro, K., et al. (2017a). Depression and violence in adolescence and young adults: Findings from three longitudinal cohorts. *Journal of the American Academy of Child and Adolescent Psychiatry*, *56*, 652–658.
- Yu, R., Branje, S., Meeus, W., Koot, H.M., van Lier, P., & Fazel, S. (2017b). Victimization mediates the longitudinal association between depressive symptoms and violent behaviors in adolescence. *Abnormal Child Psychology*. <https://doi.org/10.1007/s10802-017-0325-2>
- Zimring, F. E. (1991). Firearms, violence, and public policy. *Scientific American*, *265*, 48–54.
- Zisook, S., Byrd, D., Kuck, J., & Jeste, D. V. (1995). Command hallucinations in outpatients with schizophrenia. *Journal of Clinical Psychiatry*, *56*, 462–465.

Part B

DECEIT, MEMORY AND CONFESSIONS

Chapter Seven

THE DETECTION OF DECEIT

PÄR ANDERS GRANHAG AND LEIF A. STRÖMWALL

Deceit occurs in all walks of life and in many day-to-day situations it would make little sense to try to unmask the possible liar (e.g., is today's special really as fresh as the waitress claims?). However, in some situations, we may feel a need to carefully separate what is truthful from what is not (e.g., should I accept my partner's reason for coming home that late last night?). In this chapter, we will examine deception detection in legal contexts, with a particular focus on deceit in criminal investigations. It is a small task to recognize why deception is an important issue within legal settings: to correctly discriminate between truth and deceit will lead to much good (guilty suspects will be sentenced, and innocent suspects cleared of suspicion), whereas incorrect judgments may have very negative effects (guilty suspects can walk free, and innocent suspects may be convicted).

The topic of deception was studied already at the dawn of legal psychology. In 1908 Hugo Munsterberg published *On the Witness Stand*, in which he touches upon the issue of deception detection. The modern research on deception started at the end of the 1960s (Ekman & Friesen, 1969), and summing up forty years of research on deception, we face an impressive corpus of scientific papers (see Vrij, 2008, for an up-to-date overview). Because the field still expands quickly, it makes sense to take stock of the area.

Before we start the journey, it is good to agree on how to define deception. This is not an easy task, however. Deception has been studied within many different disciplines, such as linguistics, psychiatry, philosophy, and human communication, and scholars from these and other disciplines have suggested a number of different definitions (Granhag & Strömwall, 2004a). For the present context, however, we think it suffices to go with the definition offered by Vrij (2008): [deception is] “a successful or unsuccessful attempt, without forewarning, to create in another a belief which the commu-

nicator considers to be untrue” (p. 15). Note that lying is an intentional act and that misremembering is not the same as lying.

The chapter is structured as follows. We start with a summary of the research conducted on objective nonverbal cues to deception; some underlying theoretical approaches are outlined; and the overall findings are reviewed together with some factors that moderate people’s overt behavior. In the next section, we discuss research findings pertaining to subjective cues to deception (i.e., what people think characterizes deceptive behavior). We then summarize research on people’s ability to detect deception, in terms of both overall findings and factors that are known to moderate a lie-catcher’s performance. Next we review research on how to detect deception from verbal content, and we focus on two such methods: *Statement Validity Assessment* (SVA) and Reality Monitoring (RM). We then enter the much-debated issue of psychophysiological lie detection, and we describe and review research on the two most common forms of polygraph tests: the *Control Question Tests* (CQT) and the *Guilty Knowledge Test* (GKT). Next we briefly discuss some alternative methods for detecting deception: brain scanning, the *Scientific Content Analysis* (SCAN), and two forms of analysis of voice stress. We then introduce a new promising technique for detecting deception: the *Strategic Use of Evidence* (SUE) *technique*. The theoretical framework motivating the SUE technique is described, and we comment briefly on how psychological theory can be translated to interview tactics. We close the chapter by summarizing the most important findings.

OBJECTIVE NONVERBAL CUES TO DECEPTION

Theoretical Approaches

Trying to find a telltale sign of deceit (a “Pinocchio’s nose”) in human nonverbal behavior has been the subject of much research effort. Both in lay people’s thinking and in, for example, police interrogation manuals there are numerous ideas about detecting deceit from cues such as eye contact or gestures (see Vrij, 2008). Included in the concept *nonverbal behavior* are body movements (e.g., gestures and leg movement), facial indicators (e.g., eye contact, smiling), and speech behaviors (sometimes called paraverbal behaviors; e.g., response latency and pitch of voice) (DePaulo et al., 2003; Sporer & Schwandt, 2006; Vrij, 2008).

There is not one solid theory to be used in order to predict how liars and truth-tellers differ with respect to their overt behavior (Granhag & Strömwall, 2004a). It is possible, however, to identify a number of different theoretical approaches, and five of these will be summarized here.

The Emotional Approach

This approach suggests that liars might be given away by their emotions (Ekman, 2001). Specifically, experiencing emotions when lying is predicted to have behavioral consequences. For example, fear of apprehension may cause liars to experience stress and arousal, the pitch of voice will rise, blushing and sweating will increase, and so on, whereas feelings of guilt and regret will cause gaze aversion.

The Attempted Control Approach

This approach suggests that liars are aware that internal processes (such as emotions) could result in cues to deception and that they therefore will try to minimize such cues (Vrij, 2008). However, controlling one's behavior may in itself result in cues to deception (DePaulo & Kirkendol, 1989). For example, trying to inhibit movements caused by nervousness may result in overcontrol, which in turn can lead to a rigid appearance.

The Content Complexity Approach

This approach was first outlined by Zuckerman, DePaulo, and Rosenthal (1981), and it departs from the hypothesis that lying is (sometimes) more cognitively demanding than telling the truth, and that engaging in cognitively complex tasks may result in behavioral cues. For example, it has been predicted that a cognitively demanding task will result in fewer body movements and long pauses within a statement as well as between the interviewer's question and the reply (Ekman & Friesen, 1972).

The New Cognitive Load Approach

This recent approach has been developed by Vrij and his colleagues (Vrij, Mann, Fisher & Leal, 2008), and draws to some extent on the attempted control approach and the content complexity approach (Vrij, 2008). However, the approach is original in its view of the cognitive load component. The core component is that lying is (sometimes) more difficult than telling the truth, and several reasons are put forward in order to support this claim (e.g., liars need to monitor both themselves and the people they are lying to, and they need to remind themselves to role-play). Interestingly, brain-scanning studies confirm this assumption by showing that lying (more than telling the truth) activates the higher brain center (Spence et al., 2006). The main prediction is that when lying results in heightened levels of cognitive load, signs of nervousness (e.g., blinking) will decrease.

The Self-Presentational Perspective

This approach is different because it emphasizes that liars and truth-tellers have the same goal: to appear honest. Self-presentation is defined as regulating one's own behavior to create a particular impression (DePaulo, 1992). The major difference is that truth-tellers have grounds for their claims and they stay within the boundaries of the truth. Hence, liars and truth-tellers are predicted to differ cognitively and behaviorally. For example, due to the fact that liars are aware that their claims of honesty are illegitimate, it is predicted that they will embrace their statements to a lesser extent than truth-tellers will, and, in turn, that this will lead to more negative feelings and make liars appear more tense (DePaulo et al., 2003).

Overall Findings

To find out about potential nonverbal correlates of deception, researchers instruct some people to lie or tell the truth, or both (the lies are most often "constructed" for the sake of the experiment), and videotape the truths and lies told in interviews or mock interrogations. If focus is on the speech-related variables, audiotapes are of course a sufficient source. Then these videotapes are closely analyzed and the frequency or duration, or both, of a list of nonverbal behaviors are scored and then summarized for truths and lies separately. If statistical comparisons show significant differences, researchers conclude that there are systematic nonverbal signs of deceit and truthfulness. In this section, findings from several meta-analyses and research overviews are summarized (DePaulo et al., 2003; Vrij, 2008).

In general, nonverbal behaviors do not correlate strongly with either deception or truthfulness; very few reliable nonverbal cues to deception have been found. There is some evidence that liars tend to speak with a higher pitched voice, which might be the result of experienced arousal. However, differences in pitch between liars and truth-tellers are usually small and detectable only with specialized equipment. Furthermore, sometimes liars' voices sound more tense than do truth-tellers' voices, another result of arousal. Speech errors (for example, word and sentence repetition, sentence incompletions, slips of the tongue) occur more often during deception, and response latency is longer before giving deceptive answers. There is also some evidence for message duration being shorter for liars, who also tend to make fewer illustrators (hand and arm movements modifying what is said verbally). Moreover, compared with truth-tellers, liars tend to sound vocally less expressive, more passive, and more uncertain. Liars also sound less involved and come across as being less cooperative, and tending to make more negative statements (DePaulo et al., 2003).

Perhaps the most remarkable outcome of the reviews is that several signs of nervousness, such as gaze aversion (eye contact) and fidgeting, are generally unrelated to deception. One reason why nervous behaviors do not seem to be systematically related to deception is that truth-tellers could be nervous as well (DePaulo et al., 2003); a complementary reason is that liars work hard to suppress signs of nervousness.

Presented so far are results at the general level, across all available studies without taking into account presumably important differences in the experimental designs. There are however, a few moderating factors that have been studied often enough to allow for interesting reflections.

MODERATING FACTORS

Transgressions

A factor most relevant to the forensic context is the distinction between lies that were and were not about transgressions. Lies about transgressions are told to hide or deny acts, or both such as cheating, stealing, and committing other small and large crimes. Will differences between liars' and truth-tellers' nonverbal behavior emerge when they have been interviewed about transgressions they have or have not committed? The results indicate that people lying about transgressions look more nervous than truth-tellers do; they also blink more and have a faster speech rate. Additionally, they are more inhibited than truth-tellers are in the sense that they move their feet and legs less often (DePaulo et al., 2003).

Motivation

In many experimental studies, the liars did not have any special motivation to tell a convincing lie and simply participated with no special rewards for succeeding or punishments for failing. It is of importance to separate those studies in which participants had some special motivation to do well from those in which they did not. The question, then, is: If people are motivated to get away with their lies, will there be fewer cues to deception because they are trying harder to tell a good lie, or will their lies become more obvious as the stakes are raised? Research shows that when participants had no special incentives there were no obvious nonverbal cues to deception, which, in turn, leads to the conclusion that when people do not have very much invested in their lies, others will have a very hard time detecting the deceit. However, when liars do worry about getting away with their lies, then several behaviors may betray them. It is only when participants are motivated to do well that they speak in a higher pitch when lying

than when telling the truth. Although liars also seem more tense than truth-tellers do regardless of level of motivation, the difference is pronounced for those who are highly motivated to get away with their lies. In the previous section, in which results were summarized over all studies, we found no differences in eye contact between liars and truth-tellers. When participants are motivated to do well, however, then one stereotype about liars becomes a reality: They make less eye contact than truth-tellers do. There is also some evidence that, under high motivational conditions, liars made fewer foot and leg movements than did truth-tellers (DePaulo et al., 2003).

Preparation

Sometimes suspects know in advance that they are going to be interviewed, which gives them a chance to prepare their answers. Presumably, liars should manage to appear more like truth-tellers when they can plan their answers in advance than when they cannot. The available research indicates that when liars have time to plan, they have shorter response latency than truth-tellers do. When given no time to prepare, the opposite pattern is found. There is also some evidence that liars show shorter message duration than truth-tellers do when they have time to prepare (Sporer & Schwandt, 2006).

Real-Life Cases

Although researchers have in some studies tried to raise the motivation of and stakes for lying by participants, the question still remains how the results from laboratory-based studies reflect what may happen in real-life high-stake situations such as police interviews. In a few studies, the behavior of real-life suspects, interviewed about serious crimes such as murder, rape and arson—for which suspects face long prison sentences if found guilty—has been examined. Results revealed that these suspects did not show the nervous behaviors typically believed to be associated with lying, such as gaze aversion and fidgeting. In fact, they exhibited an increase in pauses; a decrease in eye blinks; and (for male suspects) a decrease in finger, hand, and arm movements (Mann, Vrij & Bull, 2002; Vrij & Mann 2001).

In summary, the scientific research shows that under certain conditions there seem to be some—but very few—differences between truth-tellers and liars in their nonverbal behavior. However, it is of great importance to realize that these differences, albeit significant in meta-analyses, are not large and the practical value may be quite low. None of the behaviors discussed here can be used as a fail-safe decision rule. The available research thus indicates that there are no nonverbal indicators of deception that always work—there is no “Pinocchio’s nose.”

SUBJECTIVE NONVERBAL CUES TO DECEPTION

This section deals with what people think is indicative of deception—the subjective cues to deception (sometimes referred to as belief about deception). Lots of research has been conducted on this issue, and the most straightforward approach is to simply ask participants to describe the cues they believe to occur more or less often when people are lying, compared with when people are telling the truth. These answers can be given on a series of rating scales as in most survey studies. Another method is to have people judging the veracity of stimuli material (most often videotaped interviews) and then writing down why they thought someone was lying or telling the truth. A third alternative is for the researcher to score the nonverbal behavior of the liars and truth-tellers and to correlate these scores with the veracity judgments to see which cues to deception observers actually used (Anderson, DePaulo, Ansfield, Tickle, & Green, 1999; Vrij, 2008). Research has been carried out collecting the subjective cues to deception from both laypersons and practitioners within the legal arena.

Lay People

Research on subjective nonverbal indicators of deception has shown that people (community samples, college students) tend to associate lying with an increase in speech disturbances such as hesitations and speech errors, a slower speech rate, longer and more frequent pauses, more gaze aversion, and an increase in smiling and movements such as self-manipulations, gestures, hand and finger and leg and foot movements (Vrij, 2008). Generally, these subjective deception cues are indicators of nervousness. It seems as if people believe that a liar will feel nervous and act accordingly. In other words, because people tend to believe that liars are more nervous than truth-tellers are, they infer deception from signs of nervousness. What emanates from the research on subjective cues to deception is a set of stereotypical beliefs (Vrij, 2008; Zuckerman, et al., 1981). The most commonly and strongly expressed cue to deception is the decrease in eye contact. This is the most favored subjective cue to deception on a worldwide scale, as shown in a large study collecting subjective deception cues from close to 5000 people in fifty-eight countries (Global Deception Research Team, 2006).

Practitioners

Certain groups of professionals are faced with deciding whether someone is lying or not on an everyday basis. It sounds plausible that this everyday experience, coupled with these practitioners' training and, probably,

special interest in these issues, could affect their subjective cues to deception. A number of studies, mostly surveys, have examined this issue. The practitioners have been mostly police officers, but customs officers, prison guards, prosecutors, and judges, among others, have also been studied. These groups of professionals work in different countries: The United Kingdom (Akehurst, Köhnken, Vrij & Bull, 1996), Germany (Greuel, 1992), Sweden (Strömwall & Granhag, 2003), Spain (Masip & Garrido, 2001), The Netherlands (Vrij & Semin, 1996) and the United States (Kraut & Poe, 1980).

Although in some studies a few differences among the groups studied were found, it is fair to say that the practitioners have similar subjective cues to deception. They think that liars are more gaze averse, fidget more, make more self-manipulations and body movements, and have less fluent speech compared with truth-tellers. In the perhaps most valid study, in terms of human ecology, of police officers' beliefs, Mann, Vrij, and Bull (2004) showed fragments of real-life police interviews with suspects to British police officers. Most of the police officers claimed that searching for a decrease in eye contact is useful in detecting deception. Those police officers who were more correct used this cue to a lesser extent. The authors suggested that police officers rely upon cues that are general rather than idiosyncratic (Mann et al., 2004).

The practitioners, then, express the same subjective nonverbal cues to deception as laypersons do. In general, these beliefs are incorrect. Just like laypersons, the presumed experts consider nervous behaviors to indicate deception (Strömwall, Granhag & Hartwig, 2004). What indicator experts and laypeople alike rely on most is a decrease in eye contact when lying. It seems that participants in deception studies (both practitioners and lay persons), when stating their subjective cues to deception, visualize a highly motivated liar. According to Anderson, and coworkers (1999), when people are asked to describe the cues they think are indicative of deceit, they do little more than recount the accepted cultural wisdom about such matters, also known as stereotypical beliefs.

Interestingly, one group of people has been shown to have different and more correct subjective cues to deception, namely criminals (Granhag, Andersson, Strömwall & Hartwig, 2004; Vrij & Semin, 1996). This "professional" group does, for example, not believe in decrease in eye contact as a reliable indicator of deception. Criminals' more calibrated beliefs have been explained by the fact that they live in more deceptive environments that provide them with clear, frequent, and (often) immediate feedback on the deception strategies that work and those that do not. That is, in contrast to many other groups, they learn the right lesson from their experience (Strömwall et al., 2004).

Lie-Catchers' Performance

Overall Findings

There are a few things to keep in mind when taking stock of results on lie-catchers' performance. First, one must make sure what the numbers presented actually refer to. In brief, one needs to separate (1) truth or lie discrimination (which refers to overall accuracy) from (2) deception detection accuracy (which refers to accuracy for detecting liars) and (3) truth detection accuracy (which refers to accuracy for detecting truth-tellers). Obviously, truth or lie discrimination is the average of deception detection accuracy and truth detection accuracy. One should acknowledge, however, that a group of lie catchers can achieve high deception detection accuracy but poor truth detection accuracy (or vice versa). A second thing to consider is circumstances under which the lie catchers are tested (i.e., the ecological validity of the test).

To map people's ability to detect lies and truths has been the main research question for many deception scholars, and there is now a huge body of reports on this topic. A recent meta-analysis, based on more than 250 separate studies, showed an average truth or lie discrimination level of 54 percent (Bond & DePaulo, 2006). Interestingly, with very few exceptions, the accuracy levels fall between 45 percent and 60 percent. Considering that the level of chance is 50 percent, this is hardly an impressive performance. On the other hand, taking the scarcity and weakness of valid cues to deception into account, this result is not surprising.

This "a few percentages above chance level" result is an average over a variety of lie-catcher samples, sender samples, deception media, contexts, and so on. A closer look shows that there are a number of factors that moderate the lie-catchers' accuracy (Granhag & Strömwall, 2008b). In what follows we will discuss some of the moderators.

Moderating Factors

Preparation

Sometimes people have anticipated that they need to lie, and on other occasions, lies are told in response to an unanticipated need. This is an area worthy of much more work, but the available research suggests that lie catchers are better when judging unprepared than prepared messages and that prepared messages appear more truthful than do messages that are unprepared (Bond & DePaulo, 2006; Vrij, 2008).

Deception Medium

Lies and truths can be evaluated over different mediums, resulting in different accuracy rates for lies that have been seen, heard, or read. This line of research shows that lie or truth discrimination accuracy is lower if judgments are made with video only rather than with audiovisual or audio only media or written transcripts. It has also been found that messages are perceived as most truthful if judged from audiovisual or audio presentations, followed by written transcripts and video presentations (Bond & DePaulo, 2006). The medium may affect deception detection accuracy, lies being more evident when they can be heard. This is probably due to the stereotype of a liar (e.g., a person who is gaze averse and fidgeting) being most strongly brought to mind by the video medium. Obviously, the stereotypical liar may very well be a nervous and uncomfortable truth-teller.

Interaction

In some studies, the senders are alone and talk to a camera; in other studies, an experimenter asks a standardized list of questions. Sometimes, the interaction partner is attempting to judge the veracity (such as in a mock police interview); on other occasions, an observer may be making this judgment. The literature shows that interacting interviewers tend to assess the sender as truthful much more often than the passive observers do (Granhag & Strömwall, 2001). In a similar vein, passive live observers have been found to perceive both adult (Landström, Granhag & Hartwig, 2005) and child witnesses (Landström, Granhag & Hartwig, 2007) more positively compared to passive video observers. Furthermore, research suggests that observers are better than interaction partners are at discriminating lies from truths (Bond & DePaulo, 2006; Vrij, 2008). It seems as if people do not want to believe that someone just lied to them without their spotting it. Alternatively, the reluctance to assess interaction partners as liars could be the result of not wanting to insinuate that the partner is dishonest. In conclusion, research suggests that lies told in social interactions are better detected by observers than by interaction partners.

Baseline Familiarity

It makes sense to predict that a lie catcher should perform better if he or she has some familiarity with the sender. The rationale for this is that the more knowledge one has about the sender's (normal) behavior, the better the chance to detect deviations. In turn, this might lead to increased detection performance, but only if lying really causes deviations in behavior and if telling the truth does not. This line of research shows that baseline exposure

does indeed improve lie or truth discrimination (Bond & DePaulo, 2006). However, one should be aware that senders who are familiar to the receiver are more likely to be judged as truthful. People seem to be unwilling to imply that someone familiar to them is lying.

Motivation

It has been argued that sender's motivation (to be assessed as honest) might influence their appearance and, in turn lie catchers' accuracy. Deception research has therefore investigated the effects of different levels of sender motivation. The so-called motivational impairment effect, states that the truths and lies of highly motivated senders will be more easily discriminated than those of unmotivated senders. Indeed, this hypothesis is supported by experimental studies (for more on this factor, see Vrij, 2008). However, it should be noted that this result is found for within-study comparisons and not for between-study comparisons. In brief, the reliable difference found is that motivated senders appear less truthful than those with little or no motivation to be assessed as honest. The combined evidence suggests that people who are very motivated to be assessed as honest seem to appear deceptive, whether or not they are lying (Bond & DePaulo, 2006).

Expertise

Those asked to assess veracity in deception experiments are usually college students with no special training or reason to succeed. Reasonably, people with more experience should be better at spotting lies, and researchers have therefore tested groups such as police officers, FBI agents, judges, psychiatrists, and customs officials. Vrij (2008) presents an overview of more than thirty published studies testing different groups of presumed deception-detection experts. The average accuracy rate over these groups was found to be 56 percent, which is in line with the performance of laypeople. However, it would probably be premature to conclude that, for example, police officers (the most commonly tested group) are poor at detecting deception. This note of caution is issued because the experimental setting used to test the presumed experts is not mirroring their real-life environment. This leads to our next section. (For a recent and interesting debate on lie-catching expertise, see Bond and Uysal (2007) and O'Sullivan (2007)).

A Critical Note

The paradigmatic task for presumed experts (or laypeople for that matter) who take part in studies on deception is to assess veracity on the basis of very short video clips in which an interviewer asks a few (or no) questions.

The presumed experts under examination are without any form of background information and are not allowed to interact with the sender. Obviously, this is very far from the real-life settings in which these professionals have developed their (presumed) expertise. What deception research really shows is that presumed experts perform just above the level of chance when tested in a particular situation, characterized by low human ecological validity. It is true that sometimes professionals must assess veracity on the basis of a very brief interaction and without any form of background information (e.g., customs personnel in the field). Much more often, however, professional lie catchers will have information about the suspect at hand and opportunity to plan and conduct an actual interview with the suspect. As will be discussed later in this chapter, these circumstances might help the lie catcher to detect deception and truth, but only if using this background information in a strategic manner.

DETECTING DECEIT FROM VERBAL CONTENT

In a previous section, we have shown that there are not many reliable nonverbal indicators of deception, thereby making correct classifications of truths and lies on the basis of nonverbal behavior really difficult. This fact has led researchers as well as practitioners to turn to other deception-detection strategies. One such strategy is the analysis of the verbal content, that is, what people actually say and not how they say it. Discussed here will be two verbal assessment tools, SVA and RM.

Statement Validity Assessment

The presumably most popular, and definitely the most widely used, technique for assessing the veracity of verbal statements is SVA. The technique was developed in Germany to determine the credibility of children's testimonies concerning sexual offences. In such cases, it is usually difficult to determine the facts, as often there are no other witnesses or medical or physical evidence. Frequently, the alleged victim and the defendant give contradictory statements; as a result the perceived credibility of the defendant and alleged victim become important. To date, SVAs are accepted as evidence in criminal courts in several countries, such as Germany and The Netherlands (Vrij, 2008). However, the SVA does not stem from established scientific findings but rather from practice. According to the *Undeutsch hypothesis* (Steller, 1989), a child's statement that is derived from the memory of an actual experience will differ in content and quality from a statement based on invention or fantasy. Undeutsch, and later Steller and Köhnken, developed

content criteria that are supposed to discriminate the different types of statements from each other (Steller & Köhnken, 1989).

A SVA consists of several stages (Vrij, 2008). First, the child (or the adult) is interviewed using a *semi-structured interview* in which the child provides his or her own account of the allegation. Of utmost importance is that the child tells the story without any influence or suggestions from the interviewer. These interviews are audiotaped and then transcribed. Second, a systematic assessment of the credibility of the written statement given during the interview is undertaken. This assessment, which is called criteria-based content analysis (CBCA), is based on the list of nineteen content criteria compiled and discussed by Steller and Köhnken (1989) (Table 7.1). The presence of CBCA criteria enhances the quality of the statement and strengthens the hypothesis that the account is based on an authentic personal experience. The CBCA, then, searches for the truth and not for signs of deceit. Third, alternative explanations for the CBCA outcomes are considered. For this purpose, a so-called validity checklist has been developed (Vrij, 2008). In the validity checklist, the SVA evaluator checks for example for inconsistencies

Table 7.1. CBCA Criteria (from Steller & Köhnken, 1989)

General characteristics
1. Logical structure
2. Unstructured production
3. Quantity of details
Specific contents
4. Contextual embedding
5. Descriptions of interactions
6. Reproduction of conversation
7. Unexpected complications during the incident
Peculiarities of content
8. Unusual details
9. Superfluous details
10. Accurately reported details misunderstood
11. Related external associations
12. Accounts of subjective mental states
13. Attribution of perpetrator's mental state
Motivation-related contents
14. Spontaneous corrections
15. Admitting lack of memory
16. Raising doubts about one's own testimony
17. Self-deprecation
18. Pardoning the perpetrator
Offence-specific elements
19. Details characteristic of the offence

with other evidence and statements and inappropriate use of language (i.e., more mature words used than one would expect from a child of a certain age).

Most research into the SVA has focused on the CBCA criteria. Do they actually differentiate truthful and deceptive accounts? Vrij (2005, 2008) has reviewed the available studies (more than fifty), conducted both in field settings and in the laboratory, and analyzed statements from both adults and children. On a general level, the Undeutsch hypothesis has found support; it has been found that the CBCA criteria do differentiate the truthful and the deceptive accounts because the criteria are more often found in truthful statements (Vrij, 2008). When examining the individual criteria, it is found that criteria 3 (quantity of details), 2 (unstructured production), 4 (contextual embeddings), and 6 (reproduction of conversation) are the ones receiving most support from research. At the level of total CBCA scores, and averaged over all available studies, just over 70 percent of all statements have been correctly classified, and lies and truths achieve similar accuracy rates (Vrij, 2008).

Reality Monitoring

Based on principles from well-established research findings on human memory, RM has been used as an alternative method to examine verbal differences between the truthful and deceptive. The fundamental idea is that memories of actually experienced events differ in quality from memories of imagined or fabricated events. Since memories of real experiences are obtained through perceptual processes, they are likely to contain certain types of information, such as *perceptual information*—details of smell, taste, and touch, and visual, and auditory details—and *contextual information*—spatial and temporal details. Accounts of imagined events are derived from an internal source and are therefore likely to contain *cognitive operations*, such as thoughts and reasoning (“I remember thinking to myself . . .”) (e.g., Johnson & Raye, 1981, 1998). Reasonably, experienced events reflect truth telling (since a truthful witness has seen or heard something and tries to recapitulate the actual memory), whereas imagined events reflect deception (since a deceptive witness talks about something invented). Therefore, differences between truth-tellers and liars could be expected regarding RM criteria (Sporer, 2004; Vrij, 2008). Researchers have used somewhat different content criteria based on the RM way of thinking (Sporer, 2004). Table 7.2 contains the list of RM criteria most commonly applied in deception detection studies. The available research (which is not as comprehensive as the CBCA studies) has been reviewed by Masip, Sporer, Garrido, and Herrero (2004) and by Vrij (2008). At an individual criterion level, it is criteria 2 (*perceptual*

Table 7.2. Reality Monitoring Criteria (from Sporer, 1997)

Truth criteria
1. Clarity
2. Perceptual information
3. Spatial information
4. Temporal information
5. Affect
6. Reconstructability of the story
7. Realism Lie criterion
8. Cognitive operations

Note: Some researchers split criterion 2 into five separate criteria reflecting the five senses (Strömwall, Bengtsson, Leander & Granhag, 2004).

information), 3 (*spatial information*) and 4 (*temporal information*) that best differentiate truthful and deceptive accounts. Unfortunately, the only lie criterion (*cognitive operations*) has not received much support. The overall result is that RM shows an accuracy rate of just below 70 percent correct classifications, with slightly better accuracy found for detecting truths than lies. These accuracy rates are comparable with the accuracy rates reported for CBCA evaluations.

Verbal Content Analysis: Conclusions

The SVA and the RM techniques have certain similarities (e.g., they are both criteria-based tools that search for indicators of the truth) and certain differences (e.g., SVA stems from practice, RM from research). Both techniques require training before use and are therefore strictly speaking not comparable to the previously reviewed nonverbal method that usually involves untrained observers. One common problem for SVA and RM is standardization, both in definitions of the criteria (e.g., What is a cognitive operation?) and in the scoring and evaluation systems (e.g., What is scored as presence of a criteria? How many criteria need to be present for an evaluator to claim that a specific statement is truthful?). At this time, RM seems to be preferable, because RM analyses are much easier to conduct than are CBCA evaluations (Sporer, 1997) and work as well in terms of accuracy (Vrij, 2008).

Psychophysiological Lie Detection

So far we have discussed cues to deception in demeanor and in the verbal content of a statement. We will now shift focus to the psychophysiological

cal aspects of deception and the polygraph as lie detector. The psychophysiological approach has a long history, and one of the first polygraphs to be used in forensic contexts was constructed in 1914 by William Marston in the United States. It measured the galvanic skin response, which, in turn, depends on sweating, for example from the palm. Marston's polygraph was used for interrogating suspected spies during the First World War (Teigen, 2006). The polygraph of today is more sophisticated, but the basic function is much the same (Grubin & Madsen, 2005). The modern polygraph measures different physiological systems, all governed by the autonomic nervous system: typically, galvanic skin response, cardiovascular activity (such as systolic and diastolic blood pressure), and breathing patterns.

The polygraph is used in a number of different contexts, such as in criminal investigations, as a condition for probation orders and as a release condition for convicted sexual offenders. Moreover, the polygraph is used in many parts of the world, such as the United States, Belgium, Israel, Japan, Korea, Thailand, and Turkey (Honts, 2004). It is important to distinguish between two main types of polygraph tests: the CQT (Honts, 2004) and the GKT (Lykken, 1959).

The Control Question Test (CQT)

The CQT, which is the most frequently used polygraph test when it comes to criminal investigations, starts with an introductory phase, after which the suspect is asked a number of questions belonging to one of three categories: (1) irrelevant questions ("Is soccer a sport?"), (2) relevant questions ("Did you stab Mr. Lee?"), or (3) control questions ("Before the age of twenty, did you ever steal something?"). The control questions concern transgressions in the past, designed to force the suspect to give a deceptive response. The core of CQT is to compare the responses registered when answering the control questions to the responses registered when answering the relevant questions (i.e., questions about the crime). The prediction is that guilty suspects will react more strongly to the relevant questions than to the control questions, whereas the opposite pattern is expected from innocent suspects (Fiedler, Schmid & Stahl, 2002).

There are a few overviews of CQT laboratory research, and these show an accuracy rate that ranges from 74 percent to 82 percent for classifying guilty suspects and an accuracy rate that ranges from 60 percent to 84 percent for classifying innocent suspects (Vrij, 2008). The different reviews published of CQT field studies confirm this pattern by showing an accuracy rate that ranges from 83 percent and 89 percent for classifying guilty suspects, and an accuracy rate that ranges from 53 percent and 75 percent for classifying innocent suspects (Vrij, 2008). The main problem with field studies is,

of course, to know whether the suspect is guilty or innocent (i.e., to establish ground truth). In sum, the evaluations show that the CQT has some discriminative value and that the technique is better at pinpointing liars than truth-tellers. It should be noted, however, that CQT has been exposed to severe criticism (e.g., Ben-Shakhar & Furedy, 1990; Lykken, 1998), and particularly so with respect to the assumption that innocent suspects will give more aroused responses to control questions than to relevant questions. It simply may be incorrect to believe that an innocent suspect would react more strongly to a control question about a rather mild transgression in the past than to a relevant question about the crime for which he or she is being falsely accused.

The Guilty Knowledge Test

The GKT aims at detecting concealed knowledge by asking a number of questions, and for each question it presents a number of answer alternatives, one of which is correct (e.g., “Where was the body of Mr Lee found? Was it in the hall? In the kitchen? In the bedroom?” etc.). The assumption is that guilty suspects will try to conceal their knowledge and therefore experience more physiological arousal when the correct (vs. the incorrect) alternative is presented. Innocent suspects are, in contrast, expected to react similarly to all answer alternatives as they lack guilty knowledge (MacLaren, 2001).

The different overviews of GKT laboratory research show an accuracy rate that ranges from 76 percent to 88 percent for classifying guilty suspects, and an accuracy rate that ranges from 83 percent to 99 percent for classifying innocent suspects (Vrij, 2008). The published GKT field studies (which are very few) confirm this pattern by showing an accuracy rate that ranges from 42 percent to 76 percent for guilty suspects, and an accuracy rate that ranges from 94 percent to 98 percent for innocent suspects (Vrij, 2008). Taken together, research shows that the GKT has some discriminative value and that the technique is better at pinpointing truth-tellers than liars. The GKT does not escape criticism; for example, the validity of the test depends very much on the fact that innocent suspects do not know the correct answer to the questions asked and the correct answer does not stand out in any way.

Countermeasures

If suspects are trained in countermeasures before being hooked up to a polygraph, this can pose a serious threat to the accuracy of the test (Honts, Hodes & Raskin, 1985; Honts, Raskin & Kircher, 1994). Countermeasures can be of many different kinds, for example, physical (e.g., biting the tongue) or cognitive (e.g., counting backwards). For a detailed discussion on different forms of countermeasures, see Honts and Amato (2002).

ALTERNATIVE METHODS FOR DETECTING DECEIT

Brain Scanning

One of the more common methods for scanning the human brain is called functional magnetic resonance imaging (fMRI). During recent years, fMRI has been used for many purposes, and one is to study the brain activity taking place during deception. This line of research shows that there is an increased activity in the prefrontal cortex during deception (Spence et al., 2006). This has been interpreted as lying being more cognitively demanding than telling the truth. The studies on neural correlates of deception are intriguing, and the findings reported to date are rather promising. However, the view presented by the media is not always balanced, and it is important to acknowledge that the studies reported so far are very few. In addition, not only is the fMRI equipment extremely expensive, but it also requires that the target remain still and silent (and answer questions by pressing buttons). In brief, it is very hard to predict to what extent (if any) fMRI will be a useful tool for detecting deception in forensic contexts. On the other hand, it is safe to say that the technique already is very helpful in mapping the cognitive processes taking place during deception.

The Scientific Content Analysis

The underlying assumption of SCAN is that a statement based on memory of a personal experience differs in content from a statement based on fabrication (see the sections on CBCA and RM). The SCAN rests on an extensive list of criteria such as “change in language” and “denial of allegations” (Vrij, 2008). To date, there has been very little research on the diagnostic value of the SCAN, and the different criteria used are much less standardized compared with, for example, the CBCA. Vrij (2008) could only find three published studies on the SCAN, two field studies and one laboratory study. Critically, for both field studies the “ground truth” was unknown (Driscoll, 1994; Smith, 2001, both cited in Vrij, 2008), and the laboratory study showed that truthful and deceptive statements did not differ with regard to the criteria tested (Porter & Yuille, 1996). According to its advocates the technique is used worldwide, but one should be aware that there is not much scientific evidence supporting the SCAN.

Analysis of Voice Stress

Yet another suggested approach to deception detection is to analyze the voice as such. Broadly speaking, there are two such methods: voice stress analysis (VSA) and layered voice-stress analysis (LVA). Eriksson and Lacerda

(2007) provide a summary of both these methods. The idea behind the VSA is to measure the activity in the muscles responsible for producing speech to infer the speaker's mental state. The key concept is so-called micro-tremors, which are described as weak involuntarily muscle activity, that can only be registered by fine electrodes. It is an easy task to show that tremors occur in large muscle groups, such as the biceps, but there is very little scientific evidence for the existence of tremors in the muscles producing speech (Shipp & Izdebski, 1981). If there is no tremor in the muscles producing speech, there is no tremor to measure in the voice. In addition, even if it was possible to find tremor in the voice, it would still remain to be decided to what extent (if any) such tremor is diagnostic for deception.

The second method, LVA, depends on the use of a computer program for analyzing errors occurring when a signal is digitized. It is argued that such errors can only be measured by sophisticated technology and that the LVA uses these errors to calculate a so-called truth value. However, such errors can be found for any type of sound, and by the LVA logic, a pair of roller-blades could be assessed as telling the truth and a distant bark as deceptive. In brief, there is no empirical research supporting the validity of the SVA or the LVA, and true experts in forensic phonetics do their best to debunk the nonsense (Eriksson & Lacerda, 2007).

Strategic Use of Evidence

As previously noted, research on deception has been heavily focused on the performance of lie catchers who, rather passively, watch short video clips of suspects. However, there is a new line of research that departs from the fact that there is often some potentially incriminating evidence against the suspect, for example, physical evidence or witness reports. The basic idea is that deception detection performance can be significantly improved if the investigator (1) is allowed to interrogate the suspect, (2) is given background information about the case and the suspect, and (3) knows how to strategically use this background information (Granhag & Strömwall, 2008b). The SUE technique provides basic principles on how to best use the available evidence to detect deception. In what follows we will describe some theoretical underpinnings of the SUE technique, provide empirical support for some core predictions, and offer a few words on how these predictions can be translated to interview tactics.

Theoretical Framework

The theoretical framework supporting the SUE technique rests on psychological notions from three domains: (1) the psychology of instrumental

mind reading, (2) the psychology of self-regulation, and (3) the psychology of guilt and innocence (Granhag & Hartwig, 2008).

Instrumental Mind Reading

We perform acts of mind reading daily by using different methods to draw conclusions about other people's mental states. For the present context we are not concerned with attempts to read the actual content of a person's mind, which indeed is a very speculative form of mind reading. Instead, we are interested in instrumental mind reading, in which the goal is to make predictions about a person's future behavior. In a criminal investigation the interrogator should try to mind read the strategies and behavior of the suspect. This is, however, not an easy task. First of all, many interrogators are too occupied thinking about their own tactics and therefore neglect the suspect's strategies (Hartwig, Granhag & Vrij, 2005). In addition, biases such as false consensus, stereotyping, and the curse of knowledge might contribute to mind-reading failures (for a more detailed account of these problems, see Granhag & Hartwig, 2008b). However, basic psychological theory might help investigators to mind read their suspects.

The Psychology of Self-Regulation

The term self-regulation refers to the ways in which people try to control their behavior (Fiske & Taylor, 1991). It is well-known that self-regulatory strategies are evoked by threatening situations, and particularly when there is a lack of knowledge about the forthcoming event. Translated into an investigative context, it is reasonable to construe an upcoming interrogation as a threat for the suspect. Research on social cognition suggests that a suspect may use many forms of cognitive control, and it has been argued that one such form—decision control—is of particular relevance for an interrogative setting (Granhag & Hartwig, 2008a). Decision control refers to the control achieved when deciding how to engage in an upcoming aversive event.

At the most basic level both guilty and innocent suspects are assumed to view the upcoming interrogation as a threat, but there is an important difference in that guilty suspects will have exclusive knowledge about the crime, knowledge that innocent suspects lack. The threat for the guilty suspect is that the interrogator may come to know that the guilty suspect holds exclusive knowledge about the crime, whereas the threat for an innocent suspect is that the interrogator may not come to know that the innocent suspect does not hold exclusive knowledge about the crime. Hence, there is reason to believe that the use of the same self-regulatory strategy (decision control) will result in different outcomes depending on whether the suspect is guilty or innocent.

The Psychology of Guilt and Innocence

In short, guilty suspects need to decide what to admit, avoid and deny during the interrogation (e.g., a very basic counterinterrogation strategy is to admit what one believes the interrogator to already know). However, the more interesting part is to try to predict how the guilty suspect will handle the pieces of incriminating information that he is not certain the interrogator holds. Construing these as an aversive stimulus, the guilty suspect is left with two ways of acting: (1) to go for avoidance when asked to freely tell his story and (2) to go for denial in response to a direct question. Turning to innocent suspects, we have reason to believe that their decision control will be colored by basic psychological concepts such as the belief in a just world (i.e., one gets what one deserves; Lerner, 1980) and the illusion of transparency (i.e., the belief that one's inner feelings and states will manifest themselves on the outside; Savitsky & Gilovich, 2003).

Importantly, research on mock suspects' planning and strategies supports the previous reasoning. It has been found that a much higher proportion of guilty (vs. innocent) suspects (1) report having a strategy prepared before entering the interrogation room (Hartwig, Granhag & Strömwall, 2007), (2) avoid mentioning incriminating information during a free recall (Hartwig, Granhag, Strömwall & Vrij, 2005), and (3) deny holding incriminating information when asked specific questions addressing this particular information (e.g., Hartwig, Granhag, Strömwall & Kronkvist, 2006). The combined empirical evidence supports the assumptions that a suspect's strategy is a reflection of his mental state; and that a suspect's behavior is a reflection of his strategy.

FROM PSYCHOLOGICAL THEORY TO INTERVIEW TACTICS

In a still-ongoing research program we have outlined how these (and other) empirical findings can be used in order to formulate and implement the SUE technique for interrogating suspects (Granhag, Strömwall & Hartwig, 2007). The full SUE technique consists of a number of different components, and so far only some of these have been experimentally tested (e.g., withholding the evidence, asking for a free narrative, asking specific questions that concern—but do not reveal—the evidence). One of these tests was conducted at a police academy in Sweden, where a group of highly motivated police trainees received training in some core components of the SUE technique and an equally motivated group of trainees received no such training. The trained group received an overall accuracy rate of 85 percent, whereas the corresponding figure for the untrained group was 56 percent (Hartwig et al., 2006). A closer analysis showed that the trained interrogators—by in-

interviewing in accordance with the SUE technique—managed to create and use a diagnostic cue to deception, namely statement evidence inconsistency.

Applications and Limitations

The application of the SUE technique is probably wide because the use of the technique only requires that the suspect is uncertain about what the interrogator knows (a situation very common in criminal investigations). The SUE technique is totally different from the confrontational techniques typically found in interrogation manuals (e.g., Inbau, Reid, Buckley & Jayne, 2001). However, the SUE technique stretches beyond pure and passive information gathering by drawing on the differences in information that innocent suspects volunteer and guilty suspects conceal and deny. It needs to be underscored that the SUE technique is very much a project under progress. Future research will illuminate how the effectiveness of the technique is moderated by factors such as the order in which different pieces of evidence are disclosed and the different counterinterrogation methods used by (guilty) suspects.

CONCLUSION

We started out by briefly outlining five theoretical approaches to people's nonverbal behavior: the emotional approach, the attempted control approach, the content complexity approach, the new cognitive load approach, and the self-presentational perspective. It is very difficult to decide the exact amount of explanatory power that should be assigned to each approach (and we refrained from evaluating the approaches), but it is rather safe to say that no single approach can be used to predict liars' and truth-tellers' nonverbal behavior over a variety of different situations and contexts. The overall finding from research on objective nonverbal cues is that there are few cues that correlate with deception, and those that do correlate (e.g., liars have a higher-pitched voice and use fewer illustrators) are only weakly related. In short, there is very meager scientific evidence backing up those criminal investigators (and other legal professionals) who feel smug about their ability to read a suspect's body language in order to detect deception. Furthermore, one needs to acknowledge that nonverbal behaviors might be differently correlated with truth status under certain conditions. For example, if the liar has had time to prepare the lie or not will show different correlations with some nonverbal behaviors. Research on subjective cues to deception show that it is common to believe that signs of nervousness are indicative of deception, this general misconception seems to hold for laypeople as well as professionals.

Considering that the nonverbal cues to deception are very few and weak—and that people seem to hold incorrect beliefs about these cues—it is of no surprise that people’s ability to discriminate truth from lies is mediocre. A closer look reveals that there are some factors moderating lie-catchers’ success; for example, lies that are prepared shown on video only (vs. in audiovisual or written format), and told by an unfamiliar person are more difficult to detect. We also concluded that presumed lie-catching experts do not perform better than laypersons, but we also acknowledged that these presumed experts have been tested in situations that are very different from their day-to-day work situations.

Considerable research effort has gone into finding correlates of truths and lies with the verbal content of a given statement. In this chapter, we reviewed two techniques, SVA and RM. Overall accuracy was around 70 percent if following either technique. Arguably, RM seems to be preferable over SVA, because RM analyses are easier to teach, learn, and conduct than are SVA evaluations, in addition to having a theory-based rationale.

We then turned to psychophysiological lie detection and described the CQT and the GKT. We summarized both laboratory and field research showing that the CQT seems to be better at catching liars than clearing innocent suspects, whereas the GKT seems to be better at clearing innocent suspects than catching liars. Although we conclude that both tests seem to have some discriminative value, we also note that both tests have been severely criticized and that the polygraph as lie detector must be used with caution. We then discussed alternative methods for detecting deception and concluded that brain scanning (fMRI) is a somewhat promising method but that the wait is long before the method can be used in criminal investigations. With reference to research (or the lack thereof) we took a much more critical stand with respect to the other alternative methods: the SCAN, VSA, and LVA. Finally, we introduced the SUE technique, which is the result of a new line of research within deception detection. We outlined the theoretical basis for the SUE technique and provided evidence that the technique can help interviewers to discriminate between guilty and innocent suspects.

In conclusion, this chapter shows that detecting deceit in legal contexts is a difficult task and that legal professionals are well-advised to take a humble stand with respect to their own lie-catching ability. There is no single lie-detection technique that can be trusted to always generate the correct answer. Different contexts demand different lie-detection methods, and none of the methods available are without problems. Nevertheless, it is possible to end on a positive note; professional lie catchers will, in the long run, make more correct judgments and reduce their number of mistakes if learning the lessons taught by science.

REFERENCES

- Akehurst, L., Köhnken, G., Vrij, A., & Bull, R. (1996). Lay persons' and police officers' beliefs regarding deceptive behaviour. *Applied Cognitive Psychology, 10*, 461–471.
- Anderson, D. E., DePaulo, B. M., Ansfield, M. E., Tickle, J. J., & Green, E. (1999). Beliefs about cues to deception: Mindless stereotypes or untapped wisdom? *Journal of Nonverbal Behavior, 23*, 67–89.
- Ben-Shakhar, G., & Furedy, J. J. (1990). *Theories and applications in the detection of deception: A psychophysiological and international perspective*. New York: Springer-Verlag.
- Bond, C. F., Jr, & DePaulo, B. M. (2006). Accuracy of deception judgments. *Personality and Social Psychology Review, 10*, 214–234.
- DePaulo, B. M. (1992). Nonverbal behavior and self-presentation. *Psychological Bulletin, 111*, 203–243.
- DePaulo, B. M., & Kirkendol, S. E. (1989). The motivational impairment effect in the communication of deception. In J. C. Yuille (Ed.), *Credibility assessment* (pp. 51–70). Dordrecht, The Netherlands: Kluwer.
- DePaulo, B. M., Lindsay, J. J., Malone, B. E., Muhlenbruck, L., Charlton, K., & Cooper, H. (2003). Cues to deception. *Psychological Bulletin, 129*, 74–118.
- Ekman, P. (2001). *Telling lies: Clues to deceit in the marketplace, politics and marriage*. New York: Norton.
- Ekman, P., & Friesen, W. V. (1969). Nonverbal leakage and clues to deception. *Psychiatry, 32*, 88–105.
- Ekman, P., & Friesen, W. V. (1972). Hand movements. *Journal of Communication, 22*, 353–374.
- Eriksson, E., & Lacerda, F. (2007). Charlatany in forensic speech science: A problem to be taken seriously. *The International Journal of Speech, Language and the Law, 14*, 169–193.
- Fiedler, K., Schmid, J., & Stahl, T. (2002). What is the current truth about polygraph lie detection? *Basic and Applied Social Psychology, 24*, 313–324.
- Fiske, S. T., & Taylor, E. T. (1991). *Social cognition*. New York: McGraw-Hill.
- Global Deception Research Team. (2006). A world of lies. *Journal of Cross-Cultural Psychology, 37*, 60–74.
- Granhag, P. A., Andersson, L. O., Strömwall, L. A., & Hartwig, M. (2004). Imprisoned knowledge: Criminals' beliefs about deception. *Legal and Criminological Psychology, 9*, 103–119.
- Granhag, P. A., & Hartwig, M. (2008). A new theoretical perspective on deception detection: On the psychology of instrumental mind-reading. *Psychology, Crime & Law*.
- Granhag, P. A., & Strömwall, L. A. (2001). Deception detection based on repeated interrogations. *Legal and Criminological Psychology, 6*, 85–101.
- Granhag, P. A., & Strömwall, L. A. (2004a). Deception detection in forensic contexts: Past and present. In P. A. Granhag & L. A. Strömwall (Eds.), *The detection of deception in forensic contexts* (pp. 3–12). Cambridge: Cambridge University Press.

- Granhag, P. A., & Strömwall, L. A. (2004b). Deception detection in forensic contexts: Intersections and future challenges. In P. A. Granhag & L. A. Strömwall (Eds.), *The detection of deception in forensic contexts* (pp. 317–330). Cambridge: Cambridge University Press.
- Granhag, P. A., & Strömwall, L. A. (2008a). Detection of deception in adults. In B. L. Cutler (Ed.), *Encyclopedia of psychology and law* (pp. 207–212). Thousand Oaks, CA: Sage Publication.
- Granhag, P. A., & Strömwall, L. A. (2008b). Detection of deception: Use of evidence. In B. L. Cutler (Ed.), *Encyclopedia of psychology and law* (pp. 204–206). Thousand Oaks, CA: Sage Publication.
- Granhag, P. A., Strömwall, L. A., & Hartwig, M. (2007). The SUE-technique: The way to interview to detect deception. *Forensic Update*, *88*, 25–29.
- Granhag, P. A., & Vrij, A. (2005). Deception detection. In N. Brewer & K. D. Williams (Eds.), *Psychology and law: An empirical perspective* (pp. 43–92). New York: The Guilford Press.
- Greuel, L. (1992). Police officers' beliefs about cues associated with deception in rape cases. In F. Lösel, D. Bender, & T. Bliesener (Eds.), *Psychology and law—International perspectives* (pp. 234–239). Berlin: Walter de Gruyter.
- Grubin, D., & Madsen, L. (2005). Lie detection and the polygraph: A historical review. *The Journal of Forensic Psychiatry and Psychology*, *16*, 357–369.
- Hartwig, M., Granhag, P. A., & Strömwall, L. A. (2007). Guilty and innocent suspects' strategies during police interrogations. *Psychology, Crime & Law*, *13*, 213–227.
- Hartwig, M., Granhag, P. A., Strömwall, L. A., & Kronkvist, O. (2006). Strategic use of evidence during police interviews: When training to detect deception works. *Law and Human Behavior*, *30*, 603–619.
- Hartwig, M., Granhag, P. A., Strömwall, L. A., & Vrij, A. (2005). Detecting deception via strategic disclosure of evidence. *Law and Human Behavior*, *29*, 469–484.
- Hartwig, M., Granhag, P. A., & Vrij, A. (2005). Police interrogation from a social psychology perspective. *Policing and Society*, *15*, 401–421.
- Honts, C. R. (2004). The psychophysiological detection of deception. In P. A. Granhag & L. A. Strömwall (Eds.), *The detection of deception in forensic contexts* (pp. 103–123). Cambridge: Cambridge University Press.
- Honts, C. R., & Amato, S. (2002). Countermeasures. In M. Kleiner (Ed.), *Handbook of polygraph testing* (pp. 251–264). London: Academic.
- Honts, C. R., Hodes, R. L., & Raskin, D. C. (1985). Effects of physical countermeasures on the physiological detection of deception. *Journal of Applied Psychology*, *70*, 177–187.
- Honts, C. R., Raskin, D. C., & Kircher, J. C. (1994). Mental and physical countermeasures reduce the accuracy of polygraph tests. *Journal of Applied Psychology*, *79*, 252–259.
- Inbau, F. E., Reid, J. E., Buckley, J. P., & Jayne, B. C. (2001). *Criminal interrogation and confessions*. Gaithersburg: Aspen Publishers.
- Johnson, M. K., & Raye, C. L. (1981). Reality monitoring. *Psychological Review*, *88*, 67–85.

- Johnson, M. K., & Raye, C. L. (1998). False memories and confabulation. *Trends in Cognitive Sciences*, 2, 137–145.
- Kraut, R. E., & Poe, D. (1980). Behavioral roots of person perception: The deception judgements of customs inspectors and laymen. *Journal of Personality and Social Psychology*, 39, 784–798.
- Landström, S., Granhag, P. A., & Hartwig, M. (2005). Witnesses appearing live vs. on video: How presentation format affect observers' perception, assessment and memory. *Applied Cognitive Psychology*, 19, 913–933.
- Landström, S., Granhag, P. A., & Hartwig, M. (2007). Children appearing live vs. on video: Effects on adults' perception, assessment and memory. *Legal and Criminological Psychology*, 12, 333–347.
- Lerner, M. J. (1980). *The belief in a just world*. New York: Plenum.
- Lykken, D. T. (1959). The GSR in the detection of guilt. *Journal of Applied Psychology*, 44, 385–388.
- Lykken, D. T. (1998). *A tremor in the blood: Uses and abuses of the lie detector*. New York: Plenum Press.
- MacLaren, V. V. (2001). A quantitative review of the guilty knowledge test. *Journal of Applied Psychology*, 86, 674–683.
- Mann, S., Vrij, A., & Bull, R. (2002). Suspects, lies and videotape: An analysis of authentic high-stake liars. *Law and Human Behavior*, 26, 365–376.
- Mann, S., Vrij, A., & Bull, R. (2004). Detecting true lies: Police officers' ability to detect deceit. *Journal of Applied Psychology*, 89, 137–149.
- Masip, J., & Garrido, E. (2001, June). *Experienced and novice officers' beliefs about indicators of deception*. Paper presented at the 11th European Conference of Psychology and Law, Lisbon, Portugal.
- Masip, J., Sporer, S. L., Garrido, E., & Herrero, C. (2005). The detection of deception with the reality monitoring approach: A review of the empirical evidence. *Psychology, Crime & Law*, 11, 99–122.
- Savitsky, K. & Gilovich, T. (2003). The illusion of transparency and the alleviation of speech anxiety. *Journal of Experimental Social Psychology*, 39, 618–625.
- Spence, S. A., Hunter, M. D., Farrow, T. F. D., Green, R. D., Leung, D. H., Hughes, C. J., & Ganesan, V. (2006). A cognitive neurobiological account of deception: Evidence from functional neuroimaging. In S. Zeki & O. Goodenough (Eds), *Law and the brain* (pp. 169–182). Oxford: Oxford University Press.
- Sporer, S. L. (1997). The less travelled road to truth: Verbal cues in deception detection in accounts of fabricated and self-experienced events. *Applied Cognitive Psychology*, 11, 373–397.
- Sporer, S. L. (2004). Reality monitoring and detection of deception. In P. A. Granhag & L. A. Strömwall (Eds.), *The detection of deception in forensic contexts* (pp. 64–102). Cambridge: Cambridge University Press.
- Sporer, S. L., & Schwandt, B. (2006). Paraverbal indicators of deception: A meta-analytic synthesis. *Applied Cognitive Psychology*, 20, 421–446.
- Steller, M., & Köhnken, G. (1989). Criteria-based content analysis. In D. C. Raskin (Ed.), *Psychological methods in criminal investigation and evidence* (pp. 217–245). New York, NJ: Springer-Verlag.

- Strömwall, L. A., Bengtsson, L., Leander, L., & Granhag, P. A. (2004). Assessing children's statements: The impact of a repeated experience on CBCA and RM ratings. *Applied Cognitive Psychology, 18*, 653–668.
- Strömwall, L. A., & Granhag, P. A. (2003). How to detect deception? Arresting the beliefs of police officers, prosecutors and judges. *Psychology, Crime, & Law, 9*, 19–36.
- Strömwall, L. A., Granhag, P. A., & Hartwig, M. (2004). Practitioners' beliefs about deception. In P. A. Granhag & L. A. Strömwall (Eds.), *The detection of deception in forensic contexts* (pp. 229–250). Cambridge: Cambridge University Press.
- Teigen, K. H. (2006). *En psykologihistoria* [A history of psychology]. Stockholm: Liber.
- Vrij, A. (2005). Criteria-based content analysis: The first 37 studies. *Psychology, Public Policy and Law, 11*, 3–41.
- Vrij, A. (2008). *Detecting lies and deceit: Pitfalls and opportunities* (2nd ed.). Chichester: John Wiley & Sons.
- Vrij, A., & Mann, S. (2001). Telling and detecting lies in a high-stake situation: The case of a convicted murderer. *Applied Cognitive Psychology, 15*, 187–203.
- Vrij, A., & Semin, G. R. (1996). Lie experts' beliefs about nonverbal indicators of deception. *Journal of Nonverbal Behavior, 20*, 65–80.
- Zuckerman, M., DePaulo, B. M., & Rosenthal, R. (1981). Verbal and nonverbal communication of deception. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 14, pp. 1–60). New York: Academic Press.

Chapter Eight

NEW DEVELOPMENTS WITH DECEIT AND ITS DETECTION

RICHARD N. KOCSIS

The objective of the present chapter is to examine recent developments that have occurred in the research realm concerning the detection of deceit. The general structure of this chapter will be to first examine developments concerning the assessment of nonverbal cues of deception. This is then followed by consideration of the counterpart topic of detecting deception from verbal content. The chapter will then conclude with some consideration of the advances in psychophysiological methods (e.g., brain scanning mechanisms and the polygraph) for the detection of deception as well as some of the newer alternative methods such as the Strategic Use of Evidence (hereinafter referred to in acronym as ‘SUE’) technique. Readers should appreciate that the exposition contained herein is very much premised on the assumption that the reader is familiar with the core concepts surrounding the scientific study of human deception as well as research into techniques for its detection (such as the material which was canvassed in the previous chapter on deception).

NON-VERBAL CUES OF DECEPTION

Although consideration of non-verbal cues for deception has traditionally been an area of great interest for some time the overall conclusion (as substantiated by scientifically grounded research evidence) has remained largely static. That is, behavioral cues have collectively been found to be at best weak, or simply an unreliable indicia for deception (e.g., DePaulo et al., 2003). Despite this seemingly anti-climactic conclusion three quite significant discoveries have nonetheless emerged over the past decade, which have

considerable relevance in informing our overall understanding of non-verbal cues of deception. Each of these are described below.

The Decline Effect

In examining DePaulo et al.'s (2003) quite expansive meta-analysis of non-verbal cues of deception Bond, Levine and Hartwig (2015) have discovered a fascinating artifact inherent to this overall field of research. That is, a trend has emerged in which it seems that the strength of any behavioral cue for deception tends to decline and thus erode with the passage of time. More specifically, DePaulo et al.'s (2003) meta-analysis examined 158 behavioral cues that have been the subject of study investigating their relationship with deception. As a component of this meta-analysis DePaulo et al. noted the number of times a particular cue had been examined and its concordance as a reliable indicator for deception. When Bond et al. took these two factors into consideration via a secondary level of analysis (e.g., scatter plot of these factors) a trend was discerned in that the more often a particular behavioral cue for deception was studied (over time), the more unreliable (i.e., weaker) it was successively found to be. Perhaps even more remarkable was that an inverse pattern to this was also apparent. Thus, some of the strongest behavioral cues associated with deception evident in the research literature had, it appears, been the subject of the least amount of empirical research scrutiny and testing.

In considering these surprising findings inherent to the deception research Bond et al. (2015) concluded that these patterns are most likely indicative of a much broader research phenomena referred to as the '*Decline Effect*.' The manifestation of the '*Decline Effect*' has been observed across many different disciplines beyond psychology and describes the curious propensity for the strength of research findings to progressively diminish with the passage of time (Cronbach, 1975; Ozonoff, 2011; Schooler, 2011). The exact factors which account for the phenomena are unknown but it seems most likely due to a constellation of possible variables such as publication bias (i.e., the trend for novel research findings to more readily achieve publication), or the presence of statistical artifacts (Ioannidis, 2005a, 2005b). Whatever the precise case, the manifestation of the phenomena in the published research literature suggests that once a behavioral cue is identified as an indicia for deception the strength of that relationship and thus its reliability subsequently diminishes as successive studies focused upon investigating it emerge (Bond et al., 2015).

The Basis for Judgements in the Detection of Deception

As previously mentioned the research into non-verbal deception has been dominated by the largely and regrettably unfruitful study of behavioral cues as reliable indicia for deception. However, one metaphorical splinter stream of research that has, instead, produced some substantively rewarding findings has been the study of people's judgements (i.e., perceptions) of other's veracity based upon their non-verbal behavior. In this context, one of the most consistent findings to emerge in this area is recognition that the predominant factor which influences an assessor's judgements concerning veracity is the exhibited demeanor of the subject under consideration (e.g., Bond & DePaulo, 2008; Levine, 2010; Levine et al., 2011). Consequently, within the broader framework of nonverbal factors associated with deception—how people are perceived and thus judged by others (in terms of whether they are engaging in deception or not) is largely based upon perceptions of their apparent demeanor and this phenomena has been found to be quite consistent across a variety of circumstances and experimental conditions (Global Deception Research Team, 2006; Hartwig & Bond, 2011).

The Degree of Accuracy in the Detection of Deceit

What is perhaps the most coveted question (at least gauged by the apparent interest exhibited by the general public whenever the topic of detecting deceit may arise) is how accurate people are in detecting deceit via the display and interpretation of non-verbal behaviors. The short and seemingly disappointing answer is that people's judgements (and thus rate of accuracy) are often poor at best and thus little better than chance. In what still remains one of the largest studies on this issue Bond and DePaulo (2006) found that the average accuracy rate in identifying deceit via non-verbal behaviors was only 54% and thus only marginally better than what could be accomplished by simply guessing (i.e., an accuracy ratio of 50%).

Nonetheless, three somewhat tangential but important issues in this area have emerged over recent years. The first relates to the postulated notion that an extremely small population of individuals (who have been colloquially referred to as *'lie detection wizards'*) exist who possess some innate but superior capacity to detect deception via non-verbal behavior (e.g., Ekman, 2001). Unfortunately, the outcomes of meta-analysis examining this specific phenomenon could find no evidence to support such a notion. That is, when the performance of the so-called 'wizards' were statistically aggregated their proficiency was likewise little better than chance¹ and thus consistent with

1. Concomitantly, another recent study by Leach et al. (2009) found that performance on lie detection tasks are not stable and thus individuals' degrees of proficiency can quite easily vary over time.

previous research findings concerning the detection of deceit via non-verbal behaviors (e.g., Bond, 2008; Bond & DePaulo, 2006, 2008).

Although not presented under the imprimatur of being 'lie detection wizards' a recent study by O'Sullivan, Frank, Hurley & Tiwana (2009) has nonetheless contended that law enforcement personnel can demonstrate some degree of greater proficiency in the detection of deceit especially in the circumstance of 'high-stakes' consequential deception. In circumstances where 'high-stakes' consequential deceit was involved O'Sullivan et al. (2009) found that police personnel demonstrated on average a 67.2% accuracy rate. These findings have triggered an interesting and somewhat critical commentary from Bond, Levine and Hartwig (2015) who have nominated an array of factors which may account for the inconsistency between the findings of O'Sullivan, Frank, Hurley and Tiwana (2009) and the conclusions of Bond and DePaulo (2006). Some of these factors include significant disparities in the sample sizes between the studies and thus greater potential for sampling error in the work by O'Sullivan et al. (2009). Additionally, Bond et al. (2015) indicate that O'Sullivan et al.'s conclusions may be based upon 'cherry-picked' findings and that some of the data and research relied upon for their conclusions has never been subject to peer-review scrutiny.

Finally, as an interesting tangent Hartwig and Bond (2011) explored the issue of why judgements of deceit are so often wrong. When considered holistically their findings appear quite erudite especially when the aforementioned conclusions concerning the value of non-verbal cues as a reliable indicia for deception is considered (i.e., DePaulo et al., 2003). That is, as the behavioral differences between truth-tellers and deceivers are often quite minute and imperceptible the feasibility of being able to identify deceit via such indicia is extremely difficult if not virtually impossible which logically might therefore account for why people's judgements are so poor.

DETECTING DECEIT FROM VERBAL CONTENT

In stark contrast to the material on non-verbal cues the research endeavors and applications of verbal mechanisms for the detection of deceit have yielded some promising and fruitful results. These results however, are not without caveat in that the 'progress' apparently made seems to be stymied by the paradox between methods which have achieved some scientific support for their validity as a viable mechanism for detecting verbal deception and those mechanisms which simply enjoy widespread use despite a paucity of such evidence. These issues are better explained with reference to three of the most well-known approaches to assessing deceit via verbal content.

Scientific Content Analysis (SCAN)

A somewhat paradoxical circumstance continues to surround the technique referred to as Scientific Content Analysis (hereinafter referred to in acronym as “SCAN”). This paradox relates to the apparent degree of popularity the technique appears to enjoy (in terms of its usage amongst law enforcement practitioners) despite the evident paucity of scientifically grounded research attesting to its merits (e.g., Heydon, 2011; Vrij, 2015). As mentioned in the previous chapter only three studies (i.e., Driscoll, 1994; Porter & Yuille, 1996; Smith, 2001) have been produced which have sought to evaluate the validity of the technique. The outcomes of these studies were far from conclusive in supporting the merits of SCAN with the findings by Smith (2001) being the only study to offer a clearly favorable endorsement of the technique. Unfortunately, even this research by Smith (2001) has recently attracted criticism by Armistead (2011) who has challenged the strength of Smith’s (2001) conclusions arguing that its findings are an artefact of the adopted methods for analysis. That is, were alternative statistical forms and levels of analysis applied in assessing the sampled data the results produced would not have yielded the supportive findings reported in Smith (2001).

Following the research by Smith (2001), two other studies have also been published which seek to investigate the merits of SCAN. The first was by Bachenko, Fitzpatrick and Schonwetter (2008) which undertook a very limited evaluation of some components within the SCAN technique. The other more recently published study was that by Nahari, Vrij and Fisher (2012) which once again did not yield findings supportive of SCAN but rather indicated that an alternative technique (i.e., Reality Monitoring) readily outperformed SCAN in its capacity to distinguish truthful and deceitful statements. Consequently, whilst SCAN has unquestionably achieved market success in being adopted for use by many law enforcement agencies throughout the world, the scientifically grounded evidence evaluating its merits which has achieved publication in robust scholarly peer-reviewed mediums remains limited and somewhat unclear.

Reality Monitoring (RM)

The apparent paradoxes surrounding verbal detection methods continue also with the technique of Reality Monitoring (hereinafter referred to in acronym as “RM”). The original concept of RM ironically was not intended as a mechanism for the detection of deceit but instead refers to cognitive features in memory associated with the differentiation between imagined and actually experienced events. Ostensibly, RM identifies key features inherent

to memories of real/actual events that are tangibly different in their characteristics to supposed memories of events which did not, in fact, occur (Johnson & Raye, 1981). As should be apparent, these same principles can, with some adaptation, be also applied for the purpose of discerning deceit (i.e., memories of events that did not actually occur). In contrast to the limited degree of research substantiating the SCAN technique, the scientific evidence supporting the merits of RM appears robust with accuracy ratios reported to be as high as 72% (e.g., Masip et al., 2005; Vrij, 2008).

Indeed, two comparatively recent studies have now emerged within the scholarly literature examining the validity of RM (e.g., Nahari et al., 2012, 2014). The findings of both of these studies provide clear support (accuracy rates reported to range from 63% to 71%) and are quite consistent with the earlier conclusions of Vrij (2008). Despite the evidence buttressing the merits of RM as a viable method for the detection of deceit the technique does not, perhaps inexplicably, appear to enjoy a high degree of acceptance in terms of its usage amongst practitioners (Vrij, 2015).

Statement Validity Analysis (SVA)

As mentioned in the previous chapter Statement Validity Analysis (hereinafter referred to in acronym as “SVA”) is used in court proceedings to determine the veracity of testimony in several jurisdictions throughout the world even though the degree of accuracy of the technique is not well known. Many of the past research endeavors to examine the technique and thus the underlying concepts of Criteria-Based Content Analysis (in acronym “CBCA”) are reviewed in the work by Vrij (2008) which has reported what appears to be some promising findings. CBCA is a component of SVA in that it is a mechanism used to distinguish true statements from false statements. It is essentially premised on the concept that CBCA scores are expected to be higher for truth tellers than liars. The main impediment to research in this area is not from any disinclination from researchers to explore these issues but rather the methodological conundrum of being able to establish what are referred to as the *‘ground-truths’* and thus what factually occurred in the contested events upon which the determinative criteria for the CBCA are to be measured against.

In this context, two studies have recently emerged in the scientific literature which once again show some promise for CBCA. Both of these studies feature child-witness subjects and possess reasonably robust standards for ground truths. Using 14 criteria upon which written content (i.e., transcribed interviews) was analyzed the study by Roma et al. (2011) found that ‘true’ cases featured substantially more of the CBCA criteria than the false cases thus demonstrating effectiveness in being able to differentiate veracity of material. Likewise, the study by Akehurst, Manton and Quandte (2011) uti-

lized two trained experts to evaluate material and achieved accuracy rates ranging from 60-81%.

ALTERNATIVE METHODS FOR DETECTING DECEIT

Akin to the research in the domain of verbal cues for deception some of the alternative methods for detecting deception have also generated encouraging findings concerning their applicability as viable deceit detection mechanisms within their respective domains. Each of these are reviewed below.

Strategic Use of Evidence (SUE)

Unlike many of its counterparts focused upon non-verbal cues or verbal content indicative of deception the SUE technique has metaphorically flourished over the past decade. In this context, a corpus of robust scientific studies supporting the merits of the SUE technique have been published examining children, adults, suspects in groups as well as suspects in a host of experimental manipulations and circumstances (examples of these can be found in the studies by Clemens et al., 2010; Clemens, Granhag & Stromwall, 2011; Granhag, Rangmar & Stromwall, 2013; Hartwig, Granhag & Luke, 2014; Hartwig, Granhag, Strömwall & Kronkvist, 2006; Hartwig et al., 2011).

Beyond these numerous experimental trials the SUE technique has, in this same period of time, also been conceptually ratified via the formulation of a conceptual model to illustrate and thus demonstrate its feasible application within numerous interview and interrogation settings (e.g., Granhag, 2010; Granhag, Mac Giolla, Stromwall, & Rangmar, 2013; Hartwig et al., 2011). Despite the unquestionably favorable development and outlook for the SUE technique its proponents nonetheless acknowledge with commendable candor one limitation—this being that a paucity of field studies of the technique are still in short supply but will undoubtedly emerge with time (e.g., Luke et al., 2016).

Psychophysiological Lie Detection: The Polygraph

As explained in the previous chapter, the application of the polygraph is markedly differentiated by the interviewing strategies employed when it is used as a mechanism to detect deceit. The two predominant strategies are referred to as the Controlled Question Test (in acronym 'CQT') and what was previously known as the Guilty Knowledge Test (in acronym 'GKT') but is now more commonly referred to as the Concealed Information Test (in acronym 'CIT').

The CQT method continues to be the subject of fierce debate characterized predominantly by polygraph practitioners who loyally advocate its merits (e.g., Raskin & Honts, 2002) while concurrently attracting ardent criticisms (predominantly from members of the academic/scholarly community) concerning its scientific merits—or more specifically argued lack thereof (e.g., Ben-Shakhar, 2008; Iacono, 2008; Lykken, 1998; Mangan, Armitage & Adams, 2008; Synnott, Dietzel & Ioannou, 2015; Verschuere, Meijer & Merchelbach, 2011). Despite the ongoing debate, use of the polygraph has nonetheless expanded over the past decade with its use now in operation in many European countries (Meijer, 2010).

In contrast, the CIT methodology is characterized by a clear theoretical basis which has, in turn, spawned a scientific research curiosity concerning its development (e.g., Lykken, 1974; Sokolov, 1963; Verschuere, Ben-Shakhar & Meijer, 2011). As a consequence, numerous new studies have been produced over the past decade systematically investigating variables inherent to the viable application of the CIT technique (Synnott, Dietzel & Ioannou, 2015). For example, inherent to the fundamental paradigm of the CIT is the presumption that the interviewee actually remembers the incident in question. Accordingly, a number of studies have been conducted exploring how degradation of memory impacts upon the accuracy and thus effectiveness of the CIT (e.g., Gamer, Kosiol & Vossel, 2010; Peth, Vossel & Gamer, 2012). Similarly, stress levels and thus the potential differences between experimental simulations and more stressful field trials of the CIT have also been explored (Peth et al., 2012; Verschuere, Meijer, & De Clercq, 2011). Collectively, all of these studies signal great promise for the CIT in terms of developing a scientifically grounded basis for its application in the future. Unfortunately, whilst this potential seems apparent the CIT (akin to the other previously mentioned paradoxes) does not seem to enjoy a great degree of acceptance and thus use amongst polygraph practitioners (unlike the CQT) except within Japan (e.g., Hira & Furumitsu, 2002; Nakayama, 2002; Osugi, 2011).

Brain Scanning (fMRI)

The use of neuroimaging devices for the detection of deceit reflects an interesting combination of both significant potential and limitation. From the outset, three factors should be noted about the use of such devices. The first is that a variety of technologies are available and have been used (e.g., Positron Emission Tomography [in acronym “PET”], Near-Infrared Spectroscopy) but the use of Functional Magnetic Resonance Imaging² (in acronym

2. In, summary fMRI involves measurement of blood flow within the brain which is the result of neural activity. These ‘measurements’ are then depicted in various high resolution spatial configurations.

“fMRI”) has unquestionably dominated research interests and endeavors in this area (Logothetis & Wandell, 2004). Second, despite the sense of technological sophistication surrounding these devices, all are reliant on exactly the same underlying principles inherent to far less complex physiological devices used for detecting deceit. Consequently, the same limitations which are inherent to the polygraph in making valid connections between exhibited physiological changes and the inference of an individual’s mental state (i.e., whether they are lying or not) are equally applicable to all brain scanning devices (e.g., Lykken, 1998).

The third factor involves the need to differentiate studies which have studied, from a neurological perspective, the broader functions of the brain vis-à-vis deception (e.g., Kireev et al., 2012; Liang et al., 2012; McPherson et al., 2012) with research undertaken in an applied framework. That is, studies that use some form of single-subject analyses and thus provide quantified accuracy rates akin to research in other domains outlined in this chapter. Research of this nature is surprisingly limited and some of the earliest were by Spence (2001), Langleben et al. (2005), Davatzikos et al. (2005) and Kozel et al. (2005). These studies achieved accuracy rates ranging from 76.5 through to rates as high as 90%. More recent studies following the same general design parameters of the aforementioned ones have achieved accuracy rates as low as 66.7% (e.g., Kozel et al., 2009) through to 84.5% (e.g., Nose et al., 2009) and as high as 100% (e.g., Ganis et al., 2011). Although some of these accuracy rates convey a tantalizing impression for the potential of fMRI devices to perspicuously detect deceit, all feature one prevailing and profound limitation. Simply put, all of the studies conducted thus far lack semblance to deception as typically encountered in the real world of everyday life.

As indicated in the previous chapter studies involving fMRI machines are unfortunately typically characterized by rather contrived simulations involving, for example, subjects observing images whilst pushing response buttons and concurrently having their neural activity measured whilst lying down motionless inside an fMRI machine. Additionally, despite fMRI possessing an elevated level of technological sophistication they are still, all the same, prone to exactly the same foibles which plague other physiological approaches to the assessment of deceit. Thus, measurements via fMRI cannot discriminate the veracity of a response if the subject genuinely believes their response to be true but is, in fact, inaccurate. Likewise, research involving fMRI has already emerged, akin to the polygraph, demonstrating that subjects can employ countermeasures to effectively thwart the accuracy of an fMRI in accurately detecting deceit (e.g., Ganis et al., 2011).

CONCLUSION

With the growth of geopolitical turmoil and the proliferation of terrorist ideologies and movements throughout the world it is perhaps unsurprising that research and interest in the development of mechanisms to assist with the detection of deceit has continued to be at the forefront of many research endeavors. In this context, it is apparent that some aspects of development have telegraphed great potential, whereas others, although popular, lack independent scientifically grounded evidence in support of their merits. What is, however, very significant is a prevailing paradox and metaphorical divide between practitioners and scientists concerning which mechanisms for the detection of deceit are popularly adopted and used, in contrast to those which have more tangible/established research merits but do not appear to enjoy the same acceptance amongst practitioners. The reconciliation of these two apparent conceptual polar opposites will no doubt be an incremental process that will hopefully be achieved in the future.

REFERENCES

- Akehurst, L., Manton, S., & Quandt, S. (2011). Careful calculation or a leap of faith? A field study of translation of CBCA ratings to final credibility judgments. *Applied Cognitive Psychology, 25*, 236–243.
- Armistead, T. W. (2011). Detecting deception in written statements: The British Home Office study of scientific content analysis (SCAN). *Policing: An International Journal of Police Strategies & Management, 34*, 588–605.
- Bachenko, J., Fitzpatrick, E., & Schonwetter, M. (2008). Verification and implementation of language-based deception indicators in civil and criminal narratives. In Association for Computational Linguistics (Ed.), *Proceedings of the 22nd International Conference on Computational Linguistics* (Coling 2008, pp. 41–48). Strudenberg, PA: Author.
- Ben-Shakhar, G. (2008). The case against the use of polygraph examinations to monitor post-conviction sex-offenders. *Legal and Criminological Psychology, 13*, 191–207.
- Bond, C. F., Jr. (2008). A few can catch a liar, sometimes: Comment on Ekman and O'Sullivan (1990) and on Ekman, Frank, and O'Sullivan (1990). *Applied Cognitive Psychology, 22*, 1298–1300.
- Bond, C. F., Jr., & DePaulo, B. M. (2006). Accuracy of deception judgments. *Personality and Social Psychology Review, 10*, 214–234.
- Bond, C. F., Jr., & DePaulo, B. M. (2008). Individual differences in judging deception: Accuracy and bias. *Psychological Bulletin, 134*, 477–492.
- Bond, C. F., Levine, T. R., & Hartwig, M. (2015). New findings in non-verbal lie detection. In P. A. Granhag, A. Vrij, & B. Verschuere (Eds.), *Detecting deception: Current challenges and cognitive approaches* (pp. 37–58). Wiley: Sussex, UK.

- Clemens, F., Granhag, P. A., & Stromwall, L. A. (2011). Eliciting cues to false intent: A new application of strategic interviewing. *Law and Human Behavior, 35*, 512–522.
- Clemens, F., Granhag, P. A., Stromwall, L. A., Vrij, A., Landstrom, S., Roos af Hjelmsater, E., & Hartwig, M. (2010). Skulking around the dinosaur. Eliciting cues to children's deception via strategic disclosure of evidence. *Applied Cognitive Psychology, 24*, 925–940.
- Cronbach, L. J. (1975). Beyond the two disciplines of scientific psychology. *American Psychologist, 30*(2), 116–127.
- Davatzikos, C., Ruparel, K., Fan, Y., Shen, D. G., Acharyya, M., Loughhead, J.W., ... Langleben, D. D. (2005). Classifying spatial patterns of brain activity with machine learning methods: Application to lie detection. *Neuroimage, 28*(3), 663–668.
- DePaulo, B. M., Lindsay, J. J., Malone, B. E., Muhlenbruck, L., Charlton, K., & Cooper, H. (2003). Cues to deception. *Psychological Bulletin, 129*, 74–118.
- Driscoll, L. N. (1994). A validity assessment of written statements from suspects in criminal investigations using SCAN technique. *Police Studies, 17*, 77–88.
- Ekman, P. (2001). *Telling lies: Clues to deception in the marketplace, politics and marriage*. Norton: New York.
- Gamer, M., Kosiol, D., & Vossel, G. (2010). Strength of memory encoding affects physiological responses in the Guilty Action Test. *Biological Psychology, 83*, 101–107.
- Ganis, G., Rosenfeld, J. P., Meixner, J., Kievit, R. A., & Schendan, H. E. (2011). Lying in the scanner: Covert countermeasures disrupt deception detection by functional magnetic resonance imaging. *Neuroimage, 55*(1), 312–319.
- Global Deception Research Team. (2006). A world of lies. *Journal of Cross-Cultural Psychology, 37*, 60–74.
- Granhag, P. A. (November 18-19, 2010). *The Strategic Use of Evidence (SUE) technique: A scientific perspective*. High Value Detainee Interrogation Group (HIG: FBI). HIG Research Symposium: Interrogation in the European Union, Washington, DC.
- Granhag, P. A., Mac Giolla, E., Stromwall, L. A., & Rangmar, J. (2013). Counter-interrogation strategies among small cells of suspects. *Psychiatry, Psychology & Law, 20*, 750–712.
- Granhag, P. A., Rangmar, J., & Stromwall, L. A. (2013). Small cells of suspects: Eliciting cues to deception by strategic interviewing. *Journal of Investigative Psychology and Offender Profiling, 12*(2), 127–141.
- Hartwig, M., & Bond, C. F. Jr. (2011). Why do lie-catchers fail? A lens model meta-analysis of human lie judgements. *Psychological Bulletin, 137*, 643–659.
- Hartwig, M., Granhag, P. A., & Luke, T. (2014). Strategic use of evidence during investigative interviews: The state of the science. In D. C. Raskin, C. R. Honts, & J. C. Kircher (Eds.), *Credibility assessment: Scientific research and applications* (pp. 1–36). Waltham, MA: Academic Press.
- Hartwig, M., Granhag, P. A., Stromwall, L. A. Wolf, A., Vrij, A., & Roos af Hjelmsater, E. (2011). Detecting deception in suspects: Verbal cues as a function of interview strategy. *Psychology, Crime & Law, 17*, 643–656.

- Heydon, G. (2011). Are police organisations suspending their disbelief in scientific content analysis (SCAN)? *IIIRG Bulletin*, 1, 8–9.
- Hira, S., & Furumitsu, I. (2002). Polygraphic examinations in Japan: Application of the guilty knowledge test in forensic investigations. *International Journal of Police Science & Management*, 4, 16–27.
- Iacono, W.G. (2008). Effective policing—Understanding how polygraph tests work and are used. *Criminal Justice and Behavior*, 35, 1295–1308.
- Ioannidis, J. P. A. (2005a). Why most published research findings are false. *PLoS Medicine*, 2(8), 696–701.
- Ioannidis, J. P. A. (2005b). Contradicted and initially stronger effects in highly cited clinical research. *The Journal of the American Medical Association*, 294(2), 218–228.
- Johnson, M. K., & Raye, C. L. (1981). Reality monitoring. *Psychological Review*, 88, 67–85.
- Kireev, M. V., Korotkov, A. D., & Medvedev, C. V. (2012). fMRI study of deliberate deception. *Fiziologija Cheloveka*, 38(1), 41–50.
- Kozel, F. A., Johnson, K. A., Grenesko, E. L., Laken, S. J., Kose, S., Lu, X., & George, M. S. (2009). Functional MRI detection of deception after committing a mock sabotage crime. *Journal of Forensic Sciences*, 54(1), 220–231.
- Kozel, F. A., Johnson, K. A., Mu, Q., Grenesko, E. L., Laken, S. J., & George, M. S. (2005). Detecting deception using functional magnetic resonance imaging. *Biological Psychiatry*, 58(8), 605–613.
- Langleben, J. D., Loughhead, J. W., Bilker, W. B., Ruparel, K., Childress, A. R., Busch, S. I., & Gur, R. C. (2005). Telling truth from lie in individual subjects with fast event-related fMRI. *Human Brain Mapping*, 26(4), 262–272.
- Langleben, J. D., Schroeder, L., Maldjian, J. A., Gur, R. C., McDonald, S., Ragland, J. D., ... Childress, A. R. (2002). Brain activity during simulated deception: An event-related functional magnetic resonance study. *Neuroimage*, 15(3), 727–732.
- Leach, A. M., Lindsay, R. C. L., Koehler, R., Beaudry, J., Bala, N. C., Lee, K., & Talwar, V. (2009). The reliability of lie detection performance. *Law and Human Behavior*, 33, 96–109.
- Levine, T. R. (2010). A few transparent liars: Explaining 54% accuracy in deception detection experiments. In C. Salmon (Ed.), *Communication yearbook 34* (pp. 40–61). London, UK: Routledge.
- Levine, T. R., Serota, K. B., Shulman, J., Clare, D. D., Park, H. S., Shaw, A. S., ... Lee, J. H. (2011). Sender demeanor. Individual differences in sender believability have a powerful impact on deception detection judgements. *Human Communication Research*, 37, 377–403.
- Liang, C.Y., Xu, Z.Y., Mei, W., Wang, L. L., Xue, L., Lu de, J., & Zhao, H. (2012). Neural correlates of feigned memory impairment are distinguishable from answering randomly and answering incorrectly: An fMRI and behavioural study. *Brain and Cognition*, 79(1), 70–77.
- Logothetis, N. K., & Wandell, B. A. (2004). Interpreting the BOLD signal. *Annual Review of Physiology*, 66, 735–769.
- Luke, T. J., Hartwig, M., Joseph, E., Brimbal, L., Chan, G., Dawson, E., ... Granhag, P. A. (2016). Training in the strategic use of evidence technique: Improving

- deception detection accuracy of American law enforcement officers. *Journal of Police and Criminal Psychology*, 31(4), 270–278.
- Lykken, D. T. (1998). *A tremor in the blood: Uses and abuses of the lie detector*. New York: Plenum Press.
- Lykken, D. T. (1974). Psychology and the lie detector industry. *American Psychologist*, 29, 725–739.
- Mangan, D. J., Armitage, T. E., & Adams, G. C. (2008). A field study on the validity of the Quadri Track Zone Comparison Technique. *Physiology and Behavior*, 95, 17–23.
- Masip, J., Sporer, S. L., Garrido, E., & Herrero, C. (2005). The detection of deception with the reality monitoring approach: A review of the empirical evidence. *Psychology, Crime & Law*, 11, 99–122.
- McPherson, B., McMahan, K., Wilson, W., & Copland, D. (2012). ‘I know you can hear me’: Neural correlates of feigned hearing loss. *Human Brain Mapping*, 33(8), 1964–1972.
- Meijer, E. H. (2010). The polygraph and the detection of deception. *Journal of Forensic Psychology Practice*, 10(4), 325–338.
- Nahari, G., Vrij, A., & Fisher, R. P. (2014). Exploiting liars’ verbal strategies by examining the verifiability of details. *Legal and Criminological Psychology*, 19(2), 227–239.
- Nahari, G., Vrij, A., & Fisher, R. P. (2012). Does the truth come out in the writing? SCAN as a lie detection tool. *Law and Human Behavior*, 36, 68–76.
- Nakayama, M. (2002). Practical use of the Concealed Information Test for criminal investigation in Japan. In M. Kleiner (Ed.), *Handbook of polygraph testing* (pp. 49–86). San Diego, CA: Academic Press.
- Nose, I., Murai, J., & Taira, M. (2009). Disclosing concealed information on the basis of cortical activations. *Neuroimage*, 44(4), 1380–1386.
- Osugi, A. (2011). Daily application of the Concealed Information Test: Japan. In B. Verschuere, G. Ben-Shakhar, & E. H. Meijer (Eds.). (2011). *Memory detection: Theory and application of the Concealed Information Test* (pp. 253–275). Cambridge UK: Cambridge University Press.
- O’Sullivan, M., Frank, M. G., Hurley, C. M., & Tiwana, J. (2009). Police lie detection accuracy: The effect of lie scenario. *Law and Human Behavior*, 33, 530–538.
- Ozonoff, S. (2011). The first cut is the deepest: Why do the reported effects of treatments decline over trials? *Journal of Child Psychology & Psychiatry*, 52, 729–730.
- Peth, J., Vossel, G., & Gamer, M. (2012). Emotional arousal modulates the encoding of crime-related details and corresponding physiological responses in the Concealed Information Test. *Psychophysiology*, 49, 381–390.
- Raskin, D. C., & Honts, C. R. (2002). *The comparison question test*. In M. Kleiner (Ed.), *Handbook of polygraph testing* (pp. 1–47). San Diego, CA: Academic Press.
- Roma, P., San Martini, P., Sabatello, U., Tatarelli, R., & Ferracuti, S. (2011). Validity of criteria-based content analysis (CBCA) at trial in free-narrative interviews. *Child Abuse and Neglect*, 35, 613–620.
- Schooler, J. (2011). Unpublished results hide the decline effect. *Nature*, 470(7335), 437.

- Sokolov, E. N. (1963). *Perception and the conditional reflex*. Oxford, NY: Pergamon.
- Spence, S. A., Farrow, T. F., Herford, A. F., Wilkinson, I. D., Zheng, Y., & Woodruff, P. W. (2001). Behavioral and functional anatomical correlates of deception in humans. *Neuroreport*, *12*(13), 2849–2853.
- Synnott, J., Dietzel, D., & Ioannou, M. (2015). A review of the polygraph: History, methodology and current status. *Crime Psychology Review*, *1*(1), 59–83.
- Verschuere, B., Ben-Shakhar, G., & Meijer, E. H. (Eds.). (2011). *Memory detection: Theory and application of the Concealed Information Test*. Cambridge UK: Cambridge University Press.
- Verschuere, B., Meijer, E. H., & DeClercq, A. (2011). Concealed information under stress: A test of the orienting theory in real-life police interrogations. *Legal and Criminological Psychology*, *16*(2), 348–356.
- Vrij, A. (2015). Verbal lie detection tools: Statement validity analysis, reality monitoring and scientific content analysis. In P. A. Granhag, A. Vrij, & B. Verschuere (Eds.), *Detecting deception: Current challenges and cognitive approaches* (pp. 3–36). Wiley: Sussex, UK.
- Vrij, A. (2008). *Detecting lies and deceit: Pitfalls and opportunities* (2nd ed.). Chichester, UK: John Wiley and Sons.

Chapter Nine

EYEWITNESS MEMORY

CARA LANEY AND ELIZABETH F. LOFTUS

Eyewitnesses play an important role in the legal system. They are the people, besides the necessarily biased perpetrators, who can claim that “*I was there, and I saw what really happened.*” Because of this, they have substantial influence in investigations and trials that follow them. Unfortunately, eyewitnesses are far from perfect recorders of the events they witness. In particular, they make the same sorts of errors in perceiving and remembering that all humans do. The problem is that eyewitness errors, unlike other types of everyday human memory errors, can and do lead to the investigation, prosecution, and even conviction of innocent persons (see Scheck, Neufeld & Dwyer, 2003; Wells, Memon & Penrod, 2006).

In 1990, George Franklin was convicted of the murder of Susan Nason, a childhood friend of his daughter Eileen. The girl had been killed in 1969, and the only evidence against George was the eyewitness report of Eileen. The troubling aspect of this was that Eileen had reportedly repressed her memory of this event, only recovering her memory of witnessing the murder twenty years after the fact. This type of noncontinuous memory is suspicious because it could represent false memory. In this case, there was a pattern of errors and changes in her story that suggested that Eileen’s memory of witnessing her father commit murder was probably false. Ultimately, George Franklin’s conviction was overturned in 1995 (Loftus & Ketcham, 1996).

In 1989, Dwane Allen Dail was convicted of burglary and the rape of a twelve-year-old girl in North Carolina. The evidence against him was an identification made by the girl and the limited forensic analysis of a few hairs left at the scene of the crime. He was sentenced to two life terms plus fifteen years in prison. He served eighteen years of his sentence before a DNA test—which had not been used as part of the original investigation—proved him innocent of the crimes (The Innocence Project, n.d.).

These two cases highlight some of the ways that eyewitness memory can go wrong. Eyewitnesses can incorrectly identify perpetrators. They can falsely remember not only the details of the events but also sometimes, the entirety of those events. A variety of additional errors are addressed later.

In this chapter we briefly discuss how human memory works. We then describe some of the most common and important memory errors, and the implications of these errors for the role of eyewitnesses. Eyewitness memory errors and their implications for jury decision-making and thus justice systems have been studied for more than forty years, primarily by cognitive and social psychologists (e.g., Buckhout, 1977; Cutler, Penrod & Martens, 1987; Davis & Loftus, 2007; Loftus, 1975, 1979, 2017; Wells & Olson, 2003; Yuille & Cutshall, 1986). We discuss several key areas of this research, including the misinformation effect, false memories, and eyewitness identification errors. We also briefly touch on the smaller area of earwitness memory research.

REMEMBERING PEOPLE AND EVENTS

Human memory is amazing in that it enables us to retain and then recall information about events and people from moments, days, years, and decades ago. A tremendous amount of information is stored, and this storage, along with quick and precise access to it, is what allows us to function. Memory is not merely a storehouse of facts and events or a video recording of one's life experiences, however. Rather, it is a collection of several complex processes, that broadly include encoding, storage, and retrieval of information (Atkinson & Shiffrin, 1968).

The first step to memory encoding (that is, getting information into memory) is to pay attention (Schacter, 2001). Attention determines what information makes it from the wide, nonselective net of sensory memory into the smaller, more selective net of working memory. Sensory memory can hold a huge amount of information about the present state of one's world, but only for a fraction of a second at a time before being replaced by new information coming in from the senses. The information that is not attended to is immediately lost. The information that is attended to becomes part of working memory. Working memory is an active process rather than a storage facility, able to process about seven pieces of information at any one time (see Reisberg, 2001). Most of the information held in working memory does not make it into long-term memory. Instead, it is forgotten when it is no longer needed. Of course, a subset of the information from working memory does make it into long-term memory. Long-term memory is the largest storage facility for memories and is what most people think about when they refer to memory.

Memories can be formed through intentional learning or working specifically at remembering a particular bit of information (e.g., multiplication tables or important dates in world history), but they can also be formed through incidental learning, that is, with no specific intention to learn. Incidental learning can happen when one is repeatedly exposed to information, or when one interacts meaningfully with information (Reisberg, 2001). That is, people know their parents' names without ever having tried to memorize them and remember important people and events from their lives even if they happened only once. As a rule, deeper processing of information leads to more successful encoding, and better memory (Craik & Lockhart, 1972).

Once memories have been encoded, they are stored until they are needed. Memory storage does not work like library book storage or off-season clothing storage, however. That is, one cannot go back to the specific location (in the brain) where one left something (i.e., a memory) and pick it back up again. There are certain structures in the brain that are especially important for the encoding and storage of memory, in particular, the hippocampus and the amygdala (e.g., McGaugh et al., 1990; Scoville & Milner, 1957). Memories are not stored entirely within either of these bodies, however. Instead, memories are stored as patterns of activation in the brain (Rumelhart & McClelland, 1986).

The companion process to encoding is called retrieval, and it is through this process that information is brought back from long-term storage to be attended to and used. Just as information can be encoded in different ways, either intentionally or incidentally, it can be retrieved in different ways. Recall is the process of retrieval that occurs in response to an open question (e.g., "*What happened after the robber said hands-up?*") whereas recognition happens in response to closed questions, including multiple-choice questions (e.g., "*Was the robber tall or short?*" or "*Is this man the robber?*").

Retrieval cues are reminders that link us back to specific memories. These can come from the content of questions or from images, words, feelings, noises, or smells in the environment. One memory can also form a powerful retrieval cue for another memory. Some memories are easier to retrieve when one can match the circumstances in which the memory was encoded, a phenomenon termed state-dependent memory (Eich, 1980). This explains why going back to one's childhood hometown or school as an adult can bring up memories that one has not thought of for many years. Likewise, going back to the scene of the crime can allow witnesses to remember details that they had not recalled before (Swihart, Yuille & Porter, 1999).

Information can be lost (forgotten) at any stage of the encoding, storage, and retrieval process, and perhaps, contrary to intuition, this is a good thing. As William James (1890) pointed out, "*If we remembered everything, we should*

on most occasions be as ill off as if we remembered nothing” (p. 68). If the truth of this statement is not immediately apparent, consider for a moment what would happen if every memory of parking your car was as clear as every other memory of parking your car. That is to say, forgetting is as important a process as remembering.

As previously noted, lack of sufficient attention at encoding results in forgetting (consider how difficult it can be to find your keys or glasses if you did not pay sufficient attention when you set them down). Other memories are forgotten because they are not accessed sufficiently quickly or frequently after being put into long-term storage, a process called decay. Longer delays between an event and its recall, termed retention interval, make forgetting more likely (see Read & Connolly, 2007, for review). Finally, errors in recall and recognition are called retrieval failure. One important type of retrieval failure, termed interference, occurs when other, newer or older, memories preclude access to the desired memory.

MEMORY ERRORS IN EYEWITNESSES

As we have seen, human memory has an amazing ability to store and retrieve information. Human memory, including eyewitness memory, can also go very wrong. In this section, we describe some common and forensically relevant types of errors and the research that demonstrates them. Broadly, errors can occur during both the encoding and retrieval processes described before.

Eyewitness memory encoding often occurs at the complex (both physically and emotionally) scene of a crime. This scene complexity can lead to some types of information being insufficiently encoded. For example, some witnessed events happen very quickly, and leave very little time to properly encode people or actions. Other events go on for very long periods, leading to severe stress in witnesses, which makes full encoding of events difficult (see section on emotion and stress, later).

In addition, a wide range of features of events has been shown to affect eyewitnesses' initial encoding and later retrieval of those events. For example, the presence of a weapon or other surprising and meaningful objects at the scene of a crime can lead witnesses to focus on that object to such a degree that they fail to encode other aspects of the scene, including the face of the perpetrator (Fawcett, Peace & Greve, 2016; Loftus, Loftus & Messo, 1987; Steblay, 1992). Alcohol and drug use by witnesses can also dramatically affect their ability to encode and later recall details from events that they witness (Clifasefi, Takarangi & Bergman, 2006; Yuille & Tollestrup, 1990).

One particularly well-researched memory error is that caused by *'misinformation'* (see Davis & Loftus, 2007; Frenda, Nichols & Loftus, 2011). In these studies, research subjects are asked to witness an event, typically a mock crime, usually presented via slides or video. They are then presented with incorrect information (termed misinformation) about this event, often in the form of misleading questions or erroneous information embedded in reports expressed by other witnesses. This misinformation often affects the subjects' memories for the original event, in what is termed the misinformation effect. That is, memory for the details of the event can be altered by misleading information that people are exposed to after the fact. Since memory is a process of reconstruction, the new, misleading information can be incorporated into subjects' memories for the prior event. Claims that are repeated are particularly likely to be adopted (Foster, Huthwaite, Yesberg, Garry & Loftus, 2012). One important purpose of these studies is to show that the memories of eyewitnesses can be influenced by events that happen long after a crime takes place. When an eyewitness is interviewed by the police, and later by attorneys and even the media, his or her memory may incorporate information from leading questions and suggestions made by other individuals. This alteration of memory may occur without the knowledge of the eyewitness, such that he or she may swear to the truth of his or her memory on the witness stand and yet be inaccurate.

In an early study of the misinformation effect, Loftus and Palmer (1974) showed subjects a film depicting a car accident. Some subjects were asked how fast the two cars were going when they *'smashed'* into each other. Other subjects were asked how fast the cars were going when they *'hit'* each other. Control subjects were not asked about vehicle speed. Subjects queried about the cars smashing into each other reported higher rates of speed than those queried about the cars hitting each other. After a week's delay, all subjects were asked additional questions about the accident, including, critically, whether they had seen any broken glass. Those subjects who had been asked about the cars smashing into each other were more likely to remember seeing broken glass than were subjects asked about the cars hitting each other or the controls. These results demonstrate that even small changes in the wording of questions can affect memory—a serious worry considering how often real eyewitnesses are typically questioned about the events that they witnessed.

In a further demonstration of the power of even small amounts of misinformation, Loftus (1975) showed that replacing the word *'a'* in a question, as in *'Did you see a broken headlight?'* with the word *'the'* (*'Did you see the broken headlight?'*) could make subjects far more likely to answer in the affirmative. Note that although these questions sound very similar, the second question is essentially informing the witness that there was a broken headlight and

asking whether he or she managed to notice it. The first question does not carry any presumption about the existence of the headlight.

Loftus (1975) also got subjects to report seeing a barn in a scene that contained no such building by asking simple leading questions about a barn after subjects saw films containing the scene. Loftus, Miller, and Burns (1978) extended these findings by showing subjects a series of slides depicting a car moving down the street, then sitting at a yield sign (or, for other subjects, a stop sign), then hitting a pedestrian. Subjects were then asked a series of questions, including a critical question about an event that happened after the car stopped '*at the stop sign*' (or yield sign, depending on condition). After a short delay, the subjects were given a recognition test in which they were asked, in series, which of two slides had been part of the original set. One of these pairs was made up of the stop sign and yield sign slides. Again, subjects' memories were contaminated by the misinformation, with those subjects who were asked about the stop sign after seeing the yield sign picking the correct (yield sign) slide at significantly lower than chance levels (see also Frenda et al., 2011; Zhu, Chen & Loftus, 2013).

Although misinformation effects are prevalent and often easy to induce, evidence suggests that people who detect the misinformation are much less likely to end up with distorted memories because of it (Cochran, Greenspan, Bogart & Loftus, 2016; Putnam, Sunghasettee & Roediger, 2017). In fact, misinformation detectors may end up with more accurate memories than those not given misinformation at all.

Some authors have criticized studies of eyewitness memory that use staged slides or videos, advocating instead the use of real-life crime witnesses (Yuille & Cutshall, 1986). Yet, studies of witnesses who experience genuinely distressing events demonstrate that the witnesses' memories are likewise susceptible to errors (e.g., Morgan et al., 2007). In addition, the growing evidence provided by DNA exonerations shows that real crime witnesses make exactly the sorts of errors that are demonstrated in studies using mock witnesses (see Steblay & Loftus, 2013).

In subsequent years, eyewitness memory research broadened significantly from its event plus leading question equals distortion roots, but some important themes have continued. The memory implications of the presence of cowitnesses to events have long been a fruitful area of research (e.g., Loftus, 1979; Loftus & Greene, 1980). More recent research in this area has demonstrated that real-life cowitnesses do discuss what they have witnessed (Paterson & Kemp, 2006) and reinforced the conclusion that discussions among cowitnesses can be detrimental to the truth by leading subjects to remember far more than they encoded to begin with (Gabbert, Memon & Allan 2003; Gabbert, Memon, Allan, & Wright, 2004; Hope, Ost, Gabbert, Healey & Lenton, 2008; Paterson, Kemp & McIntyre, 2012; Takarangi,

Parker & Garry, 2006; Wright, Mathews & Skagerberg, 2005). Even obviously unreliable (apparently drunk) co-witnesses can affect people's memories (Zajac, Dickson, Munn & O'Neill, 2016). In one study (Gabbert et al., 2003), two sets of subjects watched two different versions of a short video, but were led to believe they were watching the same video. Both videos covered the same events, but those events were viewed from different angles (just as the real event might have been observed by witnesses with slightly different perspectives). After the videos, some subjects thought about the videos alone; others discussed them with "cowitnesses." Then all subjects completed an individual memory task. A majority (71%) of the subjects who discussed their memories with co-witnesses incorporated elements of the discussion into their own memories, and 60 percent of relevant subjects reported the commission of a crime that they had not actually seen (because it had been visible only in the other version of the video).

A different technique has been provided with particularly impressive demonstrations of cowitness effects. Called the '*manipulation of overlapping rivalrous images by polarizing filters*' (in acronym MORI) paradigm (Garry, French, Kinzett & Mori, 2008), it allows for two research subjects to sit in front of a single screen to watch a video. The two subjects assume (quite reasonably) that they are seeing the same images, but because each subject is wearing a different type of polarized glasses, they are in fact watching different images (projected onto the same screen, much like for three-dimensional movies). Because the two subjects believe they have seen exactly the same event (just as in real-world eyewitnessing), they are particularly likely to allow their co-witness' memories of the video to affect their own.

In another variation on the misinformation paradigm, a series of studies demonstrated just how influential post-event information may be in the real world (see Loftus & Castelle, 2000). In the first '*crashing*' memory study, Cronbag, Wagenaar, and van Koppen (1996) interviewed Dutch subjects about a horrible plane crash that had killed forty-three people and been major national news. One misleading question, "*Did you see the television film of the moment the plane hit the apartment building?*" led more than 60 percent of subjects to report that they had seen nonexistent television footage and answer additional questions about it. Other '*crashing*' memory studies have since been conducted, with subjects falsely remembering videos of other plane crashes (both recent and years in the past when subjects were children), the car crash that killed Princess Diana, an assassination, and a sinking cruise ship (Granhag, Strömwall & Billings, 2002; Jelicic et al., 2006; Ost, Vrij, Costall & Bull, 2002; Patihis & Loftus, 2016; Smeets et al., 2006). These studies demonstrate that a single leading question can not only alter an existing memory, but also can create an entire secondary false memory. The subjects in the studies presumably heard news about the relevant major events,

then imagined those events. With the addition of a suggestion that there had been a video, subjects came to believe that they saw the event in question happening, rather than merely imagined it. Having actually seen an event happen is subjectively (and legally) more meaningful than having merely imagined that event happening, and so subjects are likely giving their own memories for the details of the event far more credibility than they deserve.

FALSE MEMORIES FOR EVENTS

In what must be the most extreme sort of memory distortion, researchers have been able to implant wholly false memories into the minds of research subjects. The field of false-memory research evolved as an extension of the misinformation literature, largely in response to a rash of accusations and lawsuits in the late 1980s and early 1990s. These lawsuits were typically (though certainly not exclusively) brought by daughters accusing their fathers of horrible sexual abuse, spanning years, that the victims did not remember happening until they went into therapy in adulthood for problems such as depression and eating disorders. Their therapists then helped them to *'recover'* their memories of being brutalized as a path to curing their current ills (see Ofshe & Watters, 1994). More recently, many of the same techniques have been used to help adult Catholics to remember being abused by their priests in childhood. In both cases, severe criminal penalties have been levied and substantial awards have been made by juries, in the absence of forensic evidence corroborating the victims' statements.

These therapists (see, e.g., Claridge, 1992; Herman & Schatzow, 1987) started with the assertion, derived from the work of Freud, that when people experience repeated horrific events, they repress these experiences into the unconscious. Sometimes they even split their psyches into two separate parts, one that experiences the trauma and the other that continues to function normally with no awareness of the trauma. Decades later, when the person has adult skills and support structures that will allow the reintegration of these half-psyches (and this is necessary because the trauma has begun to leak out in some other way), therapists can help them to recover or reconstruct memories of the original trauma. When the memories are recovered, the person can finally *'recover'* from the abuse that has haunted his or her life, or at least that was the promise of this type of therapy.

This treatment typically involved a variety of techniques, including guided imagination, dream interpretation, repeated questioning, journaling, the use of family pictures to cue memories, and social pressure in the form of group therapy sessions. Some of the memories that were produced using these techniques were particularly bizarre (including satanic ritual abuse;

Ofshe & Watters, 1994). Experimental psychologists have, since the mid-1990s, modeled these techniques in the laboratory and demonstrated that they can cause people to remember events that did not happen. However, evidence suggests that too many people still believe in the concept of repression and memory recovery (Patihis, Ho, Tingen, Lilienfeld & Loftus, 2014) and that even when they understand that therapist techniques are suggestive, they may not fault therapists for using them or worry about the implications for their own memories (Myers, Myers, Herndon, Broszkiewicz & Tar, 2015).

In an early study that implanted wholly false memories, Loftus and Pickrell (1995) used a repeated interview and journaling technique to get subjects to believe that as young children they had been lost in a shopping mall for an extended period of time and then rescued by an older adult. Subjects were presented with a summary of this (bogus) event, along with three other true events, and told that all four events had come from their parents or other relatives (authority figures who would have been in a position to know such things). Subjects were asked to write down what they remembered (if anything) about each of the four events. During two subsequent interviews, subjects were again asked to remember as many details as possible about each of the four events (including the critical shopping mall event, which relatives had specifically dismissed as false). Subjects remembered some 68 percent of the true memories learned about from their families, but six of the twenty-four subjects (25%) also remembered the critical *false* event. Some of these subjects went on to produce elaborate details of their (false) ordeal of being lost in the mall.

Subsequent studies replicated and extended these findings using similar methodologies. The false events produced in these studies ranged from being rescued by a lifeguard (Heaps & Nash, 1999) to spilling punch on the bride's parents at a family wedding (Hyman, Husband & Billings, 1995). Some authors have explicitly sought to produce false memories for traumatic events, such as being a victim of a vicious animal attack (e.g., Porter, Yuille & Lehman, 1999). In light of criticisms that these studies might be triggering genuine memories rather than actually producing false memories, some researchers have worked to give subjects false memories for highly implausible and even impossible events, such as witnessing demonic possession, or shaking hands with Bugs Bunny at Disneyland (e.g., Braun, Ellis & Loftus, 2002; Mazzoni & Memon, 2003; Wade, Garry, Read & Lindsay, 2002). Wade and Garry (2005) compiled data from ten peer-reviewed *'lost in the mall'* type studies and found a weighted mean of 37 percent of subjects reporting false memories.

The *'lost in the mall'* study and its descendants specifically emulated certain aspects of the therapeutic context, including repeated visits and proof of the existence of a childhood event originating with an authority figure (the

parents in the studies, like the therapist in the real-life scenario). In point of fact, these techniques turn out to be particularly powerful types of suggestion, and their use has been disputed by some consumers of the research (e.g., Harvey, 1999; Ost, Foster, Costall & Bull, 2005). Specifically, some therapists have pointed out that they do not tell their clients that they have spoken with their parents and heard about specific instances of abuse from them. This is certainly true, but in addition to the similarities already mentioned between the two situations, other, very similar, suggestive techniques are used by therapists (Gore-Felton et al., 2000; Poole, Lindsay, Memon & Bull, 1995).

A number of these other therapy techniques have been specifically modeled in experimental studies that produced false memories. For example, therapists may instruct clients to imagine specific events happening to them as children, they may interpret clients' dreams, and they may even hypnotize clients. Garry, Manning, Loftus, and Sherman (1996) asked subjects to imagine four different events happening to them, and they subsequently became more confident that those events had indeed happened (see also Thomas & Loftus, 2002, for related data with documented original events). Mazzoni, Lombardo, Malvagia, and Loftus (1999) used a dream interpretation paradigm to convince subjects that they had been lost as young children. Scoboria, Mazzoni, Kirsch, and Milling (2002) used hypnosis and misleading questions to distort subjects' memories for a story. Both techniques produced memory errors, and their combination produced the most errors (see also Lynn, Lock, Myers & Payne, 1997; Mazzoni & Lynn, 2007). Group therapy techniques have been modeled in the cowitness studies described earlier.

Using family photographs as memory cues has been modeled in two ways. First, Wade and associates (2002) created pseudo-family photographs by combining true childhood photographs with a false hot air balloon setting. When these doctored photographs were shown to subjects along with some true photos, about half of subjects falsely remembered going on a hot air balloon ride. Lindsay, Hagen, Read, Wade, and Garry (2004) combined a false suggestion of childhood mayhem with an accurate age-appropriate class photograph to produce false memories in more than half of their subjects (see Strange, Gerrie & Garry, 2005, for additional false memory studies employing photographic evidence).

Later research showed that it is not necessary to go to such lengths to convince people that they experienced very specific events in the past. Some of these studies have used a simple false feedback procedure to suggest to subjects that very specific events happened to them in their childhoods (Berkowitz, Laney, Morris, Garry & Loftus, 2008; Bernstein, Laney, Morris & Loftus, 2005a, 2005b; Clifasefi, Bernstein, Mantonakis & Loftus, 2013; Laney & Loftus, 2008; Laney, Morris, Bernstein, Wakefield & Loftus, 2008;

Laney & Takarangi, 2013). In the false-feedback procedure, subjects are asked to fill out a set of questionnaires on a particular topic. They are then told (falsely) that their data will be entered into a special computer program that will provide specific feedback for them. After a delay, subjects are given their *'feedback'* (which is in fact not specific at all but is the false memory manipulation) and then asked to fill out more questionnaires. Subjects frequently become more confident that they have experienced a particular event that has been suggested by the false feedback. They may also produce very specific detailed memory descriptions that conform to the feedback suggestions.

This simple technique has been used to get subjects to believe that they had once become sick after eating a specific food or drinking a particular type of alcohol, loved a specific food the first time they tried it, or had a specific interaction with a character at Disneyland (Berkowitz et al., 2008; Bernstein et al., 2005a, 2005b; Laney et al., 2008). Each of these false memories also had consequences for participants, such that they liked the suggested food or drink less, or were not willing to pay as much for a Disney souvenir. The false feedback technique has also been used to plant in subjects' minds false memories for potentially traumatic childhood events, including witnessing a physically violent fight between their parents (Laney & Loftus, 2008) or punching someone and giving them a black eye (Laney & Takarangi, 2013). According to a meta-analysis of false feedback studies (Bernstein, Scoboria & Arnold, 2015) this technique changes people's beliefs about what has happened to them, and this in turn has other effects, including change of preferences.

An important goal of this research is to distinguish between memories for events that actually happened and memories for events that did not (Bernstein & Loftus, 2009; Laney & Loftus, in press). In the last 20 years a large number of individual differences and tools have been studied for this purpose, ranging from confidence to emotionality to physiological measurements, but none has produced sufficient and consistent discriminability (Bernstein & Loftus, 2009; Heaps & Nash, 2001; Laney & Loftus, 2008; McNally et al., 2004; Schacter & Loftus, 2013). That is, when an eyewitness or victim sits in the witness stand, there is no particular aspect of their memory itself that we can look at to see whether that memory is true or false. There is ample evidence that memory distortion and false memory production also happen outside the laboratory and the therapist's office (Sheen, Kemp & Rubin, 2001; Taylor, 1965). Recent evidence suggests that sleep deprivation, mindfulness meditation, and exposure to biased news media can make false memories more likely (Frenda, Knowles, Saletan & Loftus, 2013; Frenda, Patihis, Loftus, Lewis & Fenn, 2014; Wilson, Mickes, Stolarz-Fantino, Evrard & Fantino, 2015). Even normal conversation can produce

false memories. Research suggests that people make pragmatic inferences about the meaning of the words and phrases used by conversation partners (Brewer, 1977). Rather than remembering the specific words used by the speaker (and his or her specific intended meanings), people instead remember these inferences and their implications (e.g., Chan & McDermott, 2006). Essentially, no one is immune to false memory production. Even people with highly superior autobiographical memories (HSAM), who can remember mundane details of their own lives like what they had for lunch on a particular day ten years ago (LePort et al., 2012), are susceptible to a variety of false memory manipulations (Patihis et al., 2015).

EMOTION AND STRESS IN EYEWITNESSES

Emotion is another important factor in memory quality. The effects of emotion (which is here broadly defined to include arousal, stress, and even trauma) have been studied from a variety of perspectives. Various authors have demonstrated that emotional events are remembered better than are nonemotional (but otherwise equivalent) events (e.g., Cahill & McGaugh, 1995; Conway et al., 1994; Heuer & Reisberg, 1990; Laney, Campbell, Heuer & Reisberg, 2004; McNally, Clancy & Barrett, 2004; Reisberg, Heuer, McLean, & O'Shaughnessy, 1988). Other authors have argued that emotional content can be harmful to memory (e.g., Loftus & Burns, 1982; Morgan et al., 2004). Finally, a few authors have suggested that the relationships between emotion and memory are in fact much more complicated than these simple *'better'* or *'worse'* results imply and instead depend on factors like the type of emotion and type of to-be-remembered event (Burke, Heuer & Reisberg, 1992; Christianson & Loftus, 1990; Kaplan, van Damme, Levine & Loftus, 2015; Levine & Pizarro, 2004; Reisberg, 2006; Reisberg & Heuer, 2007; van Damme, Levine & Loftus, 2017).

The differing results are likely attributable to the researchers' different conceptualizations of emotion. Many studies conceptualize emotion along a single dimension ranging from neutral to arousing. For example, Heuer and Reisberg (1990) showed subjects a series of slides depicting a mother taking her son to visit his father at work. In the neutral version of the story, the father works as a garage mechanic, and he is shown fixing a car. In the arousing version of the story, the father works as a surgeon and a critical slide shows the severed and reattached legs of a child. Although the two sets of slides were matched as closely as possible, the arousing version was much better remembered than the neutral version was.

Other studies conceptualize emotion along a different dimension: stress. Studies of stress and emotion often come to very different conclusions than

do studies of arousal and memory (see Reisberg & Heuer, 2007; Kaplan et al., 2015; Morgan, Southwick, Steffian, Hazlett & Loftus, 2013). Morgan and colleagues (2004) found that after food and sleep deprivation, soldiers who experienced forty minutes of extremely stressful interrogation were less able to identify their interrogators (who had been demanding direct eye contact) than other soldiers who experienced less stressful interrogation were (see also Lieberman et al., 2005; Southwick, Morgan, Nicolaou & Charney, 1997). That is, these highly stressed subjects had poor memories for the details of the interrogation that they had experienced. Kaplan et al. (2015) argue that severe stress can cause people to focus on survival and this can substantially narrow and disrupt memory, and also make people more susceptible to misinformation. Deffenbacher, Bornstein, Penrod, and McGorty (2004) conducted a meta-analysis of studies of stress and memory and found that stress was a reliable impediment to accurate memory.

Even relatively mild acute stressors, like being asked to give a short speech, can have a negative effect on memory, as can drugs that work to mimic these stressors (Payne, Nadel, Britton & Jacobs, 2004). Reisberg and Heuer (2007) argue that this distinction between events that are arousing and those that are stressful is key. Essentially, arousing events seem to produce an orienting response that leads to more attention and better memory, whereas stressful events produce a defensive response that leads to diverted attention and worse memory. So stress is not merely a more severe form of arousal, and quantity of emotion does not by itself predict memory quality. Type of emotion (here, arousal versus stress) matters as well.

A few researchers have utilized more complex conceptualizations of emotion in their studies of memory (Laney et al., 2004; Levine & Bluck, 2004; Levine & Burgess, 1997). For example, Levine and Bluck (2004) borrowed from cognitive appraisal theories of emotion in their analysis of memory for the O. J. Simpson verdict. Cognitive appraisal theories propose specific functions for different specific emotions, and these functions have specific implications for memory. Levine and Bluck (2004) found that individuals who were happy about the verdict in the O. J. Simpson murder trial reported clearer memories for the verdict announcement and recalled more trial details but were less discriminating than were neutral and unhappy individuals in determining whether specific events had occurred. That is, happy individuals had clearer but not more accurate memories than unhappy individuals had.

Traumatic experiences fall at the extreme end of the emotional spectrum. The *'traumatic memory argument'* suggests that these memories will all be of poor quality. In particular, supporters of this argument claim that memories for trauma are fractured, not easily verbalized, and sometimes completely repressed (e.g., Brewin & Andrews, 2017; Dalenberg et al., 2012; Herman, 1992; van der Kolk, 1997). Extensive research has demonstrated,

however, that a competing theory, the *'trauma superiority argument'* is a much better fit to the data (Kihlstrom, 2006; Lynn et al., 2014; McNally, 2003; Porter & Birt, 2001; Shobe & Kihlstrom, 1997). Indeed, most traumatic experiences are particularly difficult for people to forget and can even lead to intrusive memories of the event and flashbacks, as in Post-Traumatic Stress Disorder (in acronym PTSD) (McNally, 2003; McNally et al., 2004). Numerous studies have shown that people who experience trauma tend to have particularly vivid and complete memories of those events (e.g., Peace & Porter, 2004; Peterson & Whalen, 2001; Quas et al., 1999; Shobe & Kihlstrom, 1997; Wagenaar & Groeneweg, 1990). According to a study conducted by Alexander and associates (2005), victims of child sexual abuse who were particularly traumatized (as evidenced by greater PTSD symptomatology or their naming of their abuse as their most traumatic event) had better memory for the details of that abuse than did other victims who were less traumatized. This is not to say that traumatic memories are error free. Indeed, traumatic memories are susceptible to the same errors as other sorts of memories and may be particularly fragile at the periphery (see McNally, 2003; PazAlonso & Goodman, 2008). These errors simply reinforce the notion that traumatic memories do not make up a special class of memory with separate rules (such as fragmentation or repression). Instead, they are an extreme form of normal autobiographical memory.

To summarize, the relationship between emotion and memory is complicated and depends on numerous contextual and extra-situational factors. It also depends on how 'emotion' is defined. The important message, however, is that most kinds of emotion, and particularly trauma, lead to particularly good (though not flawless) memory for the emotional events themselves, rather than to repression of memory.

MISTAKEN IDENTIFICATION

At some point after witnessing a particular crime, an eyewitness is often called on to identify the perpetrator in a lineup. This may happen because the witness' description of the perpetrator has led to the identification of a suspect (see Meissner, Sporer & Schooler, 2007), because the witness has identified a suspect from a set of mugshots (Lindsay, Noswothy, Martin & Martynuck, 1994), or because the police have identified a particular suspect through forensic evidence or other means.

The research literature on eyewitness identifications is vast. Particular foci have been on two types of variables: those that are under the control of the justice system (called system variables) and those that cannot be controlled by the justice system (called estimator variables) (Wells & Olson, 2003).

Estimator variables include both the individual differences among witnesses and the characteristics of the witnessed event that make correct identification more or less likely. A variety of individual differences have been tested, including gender, race, age, and personality. Of these, just two have consistently shown differences in identification accuracy. With respect to age, young adults have proved to be less susceptible than children or the elderly are to making false identifications when the perpetrator is not in the lineup (Pozzulo & Lindsay, 1998). With respect to race, there is no overall advantage for one race over another, but almost forty years of research has demonstrated that individuals are more successful at identifying members of their own race than of other races (Malpass & Kravitz, 1969; Meissner & Brigham, 2001).

Research has also identified numerous aspects of the witnessed event that can affect identification accuracy. Some of these are aspects of the physical environment where the crime took place. Correct identifications are more likely when the witness has better opportunities, including sufficient time and attention, to see the perpetrator's face (e.g., Ellis, Davies, & Shepherd, 1977; Yarmey, 1986). Identifications are also better when the witness believes the crime to be more serious (Leippe, Wells & Ostrom, 1978).

Sometimes crime events are more complicated than they appear, and this can matter for eyewitness identifications. Davies and Hine (2007) showed subjects a video of a burglar walking through a student apartment stealing items. In the middle of the video, the burglar is replaced by another man. A majority of subjects failed to notice this swap of perpetrators, and while a majority of those who did notice correctly picked both men out of the lineup, those who failed to notice identified just one of the men or neither of them. In subsequent studies, subjects have failed to notice similar person changes in grocery stores and on college campuses, and non-noticers were likely to falsely identify innocent people in subsequent lineups (Davis, Loftus, Vanous & Cucciare, 2008; Nelson et al., 2011).

Other factors have to do with the perpetrators themselves. Perpetrators are easier to identify if they are unusually attractive (or unattractive) or otherwise distinctive in appearance (Fleishman, Buckley, Klosinsky, Smith & Tuck, 1976; Light, Kayra-Stuart & Hollander, 1979). Perpetrators (even distinctive-looking ones) become much more difficult to identify if they use even simple disguises (Cutler et al., 1987).

System variables are called this because the legal system has some power to change them for the better. System variables include the type of lineup used and the people involved in creating and administering it, the instructions given to witnesses, and the use of other evidence gathering procedures before and after lineups.

The first important consideration is what type of lineup should be used. In traditional, simultaneous lineups, several individuals or photographs are

viewed at the same time, and the witness is asked whether the perpetrator is present in the group (Wogalter, Malpass & McQuiston, 2004). This lineup type, still commonly used in the United States and many other countries, has been criticized because it leads witnesses to make a relative judgment. That is, witnesses often decide which of the people present most closely matches their memory of the perpetrator, rather than deciding whether each individual is or is not the perpetrator (an absolute judgment). A newer type of lineup is now in use in some U.S. jurisdictions, exclusively in the United Kingdom, and elsewhere in the world. In the sequential lineup, the witness views only one individual or photograph at a time, and (with some local variation) must make a yes or no judgment about that person before the next person is viewed. This procedure is designed to eliminate the kind of relative judgments encouraged by simultaneous lineups (Lindsay, 1999). The superiority of the sequential procedure has been advocated in a survey of eyewitness testimony experts (Kassin, Tubb, Hosch & Memon, 2001) and supported by many studies, including meta-analyses (Stebly, Dysart, Fulero & Lindsay, 2001; Steblay, Dysart, & Wells, 2011).

How should the lineups be created, and who should administer them? A lineup or photospread is made up of one suspect and several foils, or known innocents. For it to be fair, the suspect should not stick out from the crowd (Brigham, Ready & Spier, 1990). Practically, this means that there should be enough foils in a lineup that the chance of an innocent suspect being selected is low and that the suspect is not distinctive looking within the group. Ideally, the foils should be chosen on the basis of the witness' description rather than on the looks of the suspect. If the foils are chosen to match the looks of the suspect, the suspect will always look more like himself or herself than like any of the foils. This makes the lineup inherently biased (Wells et al., 1998).

Sometimes witnesses are asked to identify the perpetrator from a book of mugshots before they see the lineup. Those witnesses who pick an innocent person from a book of mugshots are very likely to falsely identify the same person in a subsequent lineup (Brigham & Cairns, 1988; Dysart, Lindsay, Hammond & Dupuis, 2001). Thus one relatively minor error (thinking that a photograph in a book looks like the perpetrator) can lead quickly to a major error (falsely identifying an innocent suspect in a lineup) and a substantial risk of miscarriage of justice.

A similar error has been demonstrated in a lineup version of the misinformation effect. Cochran et al. (2016) asked subjects to watch a slideshow and identify the perpetrator from a photo lineup of six new people. Later, subjects were shown a photo from the lineup that they had not chosen, and asked why they had chosen it. About half of the subjects noticed that it was the wrong picture, but a majority of those who did not notice selected the suggested photo from a second lineup.

Another important consideration is who is present during the lineup administration. Just as double-blind drug studies (where neither the patient nor the person interacting with the patient knows whether the patient is receiving active drug or placebo) have been shown to be important in medical research, so double-blind lineup administration has been advocated in eyewitness research (Wells et al., 1998). Lineups are made double-blind simply by having them administered by someone who does not know who the suspect is. This is important because administrators who know who the suspect is may unknowingly send signals to the witness to suggest who the suspect is or may respond to correct identifications with approving feedback. This feedback has been shown not only to make witnesses unjustifiably confident of their identifications but also to make them more certain of their memories and overly optimistic about the circumstances in which they witnessed the crime (Wells & Bradfield, 1998; Wright & Skagerberg, 2007). The basic effect is even more striking in showups, where witnesses are asked to say whether one individual is the perpetrator (Key, Wetmore, Cash, Neuschatz & Gronlund, 2017).

All of these different causes of eyewitness identification errors have significant consequences for innocent suspects. Of the more than 200 Americans who have so far been exonerated on the basis of postconviction DNA testing, eyewitness misidentification has been a factor in at least 75 percent (Garrett, 2008). That is, eyewitness misidentification has been a major cause of false convictions of innocent individuals.

EARWITNESSES

Some witnessed crimes take place in the dark, or while victims' or witnesses' eyes are covered or directed away from the events of the crime; other crimes, including some types of fraud, can actually take place on the phone. Some witnesses have impaired eyesight or less than optimal views of crime events for other reasons (perhaps because they are hiding from perpetrators or their view is obstructed). Beyond these relatively special cases, memory for conversations is relevant in a sizeable number of legal cases (Davis & Friedman, 2007). Because of these facts, witnesses' auditory memory for a crime can be just as important as their visual memory. Thus, there is a secondary area of study into the memories of earwitnesses, but this is a much smaller area of research than that of eyewitnesses (Laub, Wylie & Bornstein, 2013).

One important problem for earwitnesses is that although familiar voices (one's spouse on the phone or a famous person on television) are generally quite easy to identify, unfamiliar voices are much more difficult (Yarmey, Yarmey,

Yarmey & Parliament, 2001). What's more, unfamiliar voices are even harder to identify when they are whispered or muffled (Bull & Clifford, 1984), when they are speaking a foreign language (Philippon, Cherryman, Bull & Vrij, 2007), or when they change tone because of emotion (Saslove & Yarmey, 1980). All of these variations are relevant to crime scenes.

Researchers have compared voice identification accuracy with that of face identifications and found that subjects are worse at making identifications from auditory lineups than from visual lineups (McAllister, Dale & Keay, 1993) and in auditory than visual old/new recognition tasks (Stevenage, Howland & Tippelt, 2011). Subjects are also even more susceptible to misinformation in an ear-witness paradigm than in an eyewitness one (McAllister, Bregman & Lipscomb, 1988). When witnesses have access to both facial and voice information, they seem to prefer to concentrate on faces rather than on voices. This (involuntary) preference leads to a face overshadowing effect, whereby voice identification suffers (Cook & Wilding, 1997, 2001; Stevenage et al., 2011). Despite this overall lack of reliability, research has shown that voice identifications are extremely likely to make it into court when they are available, even when there are good reasons to suspect a particular identification (Laub, Wylie et al., 2013), and these identifications have as much credibility with potential jurors as face identifications do (McAllister et al., 1993; Yarmey, 1995). However, expert witness testimony and closing arguments can help set jurors straight (Laub, Kimbrough & Bornstein, 2013).

SUGGESTIONS FOR REFORM

What can be done to ameliorate the problems caused by faulty eyewitness memory? We have already hinted at several potential reforms. We address these more fully and present additional suggestions in this final section. In particular, we consider the variable nature of system variables and the usefulness of expert testimony about eyewitness memory.

Recall that system variables (as distinguished from estimator variables) are those factors over which the justice system has some control. The creation and administration of lineups were addressed in our earlier section on mistaken identifications. Other system variables include when and how witnesses are asked questions, the types of questions they are asked, and the other people and information to which witnesses are exposed. In order to fully preserve the quality of eyewitness memory (just as one would want to fully preserve the quality of physical evidence), all of these variables are important.

A variety of specific recommendations have been made by eyewitness researchers over the last several decades (e.g., Steblay & Loftus, 2008;

Technical Working Group for Eyewitness Accuracy, 1999; Wells et al., 1998). With respect to lineups, sequential lineups conducted in a double-blind fashion have been advocated over simultaneous and non-double-blind lineups for the reasons already discussed (see Steblay et al., 2011). Lineups should of course be nonbiased; that is, the perpetrator should not stand out in the lineup. It has also been suggested that witnesses should be warned that the perpetrator may not be present in the lineup, and thus an identification is not mandatory. Because eyewitness confidence, like eyewitness memory, is malleable, various authors have suggested that confidence should be measured immediately after witnesses make an identification and certainly before they receive any feedback about that identification (e.g., Wells et al., 1998; Wright & Skagerberg, 2007).

Other important recommendations have been made regarding contact with witnesses. The extensive research into the misinformation effect has led to recommendations that witnesses be questioned as quickly as possible after the crime, using questions that are open ended and unbiased (for details, see Fisher & Schreiber, 2007). Contact among co-witnesses should also be minimized, as should witnesses' contact with media reports of the events they witnessed (Davis & Loftus, 2007; Gabbert et al., 2003).

Because of the demonstrated problems with eyewitness memory, many scientists have argued that jurors would benefit if they were given scientific information about the factors that affect eyewitness accuracy. Research has shown that many would-be jurors (and some judges) sometimes have beliefs that are not supported by science or are even contradicted by the scientific findings (Benton, Ross, Bradshaw Thomas, & Bradshaw, 2006; Wise & Safer, 2004). As such, expert testimony designed to assist juries with assessing the reliability of eyewitness testimony has long been advocated and provided (Leippe, 1995; Leippe & Eisenstadt, 2009; Loftus & Ketcham, 1991; Steblay & Loftus, 2013). Unfortunately, because the admissibility of this testimony is at the discretion of individual judges (in the United States, at least), it is often disallowed on the grounds that the research findings offer no more than common sense, that the expert testimony is prejudicial rather than probative, or that the testimony may usurp the jury's role (Wells et al., 2006). On the other hand, some criminal convictions have been overturned when expert psychological testimony has been excluded. Further exploration into the usefulness of expert testimony, or other means of educating jurors about eyewitness science, might assist in a goal that we all should seek, namely fewer convictions of the innocent and more convictions of the truly guilty.

In summary, more than three decades of research into eyewitness memory has demonstrated that eyewitnesses tend to err in predictable ways. This research has led to a variety of specific recommendations for investigative and courtroom practice. Unfortunately, this advice has not been uniformly

adopted, and so eyewitnesses (and earwitnesses) tend to exert more power in the legal system than their accuracy justifies.

REFERENCES

- Alexander, K. W., Quas, J. A., Goodman, G. S., Ghetti, S., Edelstein, R. S., Redlich, A. D., et al. (2005). Traumatic impact predicts long-term memory for documented child sexual abuse. *Psychological Science, 16*, 33–40.
- Atkinson, R. C., & Shiffrin, R. M. (1968). Human memory: A proposed system and its control processes. In K. W. S. Spence & J. T. Spence (Eds.), *The psychology of learning and motivation* (pp. 89–105). New York: Academic Press.
- Benton, T. R., Ross, D. F., Bradshaw, E., Thomas, W. N., & Bradshaw, G. S. (2006). Eyewitness memory is still not common sense: Comparing jurors, judges and law enforcement to eyewitness experts. *Applied Cognitive Psychology, 20*, 115–129.
- Berkowitz, S. R., Laney, C., Morris, E. K., Garry, M., & Loftus, E. F. (2008). Pluto behaving badly: False beliefs and their consequences. *American Journal of Psychology, 121*, 643–660.
- Bernstein, D. M., Laney, C., Morris, E. K., & Loftus, E. F. (2005a). False beliefs about fattening foods can have healthy consequences. *Proceedings of the National Academy of Sciences, 102*, 13724–13731.
- Bernstein, D. M., Laney, C., Morris, E. K., & Loftus, E. F. (2005b). False memories about food can lead to food avoidance. *Social Cognition, 23*, 11–34.
- Bernstein, D. M., & Loftus, E. F. (2009). How to tell if a particular memory is true or false. *Psychological Science, 4*, 370–374.
- Bernstein, D. M., Scoboria, A., & Arnold, R. (2015). The consequences of suggesting false childhood food events. *Acta Psychologica, 156*, 1–7.
- Braun, K. A., Ellis, R., & Loftus, E. F. (2002). Make my memory: How advertising can change our memories of the past. *Psychology & Marketing, 19*, 1–23.
- Brewer, W. F. (1977). Memory of the pragmatic implications of sentences. *Memory and Cognition, 5*, 673–678.
- Brewin, C. R., & Andrews, B. (2017). Creating memories for false autobiographical events in childhood: A systematic review. *Applied Cognitive Psychology, 31*, 2–23.
- Brigham, J. C., & Cairns, D. L. (1988). The effect of mugshot inspections on eyewitness identification accuracy. *Journal of Applied Social Psychology, 18*, 1394–1410.
- Brigham, J. C., Ready, D. J., & Spier, S. A. (1990). Standards for evaluating the fairness of photographic lineups. *Basic and Applied Social Psychology, 11*, 149–163.
- Buckhout, R. (1974). Eyewitness testimony. *Scientific American, 231*, 23–31.
- Bull, R., & Clifford, B. R. (1984). Earwitness voice recognition accuracy. In G. L. Wells & E. F. Loftus (Eds.), *Eyewitness testimony, psychological perspectives* (pp. 92–123). Cambridge: Cambridge University Press.
- Burke, A., Heuer, F., & Reisberg, D. (1992). Remembering emotional events. *Memory and Cognition, 20*, 277–290.
- Cahill, L., & McGaugh, J. L. (1995). A novel demonstration of enhanced memory associated with emotional arousal. *Consciousness and Cognition, 4*, 410–421.

- Chan, J. C. K., & McDermott, K. B. (2006). Remembering pragmatic inferences. *Applied Cognitive Psychology, 20*, 633–639.
- Christianson, S.-Å., & Loftus, E. F. (1990). Some characteristics of people's traumatic memories. *Bulletin of the Psychonomic Society, 28*, 195–198.
- Claridge, K. E. (1992). Reconstructing memories of abuse: A theory-based approach. *Psychotherapy: Theory, Research, Practice, Training, 29*, 243–252.
- Clifasefi, S. L., Bernstein, D. M., Mantonakis, A., & Loftus, E. F. (2013). "Queasy does it": False alcohol beliefs and memories may lead to diminished alcohol preferences. *Acta Psychologica, 143*, 14–19.
- Clifasefi, S. L., Takarangi, M. K., & Bergman, J. S. (2006). Blind drunk: The effects of alcohol on inattentive blindness. *Applied Cognitive Psychology, 20*, 697–704.
- Cochran, K. J., Greenspan, R. L., Bogart, D. F., & Loftus, E. F. (2016). Memory blindness: Altered memory reports lead to distortion in eyewitness memory. *Memory and Cognition, 44*, 717–726.
- Conway, M. A., Anderson, S., Larsen, S., Donnelly, C., McDaniel, M., McClelland, A. G. R., et al. (1994). The formation of flashbulb memories. *Memory and Cognition, 22*, 326–343.
- Cook, S., & Wilding, J. (1997). Earwitness testimony 2: Voice, faces, and context. *Applied Cognitive Psychology, 11*, 527–541.
- Cook, S., & Wilding, J. (2000). Earwitness testimony: Effects of exposure and attention on the face overshadowing effect. *British Journal of Psychology, 92*, 617–629.
- Craik, F. I. M., & Lockhart, R. S. (1972). Levels of processing: A framework for memory research. *Journal of Verbal Learning and Verbal Behavior, 11*, 671–684.
- Cronbag, H. F. M., Wagenaar, W. A., & van Koppen, P. J. (1996). Crashing memories and the problem of "source monitoring." *Applied Cognitive Psychology, 10*, 95–104.
- Cutler, B. L., Penrod, S. D., & Martens, T. K. (1987). The reliability of eyewitness identification: The role of system and estimator variables. *Law and Human Behavior, 11*, 233–258.
- Dalenberg, C. J., Brand, B. L., Gleaves, D. H., Dorahy, M. J., Loewenstein, R. J., Cardeña, E., et al. (2012). Evaluation of the evidence for the trauma and fantasy models of dissociation. *Psychological Bulletin, 138*, 550–588.
- Davies, G., & Hine, S. (2007). Change blindness and eyewitness testimony. *Journal of Psychology: Interdisciplinary and Applied, 14*, 423–434.
- Davis, D., & Friedman, R. D. (2007). Memory for conversation: The orphan child of witness memory researchers. In M. P. Toglia, J. D. Read, D. F. Ross, & R. C. L. Lindsay (Eds.), *The handbook of eyewitness psychology: Vol. 1: Memory for events* (pp. 3–52). London: Lawrence Erlbaum.
- Davis, D., & Loftus, E. F. (2007). Internal and external sources of misinformation in adult witness memory. In M. P. Toglia, J. D. Read, D. F. Ross, & R. C. L. Lindsay (Eds.), *The handbook of eyewitness psychology: Vol. II: Memory for events* (pp. 195–237). Mahwah, NJ: Erlbaum.
- Davis, D., Loftus, E. F., Vanous, S., & Cucciare, M. (2008). 'Unconscious transference' can be an instance of 'change blindness.' *Applied Cognitive Psychology, 22*, 605–623.

- Deffenbacher, K. A., Bornstein, B. H., Penrod, S. D., & McGorty, E. K. (2004). A meta-analytic review of the effects of high stress on eyewitness memory. *Law and Human Behavior, 28*, 687–706.
- Dysart, J. E., Lindsay, R. C. L., Hammond, R., & Dupuis, P. (2001). Mug shot exposure prior to lineup identification: Interference, transference, and commitment effects. *Journal of Applied Psychology, 86*, 1280–1284.
- Eich, J. E. (1980). The cue-dependent nature of state dependent retrieval. *Memory & Cognition, 8*, 157–173.
- Ellis, H. D., Davies, G. M., & Shepherd, J. W. (1977). Experimental studies of face identification. *Journal of Criminal Defense, 3*, 219–234.
- Fawcett, J. M., Peace, K. A., & Greve, A. (2016). Looking down the barrel of a gun: What do we know about the weapon focus effect? *Journal of Applied Research in Memory and Cognition, 5*, 257–263.
- Fisher, R. P., & Schreiber, N. (2007). Interview protocols for improving eyewitness memory. In M. P. Toglia, J. D. Read, D. F. Ross, & R. C. L. Lindsay (Eds.), *The handbook of eyewitness psychology: Vol. II: Memory for events* (pp. 53–80). Mahwah, NJ: Erlbaum.
- Fleishman, J. J., Buckley, M. L., Klosinsky, M. J., Smith, N., & Tuck, B. (1976). Judged attractiveness in recognition of women's faces. *Perceptual & Motor Skills, 43*, 709–710.
- Foster, J. L., Huthwaite, T., Yesberg, J. A., Garry, M., & Loftus, E. F. (2012). Repetition, not number of sources, increases both susceptibility to misinformation and confidence in the accuracy of eyewitnesses. *Acta Psychologica, 139*, 320–326.
- Frenda, S. J., Knowles, E. D., Saletan, W., & Loftus, E. F. (2013). False memories of fabricated political events. *Journal of Experimental Social Psychology, 49*, 280–286.
- Frenda, S. J., Nichols, R. M., & Loftus, E. F. (2011). Current issues and advances in misinformation research. *Current Directions in Psychological Science, 20*, 20–23.
- Frenda, S. J., Patihis, L., Loftus, E. F., Lewis, H. C., & Fenn, K. M. (2014). Sleep deprivation and false memories. *Psychological Science, 25*, 1674–1681.
- Gabbert, F., Memon, A., & Allan, K. (2003). Memory conformity: Can eyewitnesses influence each other's memories for an event? *Applied Cognitive Psychology, 17*, 533–543.
- Gabbert, F., Memon, A., Allan, K., & Wright, D. B. (2004). Say it to my face: Examining the effects of socially encountered misinformation. *Legal and Criminological Psychology, 9*, 215–227.
- Garrett, B. L. (2008, January). Judging innocence. *Columbia Law Review, 108*.
- Garry, M., French, L., Kinzett, T., & Mori, K. (2008). Eyewitness memory following discussions: Using the MORI technique with a Western sample. *Applied Cognitive Psychology, 22*, 431–439.
- Garry, M., Manning, C. G., Loftus, E. F., & Sherman, S. J. (1996). Imagination inflation: Imagining a childhood event inflates confidence that it occurred. *Psychonomic Bulletin and Review, 3*, 208–214.
- Gore-Felton, C., Koopman, C., Thoresen, C., Arnow, B., Bridges, E., & Spiegel, D. (2000). Psychologists' beliefs and clinical characteristics: Judging the veracity of

- childhood sexual abuse memories. *Professional Psychology: Research and Practice*, 31, 372–377.
- Granhag, P. A., Strömwall, L. A., & Billings, J. F. (2002, September). "I'll never forget the sinking ferry": How social influence makes false memories surface. Paper presented at the 12th European Conference on Psychology and Law, Leuven, Belgium.
- Harvey, M. R. (1999). Memory research and clinical practice: A critique of three paradigms and a framework for psychotherapy with trauma survivors. In L. M. Williams & V. L. Banyard (Eds.), *Trauma and memory* (pp. 19–29). Thousand Oaks, CA: Sage.
- Heaps, C., & Nash, M. (1999). Individual differences in imagination inflation. *Psychonomic Bulletin and Review*, 6, 313–138.
- Heaps, C., & Nash, M. (2001). Comparing recollective experience in true and false autobiographical memories. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 27, 920–930.
- Herman, J. L. (1992). *Trauma and recovery*. New York: Basic.
- Herman, J. L., & Schatzow, E. (1987). Recovery and verification of memories of childhood sexual trauma. *Psychoanalytic Psychology*, 4, 1–14.
- Heuer, F., & Reisberg, D. (1990). Vivid memories of emotional events: The accuracy of remembered minutiae. *Memory and Cognition*, 18, 496–506.
- Hope, L., Ost, J., Gabbert, F., Healey, S., & Lenton, E. (2008). "With a little help from my friends . . .": The role of co-witness relationship in susceptibility to misinformation. *Acta Psychologica*, 12, 76–484.
- Hyman, I. E., Jr., Husband, T. H., & Billings, F. J. (1995). False memories of childhood experiences. *Applied Cognitive Psychology*, 9, 181–197.
- Innocence Project, The. (n.d.). *The cases* [Online]. Retrieved August 8, 2017. Available: <https://www.innocenceproject.org/cases/>
- James, W. (1890). *The principles of psychology* (Vol. 1). New York: Holt.
- Jelicic, M., Smeets, T., Peters, M. J. V., Candel, I., Horselenberg, R., & Merckelbach, H. (2006). Assassination of a controversial politician: Remembering details from another nonexistent film. *Applied Cognitive Psychology*, 20, 591–596.
- Kaplan, R. L., van Damme, I., Levine, L. J., & Loftus, E. F. (2015). Emotion and false memory. *Emotion Review*, 8, 8–13.
- Kassin, S. M., Tubb, V. A., Hosch, H. M., & Memon, A. (2001). On the "general acceptance" of eyewitness testimony research. *American Psychologist*, 56, 405–416.
- Key, K. N., Wetmore, S. A., Cash, D. K., Neuschatz, J. S., & Gronlund, S. D. (2017). The effect of post-id feedback on retrospective self-reports in showups. *Journal of Police and Criminal Psychology*, 32(4), 369–377.
- Kihlstrom, J. F. (2006). Trauma and memory revisited. In B. Uttl, N. Ohta, & A.L. Siegenthaler (Eds.), *Memory and emotion: Interdisciplinary perspectives* (pp. 259–291). Malden, MA: Blackwell.
- Laney, C., Campbell, H. V., Heuer, F., & Reisberg, D. (2004). Memory for thematically arousing events. *Memory and Cognition*, 32, 1149–1159.
- Laney, C., & Loftus, E. F. (2008). Emotional content of true and false memories. *Memory*, 16, 500–516.

- Laney, C., & Loftus, E. F. (in press). Current directions in false memory research. *International Congress of Psychology*.
- Laney, C., Morris, E. K., Bernstein, D. M., Wakefield, B. M., & Loftus, E. F. (2008). Asparagus, a love story: Healthier eating could be just a false belief away. *Experimental Psychology*, *55*, 291–300.
- Laney, C., & Takarangi, M. K. T. (2013). False memories for aggressive acts. *Acta Psychologica*, *143*, 227–234.
- Laub, C. E., Kimbrough, C. D., & Bornstein, B. H. (2013). Mock juror perceptions of eyewitnesses versus earwitnesses: Do safeguards help? *American Journal of Forensic Psychology*, *34*, 33–56.
- Laub, C. E., Wylie, L. E., & Bornstein, B. H. (2013). Can the courts tell an ear from an eye? Legal approaches to voice identification evidence. *Law & Psychology Review*, *37*, 119–158.
- Leippe, M. R. (1995). The case for expert testimony about eyewitness memory. *Psychology, Public Policy, and Law*, *1*, 909–959.
- Leippe, M. R., & Eisenstadt, D. (2009). The influence of eyewitness expert testimony on jurors' beliefs and judgments. In B. L. Cutler (Ed.), *Expert testimony on the psychology of eyewitness identification* (pp. 169–199). New York: Oxford.
- Leippe, M. R., Wells, G. L., & Ostrom, T. M. (1978). Crime seriousness as a determinant of accuracy in eyewitness identification. *Journal of Applied Psychology*, *63*, 345–351.
- LePort, A. K. R., Mattfeld, A. T., Dickinson-Anson, H., Fallon, J. H. Stark, C. E. L., Kruggel, F. et al. (2012). Behavioral and neuroanatomical investigation of highly superior autobiographical memory (HSAM). *Neurobiology of Learning and Memory*, *98*, 78–92.
- Levine, L. J., & Bluck, S. (2004). Painting with broad strokes: Happiness and the malleability of event memory. *Cognition and Emotion*, *8*, 559–574.
- Levine, L. J., & Burgess, S. L. (1997). Beyond general arousal: Effects of specific emotions on memory. *Social Cognition*, *15*, 157–181.
- Levine, L. J., & Pizarro, D. A. (2004). Emotion and memory research: A grumpy overview. *Social Cognition*, *22*, 530–554.
- Lieberman, H. R., Bathalon, G. P., Falco, C. M., Kramer, F. M., Morgan, C. A., III, & Niro, P. (2005). Severe decrements in cognition function and mood induced by sleep loss, head, dehydration, and undernutrition during simulated combat. *Biological Psychiatry*, *57*, 422–429.
- Light, L. L., Kayra-Stuart, F., & Hollander, S. (1979). Recognition memory for typical and unusual faces. *Journal of Experimental Psychology: Human Learning and Memory*, *5*, 212–228.
- Lindsay, D. S., Hagen, L., Read, J. D., Wade, K. A., & Garry, M. (2004). True photographs and false memories. *Psychological Science*, *15*, 149–154.
- Lindsay, R. C. L. (1999). Applying applied research: Selling the sequential line-up. *Applied Cognitive Psychology*, *13*, 219–225.
- Lindsay, R. C. L., Nosworthy, G. J., Martin, R. R., & Martynuck, C. (1994). Finding suspects in mugshots. *Journal of Applied Psychology*, *79*, 121–130.
- Loftus, E. F. (1975). Leading questions and the eyewitness report. *Cognitive Psychology*, *7*, 560–574.

- Loftus, E. F. (1979). *Eyewitness testimony*. Cambridge, MA: Harvard University Press.
- Loftus, E. F. (2017). Eavesdropping on memory. *Annual Review of Psychology*, *68*, 1–18.
- Loftus, E. F., & Burns, T. E. (1982). Mental shock can produce retrograde amnesia. *Memory and Cognition*, *10*, 318–323.
- Loftus, E. F., & Castelle, G. (2000). Crashing memories in legal cases. In P. J. VanKoppen & N. H. M. Roos (Eds.), *Rationality, information and progress in law and psychology* (pp. 115–127). Maastricht: Maastricht University Press.
- Loftus, E. F., & Greene, E. (1980). Warning: Even memory for faces can be contagious. *Law and Human Behavior*, *4*, 323–334.
- Loftus, E. F., & Ketcham, K. (1991). *Witness for the defense: The accused, the eyewitness, and the expert who puts memory on trial*. New York: St. Martin's Press.
- Loftus, E. F., & Ketcham, K. (1996). *The myth of repressed memory: False memories and allegations of sexual abuse*. New York: St. Martin's Griffin.
- Loftus, E. F., Loftus, G. R., & Messo, J. (1987). Some facts about “weapon focus.” *Law and Human Behavior*, *11*, 55–62.
- Loftus, E. F., Miller, D. G., & Burns, H. J. (1978). Semantic integration of verbal information into a visual memory. *Journal of Experimental Psychology: Human Learning & Memory*, *4*, 19–31.
- Loftus, E. F., & Palmer, J. C. (1974). Reconstruction of automobile destruction. *Journal of Verbal Learning and Verbal Behavior*, *13*, 585–589.
- Loftus, E. F., & Pickrell, J. E. (1995). The formation of false memories. *Psychiatric Annals*, *25*, 720–725.
- Lynn, S. J., Lilienfeld, S. O., Merckelbach, H., Giesbrecht, T., McNally, R. J., Loftus, E. F. et al. (2014). The trauma model of dissociation: Inconvenient truths and stubborn fictions. Comment on Dalenberg et al. (2012). *Psychological Bulletin*, *140*, 896–910.
- Lynn, S. J., Lock, T. G., Myers, B., & Payne, D. (1997). Recalling the recallable: Should hypnosis be used to recover memories in psychotherapy? *Current Directions in Psychological Science*, *6*, 79–83.
- Malpass, R. S., & Kravitz, J. (1969). Recognition for faces of own and other race. *Journal of Personality and Social Psychology*, *13*, 330–334.
- Mazzoni, G. A. L., Lombardo, P., Malvagia, S., & Loftus, E. F. (1999). Dream interpretation and false beliefs. *Professional Psychology: Research & Practice*, *30*, 45–50.
- Mazzoni, G. A. K., & Lynn, S. J. (2007). Using hypnosis in eyewitness memory: Past and current issues. In M. P. Togli, J. D. Read, D. F. Ross, & R. C. L. Lindsay (Eds.), *The handbook of eyewitness psychology: Vol. 1: Memory for events* (pp. 321–338). London: Lawrence Erlbaum.
- Mazzoni, G. A. L., & Memon, A. (2003). Imagination can create false autobiographical memories. *Psychological Science*, *14*, 186–188.
- McAllister, H. A., Bregman, N. J., & Lipscomb, T. J. (1988). Speed estimates by eyewitnesses and earwitnesses: How vulnerable to postevent information? *Journal of General Psychology*, *115*, 25–35.
- McAllister, H. A., Dale, R. H. I., & Keay, Cynthia E. (1993). Effects of lineup modality on witness credibility. *Journal of Social Psychology*, *133*, 365–376.
- McGaugh, J. L., Introini-Collison, I. B., Nagahara, A. H., Cahill, L., Brioni, J. D., & Castellano, C. (1990). Involvement of the amygdaloid complex in neuromodu-

- latory influences on memory storage. *Neuroscience & Biobehavioral Reviews*, 14(4), 425–431.
- McNally, R. J. (2003). *Remembering trauma*. Cambridge, MA: University of Harvard Press.
- McNally, R. J., Clancy, S. A., & Barrett, H. M. (2004). Forgetting trauma? In D. Reisberg & P. Hertell (Eds.), *Memory and emotion* (pp. 129–154). New York: Oxford University Press.
- McNally, R. J., Lasko, N. B., Clancy, S. A., Maclin, M. L., Pitman, R. K., & Orr, S. P. (2004). Psychophysiological responding during script-driven imagery in people reporting abduction by space aliens. *Psychological Science*, 15, 493–497.
- Meissner, C. A., & Brigham, J. C. (2001). Thirty years of investigating the own-race bias in memory for faces: A meta-analytic review. *Psychology, Public Policy, and Law*, 7, 3–35.
- Meissner, C. A., Sporer, S. L., & Schooler, J. W. (2007). Person descriptions as eyewitness evidence. In M. P. Toglia, J. D. Read, D. F. Ross, & R. C. L. Lindsay (Eds.), *The handbook of eyewitness psychology: Vol. II: Memory for people* (pp. 3–34). London: Lawrence Erlbaum.
- Morgan, C. A., Hazlett, G., Baranoski, M., Doran, A., Southwick, S., & Loftus, E. F. (2007). Accuracy of eyewitness identification is significantly associated with performance on a standardized test of face recognition. *International Journal of Law and Psychiatry*, 30(3), 213–223.
- Morgan, C. A., Hazlett, G., Doran, A., Garrett, S., Hoyt, G., Thomas, P., et al. (2004). Accuracy of eyewitness memory for persons encountered during exposure to highly intense stress. *International Journal of Law and Psychiatry*, 27, 265–279.
- Morgan, C. A., III, Southwick, S., Steffian, G., Hazlett, G. A., & Loftus, E. F. (2013). Misinformation can influence highly stressful events. *International Journal of Law and Psychiatry*, 36, 11–17.
- Myers, B., Myers, J., Herndon, P., Broszkiewicz, N., & Tar, M. (2015). Beliefs about therapist suggestiveness and memory veracity in recovered-memory therapy: An analogue study. *Professional Psychology: Research and Practice*, 46, 270–276.
- Nelson, K. J., Laney, C., Bowman Fowler, K., Knowles, E. D., Davis, D., & Loftus, E. F. (2011). Change blindness can cause mistaken eyewitness identification. *Legal and Criminological Psychology*, 16, 62–74.
- Ofshe, R., & Watters, E. (1994). *Making monsters: False memories, psychotherapy, and sexual hysteria*. Berkeley: University of California Press.
- Ost, J., Foster, S., Costall, A., & Bull, R. (2005). False reports of childhood events in appropriate interviews. *Memory*, 13, 700–710.
- Ost, J., Vrij, A., Costall, A., & Bull, R. (2002). Crashing memories and reality monitoring: Distinguishing between perceptions, imaginations and “false memories.” *Applied Cognitive Psychology*, 16, 125–134.
- Paterson, H. M., & Kemp, R. I. (2006). Co-witnesses talk: A survey of eyewitness discussion. *Psychology, Crime & Law*, 12, 181–191.
- Paterson, H. M., Kemp, R. I., & McIntyre, S. (2012). Can a witness report hearsay evidence unintentionally? The effects of discussion on eyewitness memory. *Psychology, Crime & Law*, 18, 505–527.

- Patihis, L., Frenda, S., LePort, A. K. R., Petersen, N., Nichols, R. M., Stark, C. E. L. et al. (2015). False memories in highly superior autobiographical memory individuals. *Proceedings of the National Academy of Sciences*, *110*, 20947–20952.
- Patihis, L., & Loftus, E. F. (2016). Crashing memory 2.0: False memories in adults for an upsetting childhood event. *Applied Cognitive Psychology*, *30*, 41–50.
- Patihis, L., Ho, L.Y., Tingen, I.W., Lilienfeld, S.O., & Loftus, E.F. (2014). Are the “memory wars” over? A scientist-practitioner gap in beliefs about repressed memory. *Psychological Science*, *25*, 519–530.
- Payne, J. D., Nadel, L., Britton, W. B., & Jacobs, W. J. (2004). The biopsychology of trauma and memory. In D. Reisberg & P. Hertel (Series Eds.), *Memory and emotion. Series in Affective Science* (pp. 76–128). New York: Oxford University Press.
- Paz-Alonso, P. M., & Goodman, G. S. (2008). Trauma and memory: Effects of post-event misinformation, retrieval order, and retention interval. *Memory*, *16*, 58–75.
- Peace, K. A., & Porter, S. (2004). A longitudinal investigation of the reliability of memory for trauma and other emotional experiences. *Applied Cognitive Psychology*, *18*, 1143–1159.
- Peterson, C., & Whalen, N. (2001). Five years later: Children’s memory for medical emergencies. *Applied Cognitive Psychology*, *15*, S7–S24.
- Philippou, A. C., Cherryman, J., Bull, R., & Vrij, A. (2007). Earwitness identification performance: The effect of language, target, deliberate strategies and indirect measures. *Applied Cognitive Psychology*, *21*, 539–550.
- Poole, D. A., Lindsay, D. S., Memon, A., & Bull, R. (1995). Psychotherapy and the recovery of memories of childhood sexual abuse: U.S. and British practitioners’ beliefs, practices, and experiences. *Journal of Consulting and Clinical Psychology*, *6*, 426–437.
- Porter, S., Yuille, J. C., & Lehman, D. R. (1999). The nature of real, implanted, and fabricated memories for emotional childhood events: Implications for the recovered memory debate. *Law and Human Behavior*, *23*, 517–537.
- Pozzulo, J. D., & Lindsay, R. C. L. (1998). Identification accuracy of children versus adults: A meta-analysis. *Law and Human Behavior*, *22*, 549–570.
- Putnam, A. L., Sungkhasettee, V. W., & Roediger, H. L., III (2017). When misinformation improves memory: The effects of recollecting change. *Psychological Science*, *28*, 36–46.
- Quas, J. A., Goodman, G. S., Bidrose, S., Pipe, M.-E., Craw, S., & Ablin, D. S. (1999). Emotion and memory: Children’s long-term remembering, forgetting, and suggestibility. *Journal of Experimental Child Psychology*, *72*, 235–270.
- Read, J. D., & Connolly, D. A. (2007). The effects of delay on long-term memory for witnessed events. In M. P. Toglia, J. D. Read, D. F. Ross, & R. C. L. Lindsay (Eds.), *The handbook of eyewitness psychology; Vol. 1: Memory for events* (pp. 117–156). London: Lawrence Erlbaum.
- Reisberg, D. (2001). *Cognition: Exploring the science of the mind* (2nd ed.). New York: W. W. Norton.
- Reisberg, D. (2006). Memory for emotional episodes: The strengths and limits of arousal-based accounts. In B. Uttil, N. Ohta, & A. L. Siegenthaler (Eds.), *Memory and emotion: Interdisciplinary perspectives* (pp. 15–36). Malden, MA: Blackwell.

- Reisberg, D., & Heuer, F. (2007). The influence of emotion on memory in forensic settings. In M. P. Toglia, J. D. Read, D. F. Ross, & R. C. L. Lindsay (Eds.), *The handbook of eyewitness psychology: Vol. 1: Memory for events* (pp. 81–116). London: Lawrence Erlbaum.
- Reisberg, D., Heuer, F., McLean, J., & O’Shaughnessy, M. (1988). The quantity, not the quality, of affect predicts memory vividness. *Bulletin of the Psychonomic Society*, *26*, 100–103.
- Rumelhart, D. E., & McClelland, J. L. (Eds.). (1986). *Parallel distributed processing* (Vol. 1). Cambridge, MA: MIT Press.
- Saslove, H., & Yarmey, A. D. (1980). Long-term auditory memory: Speaker identification. *Journal of Applied Psychology*, *65*, 111–116.
- Schacter, D. L. (2001). *The seven sins of memory: How the mind forgets and remembers*. New York: Houghton Mifflin.
- Schacter, D. L., & Loftus, E. F. (2013). Memory and law: What can cognitive neuroscience contribute? *Nature Neuroscience*, *16*, 119–123.
- Scheck, B., Neufeld, P., & Dwyer, J. (2003). *Actual innocence: When justice goes wrong and how to make it right*. New York: New American Library.
- Scoboria, A., Mazzoni, G. A. L., Kirsch, I., & Milling, L. S. (2002). Immediate and persisting effects of misleading questions and hypnosis on memory reports. *Journal of Experimental Psychology Applied*, *8*(1), 26–32.
- Scoville, W. B., & Milner, B. (1957). Loss of recent memory after bilateral hippocampal lesions. *Journal of Neurology, Neurosurgery & Psychiatry*, *20*, 11–21.
- Sheen, M., Kemp, S., & Rubin, D. (2001). Twins dispute memory ownership: A new false memory phenomenon. *Memory and Cognition*, *29*, 779–788.
- Shobe, K. K., & Kihlstrom, J. F. (1997). Is traumatic memory special? *Current Directions in Psychological Science*, *6*, 70–74.
- Smeets, T., Jelicic, M., Peters, M.J.V., Candel, I., Horselenberg, R., & Merckelbach, H. (2006). “Of course I remember seeing that film:” How ambiguous questions generate crashing memories. *Applied Cognitive Psychology*, *20*, 779–789.
- Southwick, S. M., Morgan, C. A., Nicolaou, A. L., & Charney, D. S. (1997). Consistency of memory for combat-related traumatic events in veterans of Operation Desert Storm. *American Journal of Psychiatry*, *154*, 173–177.
- Stebly, N. M. (1992). A meta-analytic review of the weapon focus effect. *Law and Human Behavior*, *16*, 413–424.
- Stebly, N. M., Dysart, J., Fulero, S., & Lindsay, R. C. L. (2001). Eyewitness accuracy rates in sequential and simultaneous lineup presentations: A meta-analytic comparison. *Law and Human Behavior*, *25*, 459–473.
- Stebly, N. M., Dysart, J. E., & Wells, G. L. (2011). Seventy-two tests of the sequential lineup superiority effect: A meta-analysis and policy discussion. *Psychology, Public Policy, and Law*, *17*, 99–136.
- Stebly, N. M., & Loftus, E. F. (2013). Eyewitness memory and the legal system. In E. Shafir (Ed.), *The behavioural foundations of policy* (pp. 145–162). Princeton, NJ: Princeton University Press.
- Strange, D., Gerrie, M. P., & Garry, M. (2005). A few seemingly harmless routes to a false memory. *Cognitive Processing*, *6*, 237–242.

- Swihart, G., Yuille, J., & Porter, S. (1999). The role of state-dependent memory in “red-outs.” *International Journal of Law and Psychiatry*, *22*, 199–212.
- Takarangi, M. K. T., Parker, S., & Garry, M. (2006). Modernizing the misinformation effect: The development of a new stimulus set. *Applied Cognitive Psychology*, *20*, 583–590.
- Taylor, F. K. (1965). Cryptomnesia and plagiarism. *British Journal of Psychiatry*, *4*, 1111–1118.
- Technical Working Group for Eyewitness Accuracy. (1999). *Eyewitness evidence: A guide for law enforcement*. Research Report. Washington, DC: U.S. Department of Justice; *A Trainer’s Manual for Law Enforcement*, published 2003.
- Thomas, A. K., & Loftus, E. F. (2002). Creating bizarre false memories through imagination. *Memory and Cognition*, *30*, 423–431.
- van Damme, I., Kaplan, R. L., Levine, L. J., & Loftus, E. F. (2017). Emotion and false memory: How goal-irrelevance can be relevant for what people remember. *Memory*, *25*, 201–213.
- van der Kolk, B.A. (1997). The psychobiology of posttraumatic stress disorder. *Journal of Clinical Psychiatry*, *58*, 16–24.
- Wade, K. A., & Garry, M. (2005). Strategies for verifying false autobiographical memories. *American Journal of Psychology*, *118*, 587–602.
- Wade, K. A., Garry, M., Read, J. D., & Lindsay, S. A. (2002). A picture is worth a thousand lies. *Psychonomic Bulletin and Review*, *9*, 597–603.
- Wagenaar, E., & Groeneweg, J. (1990). The memory of concentration camp survivors. *Applied Cognitive Psychology*, *4*, 77–87.
- Wells, G. L., & Bradfield, A. L. (1998). “Good, you identified the suspect”: Feedback to eye witnesses distorts their reports of the witnessing experience. *Journal of Applied Psychology*, *83*, 360–376.
- Wells, G. L., Memon, A., & Penrod, S. D. (2006). Eyewitness evidence: Improving its probative value. *Psychological Science in the Public Interest*, *7*, 45–75.
- Wells, G. L., & Olson, E. (2003). Eyewitness testimony. *Annual Review of Psychology*, *54*, 277–295.
- Wells, G. L., Small, M., Penrod, S., Malpass, R. S., Fulero, S. M., & Brimacombe, C. A. E. (1998). Eyewitness identification procedures: Recommendations for lineups and photo-spreads. *Law and Human Behavior*, *22*, 603–647.
- Wilson, B. M., Mickes, L., Stolarz-Fantino, S., Evrard, M., & Fantino, E. (2015). Increased false-memory susceptibility after mindfulness meditation. *Psychological Science*, *26*, 1567–1573.
- Wise, R. A., & Safer, M. A. (2004). What US judges know and believe about eyewitness testimony. *Applied Cognitive Psychology*, *18*, 427–443.
- Wogalter, M. S., Malpass, R. S., & McQuiston, D. E. (2004). A national survey of U.S. police on preparation and conduct of identification lineups. *Psychology, Crime & Law*, *10*, 69–82.
- Wright, D. B., Mathews, S. A., & Skagerberg, E. M. (2005). Social recognition memory: The effect of other people’s responses for previously seen and unseen items. *Journal of Experimental Psychology Applied*, *11*(3), 200–209.
- Wright, D. B., & Skagerberg, E. M. (2007). Postidentification feedback affects real eyewitnesses. *Psychological Science*, *18*, 172–178.

- Yarmey, A. D. (1986). Verbal, visual, and voice identification of a rape suspect under different levels of illumination. *Journal of Applied Psychology, 71*, 363–370.
- Yarmey, A. D. (1995). Earwitness speaker identification. *Psychology, Public Policy, and Law, 1*, 792–816.
- Yarmey, A. D., Yarmey, A. L., Yarmey, A. J., & Parliament, L. (2001). Common sense beliefs and the identification of familiar voices. *Applied Cognitive Psychology, 15*, 283–300.
- Yuille, J. C., & Cutshall, J. L. (1986). A case study of eyewitness memory of a crime. *Journal of Applied Psychology, 71*, 291–301.
- Yuille, J. C., & Tollestrup, P. A. (1990). Some effects of alcohol on eyewitness memory. *Journal of Applied Psychology, 75*, 268–273.
- Zajac, R., Dickson, J., Munn, R., & O'Neill, S. (2016). Trussht me, I know what a I sshaw: The acceptance of misinformation from an apparently unreliable co-witness. *Legal and Criminological Psychology, 21*, 127–140.
- Zhu, B., Chen, C., & Loftus, E. F. (2013). The relationship between DRM and misinformation false memories. *Memory and Cognition, 41*, 832–838.

Chapter Ten

COGNITIVE INTERVIEWING

CORAL J. DANDO AND REBECCA MILNE

The cognitive interview (hereinafter referred to in acronym as CI) is a multidisciplinary interview technique devised over 30 years ago for enhancing the retrieval of episodic information by witnesses and victims. It is one of the most-researched and widely acknowledged interview procedures, and is a prime example of how psychological theory and empirical understanding of human memory has been applied outside the laboratory. The CI has been fundamental in shaping the prevailing approach to investigative interviewing in many countries. This chapter will briefly outline the importance of witness information for investigating crime, followed by an overview of some of the problems associated with police interviews prior to the formation of the CI. The CI procedure will then be described and the development process will be briefly outlined. Finally, research concerning how the CI has evolved since its inception will be introduced. For example, how it has been modified for use with vulnerable witness and victims, and most recently for detecting deception.

WITNESS INFORMATION

During a criminal investigation police officers strive to answer two primary questions, what has occurred and who is responsible (Milne & Bull, 2006). When attempting to answer these, police investigators require information, and one of the primary sources of such information are witnesses and victims (the term “witness” will hereafter be used to describe both an onlooker and a victim of crime). Witnesses are a central and important element of any criminal investigation (Sanders, 1986). They often provide the central leads within an enquiry (Berresheim & Weber, 2003; Kebbell & Milne, 1998), and offer information that directs the entire investigatory pro-

cess from the outset (Milne & Bull, 2001; Milne & Shaw, 1999). For example, in the initial stages, witnesses report what has occurred and frequently provide a description of the perpetrator. As the investigatory process progresses, witnesses can be asked to identify perpetrators, objects, or places, and in the final stages of bringing offenders to justice, witness evidence is central to most court cases (Kebbell & Milne, 1998; Zander & Henderson, 1993). Moreover, in an adversarial system, as governs the criminal justice system in the United Kingdom, the USA and Canada (as well as many other English-speaking countries), it is not unusual for the prosecution to view witness testimony as more important to their case than an offender's confession (Wolchover & Heaton-Armstrong, 1996). Certainly, witness testimony is extremely powerful and important—research indicates that jurors rely heavily on witness accounts of what they have experienced (e.g., Cutler, Penrod & Dexter, 1990), and witness testimony increases the likelihood that perpetrators will be apprehended and prosecuted (Lieppe, 1980; Visher, 1987). Accordingly, incomplete and inaccurate witness information can result in serious negative outcomes (Savage & Milne, 2006), at best, missing information and at worst, a miscarriage of justice (Poyser, Nurse & Milne, in press), and so obtaining a full and accurate account of what a witness has experienced is of paramount importance.

Police Interviewing

Police officers typically gather witness information during a face-to-face interview. An interview (a conversation with a purpose) can be conducted over a wide gamut of situations ranging from an initial brief conversational exchange at the scene of a crime to a more formal in-depth interview conducted at a police station, a witness's home or workplace. An interview is, therefore, a fundamental information-gathering opportunity (ACPO, 2001; Milne & Bull, 2006) and a daily activity for all police officers from the start of their police careers. However, interviewing is a complex skill, a process of conversational and social exchange (Shepherd, 1991). During an interview, witnesses are asked to search their memory and explain, in detail, what they can remember about a previously experienced event, and it is the interviewer's task to help each witness to give the fullest and most accurate account of his or her experience without contaminating the information gained.

Remembering a crime event, such as a robbery or an assault, is a constructive process, and a large body of research indicates that the manner in which memory of a 'to be remembered' (hereinafter referred to in acronym as TBR) event is accessed and constructed can be a significant determinant, not only of the amount of information recalled, but also of the accuracy of that information. For example, types of questions asked, the order and man-

ner in which they are asked, and the structure of the retrieval process (in this case the interview) all impact on witness memorial performance in terms of both quantity (amount) and quality (accuracy) (e.g., see Dando, Ormerod, Wilcock & Milne, 2011; Loftus, 1975, 1979; Mattison, Dando & Ormerod, 2015; Milne & Bull, 2001; Tulving, 1991).

Prior to the early 1990s, police officers, worldwide, typically received a limited amount of witness interview training (see Milne & Bull, 2001; Clarke & Milne, 2016). For example, Sanders (1986) found that only 2 percent of his sample of U.S. police officers had undergone any witness interview training. George (1991) found that many U. K. police forces provided no witness interview training at all and others provided just one day. When training was provided it tended to focus purely on the “mechanics” of the interview process and so police officers were trained as report takers rather than as information gatherers. Where no formal training was provided, officers simply learned on-the-job by observing their peers, who themselves, had undergone little or no training and who, although experienced, were not necessarily competent. Reflecting this lack of training, witness interviews were typically poorly conducted. They tended to be interviewer-driven statement-taking exercises which often compromised memory performance, with officers employing interview techniques that impeded, rather than assisted, the memory process (e.g., Fisher, Geiselman & Raymond, 1987; George, 1991; McLean, 1995; Westera, Kebbell, & Milne, 2011).

THE COGNITIVE INTERVIEW

In the early 1980s, American psychologists Ron Fisher and Ed Geiselman developed the Cognitive Interview (CI) procedure as a practical forensic tool for use with any cooperative interviewee (witnesses, victims, and suspects). The CI was concerned exclusively with the retrieval of information from memory, specifically how the retrieval (remembering) process might be optimized during an interview situation. Initially presented in 1984, the procedure evolved over several ensuing years with further refinements and enhancements being reported in a series of subsequent papers. This development process is well-documented and falls into two fairly distinct phases, with the initial procedure being referred to as the original CI and the second as the enhanced CI (hereinafter referred to in acronym as ECI).

The Original Cognitive Interview

The original CI (Geiselman et al., 1984) comprised four mnemonics (1) mental reinstatement of context (hereinafter referred to in acronym as MRC),

(2) report everything, (3) recall in a variety of temporal orders (hereinafter referred to in acronym as CTO), and (4) change perspective (hereinafter referred to in acronym as CP), which are generally referred to as the “cognitive” components. The MRC technique is one of the principle components of the original CI where the interviewer encourages the witness to mentally reinstate both the psychological and the physical environments that existed at the time of the TBR event in order that they might act as retrieval cues (triggers). The procedure comprises a series of “mini” instructions whereby the interviewer encourages the interviewee to recreate the physical and psychological context one step at a time. In between each of the mini instructions, the interviewer pauses for several seconds to allow the witness sufficient time to reinstate the context as instructed. For example: “I would like to try and help you to remember as much as you can. As I talk to you I want you to think about each of the things I say, as I say them. Closing your eyes or staring or looking at a blank wall may help you. To begin I would like you to try to think back to the day the event happened. Think about that day . . . what had you been doing . . . what was the weather like. . . . Think about the place that the event happened . . . try and get a picture of it in your mind. Think about the layout of the place . . . think of all the objects that were there . . . think about the colors. Think about the smells. How did you feel at the time? Now think about the event and the people involved . . . focus on what happened . . . when you are ready I would like you to tell me everything that you can remember, in your own time and at your own pace.”

This component emanates from the encoding specificity principle (Tulving & Thomson, 1973), which provides a theoretical framework for understanding the power of contextual information and how it can affect (trigger) memory, and that just because something cannot be remembered, it does not necessarily follow that it has been lost completely. The memory in question may simply be inaccessible (still present in memory but not able to be accessed or found; Tulving & Pearlstone, 1968). This was illustrated in a series of word association experiments in the 1970s (Thomson & Tulving, 1970; Tulving & Thomson, 1973), which indicated that memory could be improved when information present at the time of learning (encoding) was presented again at the time of remembering (retrieval) to facilitate conscious remembering of aspects of the original event that were not remembered in the absence of that material. However, it is not always possible or advisable for a witness to return to the scene of a crime (this may prove too traumatic, which can interfere with recall, and the crime scene may have altered potentially contaminating memory). Further, context may not always be external (physical). A witness’s subjective state (mood and feelings) can also be an important aspect of the encoding environment (Schacter, 1996). Thus, the MRC concerns both physical and mental or psychological context.

The report everything component instructs witnesses to not edit any details about the TBR event, even those details they believe to be insignificant or irrelevant. For example: “Some people hold back information because they are not quite sure that it is important, or you may think that I already know this information. Please do not leave anything out. I am interested in absolutely everything that you remember, anything that pops into your head. Even partial memories and things you think may not be important. Please tell, just tell me it all.”

Memory for an event is believed to be stored as a series of coded representations (Bower, 1967) whereby what is stored in memory is not an exact replica of the TBR event itself but a multiplicity of interconnected codes that preserve the experience. Hence, there are likely to be several means of retrieving or cueing witness memory (Melton & Martin, 1972). Furthermore, interviewees often feel ill at ease or apprehensive in a formal interview setting. They may be of the opinion that the police are already knowledgeable about the event and are only likely to be interested in “important” and fully remembered information. Consequently, information is often held back. The report everything instruction aims to lower a witness’s subjective criteria for reporting information, the hope being that even partial or apparently insignificant features of an event may trigger previously inaccessible memory codes. The report everything instruction can also increase the overall amount of information collected from all witnesses whereby lots of small, apparently insignificant pieces of information collected from several witness accounts can be of investigative value when pieced together.

The multicomponent view of a memory trace suggests that there are several ways of accessing memory codes. Thus, the CTO component offers an additional method of accessing memory codes that may have been previously irretrievable. The CTO technique is also based on the theoretical assumption that the retrieval of information from memory can be influenced by prior knowledge and the application of schemas and scripts (Schank & Abelson, 1977). Predictive schemas can act as organizing structures for knowledge and script-based understanding fills in aspects of an event according to previous experiences. New information is, therefore, understood in terms of old information. Hence, script guided retrieval can result in limited retrieval due to the filtering of recalled information that does not fit the script or erroneous filling of gaps when recall is poor or scant. Encouraging an interviewee to recall the TBR event from the end, or even the middle, aims to limit script-consistent recall by interfering with forward-only recall. For example: “It is natural to go through the incident in your own order. However, I would like to try something which sometimes helps people to remember more. What I would like you to do is to tell me what happened backwards. I know it sounds hard but I am going to help you. To start, what is the very last thing

that you remember happening . . . what happened before that . . . what happened just before that (this prompt can be repeated, if necessary, until the interviewee reaches the beginning of the TBR event).”

Research had indicated that a backward search through autobiographical memory was more effective than either a forward or a random search because it led to less recall failure (Whitten & Leonard, 1981). Other researchers have also reported that a reverse-order recall elicited more details of a TBR event (especially actions) when compared with a forward-order recall (Geiselman, Fisher, MacKinnon & Holland, 1986; Geiselman & Callot, 1990, but see also Dando, Ormerod, Wilcock & Milne, 2011)

The CP component of the CI aims to access memory codes that may have been irretrievable using the three previous techniques (Bower, 1967). The CP technique encourages witnesses to recall the TBR event from a variety of personal perspectives. For example, witnesses are instructed as follows: “Try to recall the incident from the perspective of another person involved in the incident. Think about where he or she was and isolate everything that you can remember about them, as if they are in a spotlight. Describe what he or she would have seen.”

Research by Anderson and Pichert (1978) prompted the inclusion of this technique. Participants were asked to read a narrative passage from the perspective of either a burglar or a house purchaser, after which they were instructed to write down everything they could remember about the story. After a distracter task, participants were then instructed to recall the story a second time from a different perspective (those who had initially read the passage from a burglar’s perspective then changed to a home buyer’s perspective and vice versa). Participants who had changed perspective recalled additional information. This could not be explained in terms of the encoding process (the process of perceiving and transforming experienced events into memory codes) because the perspective shift had occurred after the passage had been read and initially recalled. It appears that participants had selectively attended to, and subsequently remembered, elements of the story that were significant according to the perspective in operation at the time. However, more information must have been encoded than was initially recalled because participants were able to recall more information after a shift of personal perspective.

Empirical Evaluation of the Original Cognitive Interview

Between 1984 and 1987 Geiselman and colleagues conducted several empirical investigations of the original CI. In the initial evaluation (Geiselman et al., 1984) mock witnesses viewed a short (non-violent) staged event and forty-eight hours later were asked to write down everything they could

remember in a booklet. Participants in the CI condition were provided with instructions for each of the four cognitive retrieval components on a large board, whereas those in the control condition received no instructions. Analysis of participants' recall performance revealed that those in the CI condition recalled significantly more correct items of information than those in the control, with no concomitant increase in the amount of incorrect recall.

This initial evaluation indicated that the original CI had promise as a procedure for enhancing the quantity of correct recall without compromising the quality (the amount of correct recall as a percentage of total recall) of that information. However, questionnaires had been used in this initial evaluation, so there had been no interviewer-interviewee interaction, as is the case when witnesses are interviewed in real life. Furthermore, student participants had administered the procedure themselves, and, therefore, it was not known whether they had utilized each of the individual components. Finally, there had been no comparison with any other interview methods.

Geiselman, Fisher, Mackinnon, and Holland (1985) completed a follow-up study comparing the effectiveness of the original CI with two other interview methods, namely a standard police interview (SI) and a hypnosis interview (HI). Participants initially viewed a violent crime film (used to train Los Angeles Police Department [LAPD] police officers). Forty-eight hours later they were interviewed, face-to-face, by law enforcement officers recruited from agencies in the United States (CIA, police, private detectives, and polygraph specialists) using either a CI, SI, or HI. SI interviewers used their normal everyday interview procedure. The HI interviewers followed the guidelines for conducting hypnosis interviews. The CI interviewers described the four CI components to each interviewee prior to the interview. These were then listed and placed in full view of the interviewee during the entire interview. The results of this study replicated those previously obtained (Geiselman et al., 1984). Both the CI and the HI conditions elicited an average of approximately 30 percent more correct information compared with the SI condition with no concomitant increase in the number of errors. However, the CI was viewed as the preferable technique because it was free from the legal concerns surrounding the use of forensic hypnosis (at that time in the United States) and the CI took less time to learn. These results provided further support for the superiority of the CI procedure *per se* and gave some indication as to its efficacy in more ecologically valid conditions.

Geiselman, Fisher, MacKinnon, and Holland (1986) then conducted a third study to extend its generalizability. Adults between the ages of twenty and fifty-two years from the general population viewed one of the violent training films used in the previous study and were interviewed forty-eight hours later using either a SI or a CI interview procedure. Interviews were

conducted by serving police officers. Again, the CI was superior (increased the amount of correct information recalled) by an average of more than 17 percent. Further, there were no demographic interactions.

However, there were some elements of the CI procedure that were also similar to forensic hypnosis (e.g., instructions to mentally reinstate the context), and forensic hypnosis had been found to increase the amount of inaccurate recall and to negatively affect witnesses' responses to misleading questions (Sanders & Simmons, 1983; Sheenhan, Grigg & McCann, 1984). A fourth study (Geiselman, Fisher, Cohen, Holland & Surtes, 1986) investigated eyewitness responses to leading and misleading questions during a CI. Both of these types of questions suggest the answer; for example, "he had black hair didn't he?" However, the former leads the interviewee to the correct response, whereas the latter leads the interviewee to an incorrect response. Employing similar methodology to that of the previously reported research (Geiselman et al., 1984), the CI was compared with a SI. The CI did not enhance the negative effect of either type of question but instead decreased the effect of both leading and misleading question types on incorrect responding.

The research findings were consistent—the CI had significantly increased correct eyewitness recall without a concomitant increase in the amount of erroneous information recalled. Further, this effect held (1) in controlled laboratory settings; (2) using students, law enforcement agency workers, and police officers as interviewers; and (3) when interviewing student and non-student interviewees. The CI also appeared to reduce the effects of both leading and misleading questions. However, this original CI procedure offered very little guidance concerning the structure of the interview, the sequencing of questions, or interviewer behavior, and the technique had yet to make the transition from the laboratory to more applied settings.

The Enhanced Cognitive Interview

Field research investigating how police officers interviewed real witnesses (Fisher et al., 1987) had revealed some idiosyncratic shortcomings. Almost without exception the interviews lacked a uniform structure. Officers used questioning techniques that resulted in brief witness responses either confirming or contradicting the officers' intuition. Of particular note were three interviewer behaviors common to all the interviews, which had the potential to seriously hinder witness recall. First, every officer asked the witness to describe in a narrative fashion what he or she had experienced, but then constantly interrupted the witness throughout the initial account. Second, all of the interviews were constructed using a series of direct short-answer questions that requested specific information. Finally, interviewers

displayed a general lack of communication skills, for example using inappropriate language, judgmental comments, nonneutral wording of questioning, and negative phrasing. Similar findings were also found in the United Kingdom (George, 1991; McLean, 1995).

Clearly, the efficacy of the memory enhancing cognitive components was likely to be compromised due to the apparent lack of social and communication skills. Accordingly, Fisher, Geiselman, Raymond, Jurkevich, and Warhaftig (1987) made a set of recommendations that they believed would significantly enhance officer's interview technique, in general. The resultant ECI procedure retained the original four cognitive components (mental reinstatement of context, report everything, recall in a variety of temporal orders, and change perspective) and added a conversational element to the interview process (e.g., building rapport). Additionally, Fisher, Geiselman, Raymond, and colleagues (1987) recommend that the interview itself should be conducted in an appropriate environment as people have limited mental resources with which to process information (Baddeley, 1986), and disruptions and distractions should be minimized to ensure maximum concentration and attention during retrieval (Johnston, Greenberg, & Fisher, 1970). Having listened to an interviewee's initial recall of an event, it was further suggested that the interviewer should only then ask questions in a manner relevant to the mental representation that a particular interviewee has of the event in question.

Memory of an event is not the literal input stimulus but rather a series of coded representations (Bower, 1967), and so each witness's stored mental representation is likely to be unique. Hence, it follows that interviewers should tailor their questioning accordingly. A rigid sequencing of requests for information imposes a "police report" style of organization on the retrieval process that may limit witness recall. To that end, *witness-compatible questioning* dictates that the interviewer should actively listen to each interviewee's account of what he or she has experienced and ask questions in the same order as the interviewee initially recounted the event. Guided imagery is also recommended as a method of inducing recall by helping the interviewee to recall specific details of an event. Guided imagery differs from Mental reinstatement of Context in that it helps an interviewee to imagine in his or her mind's eye highly detailed, minute parts of the event as opposed to the more global approach of Mental reinstatement of Context. For example, a witness may be asked by the interviewer to generate in his or her mind a detailed image of the perpetrator and then to develop or sharpen that image so that it is as detailed as possible. Having been allowed as much time as necessary to develop that image (at least several seconds), the witness will then be asked to probe the image by concentrating on each specific part (e.g., the head, hair, face, eyes, etc.). However, guided imagery is an inter-

viewer-led technique. Recently it has been suggested that a more molecular approach should be adopted whereby interviewees are allowed to dictate what he or she imagines rather than be guided by the interviewer (for more on molecular context, see Bekerian & Conway, 1988).

To improve the social and communication aspects of the witness interview process it was also recommended that extra time be taken to establish rapport with the interviewee, so reducing his or her anxiety about the interview process. Rapport building is known to be a fundamental for effective interactions because it is significantly and positively associated with gaining trust, building relationships, and supporting the development of communicative alliances. Rapport is referred to in the majority of formal interview guidance and training documents, worldwide. For example, the UK PEACE Investigative Interviewing Model, the US Army Human Intelligence Field Manual, and UK College of Policing Interview Training Manual, all make extensive mention of rapport and rapport building, and its importance. Although rapport in forensic contexts is not well understood, and so is often variously and loosely described, and differs across contexts (see Alison et al., 2013; Collins, Doherty-Sneddon, & Doherty, 2014; Tickle-Degnen & Rosenthal, 1990). Generally speaking, the Cognitive Interview (Fisher & Geiselman, 1992) encourages investigators to build rapport by using active listening (e.g., using an 'uh huh' after a witness responds to a question), ask questions to indicate a general interest in the witness (e.g., 'Tell me about your family'), use the interviewee's name, and disclose personal information to the witness (see also Abbe & Brandon, 2013; Vallano & Schreiber Comp, 2011).

In addition, officers should tailor their language appropriately by transferring control of the interview to the witness/victim, and avoiding (1) judgmental and personal comments, (2) memorized patterns of language, and (3) jargon. Instead, simple straightforward language should be employed, thus addressing interviewer behaviors and procedures thought to negatively affect the overall success of the interview process. Several straightforward interviewer behaviors were included that aimed to encourage focused retrieval. First, the interviewer should explain or convey to the interviewee that it is his or her effort that will affect the outcome of the interview and that ultimately the success of the interview will depend on the interviewee's mental effort. This is done by encouraging the interviewee to both concentrate and actively participate. For example, the interviewer should both allow and encourage the interviewee to do most of the talking by the use of open-ended questions whenever possible and by the strategic use of pauses. Open-ended questions are particularly beneficial for information-gathering purposes because they elicit some of the most accurate information (e.g., Dent, 1991; Poole & Lamb, 1998) and invite longer and more detailed responses.

Indeed, open-ended questions (e.g., tell me everything about the robbery) are associated with longer response latencies (longer time spent thinking before answering) compared with specific closed questions (e.g., those that tend to start with what, where, when, etc.). This suggests that, when asked an open question, interviewees may well be conducting a more detailed and thorough memory search. Pauses and periods of silence used in conjunction with open-ended questions also provide an interviewee with an opportunity to continue developing his or her answer. Conversely, specific closed questions should be used sparingly because these generally invite limited narrowly defined responses that only concern the specific request and may contain inaccurate guesses (Bull, 1992). Further, the interviewer should never interrupt the interviewee but instead wait until he or she has finished and only then ask questions because interruptions disrupt concentration and distract the interviewee from his or her memory search. Finally, at the end of the interview, the interviewee's account of what he or she has experienced should be reviewed by the interviewer, thus, providing an opportunity for the interviewee to add or change any details and for the interviewer to check the accuracy of his or her notes (see Fisher & Geiselman, 1992, for an in-depth description of the ECI).

The ECI concentrates on three core perspectives, namely the representation of knowledge, the memory retrieval process, and communication skills. One important further refinement of the interview procedure was the recommendation that it should follow a sequence of stages, the expectation being that each stage would contribute both individually and incrementally to the overall efficacy of the enhanced procedure.

Empirical Evaluation of the Enhanced Cognitive Interview

The first empirical investigation of the efficacy of the ECI (Fisher, Geiselman, Raymond et al., 1987) compared the original CI to the ECI. Undergraduates were interviewed two days after having viewed one of the LAPD training films (used in Geiselman et al., 1985) employing either the original CI or ECI. The original CI comprised the four memory retrieval components that were described to the participant at the beginning of the interview in the following order (1) mental reinstatement of context, (2) report everything, (3) change temporal order, and (4) change perspective. In addition to the four original components, the ECI included witness compatible questioning and focused retrieval. Further, the components were to be used in the following sequence. First, the interviewer invites an initial free recall account using an open-ended question or invitation, during which the interviewer should not interrupt the witness. After this initial account the interviewer should return to specific episodes within that account to probe spe-

cific details with open and closed questions, and finally, the interviewer should end the interview by summarizing what the interviewee said. The ECI elicited 45% more correct items of information compared with the original CI with no differences between the two conditions in the amount of erroneous recall. Because the original CI had previously been found to be approximately 30 percent more effective than a SI (Geiselman et al., 1985) the ECI, therefore, produced 75 percent more correct recall compared with a SI.

Fisher, Geiselman, and Amador (1989) then tested the procedure in the field. American police detectives tape-recorded several interviews with real-life crime victims or witnesses using SI procedure. The detectives were then assigned to one of two interview conditions, namely untrained or ECI. Those in the latter condition underwent ECI training, whereas the untrained group served as a control comparison. After training, detectives tape-recorded several more witness interviews. Analysis revealed that the ECI-trained detectives elicited, 47% more information after training.

Field studies with real witnesses and victims did not allow a measure of accuracy because it was not known exactly had occurred (i.e., no ground truth). Therefore, accuracy could only be estimated by comparing witness reports with other sources of information such as other witness and victim reports, confessions, and CCTV footage. Overall 94% of information was corroborated, but more importantly corroboration rates were similar for the pre-trained and post-trained interviews (93 percent cf. 94.5 percent) indicating that, as in the laboratory, the increase in information elicited by the ECI was not accompanied by a concomitant increase in the amount of erroneous recall.

Numerous independent research studies have been carried out in both the laboratory and the field, and all confirm the CI superiority effect (e.g., Ascherman, Mantweill & Köhnken, 1991; Clifford & George, 1996; Köhnken, Thurer & Zoberbier, 1994; Memon, Meissner, & Frazer, 2010; Stein & Memon, 2006; Paulo, Albuquerque, Saraiva, & Bull, 2015). There is now a significant body of research to support the superiority of both the original and the ECI procedure over a SI procedure (previously described). However, the type of control/comparison interview used in CI research can vary according to the researcher's perspective. Generally, the "applied" research approach has been one of comparing the ECI with the method being employed by police interviewers at the time (as was the case in the aforementioned empirical research conducted during the development process). From this perspective, it is argued that it is only necessary for the ECI to outperform the SI. However, from a theoretical perspective, because SI have been found to be less than adequate, it may be that the ECI superiority effect is simply as a result being compared to such poorly conducted standard interviews (Köhnken et al., 1994). Therefore, a more theoretical approach tends to be that of employing a structured interview as the control. This is a vari-

ant of the ECI procedure which is of comparable quality (matched for recall attempts, structure, question types, and communication, etc.), but minus the “cognitive” mnemonic components. Employing this more theoretical approach, research conducted in Germany (Köhnken et al., 1994; Mantwell, Köhnken & Aschermann, 1995) and the United Kingdom (Dando, Wilcock, & Milne, 2011; Memon, Wark, Bull & Köhnken, 1997) found similar results—enhanced correct recall without a concomitant increase in errors. Although some studies have reported a slight increase in the amount of incorrect information recalled using the ECI, nevertheless, the overall accuracy rates (proportion of correct details relative to the total amount of details reported) have been found to be almost identical. Therefore, irrespective of the control interview, research has consistently found that the CI/ECI enhances the quantity of information recalled by witnesses without jeopardizing its quality (see Memon et al., 2010 for a meta-analytical study space analysis).

These positive effects have also been found in several countries: United Kingdom (e.g., Clifford & Gwyer, 1999), United States (e.g., Brock, Fisher & Cutler, 1999), Canada (e.g., Turtle, Lawrence & Leslie, 1994), Germany (e.g., Köhnken et al., 1994), and Spain (e.g., Campos & Alonso Quecuty, 1999). The CI/ECI has also been found to be effective across various populations (e.g., children: Akehurst, Milne & Köhnken, 2003; Bull, 2010; Holliday, 2003; children with mild learning difficulties: Robinson & McGuire, 2006; and the older adult: Holiday, Humphries, & Wright, 2012; Prescott, Milne & Clarke, 2011; Wright & Holliday, 2007).

THE COGNITIVE INTERVIEW AS A PRACTICAL FORENSIC TOOL

There is widespread agreement that the CI is an effective witness interview procedure (Köhnken, Milne & Memon, 1999; Memon, Meissner, Fraser, 2010). Furthermore, research has indicated that the procedure is well-received by those tasked with applying it (Dando, Wilcock, & Milne, 2008; Kebbell & Milne, 1998; Memon & Bull, 1998), and, as far as the authors are aware, the use of the CI procedure has not been viewed as contentious in a court of law. In the United Kingdom, the CI underpins the current investigative interview model and is taught to all police recruits and expert interviewers alike (see Clarke & Milne, 2015; Griffiths & Milne, 2006; 2010). Likewise, many officers in the United States, Canada, Norway, and Australia, for example, are taught the procedure. However, there is much to suggest that the CI is not always regularly, or fully applied (Milne, Griffiths, Clarke, & Dando, in press).

For example, in the United Kingdom police officers have reported that they apply some of the individual CI components more frequently (e.g., uninterrupted free recall, establish rapport, and report everything) than others (e.g., CP and MRC) and often they do not apply the CI procedure at all (e.g., Clarke & Milne, 2001; Clarke, Milne & Bull, 2011; Dando, Wilcock & Milne, 2008, 2009; Griffiths & Milne, 2010; Kebbell, Milne & Wagstaff, 1999; Wright & Holliday, 2005). Field research investigating officers' application of the CI procedure is sparse. However, two field studies carried out in the early 1990s (Clifford & George, 1996; George, 1991) found that none of the officers applied the CI procedure as a whole, and a national evaluation of investigative interviewing in England and Wales, conducted by the second author of this chapter (Clarke & Milne, 2001) found no evidence that the CI procedure was used in 83 percent of these witness interviews. Similarly, research conducted in Canada, the United States, and Australia (e.g., Wright & Alison, 2004; MacDonald, Snook & Milne, 2016) suggests a similar situation in these countries. Thus, the question arises as to why the CI is so infrequently applied by those whose core function it is to interview witnesses.

Further consideration of the empirical research, conducted during the development process does reveal some important contraindicators that may go some way to addressing this question. The CI in its current (enhanced) form is a superior interview procedure, in terms of witness memorial performance outcomes. However, it does take longer to conduct, and so the CI is viewed by some as time-consuming and bulky, and not always appropriate, especially for less-serious crime—it is well-documented that police officers experience considerable time constraints. Equally, it is acknowledged, that the CI makes extensive cognitive demands on the interviewer (e.g., Fisher et al., 1987). For example, there are increased demands on working memory. The interviewer has to store questions until an appropriate time so as not to interrupt the witness while listening attentively in order to understand each witness's organization of knowledge, and any pre-established sequencing of questions has to be abandoned. Thus, the interviewer is required to display considerable flexibility.

Equally, the type of training provided may also account, albeit in part, for the patchy application of the CI. For example, in the United Kingdom, police officers were originally taught the CI during a one-week interview training course. This course combined the teaching of both suspect and witness interview techniques (within the PEACE model framework). Thus, the maximum amount of time spent teaching officers to apply the CI was just two days, and realistically the 5-day PEACE course tended to focus upon the interviewing of suspects, so in some regions of the UK the CI was trained in half a day. It may be that this is not long enough. Certainly, research has indi-

cated that officers themselves believed the training to be insufficient to equip them with the skills necessary to confidently apply the procedure (Dando et al., 2008). This was borne out by the findings of research, conducted with novice police officers immediately post training (Dando, Wilcock & Milne, 2009), which found that no officer applied or attempted to apply the procedure in its entirety. That said, many of the individual components were applied or attempted, indicating that officers had acquired some CI interview skills. Indeed, research has long indicated that CI training should be separate from suspect interview training, rather than combined (e.g., Clifford & George, 1996), because this has been found to be more effective in terms of officers' application of the procedure post training.

It would appear that there are numerous factors associated with the CI procedure that may constrain its forensic application, which is concerning because an incorrectly applied CI can interfere with witness memorial performance (e.g., see Dando et al., 2011) and by not using the CI witnesses may not be recalling as much event information as they might otherwise. On a positive note, witness interviewing has improved considerably over the past 30 years. However, there is still room for improvement. Witness interviews continue to be highlighted as possible information leakage points along the investigative trail (ACPO, 2004), and it may be that simply ensuring that officers correctly and fully apply the CI procedure may go some way to reducing this.

In response to the findings of the aforementioned national evaluation of investigative interviewing in the United Kingdom (Clarke & Milne, 2001) and the resultant recommendations made by the second author of this chapter, the Association of Chiefs of Police Office (ACPO) introduced a tiered approach to CI training, where techniques are taught developmentally across a police officer's career span, as and when they need, more sophisticated techniques (for more on tiers see Griffiths & Milne, 2005; Milne et al., in press). The CI procedure is now being taught to police officers using a building block approach within a tiered interview training framework ranging from Tier 1 to Tier 5. All police officers in England and Wales now commence their police career as a Tier 1 CI interviewer. They are taught a basic CI procedure that is commensurate not only with their limited experience and training but also with the types of witness interviews they conduct (i.e., with the witnesses of less serious crime). Should their duties and interviewing competency warrant it, officers are then able to undertake further training and can progress through the tiers, ultimately becoming a Tier 5 interview advisor (Tier 5 interviewers being the most trained and most skilled interview strategists). Nevertheless, research has demonstrated that even those deemed Tier 3 CI interviewers (specialists), who have received additional advanced training are still not fully implementing the CI in the field (Grif-

fiths, Milne & Cherryman, 2011). Thus, training is only part of the equation, situational adaptability of the technique is also part of the solution.

MODIFYING THE COGNITIVE INTERVIEW

A considerable amount of research has been carried out investigating various modifications of the CI and its constituent components to countenance its practical application, and continue to work towards improving the efficacy of the technique, particularly in light of theoretical advances in our understanding of memory. For example, both of the authors of this chapter have investigated how the CI might be adapted for some of the least-experienced and least-trained police officers (who conduct a vast amount of the non-serious witness interviews, often on a daily basis), where a full CI maybe inappropriate, and/or where police officers are under severe time constraints. For example, excluding some of mnemonics for volume crime witnesses and victims (e.g., Dando et al., 2009a, 2009b, 2011) was found to reduce the duration of the interview by up to 25%, without a loss of information, or increase in errors. Research has also recently been conducted concerning how to adapt the CI for use with vulnerable witness populations, older adults, and typically developing children, and children with Autism Spectrum Condition (ASC) for whom some of the current CI instructions may be too cognitively demanding and/or unsuitable. For example, the Mental Reinstatement of Context technique has been modified to make it more suitable for adults and children with ASC who present with a distinct profile of strengths and weaknesses which render them vulnerable when asked to recount personally experienced events using a full CI (Richards, Milne and Dando, in prep; Mattison, Dando & Ormerod, 2015, 2016).

Likewise, healthy aging is accompanied by a decline in episodic memory, which is especially pronounced in free-recall, and cued-recall tasks, yet the CI demands both. Accordingly, external retrieval support techniques such as the Sketch Reinstatement of Context method, and age-appropriate retrieval instructions are being developed to assist older adults to tell what they have experienced, and so to access justice (e.g., Dando, 2013; Holliday, Humphries, & Milne, 2012; Wright & Holiday, 2007). Research has also been conducted concerning the suitability of the CI for use by the Criminal Law Solicitor's Association (Davis, 1997), in medical contexts for enhancing group decision making (Fisher & Castano, 2007), and to stem the spread of infectious diseases (Mosser, 2017). Brock, Fisher and Cutler (1999) and Roos (2007) have examined how the CI can be used to investigate auto mobile accidents.

One contemporary area of research is centered on the use of the CI for detecting deception, and persuasion. For example, Morgan and colleagues

have begun to investigate the use of a modified version of the CI for detecting deception. Here, a modified CI was found to significantly increase the detection of deception versus a forced choice test and autobiographical implicit association testing (Morgan, Rabinowitz, Leidy, & Coric, 2014), and was effective in discriminating between true and false eyewitness accounts (Morgan, Rabinowitz, Palin & Kennedy, 2015). Dando and Ormerod (2018) have also found a modified version of the CI to be useful for intelligence gathering during interviews with persons of interest where interviewees have been incentivised to withhold target information.

CONCLUSION

This chapter commenced by outlining the importance of the witness interview situation as the primary method used by police officers to collect witness information. The cognitive interview has been described, as has the relevant theory and research. Having been adopted for use by many police forces across the world the CI represents, arguably, the most successful example of the marrying of psychological theory and research to the practical world. This is especially the case in the United Kingdom, where it underpins the current witness interview model and is taught to all police officers. Certainly, there are some enduring challenges associated with the forensic application of the CI. That said, progress continues to be made concerning how best to ensure that the CI procedure is user friendly, and appropriate, and it is clear from the more contemporary research that the CI has application outside of the witness interviewing domain.

REFERENCES

- ACPO. (2001). *Investigative interviewing strategy*. Wyboston: National Centre for Policing Excellence.
- ACPO. (2004). *Management of volume crime*. Bramshill: National Centre for Policing Excellence.
- Abbe, A., & Brandon, S. E. (2013). The role of rapport in investigative interviewing: A review. *Journal of Investigative Psychology and Offender Profiling*, 10(3), 237–249.
- Akehurst, L., Milne, R., & Köhnken, G. (2003). The effects of children's age and delay on recall in a cognitive and structured interview. *Psychology, Crime, and Law*, 9, 97–107.
- Alison, L. J., Alison, E., Noone, G., Elntib, S., & Christiansen, P. (2013). Why tough tactics fail and rapport gets results: Observing Rapport-Based Interpersonal Techniques (ORBIT) to generate useful information from terrorists. *Psychology, Public Policy, and Law*, 19(4), 411.

- Anderson, R. C., & Pichert, J. W. (1978). Recall of previously unrecalable information following a shift of perspective. *Journal of Learning and Verbal Behavior*, *17*, 1–12.
- Ascherman, E., Mantwell, M., & Köhnken, G. (1991). An independent replication of the effectiveness of the cognitive interview. *Applied Cognitive Psychology*, *5*, 489–495.
- Baddeley, A. (1986). *Working memory*. New York: Oxford University Press.
- Bekerian, D. A., & Conway, M. A. (1988). Everyday contexts. In G. M. Davies & D. M. Thompson (Eds.), *Memory in context: Context in memory*. Chichester: John Wiley & Son.
- Berresheim, A., & Weber, A. (2003). Structured witness interviewing and its effectiveness. *Kriminalistik*, *57*, 757–771.
- Bower, G. (1967). A multicomponent theory of a memory trace. *Psychology of Learning and Motivation*, *1*, 230–325.
- Brock, P., Fisher, R. P., & Cutler, B. L. (1999). Examining the cognitive interview in a double test paradigm. *Psychology, Crime, and Law*, *5*, 29–45.
- Bull, R. (1992). Obtaining information expertly. *Expert Evidence*, *1*, 5–12.
- Campos, L., & Alonso-Quecuty, M. (1999). The cognitive interview: Much more than simply “try again.” *Psychology, Crime, and Law*, *5*, 47–60.
- Clarke, C., & Milne, R. (2001). *National evaluation of the PEACE investigative interviewing course*. London: Home Office.
- Clarke, C., & Milne, R. (2016). Interviewing suspects in England and Wales: A National Evaluation of PEACE interviewing: One decade later. In D. Walsh, G. Oxburgh, A. Redlich, & T. Mykleburst (Eds.), *International developments and practices in investigative interviewing and interrogation: Vol 2. Suspects*. London: Routledge.
- Clarke, C., Milne, R., & Bull, R. (2011). Interviewing suspects of crime; The impact of PEACE training, supervision and the presence of a legal advisor. *Journal of Investigative Psychology and Offender Profiling*, *8*, 149–162.
- Clifford, B. R., & George, R. (1996). A field evaluation of training in three methods of witness or victim investigative interviewing. *Psychology, Crime, and Law*, *2*, 231–248.
- Clifford, B. R., & Gwyer, P. (1999). The effects of the cognitive interview and other methods of context reinstatement on identification. *Psychology, Crime, & Law*, *5*, 61–80.
- Cutler, B. L., Penrod, S. D., & Dexter, H. R. (1990). Juror sensitivity to eyewitness identification evidence. *Law and Human Behavior*, *14*, 185–191.
- Collins, K., Doherty-Sneddon, G., & Doherty, M. J. (2014). Practitioner perspectives on rapport building during child investigative interviews. *Psychology, Crime & Law*, *20*(9), 884–901.
- Dando, C. J. (2013). Drawing to remember: External support of older adults’ eyewitness performance. *Plos One*, *8*, e69937. doi:10.1371/journal.pone.0069937
- Dando, C. J., Wilcock, R., & Milne, R. (2009). *The cognitive interview: The efficacy of a modified mental reinstatement of context procedure for frontline police investigators*. *Applied Cognitive Psychology*, *23*, 138–147.

- Dando, C. J., Wilcock, R., & Milne, R. (2008). The cognitive interview: Inexperienced police officers' perceptions of their witness interviewing behavior. *Legal and Criminological Psychology, 13*, 59–70.
- Dando, C. J., Wilcock, R. & Milne, R. (2009). The cognitive interview: Novice police officers' witness/victim interviewing practices. *Psychology, Crime, & Law, 15*, 679–696.
- Dando, C. J., Wilcock, R., Milne, R., & Henry, L. (2009). *An adapted cognitive interview procedure for frontline police investigators. Applied Cognitive Psychology, 23*, 698–716.
- Dent, H. R. (1991). Experimental studies of interviewing child witnesses. In D. John (Ed.), *The suggestibility of children's recollections*. Washington: American Psychological Society.
- Fisher, R., & Castano, P. (2007). *Cognitive interviewing to enhance recall of group decision making*. Paper presented at the Society for Applied Research in Memory and Cognition (SARMAC) VII conference, July 25–29, 2007, at Bates College, Lewiston, Maine.
- Fisher, R., & Geiselman, R. (1992). *Memory-enhancing techniques for investigative interviewing: The cognitive interview*. Springfield, IL: Charles C Thomas.
- Fisher, R. P., Geiselman, R. E., & Amador, M. (1989). Field test of the cognitive interview: Enhancing recollection of actual victims and witnesses of crime. *Journal of Applied Psychology, 74*, 722–727.
- Fisher, R. P., Geiselman, R. E., & Raymond, D. S. (1987). Critical analysis of police interviewing techniques. *Journal of Police Science and Administration, 15*, 177–185.
- Fisher, R. P., Geiselman, R. E., Raymond, D. S., Jurkevich, L., & Warhaftig, M. L. (1987). Enhancing enhanced eyewitness memory: Refining the cognitive interview. *Journal of Police Science and Administration, 15*, 291–297.
- Geiselman, R. E., & Callot, R. (1990). Reverse versus forward order recall of script based texts. *Applied Cognitive Psychology, 4*, 141–144.
- Geiselman, R. E., Fisher, R. P., Cohen, G., Holland, H., & Surtes, L. (1986). Eyewitness response to leading and misleading questions under the cognitive interview. *Journal of Police Science and Administration, 14*, 31–39.
- Geiselman, R. E., Fisher, R. P., Firstenberg, I., Hutton, L., Sullivan, S. J., Avetissian, I. V., & Prosk, A. L. (1984). Enhancement of eyewitness memory: An empirical evaluation of the cognitive interview. *Journal of Police and Science Administration, 12*, 74–80.
- Geiselman, R. E., Fisher, R. P., MacKinnon, D. P., & Holland, H. L. (1985). Eyewitness memory enhancement in the police interview: Cognitive retrieval mnemonics versus hypnosis. *Journal of Applied Psychology, 70*, 401–412.
- Geiselman, R. E., Fisher, R. P., Mackinnon, D. P., & Holland, H. L. (1986). Enhancement of eyewitness memory with the cognitive interview. *American Journal of Psychology, 99*, 354–401.
- George, R. (1991). *A field evaluation of the cognitive interview*. Unpublished master's thesis. London, U.K.: Polytechnic of East London.
- Griffiths, A., & Milne, R. (2005). Will it all end in tiers? Police interviews with suspects in Britain. In T. Williamson (Ed.), *Investigative interviewing: Rights, research, regulation*. Devon: Willan Publishing.

- Griffiths, A., Milne, R., & Cherryman, J. (2011). A question of control? The formulation of suspect and witness interview question strategies by advanced interviewers. *International Journal of Police Science and Management*, *13*, 1-13.
- Holliday, R. E. (2003). Reducing misinformation effects in children with cognitive interviews: Dissociating recollection and familiarity. *Memory*, *74*, 728-751
- Johnston, W. A., Greenberg, S. N., & Fisher, R. P. (1970). Divided attention: A vehicle for monitoring memory processes. *Journal of Experimental Psychology*, *83*, 164-171.
- Kebbell, M., & Milne, R. (1998). Police officers' perceptions of eyewitness factors in forensic investigations. *Journal of Social Psychology*, *138*, 323-330.
- Kebbell, M., Milne, R., & Wagstaff, G. (1999). The cognitive interview: A survey of its forensic effectiveness. *Psychology, Crime, and Law*, *5*, 101-115.
- Köhnken, G., Milne, R., Memon, A., & Bull, R. (1999). The cognitive interview: A meta-analysis. *Psychology, Crime, and Law*, *5*, 3-27.
- Köhnken, G., Thurer, C., & Zoberbier, D. (1994). The cognitive interview: Are the investigators' memories enhanced too? *Applied Cognitive Psychology*, *8*, 13-24.
- Leippe, M. R. (1980). Effects of integrative and memorial processes on the correspondence of eyewitness accuracy and confidence. *Law and Human Behavior*, *4*, 261-74.
- Loftus, E. F. (1975). Leading questions and eyewitness reports. *Cognitive Psychology*, *7*, 560-572.
- Loftus, E. F. (1979). *Eyewitness testimony*. Cambridge: Harvard University Press.
- Longford, G. P. (1996). *The use of the cognitive interview by police officers trained on the national investigative interviewing course*. Unpublished master's thesis, Institute of Police and Criminological Studies, University of Portsmouth, Portsmouth, U.K.
- MacDonald, S., Snook, B., & Milne, R. (2016). Witness interview training: A field evaluation. *Journal of Police and Criminological Psychology*. doi:10.1007/s11896-016-9197-6
- Mattison, M., Dando, C. J., & Ormerod, T. C. (2015). Drawing to remember: Supporting child witnesses and victims with Autistic Spectrum Disorder to give 'Best Evidence.' *Journal of Autism and Developmental Disorders*, *15*. doi:10.1007/s10803-014-2335-2.
- Mattison, M., Dando, C. J., & Ormerod, T. C. (2016). Drawing the answers: Sketching to support free and probed recall by child witnesses and victims with autism spectrum disorder. *Autism: International Journal of Research and Practice*, *22*(2), 181-194. <https://doi.org/10.1177/1362361316669088>
- McLean, M. (1995). Quality investigation? Police interviewing of witnesses. *Medicine, Science, and Law*, *35*, 116-122.
- Melton, A. W., & Martin, E. (1972). *Coding processes in human memory*. Washington, DC: Winston.
- Memon, A. (2000). Interviewing witnesses: The cognitive interview. In A. Memon & R. Bull (Eds.), *The handbook of the psychology of interviewing*. Chichester: Wiley.
- Memon, A., Wark, L., Bull, R., & Köhnken, G. (1997). Isolating the effects of the cognitive interview techniques. *British Journal of Psychology*, *88*, 179-197.
- Milne, R., & Bull, R. (2001). *Investigative interviewing: Psychology and practice*. Chichester: John Wiley & Son.

- Milne, R., & Bull, R. (2006). Interviewing victims of crime, including children and people with intellectual disabilities. In M.R. Kebbell & G. Davies (Eds.), *Practical psychology for forensic investigations and prosecutions*. Chichester: Wiley.
- Milne, R., & Bull, R. (in press). *Investigative interviewing: Psychology and practice* (2nd ed.). Chichester: John Wiley & Son.
- Milne, R., Griffiths, A., Clarke, C., & Dando, C. (in press). The cognitive interview—A tiered approach in the real world. Chapter to appear in B. Schwartz, J. Dickenson, N. Schreiber Compo, & M. McCauley (Eds.), *Evidence-based investigative interviewing*. New York: Routledge.
- Milne, R., & Shaw, G. (1999). Obtaining witness statements: Best practice and proposals for innovation. *Medicine, Science, and the Law*, *39*, 127–138.
- Poole, D. A., & Lamb, M. E. (1998). Children as witnesses: The tragedy and the dilemma. In D. A. Poole & M. E. Lamb (Eds.), *Investigative interviews with children: A guide for helping professionals*. Washington: American Psychological Association.
- Poyser, S., Nurse, A., & Milne, R. (in press). *Miscarriages of justice*. Bristol: Policy Press.
- Robinson, J., & McGuire, J. (2006). Suggestibility and children with mild learning disabilities: The use of the cognitive interview. *Psychology, Crime & Law*, *12*, 537–556.
- Sanders, G. S. (1986). *The usefulness of eyewitness research from the perspective of police investigators*. Unpublished manuscript, State University of New York at Albany.
- Sanders, G. S., & Simmons, W. L. (1983). Use of hypnosis to enhance eyewitness accuracy: Does it work? *Journal of Applied Psychology*, *68*, 70–77.
- Savage, S., & Milne, R. (2006). Miscarriages of justice—the role of the investigative process. In T. Newburn, T. Williamson, & A. Wright (Eds.), *Handbook of criminal investigation*. Cullompton, UK : Willan.
- Schacter, D. L. (1996). *Searching for memory: The brain, the mind and the past*. New York: Basic Books.
- Schank, R. C., & Abelson, R. P. (1977). *Scripts, plans, goals, and understanding: An enquiry into human knowledge structures*. Hillsdale: Erlbaum.
- Sheenhan, P. W., Grigg, L., & McCann, T. (1984). Memory distortion following exposure to false information in hypnosis. *Journal of Abnormal Psychology*, *93*, 259–265.
- Shepherd, E. (1991). Ethical interviewing. *Policing*, *7*, 42–60.
- Stein, L. M., & Memon, A. (2006). Testing the efficacy of the cognitive interview in a developing country. *Applied Cognitive Psychology*, *20*, 597–605.
- Thomson, D. M., & Tulving, E. (1970). Associative encoding and retrieval: Weak and strong cues. *Journal of Experimental Psychology*, *86*, 255–262.
- Tulving, E. (1991). Concepts of human memory. In L. R. Squire, N. M. Weinberger, G. Lynch, & J. L. McGaugh (Eds.), *Memory: Organization and locus of change*. New York: Oxford University Press.
- Tulving, E., & Pearlstone, Z. (1968). Availability versus accessibility of information in memory for words. *Journal of Verbal Learning and Verbal Behavior*, *5*, 381–391.
- Tulving, E., & Thomson, D. M. (1973). Encoding specificity and retrieval processes in episodic memory. *Psychological Review*, *80*, 352–373.

- Turtle, J., Lawrence, C., & Leslie, V. (1994). *Exercising cognitive interview skills with police: A research/training success story*. Paper presented at the APLS Mid-Year Conference, Santa Fe.
- Vallano, J. P., & Compo, N. S. (2011). A comfortable witness is a good witness: Rapport-building and susceptibility to misinformation in an investigative mock-crime interview. *Applied Cognitive Psychology, 25*(6), 960-970.
- Visher, C. A. (1987). Incapacitation and crime control: Does a "lock 'em up" strategy reduce crime? *Justice Quarterly, 4*, 513-543.
- Westera, N., Kebbell, M., & Milne, R. (2011). Interviewing witnesses: Do investigative and evidential requirements concur? *British Journal of Forensic Practice, 13*(2), 103-113.
- Whitten, W. B., & Leonard, J. M. (1981). Directed search through autobiographical memory. *Memory and Cognition, 9*, 556-579.
- Wolchover, D., & Heaton-Armstrong, A. (1996). *Confession evidence*. London: Street and Maxwell.
- Wright, A. M., & Alison, L. (2004). Questioning sequences in Canadian police interviews: Constructing and confirming the course of events. *Psychology, Crime, & Law, 10*, 137-154.
- Wright, A. M., & Holliday, R. E. (2005) Police officers' perceptions of older eyewitnesses. *Legal and Criminological Psychology, 10*, 211-223.
- Wright, A. M., & Holliday, R. E. (2007) Enhancing the recall of young, young-old, and old-old adults with cognitive interviews. *Applied Cognitive Psychology, 21*, 19-43.
- Zander, M., & Henderson, P. (1993). Crown court study. Royal Commission on Criminal Justice. *Research Study, 19*. London: HMSO.

Chapter Eleven

FORENSIC HYPNOSIS

JOHN W. THOMPSON, JR., AND ALAN W. NEWMAN

Throughout history, criminal cases have been solved using a plethora of methods, including the collection of forensic evidence, confessions, capture, and eyewitness accounts. When hard evidence is not available, other more novel techniques may be sought. Hypnosis has been used for many years to attempt to enhance witness and victim memories and assist in solving crimes (Reiser, 1980). This chapter will discuss the evolution of hypnosis as a technique to obtain legal information or to enhance memory. The school of thought that led to the rise in hypnosis in the 1960s and 1970s in the United States will also be discussed. Finally, the chapter will discuss why the abuse of hypnosis in the United States' legal system has led to strict guidelines regarding its limited use in criminal cases. Lack of compliance with these guidelines may lead to Daubert-type challenges of experts in court (Moenssens, Starrs, Henderson & Inbau, 1995).

HYPNOSIS OVERVIEW

Hypnosis can be defined as that state or condition in which an individual is able to respond to appropriate suggestions by experiencing alterations of perception, memory, or mood (Orne & Dinges, 1993). Hypnosis has been used as a method of treating a variety of psychiatric conditions since the early 1800s and was pivotal in the early work of many noted psychiatrists (Wong, 1993). The role that suggestion plays in the hypnotic phenomenon was studied by Hippolyte Bernheim, who used hypnosis with many of his patients as a means of suggesting that pathological symptoms would cease to be problems (Bernheim, 1973). Bernheim's observations differed from those of Jean Charcot, who viewed the ability to be hypnotized as evidence of neuropathology in patients with hysteria (Bernheim, 1973). Sigmund Freud and

Josef Breuer utilized hypnosis not as a method of suggesting that symptoms resolve but as a way of accessing traumatic early life events that they perceived to be at the root of the patient's problems (Bernheim, 1973; Wong, 1993). Although Freud abandoned the use of hypnosis by 1896 for other methods, hypnosis was instrumental in shaping his beliefs that hysterical phenomena were due to trauma, thinking that eventually led to his views on repression. Hypnosis has since been applied to the treatment of numerous psychiatric problems and has been recognized as a therapeutic modality by the American Medical Association since 1958 (American Medical Association, 1986).

USES OF HYPNOSIS IN FORENSIC INVESTIGATIONS

The free recall of memories may be hampered by the stress or anxiety associated with being a witness of a crime. An eyewitness of a murder may feel extremely anxious when reporting the details of a crime. An assault victim may also be unable to provide important details that would lead to the solution of a crime secondary to feelings of panic or posttraumatic stress. Memory problems may also affect those accused of a crime, who may have difficulty remembering details that could exonerate them or provide mitigating factors helpful in their defense (Orne, 1979). Police have long been thwarted by faulty leads by poor witnesses, and the absence of reliable witnesses has led to many unsolved cases. This problem, which Hibbard calls the nemesis of the law enforcement officer, creates a demand for better ways of improving eyewitness recall (Hibbard & Worring, 1980). Hypnosis was one method to address this problem that gained increased popularity in the 1960s and 1970s.

Despite claims that hypnosis is effective in improving memory, the exact mechanism of how this actually occurs is unclear. Although some think that hypnosis simply relaxes a witness in order to enhance his or her ability to report events, others view that hypnosis somehow allows for the recovery of memories that have been repressed by trauma (Loftus & Loftus, 1980; Monaghan, 1980; Reiser, 1980).

There are three common uses of hypnosis in a criminal investigation. One use of hypnosis is to enhance the memory of an accused defendant in a criminal case about events surrounding the crime. Although hypnosis may be used by the defense team to generate evidence to help exculpate their client, it could also be used by the police or prosecutors to generate evidence that would lead to a conviction. Second, hypnosis could also be used with eyewitnesses to allow them to provide details concerning the behavior or physical appearance of a perpetrator. This might be done in anticipation of

viewing a police lineup or in assisting a police sketch artist. A third use of hypnosis would be to assist in the generation of leads for forensic investigators.

In the third example just mentioned, physical evidence independent from the information recalled under hypnosis can be obtained and evaluated on its own merit, whereas the information generated by hypnosis in the first two cases replaces the evidence. If hypnosis is not a valid method of obtaining consistent and accurate memories, the usefulness of eyewitness information generated by hypnosis is highly suspect. The fact that individual cases have been solved by the discovery of investigatory leads associated with the use of hypnosis does not necessarily mean that hypnosis is a valid and consistent method of obtaining evidence.¹

Advocates of Hypnosis in Criminal Investigations

Several guidebooks have been written with the goal of providing detailed instruction and theory to police investigators for their use of hypnosis as an aid to criminal investigations (Gerber & Schroeder, 1972; Hibbard & Warring, 1980; Monaghan, 1980). Many of these guidebooks were written by police investigators and hypnotists who based their views on experiences accumulated in investigations over many years (Hibbard & Warring, 1980; Reiser, 1980). These police-oriented writers cite numerous examples of the usefulness of hypnosis as a tool for investigation. Hibbard cited studies from the Los Angeles Police Department and the New York Police Department from the late 1970s, suggesting that hypnosis provided valuable new information more than 65 percent of the time (Hibbard & Warring, 1980). The rapid dissemination of hypnosis in police investigations in the 1960s led to widespread use in many courts of law, with many convictions resulting from eyewitness memory recovered with hypnosis (Loftus, 1979).

A consistent theme found throughout these guides is the view that all memories are stored intact in the brain but are frequently inaccessible due to repression. Hypnosis is offered as a way to lift the repression in order to access these memories. Martin Reiser (1980), Director of Behavioral Sciences Services for the Los Angeles Police Department, illustrates this view in the *Handbook of Investigative Hypnosis*: "The subconscious mind is alert and on duty 24 hours a day, seven days a week; it never sleeps. . . . Cheek's work in recovering memories around the birth experience suggests that both pre and perinatal experiences are recorded reflexively by the active subconscious of the baby" (Reiser, 1980, p. 11). Reiser considers the cause of poor

1. For example, psychics have been used by police to solve crimes. Although some crimes have reportedly been solved after the use of psychics, there has been no demonstrated scientific evidence that psychic powers should be constituted as evidence (Randi, 1996).

memory in eyewitnesses to be due to repression and dissociation which functions to ward off emotionally disturbing memories (Reiser, 1980). Monaghan also shows belief in the view that memory is recorded intact: "Theoretically, human memory is perfect. The infallibility of memory is demonstrated over and over by facts revealed through hypnotic age regression. . . . Amnesias represent a separation between conscious and unconscious, and a failure in communications between the two" (Monaghan, 1980, p. 52). Furthermore, Hibbard and Worrying state: "most authorities on hypnosis and researchers of human behavior believe that everything a human being takes in through the five senses is permanently recorded in the brain . . . [and] these experts also agree, however, that this stored information can largely and accurately be retrieved through hypnosis" (Hibbard & Worrying, 1980).

The reported causal link between repression and amnesia in crime eyewitnesses is a consistent theme in these manuals (Bragin, 1981; Hibbard & Worrying, 1980; O'Hara & O'Hara, 1994). Some of these views are consistent with contemporaneous psychoanalytic literature on repression. Infantile amnesia, as described in the American Psychoanalytic Association's *Psychoanalytic Terms and Concepts* (Moore & Fine, 1990), represents the ego's defensive effort to deal with early life events and reactions that would otherwise be traumatic. Through the process of repression, events, ideas, and affects involved in such experiences become unconscious (Moore & Fine, 1990). Rather than the lack of memory of childhood events being due to an immature nervous system or ordinary forgetting, the American Psychoanalytic Association says: "Though it is often thought of as normal forgetting attributable to the immaturity of the child's mind, infantile amnesia represents the ego's defensive effort to deal with early-life events and reactions that would otherwise be traumatic" (Moore & Fine, 1990, p. 13).

The psychoanalytic literature also supports the view that memories of traumas sustained during adulthood can also be lost due to the effect of repression. According to Wolberg: "even in adulthood, intensely traumatic experiences may shock the organism into a revival of the mechanism of repression. This move is motivated by a need to ward off a threat to the self. There are no better examples of this than those seen in the neuroses of war in which traumatic incidents may be blotted from the mind" (Wolberg, 1988, p. 739). Hypnosis is listed as one of several methods that can be used to recover such memories (Wolberg, 1975, 1988).

There are some important differences between the psychoanalytic literature reviewed and the claims made in the works by and for police investigators. Although the police guides are very definitive in their views on repression and the use of hypnosis to lift it (Monaghan, 1980), Wolberg notes that: "It is essential not to take memories and experiences recounted in the trance at face value. The productions elaborated by a person during hypno-

sis generally are a fusion of real experiences and fantasies” (Wolberg, 1975, p. 247).

This blend of fact and fantasy may not be as much a concern in a therapeutic context, where “we are more concerned with a patient’s ideas about his past rather than what actually happened in the past” but could pose dangers when used to uncover the truth, as would be desired in a forensic setting (Wolberg, 1988). Despite these differences, the reviewed works for police investigators clearly intend to frame their works in the context of psychoanalytic theory.

In addition to citing psychoanalytic theories of repression, many advocates of the view that all memories are stored permanently in the brain cite the works of neurosurgeon Wilder Penfield (Hibbard & Worring, 1980; Loftus & Loftus, 1980). Penfield was a neurosurgeon who specialized in removing damaged areas in the brains of epileptic patients. During stimulation of brain areas with an electrode, Penfield observed that certain types of stimulation caused patients to hear voices and song, and even to experience the sensation of reexperiencing a past event (Loftus & Loftus, 1980). Penfield described the process as follows:

When, by chance, the neurosurgeon’s electrode activates past experience, that experience unfolds progressively, moment by moment. This is a little like the performance of a wire recorder or a strip of cinematographic film on which are registered all those things of which the individual was once aware, the things he selected for his attention in that interval of time. Absent from it are the sensations he ignored, the talk he did not heed. (Penfield & Roberts, 1959, p. 53)

Penfield believed that every detail in awareness left a permanent mark on the brain, and his work was widely cited in psychology textbooks and the media, leading to what has been called the videorecorder model of memory (Loftus & Loftus, 1980).

Survey research by Elizabeth Loftus in the late 1970s gives evidence of the widespread acceptance of the videorecorder model view of memory during that time (Loftus & Loftus, 1980). This survey showed that 69 percent of nonpsychologists believed that everything learned is stored in the mind and potentially accessible by hypnosis while 23 percent supported the view that some memories may be permanently lost from memory and not recoverable by special techniques. Interestingly, 84 percent of psychologists who were given the same survey believed that all information is stored in long-term memory. Loftus noted that many of the psychologists surveyed told her that their views on memory were shaped by knowledge of Penfield’s work, as well as their views on memory recovered by analysis, hypnosis, and other therapeutic techniques (Loftus & Loftus, 1980).

Methods Used by Police Investigators

Two predominant techniques are described in the police literature to help obtain memories: the age-regression technique and hypermnesia by direct suggestion technique (Orne, 1979). Orne describes age-regression as the most common technique used in hypnosis. Using this method, the hypnotist induces hypnosis and suggests that the subject will return to an earlier age. Monaghan demonstrates this technique as follows: "The next time I speak to you, you will be at a very happy time and place, and you will be four years old. You are going back to a time and place when you were four years old. You will be able to tell me everything that you see and hear, without interfering in any way with your recall or your relaxation" (Monaghan, 1980, p. 51). In the case of age-regression for crime witnesses, the regression goes back to the time that the crime occurred.

One technique used as an adjunct during age-regression is the television technique. Reiser describes this technique in the following way:

While the subject views the crime event on the imaginary television screen during the TV technique, the hypnoinvestigator, as desired, can suggest that the film will go into slow motion, stop completely or reverse. The subject can also be told that when the camera zooms in on the suspect's face, the frame will freeze and although there was originally only a short time to look at the suspect, there will now be all the time in the world to look at the close-up on TV and to describe every feature very vividly, and accurately. (Reiser, 1980, p. 117)

This technique, according to Reiser, is particularly useful in obtaining details from street signs, license plates, and other factual information.

In addition to age-regression, another technique involves hypermnesia (enhanced memory) by direct suggestions. With this technique, the hypnotist gives the subject a direct suggestion to do something to enhance the memory. A frequent suggestion given to the subject is that he or she will remember what was discussed during hypnosis upon awakening (Orne, 1979; Tayloe, 1995). This particular suggestion is quite relevant. If details can only be recalled while the subject is under hypnosis and forgotten when awake, the ability of the subject to testify on the memory is limited.

Although Hibbard provides warnings to police investigators about possible pitfalls in administering hypnosis in an investigatory setting, few of the guides for police investigators list potential hazards, despite a growing body of evidence of problems that can arise when recovering memories with hypnosis (Hibbard & Worring, 1980).

HYPNOTIC MEMORY THEORY

Constructive Model of Memory

As discussed earlier, advocates for forensic hypnosis utilize two major techniques: age-regression and direct suggestion. The age-regression technique, particularly when used with the imagery of watching a TV and being able to go into slow motion, stop completely, or reverse, strongly suggests the idea that memory is indeed like a videorecorder (Reiser, 1980). Orne and others have directly challenged this model of memory (Orne, 1979).

In reference to age-regression, Orne notes that the appearance of regression does not guarantee that actual regression is occurring. One study done by Orne and colleagues involved the regression of a group to elementary school age. Orne noted that when the information obtained by the regressions was checked with verifiable data, some interesting findings were noticed: "The subjects would describe their classmates so vividly and with such conviction that we were surprised indeed to find, when we went to the trouble of checking the actual school records, that some of these individuals had not been members of the subject's class; nor was the factual recall better than that of unhypnotized controls" (Orne, 1979, p. 317).

Orne warns that questioning about specific details (such as when subjects are told to freeze on an image as if they are watching a TV) puts pressure on the subject to provide information for which few, if any, actual memories are available. This situation may jog the subject's memory and produce some increased recall, but it will also cause him or her to fill in details that are plausible but consist of memories or fantasies from other times (Orne, 1979). This can be likened to confabulation in the alcoholic patient with short-term memory loss. Laurence reports that if an individual is asked to zoom in on an image that, in the original experience, the retina could not resolve, there is no other source but fantasy for enhanced detail (Laurence & Perry, 1983). This task requires the subject to see something beyond his or her capacity and is a powerful and indirect suggestion to hallucinate.

Fantasy may not be the only source of recovered detail. Orne warns that when the subject is given guided instructions during this kind of questioning, such a procedure maximizes the potential input of the hypnotist about what is wanted, making it even more likely that the subject's memories will more closely resemble the hypnotist's prior conceptions than would ordinarily be the case (Orne, 1979). Although acknowledging the success of using this technique to recall license plate numbers, Orne notes that many license plate numbers recalled under hypnosis have led to cars that could not have been involved in the alleged crime.

The Videotape Model of Memory Refuted

In addition to providing evidence supporting a constructive view of memory, memory researchers have challenged some of the conclusions derived by supporters of the videotape model of memory. As discussed before, the primary evidence supporting the videotape model includes the psychoanalytic theory of repression, case studies of memory recovered by therapeutic techniques (like hypnosis and analysis), spontaneous recovery of memories, and the experiments of Wilder Penfield (Penfield & Roberts, 1959).

Despite the vividness of memories recovered via analysis, hypnosis, or spontaneous recall, it does not necessarily follow that memories retrieved by these methods provide evidence of the permanent storage of memory. A question rarely asked by the proponents of the videotape model is "Did the event in the memory actually occur?" In the absence of independent corroboration of the memories reported, a report of a memory does not provide proof that the memory is an accurate depiction of truth, or that it even occurred (Loftus, 1993). Therefore, even when independent corroboration is available, that does not prove that what is described by the patient is an actual memory. Additionally, even if it can be shown that a specific recovered memory is accurate, it does not prove that: (1) every memory from birth to death is recorded in the brain and (2) these memories can accurately be recovered by psychiatric techniques.

The view that memories from birth are stored in the brain and are recoverable is mentioned in many texts written for police investigators and has been advocated by some recovered memory therapists (*Frontline*, 1995; Monaghan, 1980; Reiser, 1980). For example, a *Frontline* documentary demonstrated scenes from actual age-regression sessions, where one client was regressed all the way to a previous life, and another client was regressed to a preimplantation embryo, where she allegedly was temporarily stuck in the fallopian tube, causing her future psychiatric problems (*Frontline*, 1995). From a scientific perspective, the view that one could have memories from a stage in development during which there is no nervous system appears untenable, and the concept of past lives is simply untestable by scientific methods. This exposes a major problem with some of the thinking of exact-copy memory advocates: If one assumes that the memories recovered from past lives or prenatal development are invalid, how can we rely on the validity of memories obtained when the same age-regression techniques are used for other purposes, such as recovering memories in crime witnesses?

Another problem with the videorecorder view of memory is its reliance on untestable psychoanalytic concepts. Many proponents of the videorecorder model note that their views are supported by the theory of repres-

sion. Consistency with the theory of repression, however, hardly proves the claims of the videorecorder model unless there is better evidence that repression itself is a valid concept. One criticism of the scientific status of repression is that:

despite some incredibly innovative attempts, the psychoanalytic defense mechanism of repression has never been clearly proven in the laboratory. In addition, there are those who believe that it cannot be. Most psychoanalytic notions are generally unfalsifiable. That is, no scientific evidence can clearly refute or prove the existence of repression. Given the definition of repression as forgetting without conscious knowledge that the material is forgotten, laboratory proof of the phenomenon is likely impossible. It is also difficult to imagine an experiment that could provide conclusive proof of repression. (Earleywine & Gann, 1995, p. 1101)

Although the psychoanalytic theory is accepted in many clinical settings, numerous problems occur when attempting to find scientific evidence to support these concepts.

Unlike the reliance on unverifiable case studies and theories of repression, Penfield's experiments on electrically stimulated brains appeared to some to provide strong evidence for the permanent storage of memories. Loftus' review of his data, however, challenges this conclusion (Loftus & Loftus, 1980). She notes that no attempts were made by Penfield to corroborate any of the memories with verifiable events, and only 3 percent of his patients who underwent electrical stimulation experienced phenomena more complex than hearing music or voices or seeing a familiar face or object. Loftus and others conclude that the experiences are more consistent with reconstructed experiences, such as dreams (Loftus & Loftus, 1980).

It is important to remember that Penfield's studies were on patients with tumors and epilepsy, especially since the phenomena that Penfield described sound suspiciously similar to the hallucinations experienced by many patients with partial complex seizures. According to neurologist David Kaufman:

tumors, strokes, and other structural lesions can produce partial elementary, frontal lobe, or complex seizures with visual symptoms. These hallucinations are seen in both eyes and can even appear in an hemianopic area. They range from simple geometric forms in partial simple seizures to detailed visions accompanied by sounds, thoughts, emotions, and characteristically, impairment of consciousness in partial complex seizures. (Kaufman, 1995)

The view that Penfield might be inducing hallucinatory phenomena is not entertained in his works or by advocates of his theories. The evidence that Penfield's work demonstrates the permanent storage of memories in the brain remains unpersuasive.

CRITICISM AND CONCERNS ABOUT FORENSIC HYPNOSIS

Despite the widespread use of hypnosis to solve crimes and prosecute cases in the 1970s, concerns about the problems of using hypnosis for finding the truth are hardly new. The ability of hypnosis to suggest false memories was recognized by Bernheim in the nineteenth century; he referred to the phenomenon as a retroactive hallucination (Bernheim, 1973).

Wong (1993) notes that Freud utilized hypnosis in his early practice but abandoned it as a temporary fix that frequently encouraged acting out to please the hypnotist. Controlled experiments as early as 1932 demonstrated that hypnotized subjects had an increase in the number of memories reported, both accurate and confabulated, than did nonhypnotized subjects (Orne, 1979).

In part due to concerns generated by the increased use of hypnosis in forensic settings in the 1960s, there was a marked increase in the amount of scrutiny given the claims promoted by advocates of hypnosis for memory enhancement. During the 1970s, a considerable body of research was performed that provided evidence that the effect of hypnosis on memory is substantially different from what was previously thought (Loftus & Loftus, 1980; Orne, 1979; Putnam, 1979).

The view of memory postulated by many police investigators, advocates of the concept of repression, and others has been given a variety of names, including the videotape model, the exact copy theory, or the implicit theory of memory (Loftus & Loftus, 1980; Putnam, 1979). This view suggests not only that all information is stored permanently in the brain but also that subsequent information coexists with but does not alter the original memories.

In contrast to the videorecorder model of memory, some memory researchers have postulated that, rather than working like a videorecorder, memories are stored in a manner that allows them to be reconstructed at a later time (Putnam, 1979). This model, which implies that memories can be altered by a variety of factors subsequent to the original memory, is supported by a considerable body of research.

Several concerns can be raised about the use of suggestions by the hypnotist. The most obvious is that being told to provide details when none are present may lead to confabulation by the subject (Orne, 1979). Furthermore, the amount of knowledge the hypnotist has about the case can affect the sub-

ject in a variety of ways. Putnam's studies on subjects who were hypnotized after viewing an accident involving a car and a bicycle showed that although there was no difference between hypnotized and nonhypnotized subjects in answering objective, nonleading questions, hypnotized subjects were significantly more likely to make errors when given leading questions (Putnam, 1979). Loftus reports many studies showing how the wording of questions, even in nonhypnotized subjects, makes a large difference in what kind of answer is obtained from the subject (Loftus, 1979).

The risk of leading questions is particularly high when the hypnotist is the investigator and is aware of the details of an alleged case (*New Jersey v. Hurd*, 1980). In some documented cases, the hypnotist suggested distinguishing features of the prime suspect or asked if specific suspects were present (Kirkwood, 1968; Loftus, 1979; *New Jersey v. Hurd*, 1980).

The hypnotist may use suggestions to accomplish other goals. For example, one hypnotist recommends suggesting that the subject will confess if he is guilty (Bragin, 1981). While acknowledging that most courts do not admit confessions made during hypnosis, Bragin sees no problem with a confession that occurs once the hypnotic session has ended (Bragin, 1981). He recommends a posthypnotic suggestion that intimates that bad feelings will result if the subject keeps the crime to himself, and good feelings will result if the subject "lets it out" (i.e., confesses). Bragin does not discuss the effect such a suggestion would have on the defendant's Fifth Amendment rights or the danger such a suggestion could play on an innocent defendant, particularly if administered by a police hypnotist who might have preconceived views about the subject's guilt.

Other research on hypnosis exposes its potential dangers when used in an investigative setting. Orne summarizes these dangers as follows: "Hypnosis has no utility to assure the truthfulness of statements since, particularly in a forensic context, subjects may simulate hypnosis and are able to willfully lie even in deep hypnosis; most troublesome, actual memories cannot be distinguished from confabulations either by the subject or by the hypnotist without full and independent corroboration" (Orne, 1979, p. 311). Orne further adds that:

hypnosis may readily cause the subject to confabulate the person who is suspected into his hypnotically enhanced memories. These pseudomemories, originally developed in hypnosis, may come to be accepted by the subject as his actual recall of the original events; they are then remembered with great subjective certainty and reported with conviction. Such circumstances can create convincing, apparently objective eyewitnesses rather than facilitating actual recall. (Orne, 1979, p. 311)

This belief in the certainty of pseudomemories was reinforced by the research findings of Laurence, who implanted false memories of having been awakened by loud noises in thirteen of twenty-seven highly hypnotizable subjects (Laurence & Perry, 1983). Six of these thirteen subjects were absolutely certain that the suggested event occurred. This phenomenon, warned psychiatrist David Spiegel, could lead to the creation of the “honest liar,” a witness who asserts pseudomemories as truth in the courtroom (Orne, Dinges & Orne, 1990). Given the previous arguments, it can be demonstrated that hypnosis, although testable, is not a reliable and valid method of obtaining information from witnesses or refreshing witness testimony.

REBUTTALS TO RESEARCH FINDINGS ON HYPNOSIS

After the increase in scientific evidence challenging the validity of hypnotically recovered memories and the subsequent investigative guidelines and court changes that followed, some proponents of forensic hypnosis offered rebuttals. These rebuttals typically followed two patterns: (1) criticism of the generalization of laboratory experiments to actual patients and (2) a reliance on case studies demonstrating the usefulness of forensic hypnosis in solving cases.

Criticism of Research Findings

Butler and Spiegel (1997) list several criticisms that can be applied to most of the research studies on hypnosis and memory. For example, (1) laboratory events used in memory research tend to be artificial (slides, movies, staged events) and might not affect the subjects the same way that a real event would. (2) Laboratory events are intrinsically nontraumatic. Traumatic events may affect memory differently than nontraumatic events do. (3) Laboratory studies of memory tend to test memory hours to days after the initial stimulus, not years as frequently occurs in many real-life cases. (4) Many of the laboratory studies, especially those using college students as subjects, rely on a young and well-educated population that may not directly generalize to the population at-large (Butler & Spiegel, 1997).

Hibbard acknowledges Loftus' findings concerning evidence that leading or suggestive questions decrease the accuracy of memory and convince a witness of the truthfulness of his or her memories, but he makes the interesting comment that by “regressing the witnesses or victim to the crime event he neutralizes, bypasses, or obviates any memory alteration or contamination subsequent to the event” (Hibbard & Worrying, 1980). His view pro-

vides a good illustration of the belief that memories are laid down chronologically like recordings on a videotape, where even if contamination occurs in the future, age-regression can simply “rewind the tape” to a point in time before the contamination occurred. This view, unsupported by any cited evidence, assumes that age-regression produces unaltered, uncontaminated memories and does not consider the possibility that it is precisely during the age-regression that memory can be altered by suggestion (Putnam, 1979).

Case Studies Promoting the Usefulness of Forensic Hypnosis

Even when advocates for the liberal use of forensic hypnosis concede some of the findings discovered in a research setting, they frequently argue that evidence from case studies provides proof of the concept of repression and demonstrates the usefulness of forensic hypnosis. Tayloe (1995), a psychiatrist who practices forensic hypnosis for the courts, provides evidence of this thinking. Tayloe notes that with forensic hypnosis the critical question is whether or not the concept of repressed memories is valid, and if the memories are valid, can they be accurately recalled through hypnosis. His “proof” is found in the statement: “That psychologically traumatic events can be repressed from conscious recall is incontrovertible. The weight of case histories describing verifiable repression is too heavy to support any other conclusions” (Tayloe, 1995, p. 26). Unfortunately, one case he cites is the George Franklin murder trial, a case that readily lends itself to a conclusion opposite to that of Tayloe’s.² Tayloe also provided an example of a man he hypnotized who had no memory of shooting himself and killing his wife. During the hypnotic session, Tayloe told the subject (Mr. Bains), “You will be able to remember any of this story that is helpful to you, but will be unable to remember anything that is not helpful or would be harmful to you” (Tayloe, 1995, p. 28).

Although this did not resolve the subject’s amnesia, Tayloe later “successfully” age-regressed the subject with hypnosis, and he then testified that the death of the wife was an accidental shooting. Tayloe concluded that since some of the details of the subject’s recovered memories were consistent with physical evidence at the scene, the case provided evidence of the validity of hypnotically recovered memories.

2. George Franklin was convicted of murder in 1990 solely on the basis of testimony by his daughter Eileen, who alleged her memories of seeing the crime were repressed for more than twenty years (Loftus, 1993). The jury was impressed by the detailed nature of Eileen’s memory, but the case was overturned on appeal on the grounds that the trial judge refused to admit evidence that the verifiable details Eileen provided were in fact available in newspaper accounts of the crime (Skeptic, 1996). Eileen, who underwent hypnosis to recover memories, also “remembered” other crimes allegedly committed by her father, for which he was ultimately cleared.

Unfortunately, Dr. Tayloe did not consider another possibility: The fact that the subject reported details consistent with the physical evidence at the scene may have been because he never forgot them; in other words, his amnesia may have simply been malingering. The memory 'recovered' by hypnosis just happened to be one that helped exculpate the defendant of a first-degree murder charge. Rather than questioning whether malingering was the cause of the alleged memory loss, Tayloe believed that the amnesia was genuine because "in this case, the setting lends credence to the creation of amnesia as a defense mechanism against severe emotional trauma. Mrs. Bain's death was an accident without premeditation or financial gain" (Tayloe, 1995). This explanation, however, is directly contradicted by Tayloe's own report that immediately before the killing Mr. Bains, who had suspected his wife of being unfaithful, had just seen his wife in her car with a male friend.

Mutter (1990) also challenges the results of memory research by citing cases in which hypnosis was perceived to be useful in investigations. Like Tayloe, Mutter's case examples ignore the possibility of malingering or other explanations.³ The role of the expert is particularly relevant in this context. If one can lie under hypnosis, the defendant can not only feign amnesia for certain details but also recover an exculpatory explanation that might not be believed if offered by the defendant but will be believed if pronounced as accurate by a forensic expert.

Some problems with relying on case studies are that (1) it is difficult to generalize from individual instances, (2) cases are rarely validated with physical evidence supporting the claims made by the subject, and (3) cases involving memories are not controlled; therefore, it is not possible to know if the subject would have recalled the repressed memory with a different technique or spontaneously. It is impossible to know the qualitative differences between memories recalled by hypnosis and memories recalled by other techniques because each patient has different life experiences, and once memories are recovered by one method, it is impossible to take the patient back in time to his or her previous amnesic state and compare the different methods for accuracy.

3. The *a priori* belief in the validity of repression is a common theme in rebuttals to the research findings. Watkins (1989) demonstrates this faith in the validity of repression, saying "the forensic examiner, unlike a researcher, must often lift a psychogenic amnesia for a traumatic event before hypermnesia takes place." Although critical of laboratory methods examining memory, Watkins makes no attempt to examine evidence supporting the concept of 'psychogenic amnesia' or 'repression.'

GUIDELINES AND WARNINGS ON THE USE OF FORENSIC HYPNOSIS

As a consequence of concerns about the dangers associated with the liberal use of hypnosis in legal settings, several official statements were issued. The Federal Bureau of Investigation (FBI) revised its 1968 guidelines on hypnosis in 1979, requiring authorization to use hypnosis in FBI cases and mandating that certain safeguards be in place, including the recording of hypnotic sessions (Ault, 1979). The International Society of Hypnosis and the Society for Clinical and Experimental Hypnosis issued identical statements acknowledging alarm at the increase in the use of hypnosis by laypeople, particularly police officers using hypnosis as a part of a police investigation (International Society of Hypnosis, 1979). These resolutions acknowledged the dangers of accepting statements made under hypnosis at face value and warned of the effect that police biases can have on the memories of hypnotized subjects.

Orne formulated his own guidelines, which had a profound influence on the courts and contributed to the recommendations ultimately promulgated by the American Medical Association's Council of Scientific Affairs (American Medical Association, 1986; *New Jersey v. Hurd*, 1980; Orne, 1979). These guidelines are summarized as follows:

1. Hypnosis should be carried out by a psychiatrist or psychologist with special training in its use. He should not be informed about the facts of the case verbally; rather, he should receive a written memorandum outlining whatever facts he is to know, carefully avoiding any other communication which might affect this opinion.
2. All contact of the psychiatrist or psychologist with the individual to be hypnotized should be videotaped from the moment they meet until the entire interaction is completed. The casual comments that are passed before or after hypnosis are every bit as important to get on tape as the hypnotic session itself. . . . Prior to the induction of hypnosis, a brief evaluation of the patient should be carried out and the psychiatrist or psychologist should then elicit a detailed description of the facts as the witness or victim remembers them. . . . Only after this has been completed should the hypnotic session be initiated. The psychiatrist or psychologist should strive to avoid adding any new elements to the witness's description of his experience, including those that he had discussed in his wake state, lest he inadvertently alter the nature of the witness's memories.

3. No one other than the psychiatrist or psychologist and the individual to be hypnotized should be present in the room before and during the hypnotic session. . . .
4. Because the interactions that have preceded the hypnotic session may well have a profound effect on the sessions themselves, tape recordings of prior interrogations are important to document that a witness has not been implicitly or explicitly cued pertaining to certain information which might then be reported for apparently the first time by the witness during hypnosis. (pp. 335–336)

Although Orne (1997) proposed these guidelines to provide minimal safe guards for the admission of hypnotic testimony in the courts, he eventually concluded that hypnotically refreshed testimony is unreliable and advocated its use only when a defendant's constitutional rights were in jeopardy (Orne et al., 1990; Udolf, 1990).

IS HYPNOSIS A SCIENTIFIC METHOD THAT CAN BE USED IN THE COURTS IN LIGHT OF *DAUBERT*?

The controversy over the scientific status of hypnosis provides an illustration of the conflict that can occur when well-established beliefs of clinicians and investigators are challenged by experimental research. The conflicting views on the nature of hypnosis are explained by John Watkins as a conflict between credulous believers who “feel that skeptics are rigid and naive concerning the complexities of human behavior” and skeptics who hold that “believers are soft and easily persuaded by small, uncontrolled samples” (Watkins, 1989). Furthermore, he adds that whereas skeptics tend to be researchers in academia, the believers tend to be clinicians who “wouldn't be good therapists (if) they didn't believe in the phenomena which they evoke and use.”

Although both could be characterized as credulous believers, clinicians have different motivations than investigators have. The clinician is interested in relieving the pain and suffering of a patient; the investigator's goal is to obtain the truth. In that sense, the research on hypnosis popularized in the 1970s and 1980s was not intended to challenge the clinical utility of hypnosis as a means to resolve psychiatric problems. Rather, the research was clearly intended to question the underlying beliefs associated with hypnosis, in other words, the presumption that memories obtained by hypnosis are true.

Unfortunately, it is not clear that this work has had a substantial impact on the practices of those who train police investigators. Despite the previous

twenty years of research, the 1994 edition of *Fundamentals of Criminal Investigation* by O'Hara makes an even more dramatic claim of the recording powers of the mind than that of older police guidebooks, saying that: "at the subconscious level, the mind continuously records images even while the subject is sleeping, intoxicated, or his mind is otherwise inattentive. The subconscious serves as a storehouse of sensory impressions that, when accessed, will supply the hidden details of a crime" (O'Hara & O'Hara, 1994, p. 120).

Nevertheless, even if some police investigators have not followed the scientific debate, there is little question that the controversy over the scientific status of hypnosis has resulted in changes in the way hypnosis is treated by the courts (Orne et al., 1990). Testimony obtained as a result of hypnosis is considered inadmissible in almost all cases, due not only to the unreliability of such information but also to the risk that such testimony poses on a defendant's constitutional rights (Newman & Thompson, 1999).

CONCLUSION

Investigatory forensic hypnosis is based on a well-intentioned but scientifically untenable position, that is, that detailed memories could be accurately retrieved and utilized in criminal investigations. Courts have recognized the inherent risk that hypnotically elicited memories, although anecdotally helpful in some cases, could pose to the rights of a defendant in a criminal case.

Forensic hypnosis was based on untested theories of repression and misdirected conclusions drawn from the pioneering neurosurgical work of Penfield. The work of Orne, Loftus, and other researchers has identified the pitfalls associated with relying on hypnotically retrieved memories, influencing many courts to follow suit in denying the admissibility of such hypnotically derived memories.

An unfortunate irony of the scientific debate over the validity of hypnotically refreshed memories is that the scientific and judicial discrediting of refreshed memories in a criminal setting actually preceded the more recent and well-publicized abuse of patients by therapists utilizing 'recovered memory therapy.' These cases have involved the retrieval of memories of alleged sexual abuse and, in more dramatic cases, 'memories' of ritual satanic cult abuse (Nathan & Snedeker, 1995). Advocates for the use of hypnosis in criminal cases have also tended to support the theory of repression in child abuse cases. The quest by many zealous therapists to uncover 'repressed memories' of childhood sexual abuse through the use of memory recovery techniques has led to a spate of lawsuits detailing the invalidity of these abuse claims. Had the therapists involved been better informed by the discussion involv-

ing the use of forensic hypnosis, many potentially abusive treatments and related legal actions may well have been avoided.

A recent and perhaps more interesting debate is whether or not the use of forensic hypnosis in the courts could lead to an expert being excluded for failure to meet the *Daubert* standard of admissibility (*Daubert v. Merrell Dow Pharmaceuticals*, 1993). Although the *Daubert* case was originally a civil case, it places the trial judge as the ultimate gatekeeper of the admissibility of expert testimony. According to *Daubert*, the expert testimony proffered must be based on a reliable body of scientific knowledge. This reliability standard must be grounded in scientific methods and meet professional standards of reliability, validity, and acceptability within the field. Since *Daubert* applies to scientific experts and the methods they employ, the challenge could be introduced when an expert uses hypnosis in the course of his or her evaluation of the defendant in a criminal case. Although the use of hypnosis for these purposes may be testable, it is not a reliable and valid means of enhancing memory of victim and witness testimony, as demonstrated by the lack of consistent scientific evidence in its favor.

By the time that the *Daubert* decision was made in 1993, forensic hypnosis as a mechanism to recover memory was already in decline due to the influence of earlier court decisions. Whereas the 1980 decision *New Jersey v. Hurd* (1980) imposed limitations on the admissibility of hypnotically refreshed testimony, other cases such as the 1982 California case *People v. Shirley*, rendered the use of hypnotically refreshed memory inadmissible in most cases (Newman & Thompson, 1999). Although the U.S. Supreme Court acknowledged that a defendant could not be barred from testifying on his or her own behalf, despite having been previously hypnotized, the impact of the *Hurd* and *Shirley* cases significantly decreased the likelihood that a prosecution would benefit from the utilization of hypnotically refreshed memory (Newman & Thompson, 1999; Udolf, 1980). The trend of general inadmissibility of most hypnotically refreshed testimony has become the norm in most jurisdictions (Webert, 2003), and New Jersey itself shifted away from the procedural guidelines established in *New Jersey v. Hurd* toward a more restrictive standard of general inadmissibility in the 2006 case of *New Jersey v. Moore* (2006).

In states that use a Frye general acceptance test, there continue to be decisions that restrict the admissibility of forensic hypnosis. In the 2004 Illinois Supreme Court Case *People v. Sutton*, a critical potential eyewitness of a murder who had post injury amnesia underwent hypnosis and subsequently testified against the defendant, who was convicted of the murder. In this case, the trial court allowed the refreshed testimony to be admitted and excluded the testimony of a defense expert about the unreliability of hypnotically enhanced memories. The Court, utilizing the Frye-like admissibili-

ty standard in Illinois, as well as a previous ruling excluding the use of hypnosis by non-defendants, vacated the murder conviction (*People v. Sutton*, 2004). A 2004 Texas Appellate Court case *Texas v. Medrano* (2004) affirmed the decision of a trial court to exclude the hypnotically refreshed testimony of the single eyewitness in a capital murder case.

One case in which the *Daubert* standards were clearly applied to the issue of forensically refreshed testimony was the 1995 case of *Borawick v. Shay* (1995), decided by the U.S. Court of Appeals for the Second Circuit. In the lower court case, Joan Borawick filed a civil action against her aunt and uncle, alleging that they had sexually abused her as a child, the memories of which were elicited by way of hypnosis. The trial court, a U.S. District Court in Connecticut, heard the case and ruled in favor of the defendant's motion to exclude the hypnotically refreshed memories of the plaintiff. Shortly after this, *Daubert* was decided, and the plaintiff Borawick moved that the judge reconsider the earlier exclusion on the grounds that the use of hypnosis and the subsequent recollections satisfied the requirements of the *Daubert* decision. The trial court held to their earlier ruling excluding the use of hypnosis, and the District Court refused to have an evidentiary hearing and subsequently granted a summary judgment in favor of the accused defendants.

In the appeal to the Second Circuit Court of Appeals, the Court reviewed the admissibility of post hypnotic testimony, as well as whether the *Daubert* rules applied. The Court noted that this was distinct from cases such as *State v. Hurd* in that rather than addressing the use of hypnosis as an investigative tool to assist with recollection of a known specific event, it related to the recollection of memories of childhood sexual abuse purportedly recalled later by way of therapeutically applied hypnosis. The Court supported the findings of the lower court, noting that even if the lower court had had a more thorough evidentiary hearing before issuing its summary judgment, the final decision to exclude the admissibility was valid based on a number of factors, including the lack of formal training by the hypnotist, the lack of a permanent record of the sessions, the lack of credibility of the plaintiff Borawick, as well as the general problems with hypnotically refreshed memories raised in other legal cases. However, the Court ruled that *Daubert* did not apply in this case, because the question at hand was not the admissibility of either scientific data or an expert's opinion, but rather whether the plaintiff Borawick herself was a competent witness. Because she was a layperson, they concluded that *Daubert* was inapplicable, but added that "even if *Daubert* were of direct application, noting in *Daubert* is inconsistent with our outlined approach" (*Borawick v. Shay*, 1995).

Despite the ruling in the *Borawick* case that *Daubert* only applies to the testimony of experts rather than to the testimony of laypersons, other com-

mentators have concluded that the tradition of *per se* inadmissibility of hypnotically refreshed recollections may eventually be challenged by the framework of Daubert in jurisdictions that utilize the *Daubert* standard (Martin, 2003; Webert, 2003). Martin further recommends that any attorney who is in a *Daubert* jurisdiction be prepared to support any testimony involving hypnosis utilizing the framework established by the *Daubert* case (Martin, 2003).

In the authors' opinion, even if the *Daubert* standards allow for a broader consideration of the potential admissibility of testimony related to hypnotically refreshed memories, nothing in the fifteen years since the *Daubert* case has significantly challenged the science that demonstrates the risks associated with the use of hypnosis as a tool to refresh memories in an accurate manner. For this reason, in our opinion the use of hypnosis in any circumstance has the potential to lead to false information that could result in false convictions and false exculpations and as such should be excluded.

ACKNOWLEDGMENT

Dr. Newman and I would like to express our sincere gratitude and appreciation to Gina Manguno-Mire, Ph.D., for her significant contributions to the information contained in this chapter. Dr. Mire spent countless hours conducting a review of the pertinent literature and making key revisions to the content contained in the chapter. In addition, her work editing and organizing the material was significant. We are extremely grateful to Dr. Mire for her attention to detail and her effort in editing the chapter for both content and style. Her assistance on the writing and submission of the project was an invaluable asset.

REFERENCES

- American Medical Association Council, on Scientific Affairs. (1986). Scientific status of refreshing recollection by the use of hypnosis. *The International Journal of Clinical and Experimental Hypnosis*, 34, 1–12.
- Ault, R. L. (1979). FBI guidelines for use of hypnosis. *The International Journal of Clinical and Experimental Hypnosis*, 27, 449–51.
- Bernheim, H. (1973). *Hypnosis & suggestion in psychotherapy*. Northvale, NJ: Jason Aronson Inc.
- Borawick v. Shay, 68 F.3d U.S. 597 (1995).
- Bragin, R. (1981). Hypnosis in the criminal justice system. In J. J. Grau (Ed.), *Criminal and civil investigation handbook* (pp. 135–145). New York: McGraw-Hill.

- Butler, L. D., & Spiegel, D. (1997). Trauma and memory. In D. Spiegel (Ed.), *Repressed memories*. Washington, DC: American Psychiatric Press, Inc.
- Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993).
- Earleywine, M., & Gann, M. (1995). Challenging recovered memories in the courtroom. In J. Ziskin (Ed.), *Coping with psychiatric and psychological testimony*. Los Angeles: Law and Psychology Press.
- Frontline. (1995). Divided Memories, Part 1: The Hunt for Memory [Transcript]. Boston: Corporation for Public Broadcasting.
- Gerber, S. R., & Schroeder, O. (1972). *Criminal investigation and interrogation*. Cincinnati: W. H. Anderson.
- Hibbard, W. S., & Worring, R. W. (1980). *Forensic hypnosis: The practical application of hypnosis in criminal investigations*. Springfield, IL: Charles C Thomas.
- International Society of Hypnosis. (1979). August Resolution Adopted August. *The International Journal of Clinical and Experimental Hypnosis*, 27, 453.
- Kaufman, D. (2001). *Clinical neurology for psychiatrists* (5th ed.). Philadelphia: W. B. Saunders Company.
- Kirkwood, J. (1968). *American grotesque: An account of the Clay Shaw-Jim Garrison affair in the city of New Orleans*. New York: Simon and Schuster.
- Laurence, J. R., & Perry, C. (1983). Hypnotically created memory among highly hypnotizable subjects. *Science*, 222, 523–524.
- Loftus, E. F. (1979). *Eyewitness testimony*. Cambridge, MA: Harvard University Press.
- Loftus, E. F. (1993). The reality of repressed memories. *American Psychologist*, 48, 518–537.
- Loftus, E. F., & Loftus, G. R. (1980). On the permanence of stored information in the human brain. *American Psychologist*, 35, 409–420.
- Martin, E. (2003). A Daubert test of hypnotically refreshed testimony in the criminal courts. *Texas Wesleyan Law Review*, 9, 151–179.
- Moenssens, A. A., Starrs, J. E., Henderson, C. E., & Inbau, F. E. (1995). *Scientific evidence in civil and criminal cases* (4th ed.). Westbury, NY: The Foundation Press, Inc.
- Monaghan, F. J. (1980). *Hypnosis in criminal investigation*. Dubuque: Kendall/Hunt.
- Moore, B. E., & Fine, B. D. (1990). *Psychoanalytic terms and concepts*. New Haven: Yale University Press.
- Mutter, C. B. (1990). Hypnosis with defendants: Does it really work? *American Journal of Clinical Hypnosis*, 32, 257–262.
- Nathan, D., & Snedeker, M. (1995). *Satan's silence*. New York: Basic Books.
- Newman, A. W., & Thompson, J. W., Jr. (1999). Constitutional rights and hypnotically elicited testimony. *Journal of the American Academy of Psychiatry and the Law*, 27, 149–154.
- New Jersey v. Hurd, 173 N.J. Super. 333, 414 A.2d 291 (1980).
- New Jersey v. Moore, 188 N.J. 182 (2006)
- O'Hara, C. E., & O'Hara, G. (1994). *Fundamentals of criminal investigation* (6th ed.). Springfield, IL: Charles C Thomas.
- Orne, M. T. (1979). The use and misuse of hypnosis in court. *International Journal of Clinical and Experimental Hypnosis*, 27, 311–341.

- Orne, M. T., & Dinges, D. F. (1993). Hypnosis. In H. I. Kaplan & B. J. Sadock (Eds.), *Comprehensive textbook of psychiatry* (5th ed., pp. 1501–1516). Baltimore: Williams & Wilkins.
- Orne, M. T., Dinges, D. F., & Orne, E. C. (1990). Rock v. Arkansas: Hypnosis, the defendant's privilege. *The International Journal of Clinical and Experimental Hypnosis*, *38*, 250–265.
- Penfield, W., & Roberts, L. (1959). *Speech and brain-mechanisms*. Princeton: Princeton University Press.
- People v. Shirley, 31 Cal. 3d. 18 (1982).
- People v. Sutton, 349 IL. App. 3d608, 622, 812 N.E.2d 543 (2004).
- Putnam, W. H. (1979). Hypnosis and distortions in eyewitness memory. *The International Journal of Clinical and Experimental Hypnosis*, *27*, 437–448.
- Randi, J. (1996). "Twas brillig." *Skeptic*, *4*, 10–1.
- Reiser, M. (1980). *Handbook of investigative hypnosis*. Los Angeles: LEHI.
- Taylor, D. R. (1995). The validity of repressed memories and the accuracy of their recall through hypnosis: A case study from the courtroom. *American Journal of Clinical Hypnosis*, *37*, 25–31.
- Texas v. Medrano, 127 S.W.3d 781, 785 (Tex. Crim. App. 2004).
- Udolf, R. (1990). Rock v. Arkansas: A critique. *The International Journal of Clinical and Experimental Hypnosis*, *38*, 239–249.
- Watkins, J. G. (1989). Hypnotic hypermnesia and forensic hypnosis: A cross-examination. *American Journal of Clinical Hypnosis*, *32*, 71–83.
- Webert, D. (2003). Are the courts in a trance? Approaches to the admissibility of hypnotically enhanced witness testimony in light of empirical evidence. *American Criminal Law Review*, *40*, 1301–1327.
- Wolberg, L. R. (1975). *The psychosocial therapies, in treatment* (2nd ed.). New York: Basic Books, Inc.
- Wolberg, L. R. (1988). *The technique of psychotherapy* (4th ed.). New York: Harcourt Brace Jovanovich.
- Wong, N. (1993). Classical psychoanalysis. In H. I. Kaplan, & B. J. Sadock (Eds.), *Comprehensive textbook of psychiatry* (5th ed., pp. 356–402). Baltimore: Williams & Wilkins.

Chapter Twelve

FALSE CONFESSIONS

SKYE A. WOESTEHOFF AND CHRISTIAN A. MEISSNER

On July 8, 1997, a woman named Michelle Bosko was raped and murdered. The evidence suggested a single perpetrator, and the police soon turned their attention to her neighbor, Danial Williams. After an overnight interrogation, Danial confessed to the crime. Several months later, however, the DNA excluded him as the rapist. The police subsequently identified a second suspect, who confessed and was then excluded by DNA testing. The police identified a third—and then a fourth, fifth, sixth, and seventh—suspect, two of whom confessed and all of whom were excluded by DNA test results. The first four suspects came to be known as the Norfolk Four (Leo & Davis, 2010).

All of the Norfolk Four endured lengthy and coercive interrogations that included repeated accusations, threats of the death penalty, promises of leniency, and lies about evidence (Leo & Davis, 2010). Throughout their interrogations, the police divulged facts about the case—facts that were incorporated into the Norfolk Fours' confessions and were later taken as proof of their guilt. At times, the Norfolk Four were re-interrogated to ensure their confessions matched new information about the crime, or to ensure they implicated a new suspect when one was identified. Although their confessions were often inconsistent with case facts, and although the evidence suggested a single perpetrator, the police and the prosecutors steadfastly believed in the Norfolk Fours' guilt. Their belief remained firm even when the true perpetrator confessed and said he acted alone, and when his confession was corroborated by DNA evidence. Two of the Norfolk Four pleaded guilty to avoid the death penalty, and the other two were convicted at trial (Leo & Davis, 2010).

The case of the Norfolk Four illustrates how confessions can be elicited from innocent suspects and demonstrates the effects those confessions can have beyond the interrogation. In this chapter, we will further explore false

confessions, including why innocent suspects confess, how confessions can influence decision makers in the legal system, and recommendations for best practices.

FALSE CONFESSIONS

While there has been a notable surge in the frequency of false confessions discussed in the media, the actual rate of false confessions in practice is difficult to determine (cf. Leo & Ofshe, 1998). Police investigators in the United States estimate that the incidence of false confessions is low, with only 5% of innocent suspects confessing (Kassin et al., 2007). In contrast, Gudjonsson's (2010) review of the research found that 12 to 24% of prisoners report having falsely confessed, while 1 to 14% of individuals in the community report having falsely confessed. Furthermore, the Innocence Project has found that false confessions or false admissions were present in approximately one quarter of the wrongful convictions overturned by DNA testing (www.innocenceproject.org). While it may be difficult to estimate the precise incidence rate of false confessions, it is clear that innocent suspects do falsely confess and that the police are aware of the possibility.

The majority of the 125 false confession cases reviewed by Drizin and Leo (2004) involved murder or rape, although false confessions can occur in less serious crimes as well (Redlich, Kulish, & Steadman, 2011). Drizin and Leo's (2004) findings were clear—false confessions can lead to serious repercussions for the confessors. Although some pleaded guilty, false confessors often opted to take their cases to trial, and they were often convicted. The majority of these false confessors were sentenced to 10 or more years in prison, and 21% of them were sentenced to death. False confessions can even have negative effects on suspects who were not prosecuted. Those who were never charged, or who had their charges dropped, spent time in pre-trial custody—sometimes for more than a year (Drizin & Leo, 2004).

Dispositional and *situational* factors contribute to false confessions (Kassin et al., 2010; Meissner, Kelly, & Woestehoff, 2015). *Dispositional* characteristics of the suspect such as youth, mental illness and low intelligence can increase the risk of falsely confessing because these individuals may be more suggestible and affected by interrogative pressure (Meissner et al., 2015). Supporting this, archival analyses of false confessions have demonstrated that juveniles and suspects with a mental illness or intellectual disability are prevalent in the population of false confessors (Drizin & Leo, 2004; Garrett, 2010, 2015). In one study of wrongful conviction cases, 42% of juveniles had falsely confessed—the majority of whom were between 12 and 15 years of age. Additionally, 69% of individuals who had an intellectual disability ulti-

mately provided a false confession (Gross, Jacoby, Matheson, Montgomery, & Patil, 2005).

Situational factors include the general environment of the interrogation, such as the use of accusatorial interrogation techniques, the length of the interrogation, and the interrogator's belief in the suspect's guilt (Meissner et al., 2015). Interrogators are trained to question suspects in a small, sparsely furnished room. As the interrogation lengthens, suspects may feel increased pressure to escape (Kassin et al., 2010). Certain interrogation techniques can also lead to false confessions, most notably the use of minimization and maximization tactics that influence a suspect's perception of the evidence against them and the potential consequences associated with maintaining their innocence vs. providing a confession (Kassin et al., 2010; Meissner et al., 2015).

Researchers have classified false confessions into three types: voluntary, compliant, and internalized (see Kassin et al., 2010). *Voluntary* false confessions are given without prompting from authorities by suspects who accept blame to protect someone else, or because they seek to take credit for the crime (Kassin et al., 2010). The majority of the false confessions in Malloy and colleagues' (2014) sample were voluntary, frequently involving the assumption of blame for a friend (see also Redlich et al., 2011). People may also provide a voluntary false confession because they seek fame for committing a high-profile crime, or to relieve feelings of guilt for an unrelated offense (Kassin et al., 2010).

Compliant false confessions are given by suspects who capitulate under pressure during an interrogation (Kassin et al., 2010). One of the Norfolk Four said that he would have confessed to anything to end the interrogation (Leo & Davis, 2010). Compliant false confessors may confess believing that the evidence will subsequently exonerate them (Perillo & Kassin, 2011), that they would be afforded leniency, or that they would be able to go home after confessing (Redlich et al., 2011). The length of the interrogation may also play a role—people tend to discount the long-term consequences of confessing (Madon, Yang, Smalarz, Gyll, & Scherr, 2013) and they become more suggestible to leading questions in longer interrogations (Madon et al., 2017). The majority of false confessions in Drizin and Leo's (2004) sample occurred after lengthy interrogations: 84% lasted longer than 6 hours, and 50% lasted longer than 12 hours. Accusatorial interrogation techniques, discussed in greater depth below, can also increase the likelihood of a compliant false confession (Meissner et al., 2015).

Finally, *internalized* false confessions occur when innocent suspects come to believe that they committed the crime (Kassin et al., 2010). Internalized false confessions are more likely to occur when the suspect believes it is plausible they could have committed the crime (Kassin & Kiechel, 1996; Klaver, Lee, & Rose, 2008); when the interrogator lies about having evidence impli-

cating the suspect; or when the suspect is particularly susceptible to memory failure or suggestibility due to factors such as youth, intoxication, or low intelligence (Kassin, 1997). Internalized false confessions may also result from interrogation techniques that distort a suspect's memory, causing them to create false memories of their involvement in the crime (Henkel & Coffman, 2004).

Taken together, studies have rather conclusively demonstrated that the false confession phenomenon occurs in our criminal justice system and is associated with severe consequences for the innocent suspect. Several decades of research have also examined false confessions both in the field and the laboratory (see Gudjonsson, 2003; Lassiter & Meissner, 2010; Meissner et al., 2014, 2015). The remainder of this chapter will review our current knowledge of the false confession phenomenon, including how confessions are elicited, the impact a confession has on decision-makers within the legal system, and empirically-based recommendations for best practices. In the following section, we will review how innocent people are misidentified as suspects, the situational factors that can lead them to confess, and the psychological factors that are related to false confessions.

THE ELICITATION OF FALSE CONFESSIONS

Pre-interrogation Interview

Interrogation manuals recommend that investigators conduct an information-gathering interview prior to an interrogation, the purpose of which is to evaluate whether a potential suspect is being deceptive. Deception is purportedly indicated by certain verbal and nonverbal behaviors, such as fidgeting and answering questions evasively (Inbau, Reid, Buckley, & Jayne, 2013). Although interrogators are confident in their deception detection abilities (Kassin et al., 2007; Kassin, Meissner, & Norwick, 2005), decades of research suggests that deception detection accuracy is actually not much better than chance (54%; Bond & DePaulo, 2006). Accuracy particularly suffers when perceivers have access to visual information (Bond & DePaulo, 2006; Kassin et al., 2005). This may be because nonverbal behaviors that are thought to be indicative of deception, such as fidgeting, are not related to lying (DePaulo et al., 2003). Adding to these results, people who are trained in deception detection demonstrate a bias towards seeing deception or guilt (Kassin & Fong, 1999; Kassin et al., 2005; Meissner & Kassin, 2002). Thus, interrogators who are trained to detect deception may erroneously classify an innocent suspect as guilty and commence the interrogation with a pre-existing bias towards assuming guilt (Kassin, 2005; Meissner & Kassin, 2004).

Interrogation

Researchers have employed two broad methods to study interrogations and confessions: field and laboratory research. Field research includes observational studies of actual police interrogations, surveys and interviews of law enforcement and national security personnel, and archival reviews of wrongful conviction cases. Such approaches carry the distinct advantage of high external validity and generalizability. For example, observational studies can document the types of techniques interrogators use (Leo, 1996), survey and interviews can address directly the perspective of professionals with respect to the tactics they believe are effective (Kassin et al., 2007; Redlich, Kelly, & Miller, 2014; Russano, Narchet, Kassin, & Meissner, 2014), and archival research can provide insights regarding factors related to the incidence of false confessions (Drizin & Leo, 2004; Leo & Ofshe, 1998). While field studies have certainly increased our understanding of interrogations and confessions, these approaches are limited by the inability to draw causal conclusions regarding why people falsely confess. A number of researchers have thus begun to use experimental laboratory research methods to examine the cause-and-effect relationships for false confessions (Kassin & Kiechel, 1996; Russano, Meissner, Narchet, & Kassin, 2005). Below, we discuss how field and experimental research has added to our understanding of false confessions.

Interrogation Techniques

Interrogation techniques in the United States are accusatorial and focused on eliciting a confession (Meissner et al., 2014). Accusatorial interrogation techniques can be broadly classified into two categories: maximization and minimization. *Maximization* is where the interrogator exaggerates the strength of the evidence, such as by claiming to have evidence that does not actually exist (Kassin & McNall, 1991). This false evidence can be an explicit claim or a mere implication (Perillo & Kassin, 2011). Danial Williams of the Norfolk Four was presented with explicit false evidence when the interrogators falsely told him he failed a polygraph (Leo & Davis, 2010). *Minimization* tactics involve the interrogator offering excuses and justifications for the crime, thereby downplaying its significance (Kassin & McNall, 1991). For example, the interrogator might suggest a homicide suspect only wanted to scare or wound the victim, or that a burglary suspect only stole the items to be able to support his family (Inbau et al., 2013). Such accusatorial techniques are promoted by interrogation manuals (Inbau et al., 2013), and interrogators report using these techniques some of the time (Kassin et al., 2007).

Unfortunately, over a decade of research has shown that accusatorial techniques can prompt false confessions (see Kassin et al., 2010; Meissner et

al., 2014). People falsely confess more often when the interrogator presents false evidence both explicitly, by saying an eyewitness witnessed the event (Kassin & Kiechel, 1996); or implicitly, by falsely claiming there was video evidence of the incidence that could be examined at a later point (Perillo & Kassin, 2011). Minimization techniques, such as face-saving excuses and downplaying the seriousness of the offense, also increase false confessions by manipulating the perceived consequences associated with confessing (Horgan, Russano, Meissner, & Evans, 2012; Russano et al., 2005). Notably, minimization techniques can affect suspects similarly to an explicit promise of leniency, the latter of which is impermissible in interrogations (Russano et al., 2005). Finally, false confessions are more prevalent when an investigator believes that the suspect is guilty, as an investigator's guilt bias can lead to an increased reliance on guilt-presumptive questions (Hill, Memon, & McGeorge, 2008; Kassin, Goldstein, & Savitsky, 2003) and accusatorial techniques, thereby increasing the likelihood of false confessions (Narchet, Meissner, & Russano, 2011).

Psychological Factors

Laboratory research and interviews with false confessors have explored the psychological factors that are related to false confessions. False confessors generally report confessing as a result of two primary reasons: perceptions of the consequences of confessing, and external pressure (see Houston, Meissner, & Evans, 2014). Regarding perceived consequences, innocent suspects confess because they believe doing so will grant them leniency, or because they believe failing to confess would result in harsher punishment (Malloy, Shulman, & Cauffman, 2014; Redlich et al., 2011). Accusatorial interrogation techniques increase false confessions by manipulating suspects' perceptions of the consequences of confessing (Horgan et al., 2012). Maximization techniques are perceived as a threat of harsher punishment for failing to confess, and minimization techniques are perceived as a promise of leniency in exchange for a confession (Kassin & McNall, 1991). Certain minimization and maximization techniques affect suspects' perception of the consequences of confessing, and this perception is then related to their decision to confess (Horgan et al., 2012).

Both experimental research (Houston et al., 2014; Perillo & Kassin, 2011; Russano et al., 2005) and interviews with false confessors (Malloy et al., 2014; Redlich et al., 2011) have also demonstrated that innocent suspects are more likely to confess when they feel greater pressure to do so from the interrogator. Suspects' perceptions of pressure can be increased by guilt-presumptive (Hill et al., 2008) and accusatorial (Russano et al., 2005) interrogation techniques. An investigator's belief that the suspect is guilty can also

increase perception of pressure by increasing the number of accusatorial techniques used in the interrogation, thereby also increasing false confessions (Narchet et al., 2011). Interestingly, pressure from the interrogator can even be exacerbated by the suspect's innocence—when the suspect is innocent, both the suspect and the interrogator perceive that the interrogator is trying harder to get a confession, and is exerting more pressure on the suspect to confess (Kassin et al., 2003; Narchet et al., 2011).

THE CONSEQUENCES OF A (FALSE) CONFESSION

Once a confession has been elicited, it can have several effects within the legal system. Interrogators may commence an interrogation believing the suspect is guilty (Kassin, 2005), and that belief in guilt persists after the interrogation—particularly when the suspect confesses (Narchet et al., 2011). The confession itself can also impact other evidence in the case, as well as affect the decisions of those in the legal system.

Influence on Evidence

Different pieces of evidence in a case are often assumed to be independent of one another; however, that may not be entirely true. Kassin (2012) proposed that a confession can lead to *corroboration inflation*, whereby the confession itself generates additional supporting evidence and makes the case appear stronger than it actually is. Kassin, Bogard, and Kerner (2012) compared wrongful conviction cases with and without a confession to examine whether a confession can impact other pieces of evidence. Wrongful conviction cases that included a confession were more likely to have multiple evidentiary errors, such as errors in forensic science or eyewitness misidentifications. Importantly, in the majority of cases the confession preceded the other errors, which suggests that the confession may have influenced subsequent evidence. In a similar vein, Garrett's (2010, 2015) analysis of wrongful conviction cases found that there were often multiple false confessions present in the same case, potentially because one suspect incriminates another in his or her false confession. This additional evidence may erroneously be taken as corroboration of the confession (Kassin et al., 2012).

Laboratory research has built upon archival research to further examine how a confession can lead to errors in other pieces of evidence. Elaad, Ginton, and Ben-Shakhar (1994) investigated professional polygraphers' decisions regarding whether a suspect was being deceptive. Polygraphers were told that the suspect confessed (guilt expectation) or that someone else had confessed (innocent expectation). Expectations did influence polygraphers' deci-

sions—but only when the polygraph results were inconclusive. When the polygraph results were conclusive, polygraphers' decisions adhered to the polygraph results (Elaad et al., 1994). Kukucka and Kassin (2014) extended these results to handwriting analyses. Lay people were asked to determine whether two ambiguous handwriting samples came from the same person. Lay people determined that the samples were more often a match when told that the suspect had confessed to the crime, compared to when the suspect did not confess. Dror and Charlton (2006) similarly found that fingerprint experts' decisions were influenced when they were told that the suspect had been in custody at the time of the crime or told they had confessed to the crime.

Confessions can influence non-forensic evidence as well. Hasel and Kassin (2009) staged a mock crime and presented unsuspecting eyewitnesses with a lineup that did not include the perpetrator. Two days later, the eyewitnesses were told either that the person they identified had confessed or denied involvement in the crime, that all lineup members had denied involvement, or that another person in the lineup had confessed. Sixty-one percent of eyewitnesses who were told that another person had confessed changed their initial decision to identify the confessor as the perpetrator. Of the eyewitnesses who did not make an initial identification, the majority identified the confessor when told that he confessed.

In sum, false confessions are often accompanied by multiple errors in other evidence (Kassin et al., 2012), and knowledge of a confession itself can influence both forensic evidence (Elaad et al., 1994) and eyewitness identifications (Hasel & Kassin, 2009). Confessions can even affect exculpatory evidence—alibi witnesses are less likely to confirm the suspect's alibi when told that the suspect confessed, compared to when the suspect denied committing the crime (Marion et al., 2016). Confessions continue to have an impact on legal decision makers once the case is brought to trial.

Influence on Legal Decision Makers

In Garrett's (2010, 2015) review of wrongful conviction cases, the confession was always admitted at trial despite defense attorneys' attempts to exclude it from evidence, and despite the questionable nature of the interrogation that produced it. The confession was at times the only piece of incriminating evidence in the case (Garrett, 2015). Archival data suggest that, unfortunately, false confessions that are presented at trial are highly likely to be associated with wrongful conviction (Drizin & Leo, 2004).

Confessions are viewed as a stronger form of incriminating evidence than either eyewitness or character witness testimony (Kassin & Neumann, 1997). Both jurors (Kassin & Sukel, 1997) and judges (Wallace & Kassin,

2012) are more likely to convict a confessor than a defendant who did not confess. Jurors may even disregard coercive elements of the interrogation and convict the defendant even when jurors believe the confession to be involuntary (Kassin & Sukel, 1997). Although minimization techniques increase false confessions (Russano et al., 2005), jurors still tend to convict a defendant who confesses in response to those techniques. Furthermore, convictions tend to be similar to when the defendant confesses in an unprompted, voluntary manner, which suggests that jurors may not recognize the impact of minimization techniques on innocent suspects (Kassin & McNall, 1991). Jurors may take a confession at face value as proof of a defendant's guilt (see Woestehoff & Meissner, 2016), believing that innocent suspects would not confess (Henkel, Coffman, & Dailey, 2008) and that accusatorial interrogation techniques would not prompt them to do so (Leo & Liu, 2009). The only type of confession jurors seem willing to discount is one elicited via a direct threat (Kassin & Wrightsman, 1980, 1981).

More recent experimental research suggests that jurors may be more likely to distrust a confession under certain circumstances. Woestehoff and Meissner (2016) found that jurors were less likely to convict a defendant who had confessed during an interrogation that included accusatorial interrogation techniques, or an interrogation that was blatantly coercive, compared to when the defendant confessed without prompting (see also O'Donnell & Safer, 2017). When the interrogator used accusatorial and coercive interrogation tactics, jurors believed the defendant confessed due to situational pressures. In contrast, jurors believed the defendant confessed because he was guilty when the interrogator used non-coercive interrogation tactics. These results suggest that jurors do not always take a confession as proof of guilt; instead, they may be sensitive to how the confession was elicited (Woestehoff & Meissner, 2016). Similarly, Palmer and colleagues (2016) found that jurors were less likely to convict a defendant whose confession was inconsistent with the case facts, in part because jurors believed that the defendant had confessed for a reason other than guilt. Woestehoff and Meissner (2016) suggest that the conflicting results of recent research may be because jurors have gained awareness about false confessions through the media, and that such knowledge has helped them to better evaluate an interrogation and the resultant confession.

Although recent research suggests that jurors may be improving with regards to how they reason about a confession, archival research is clear that false confessions are likely to lead to wrongful convictions (Drizin & Leo, 2004). One reason jurors may take a confession as proof of guilt is the content of the confession. False confessions are often quite detailed, including vivid information about the crime and crime scene, the suspect's motive, and sometimes even remorse or apologies for committing the crime (Appleby,

Hasel, & Kassin, 2013). What lends further credence to the confession is that they often contain nonpublic details—information that should have been known only to the police and the perpetrator (Garrett, 2010, 2015). At trial, police officers testified that the suspect had freely volunteered those details during the interrogation and noted that the details were consistent with the crime scene (while ignoring the details that were *inconsistent* with the evidence; Garrett, 2010, 2015). It is likely that it is the presence of these details that lead confessions to be so persuasive. Research suggests that mock jurors believe it is more likely the defendant committed the crime when the confession was detailed, and when the confession includes a motive for the crime (Appleby et al., 2013).

Another reason jurors may be more likely to convict a confessor is the persuasive nature of a prosecutor's statements at trial. Prosecutors often emphasize the consistencies between the confession and the evidence in the case, and emphasize that the confession included non-public details (Garrett, 2010, 2015). Prosecutors may highlight that the details in the confession were too specific to be guessed, and deny that the details were disclosed by the police. Prosecutors may even gloss over the parts of the confession that were inconsistent with case facts, focusing instead on the details that were consistent (Garrett, 2010, 2015). In one instance, a defendant's confession referenced a shirt with a torn-off patch that was found at the crime scene. The prosecutor stated at trial that the defendant knew highly detailed information about the crime, saying, "Now, how does somebody make all that up, unless they were actually there and actually did it?" (Garrett, 2010, p. 1076).

The influence of the prosecutor's statements is particularly illustrated in cases where the confession is contradicted by DNA evidence, and yet the jury convicts anyway (Garrett, 2015). Prosecutors have presented theories to explain away inconsistent DNA results, suggesting that there was a second perpetrator, the victim had had consensual sex prior to the attack, or that the DNA sample was contaminated (Garrett, 2015). In an experimental study, Appleby and Kassin (2016) found that, in the absence of a prosecutorial theory, jurors' verdicts aligned with the DNA results. Jurors convicted when the DNA implicated the suspect and acquitted when the DNA exonerated the suspect, even when the suspect had confessed to the crime. However, when the prosecutor theorized as to why the DNA did not match, jurors convicted the defendant more readily. Thus, both real world examples (Garrett, 2015) and experimental research (Appleby & Kassin, 2016) have demonstrated that a confession can factor more heavily into jurors' verdicts than even DNA evidence, as long as jurors have a reason to discount the contradictory DNA results.

RECOMMENDATIONS FOR REDUCING THE LIKELIHOOD OF FALSE CONFESSIONS

Scholars have put forth several recommendations for reducing the likelihood of false confessions, and to lessen the consequences of a false confession after it has been elicited (see Garrett, 2010, 2015; Kassin et al., 2010; Lassiter & Meissner, 2010).

Interrogation Reforms

The first recommendation concerns interrogation practices. Kassin and colleagues (2010) recommend a change in interrogations themselves: a move away from accusatorial interrogation techniques to an information-gathering approach, such as is used in the United Kingdom. Moving to an information-gathering approach in the interrogation room could offer a double benefit: a recent meta-analysis found that accusatorial techniques not only increase false confessions, but they can suppress true confessions as well, compared to information-gathering techniques (Meissner et al., 2014). Information-gathering techniques may thus protect innocent suspects while simultaneously increasing confessions from guilty suspects. Information-gathering approaches are focused on eliciting information, rather than a confession, and rely on more open-ended questions than accusatorial, guilt-presumptive techniques. Importantly, information-gathering approaches gain suspects' cooperation via rapport-building strategies and internal pressure to confess (i.e., feelings of guilt), whereas accusatorial techniques elicit confessions by manipulating a suspect's perceptions of pressure or the consequences of confessing—factors that are associated with false confessions (see Meissner et al., 2015; Meissner, Surmon-Böhr, Oleszkiewicz, & Alison, 2017).

Another recommendation is to conduct double-blind interrogations, where the interrogator is someone outside of the investigative team (Garrett, 2010, 2015). False confessions often contain intimate details about the crime, and the suspect may learn these details from the interrogator. These details can be communicated by visits to the crime scene, pictures of the crime scene, or through leading questions during the interrogation. Garrett (2010) describes one instance in which the suspect said he hit the victim with a brick and was then led during the interrogation, and later at trial, to say (correctly) that the victim had been hit with a piece of concrete. Having an interrogator who was not part of the investigative team could prevent this type of confession contamination, where the suspect appears to have accurate knowledge of the crime (knowledge which is then taken as proof of guilt; Garrett, 2010, 2015). It is also important to ensure that investigators withhold key details from the media or third parties that might similarly conta-

minate a suspect's knowledge of case-related information, and that investigators do not disclose information during the interrogation, such as evidentiary materials, crime scene photographs, or visits to the crime scene (Leo & Ofshe, 1998).

Scholars have also recommended recording the interrogation from start to finish (Garrett, 2010, 2015; Kassin et al., 2010; Lassiter & Meissner, 2010), a recommendation which is supported by law enforcement officers as well (Kassin et al., 2007). Recording the interrogation allows third-party observers to assess whether there was any coercion during the interrogation, and whether the police disclosed information to the suspect. Absent a recording, the details contained within a suspect's confession are perceived as coming from genuine knowledge of the crime, rather than leading questions from the interrogator (Garrett, 2010). Recording the interrogation has the added benefit of protecting the interrogator against unfounded allegations of wrongdoing (Sullivan, 2010), and does not significantly lower the frequency of confessions produced (Geller, 1992; Grant, 1987; Willis, Macleod, & Naish, 1988). Furthermore, recording the interrogation leads interrogators to be less likely to use minimization and maximization techniques (Kassin, Kukucka, Lawson, & DeCarlo, 2014), which could itself reduce false confessions. Scholars recommend that the videotape has an equal focus perspective where both the suspect and the interrogator are visible on screen. Jurors may perceive the confession to be more voluntary if only the suspect is on camera; thus, an equal focus perspective leads to more balanced evaluations of the interrogation and confession (Lassiter, 2010; Lassiter, Ware, Lindberg, & Ratcliff, 2010).

Following an interrogation, it is recommended that investigators corroborate the confession. In numerous false confession cases, investigators closed the case and failed to evaluate inconsistencies between the confession and the case facts, or to conduct other investigative activities (Garrett, 2010). Several wrongful conviction cases proceeded to trial with no evidence other than the confession. In one case, the investigator even decided not to test the DNA evidence, believing it was superfluous after obtaining the confession (Garrett, 2015). Investigators should assess whether novel information in the suspect's confession is corroborated by the evidence (Leo & Ofshe, 1998). Investigators should also evaluate the reliability of the confession itself by identifying inconsistencies between the confession and the case facts (Garrett, 2010).

Court Reforms

Garrett (2010, 2015) recommends several reforms in the way that courts review and consider confession evidence, both pretrial and at trial. Judges

have routinely admitted false confessions into court, perhaps because admissibility standards rely on whether the confession was deemed voluntary rather than whether the confession was reliable. Garrett (2010, 2015) suggests that judges evaluate the reliability of the confession before admitting it as evidence, such as determining whether the detectives divulged inside information about the crime during the interrogation. Having a complete recording of an interrogation can greatly facilitate such assessments.

Once a confession has been admitted, jurors should be exposed to expert testimony regarding the interrogation. The majority of defendants in Garrett's (2015) sample were particularly susceptible to interrogative pressure given their age or cognitive limitations; however, few of the defendants requested or were permitted expert testimony at trial to educate the jury about such risk factors. Expert testimony about false confessions does appear to increase jurors' knowledge (Woestehoff & Meissner, 2016) and can influence jurors' verdicts in a case with a disputed confession (Woody & Forrest, 2009)—hence, such testimony may be beneficial to include at trial.

Garrett (2015) also recommends reforming jury instructions regarding confessions. Instructions currently encourage jurors to evaluate whether the confession was voluntary, but do not address the reliability of the confession or provide information about false confessions. O'Donnell and Safer's (2017) research supports the proposition that jury instructions may assist jurors in better evaluating a confession. O'Donnell and Safer (2017) compared two types of jury instructions. The standard instructions encouraged jurors to determine whether the defendant was the one who provided the statement, and to consider whether the statements were written or recorded. The enhanced instructions provided additional detail regarding what to consider when evaluating the confession, such as the defendant's age or mental status, the length of the interrogation, the interrogation techniques used, and whether the confession was corroborated by other pieces of evidence. Jurors who read the enhanced instructions were less likely to convict the defendant when the interrogation included false confession risk factors, compared to when the interrogation did not include risk factors. However, jurors were not able to discriminate between interrogations when only provided with the standard instructions, suggesting that the additional information contained in the enhanced instructions was necessary to help jurors evaluate the interrogation (O'Donnell & Safer, 2017).

CONCLUSIONS

Innocent suspects may confess to crimes they did not commit, and in doing so they may be wrongfully convicted. While this phenomenon is a

troublesome reality, researchers have begun to delineate factors that may be responsible for its occurrence, including accusatorial interrogation techniques, suspects' perceptions of pressure, or the expected consequences of confessing or denying involvement in the crime. Confessions can yield significant consequences after the interrogation, leading to the generation of additional pieces of incriminating evidence and encouraging jurors to convict the defendant. We have described several reforms, including using information-gathering techniques instead of accusatorial techniques, corroborating the confession, and providing safeguards at trial, such as expert testimony and jury instruction. Ultimately, it is important for practitioners and researchers to continue to identify methods to reduce the incidence of false confessions and minimize the consequences of a false confession if elicited.

REFERENCES

- Appleby, S. C., Hasel, L. E., & Kassin, S. M. (2013). Police-induced confessions: An empirical analysis of their content and impact. *Psychology, Crime & Law, 19*, 111–128. doi:10.1080/1068316X.2011.613389
- Appleby, S. C., & Kassin, S. M. (2016). When self-report trumps science: Effects of confessions, DNA, and prosecutorial theories on perceptions of guilt. *Psychology, Public Policy, and Law, 22*, 127–140. doi:10.1037/law0000080
- Bond, C. F. Jr., & DePaulo, B. M. (2006). Accuracy of deception judgments. *Personality and Social Psychology Review, 10*, 214–234. doi:10.1207/s15327957pspr1003_2
- DePaulo, B. M., Lindsay, J. J., Malone, B. E., Muhlenbruck, L., Charlton, K., & Cooper, H. (2003). Cues to deception. *Psychological Bulletin, 129*, 74–118. doi:10.1037/0033-2909.129.1.74
- Drizin, S. A., & Leo, R. A. (2004). The problem of false confessions in the post-DNA world. *North Carolina Law Review, 82*, 891–1007.
- Dror, I. E., & Charlton, D. (2006). Why experts make errors. *Journal of Forensic Identification, 56*, 600–616.
- Elaad, E., Ginton, A., & Ben-Shakhar, G. (1994). The effects of prior expectations and outcome knowledge on polygraph examiners' decisions. *Journal of Behavioral Decision Making, 7*, 279–292.
- Garrett, B. L. (2010). The substance of false confessions. *Stanford Law Review, 62*, 1051–1118.
- Garrett, B. L. (2015). Contaminated confessions revisited. *Virginia Law Review, 101*, 395–454.
- Geller, W. A. (1992). *Police videotaping of suspect interrogations and confessions*. Wilmette, IL: Police Executive Forum.
- Grant, A. (1987). Videotaping police questioning: A Canadian experiment. *Criminal Law Review, 375–383*.

- Gross, S. R., Jacoby, K., Matheson, D. J., Montgomery, N., & Patil, S. (2005). Exonerations in the United States 1989 through 2003. *The Journal of Criminal Law & Criminology*, *95*, 523–560.
- Gudjonsson, G. H. (2003). *The psychology of interrogations and confessions: A handbook*. West Sussex, England: John Wiley & Sons, Ltd.
- Gudjonsson, G. H. (2010). The psychology of false confessions: A review of the current evidence. In G. D. Lassiter & C. Meissner's (Eds.), *Interrogations and confessions: Research, practice, and policy*. Washington, DC: APA.
- Hasel, L. E., & Kassin, S. M. (2009). On the presumption of evidentiary independence: Can confessions corrupt eyewitness identifications? *Psychological Science*, *20*, 122–126. doi:10.1111/j.1467-9280.2008.02262.x
- Henkel, L. A., & Coffman, K. J. (2004). Memory distortion in coerced false confessions: A source monitoring framework analysis. *Applied Cognitive Psychology*, *18*, 567–588.
- Henkel, L. A., Coffman, K. A. J., & Dailey, E. M. (2008). A survey of people's attitudes and beliefs about false confessions. *Behavioral Sciences and the Law*, *26*, 555–584. doi:10.1002/bsl.826
- Hill, C., Memon, A., & McGeorge, P. (2008). The role of confirmation bias in suspect interviews: A systematic evaluation. *Legal and Criminological Psychology*, *13*, 357–371. doi:10.1348/135532507X238682
- Horgan, A. J., Russano, M. B., Meissner, C. A., & Evans, J. R. (2012). Minimization and maximization techniques: Assessing the perceived consequences of confessing and confession diagnosticity. *Psychology, Crime, & Law*, *18*, 65–78. doi:10.1080/1068316X.2011.561801
- Houston, K. A., Meissner, C. A., & Evans, J. R. (2014). Psychological processes underlying true and false confessions. In R. H. Bull (Ed.), *Investigative interviewing* (pp. 19–34). UK: Wiley-Blackwell.
- Inbau, F. E., Reid, J. E., Buckley, J. P., & Jayne, B. C. (2013). *Criminal interrogations and confession* (5th ed.). Burlington, MA: Jones & Bartlett Learning.
- Kassin, S. M. (2005). On the psychology of confessions: Does innocence put innocents at risk? *American Psychologist*, *60*, 215–228. doi:10.1037/0003-066X.60.3.215
- Kassin, S. M. (2007). The psychology of confession evidence. *American Psychologist*, *52*, 221–233.
- Kassin, S. M. (2012). Why confessions trump innocence. *American Psychologist*, *67*, 431–445. doi:10.1037/a0028212
- Kassin, S. M., Bogart, D., & Kerner, J. (2012). Confessions that corrupt: Evidence from the DNA exoneration case files. *Psychological Science*, *23*, 41–45. doi:10.1177/0956797611422918
- Kassin, S. M., Drizin, S. A., Grisso, T., Gudjonsson, G. H., Leo, R. A., & Redlich, A. D. (2010). Police-induced confessions: Risk factors and recommendations. *Law and Human Behavior*, *34*, 3–38. doi:10.1007/s10979-009-9188-6
- Kassin, S. M., & Fong, C. T. (1999). "I'm innocent!": Effects of training on judgments of truth and deception in the interrogation room. *Law and Human Behavior*, *23*, 499–516. doi:10.1023/A:1022330011811

- Kassin, S. M., Goldstein, C. C., & Savitsky, K. (2003). Behavioral confirmation in the interrogation room: On the dangers of presuming guilt. *Law and Human Behavior, 27*, 187–203. doi: 10.1023/A:1022599230598
- Kassin, S. M., & Kiechel, K. L. (1996). The social psychology of false confessions: Compliance, internalization, and confabulation. *Psychological Science, 7*, 125–128. doi:10.1111/j.1467-9280.1996.tb00344.x
- Kassin, S. M., Kukucka, J., Lawson, V. Z., & DeCarlo, J. (2014). Does video recording alter the behavior of police during interrogation? A mock crime-and-investigation study. *Law and Human Behavior, 38*, 73–83. doi:10.1037/lhb0000047
- Kassin, S. M., Leo, R. A., Meissner, C. A., Richman, K. D., Colwell, L. H., Leach, A.-M., & La Fon, D. (2007). Police interviewing and interrogation: A self-report survey of police practices and beliefs. *Law and Human Behavior, 31*, 381–400. doi:10.1007/s10979-006-9073-5
- Kassin, S. M., & McNall, K. (1991). Police interrogations and confessions: Communicating promises and threats by pragmatic implication. *Law and Human Behavior, 15*, 233–251. doi:10.1007/BF01061711
- Kassin, S. M., Meissner, C. A., & Norwick, R. J. (2005). “I’d know a false confession if I saw one”: A comparative study of college students and police investigators. *Law and Human Behavior, 29*, 211–227. doi:10.1007/s10979-005-2416-9
- Kassin, S. M., & Neumann, K. (1997). On the power of confession evidence: An experimental test of the fundamental difference hypothesis. *Law and Human Behavior, 21*, 469–484. doi:10.1023/A:1024871622490
- Kassin, S. M., & Sukel, H. (1997). Coerced confessions and the jury: An experimental test of the “harmless error” rule. *Law and Human Behavior, 21*, 27–46. doi:10.1023/A:1024814009769
- Kassin, S. M., & Wrightsman, L. S. (1980). Prior confessions and mock juror verdicts. *Journal of Applied Social Psychology, 10*, 133–146. doi:10.1111/j.1559-1816.1980.tb00698.x
- Kassin, S. M., & Wrightsman, L. S. (1981). Coerced confessions, judicial instruction, and mock juror verdicts. *Journal of Applied Social Psychology, 11*, 489–506. doi:10.1111/j.1559-1816.1981.tb00838.x
- Klaver, J. R., Lee, Z., & Rose, V. G. (2008). Effects of personality, interrogation techniques and plausibility in an experimental false confession paradigm. *Legal and Criminological Psychology, 13*, 71–88. doi:10.1348/135532507X193051
- Kukucka, J., & Kassin, S. M. (2014). Do confessions taint perceptions of handwriting evidence? An empirical test of the forensic confirmation bias. *Law and Human Behavior, 38*, 256–270. doi:10.1037/lhb0000066
- Lassiter, G. D. (2010). Psychological science and sound public policy: Video recording of custodial interrogations. *American Psychologist, 65*(8), 768–779. doi:10.1037/0003-066X.65.8.768
- Lassiter, G. D., Ware, L. J., Lindberg, M. J., & Ratcliff, J. J. (2010). Videotaping custodial interrogations: Toward a scientifically based policy. In G. D. Lassiter & C. A. Meissner (Eds.), *Police interrogations and false confessions: Current research, practice, and policy recommendations* (pp. 143–160). Washington, DC: American Psychological Association.

- Lassiter, G. D., & Meissner, C. A. (2010). *Police interrogations and false confessions: Research, practice, and policy reforms*. Washington, DC: American Psychological Association.
- Leo, R. A. (1996). Inside the interrogation room. *The Journal of Criminal Law & Criminology*, *86*, 266–303.
- Leo, R. A., & Davis, D. (2010). From false confession to wrongful conviction: Seven psychological processes. *The Journal of Psychiatry & Law*, *38*, 9–56.
- Leo, R. A., & Liu, B. (2009). What do potential jurors know about police interrogation techniques and false confessions? *Behavioral Sciences and the Law*, *27*, 381–399. doi:10.1002/bsl.872
- Leo, R. A., & Ofshe, R. J. (1998). The consequences of false confessions: Deprivations of liberty and miscarriages of justice in the age of psychological interrogation. *Criminal Law and Criminology*, *88*, 429–496.
- Madon, S., Guyll, M., Yang, Y., Smalarz, L., Marschall, J., & Lannin, D. G. (2017). A biphasic process of resistance among suspects: The mobilization and decline of self-regulatory resources. *Law and Human Behavior*, *41*, 159–172. doi:10.1037/lhb0000221
- Madon, S., Yang, Y., Smalarz, L., Guyll, M., & Scherr, K. C. (2013). How factors present during the immediate interrogation situation produce short-sighted confession decisions. *Law and Human Behavior*, *37*, 60–74. doi:10.1037/lhb0000011
- Malloy, L. C., Shulman, E. P., & Cauffman, E. (2014). Interrogations, confessions, and guilty pleas among serious adolescent offenders. *Law and Human Behavior*, *38*, 181–193. doi:10.1037/lhb0000065
- Marion, S. B., Kukucka, J., Collins, C., Kassin, S. M., & Burke, T. M. (2016). Lost proof of innocence: The impact of confessions on alibi witnesses. *Law and Human Behavior*, *40*, 65–71. doi:10.1037/lhb0000156
- Meissner, C. A., & Kassin, S. M. (2002). “He’s guilty!”: Investigator bias in judgments of truth and deception. *Law and Human Behavior*, *26*, 469–480. doi:10.1023/A:1020278620751
- Meissner, C. A., & Kassin, S. M. (2004). “You’re guilty, so just confess!”: Cognitive and behavioral confirmation biases in the interrogation room. In D. Lassiter’s (Ed.), *Interrogations, confessions, and entrapment* (pp. 85–106). Kluwer Academic.
- Meissner, C. A., Kelly, C. E., & Woestehoff, S. A. (2015). Improving the effectiveness of suspect interrogations. *Annual Review of Law and Social Sciences*, *11*, 211–233. doi:10.1146/annurev-lawsocsci-120814-121657
- Meissner, C. A., Redlich, A. D., Michael, S. W., Evans, J. R., Camilletti, C. R., Bhatt, S., & Brandon, S. (2014). Accusatorial and information-gathering interrogation methods and their effects on true and false confessions: A meta-analytic review. *Journal of Experimental Criminology*, *10*, 459–486. doi:10.1007/s11292-014-9207-6
- Meissner, C. A., Surmon-Böhr, F., Oleszkiewicz, S., & Alison, L. J. (2017). Developing an evidence-based perspective on interrogation: A review of the U.S. government’s High-value detainee Interrogation Group research program. *Psychology, Public Policy, and Law*, *23*, 438–457. doi:10.1037/law0000136
- Narchet, F. M., Meissner, C. A., & Russano, M. B. (2011). Modeling the influence of investigator bias on the elicitation of true and false confessions. *Law and Human Behavior*, *35*, 452–465. doi:10.1007/s10979-010-9257-x

- O'Donnell, C. M., & Safer, M. A. (2017). Jury instructions and mock-juror sensitivity to confession evidence in a simulated criminal case. *Psychology, Crime & Law*, *23*, 946–966. doi:10.1080/1068316X.2017.1351965
- Palmer, M. A., Button, L., Barnett, E., & Brewer, N. (2016). Inconsistencies undermine the credibility of confession evidence. *Legal and Criminological Psychology*, *21*, 161–173.
- Perillo, J. T., & Kassin, S. M. (2011). Inside interrogation: The lie, the bluff, and false confessions. *Law and Human Behavior*, *35*, 327–337. doi:10.1007/s10979-010-9244-2
- Redlich, A. D., Kelly, C. E., & Miller, J. C. (2014). The who, what, and why of human intelligence gathering: Self-reported measures of interrogation methods. *Applied Cognitive Psychology*, *28*(6), 817–828. doi:10.1002/acp.3040
- Redlich, A. D., Kulish, R., & Steadman, H. J. (2011). Comparing true and false confessions among persons with serious mental illnesses. *Psychology, Public Policy, and Law*, *17*, 394–418. doi:10.1037/a0022918
- Russano, M. B., Meissner, C. A., Narchet, F. M., & Kassin, S. M. (2005). Investigating true and false confessions within a novel experimental paradigm. *Psychological Science*, *16*, 481–486. doi:10.1111/j.0956-7976.2005.01560.x
- Russano, M. B., Narchet, F. M., Kleinman, S. M., & Meissner, C. A. (2014). Structured interviews of experienced intelligence and military interrogators. *Applied Cognitive Psychology*, *28*, 847–859. doi:10.1002/acp.3069
- Sullivan, T. P. (2010). The wisdom of custodial recording. In G. D. Lassiter & C. Meissner's (Eds.), *Interrogations and confessions: Research, practice, and policy*. Washington, DC: APA.
- Wallace, D. B., & Kassin, S. M. (2012). Harmless error analysis: How do judges respond to confession errors? *Law and Human Behavior*, *36*, 151–157. doi:10.1037/h0093975
- Willis, C. F., Macleod, J., & Naish, P. (1988). *The tape recording of police interview with suspects: A second interim report*. Home Office Research Study No. 97. London: HMSO.
- Woestehoff, S. A., & Meissner, C. A. (2016). Juror sensitivity to false confession risk factors: Dispositional vs. situational attributions for a confession. *Law and Human Behavior*, *40*, 564–579. doi:10.1037/lhb0000201
- Woody, W. D., & Forrest, K. D. (2009). Effects of false-evidence ploys and expert testimony on jurors' verdicts, recommended sentences, and perceptions of confession evidence. *Behavioral Sciences and the Law*, *27*, 333–360. doi:10.1002/bsl.865

Part C

**INVESTIGATING OR
RESPONDING TO CRIME**

Chapter Thirteen

CRIMINAL PROFILING

RICHARD N. KOCSIS

Criminal profiling can be understood as a psychological technique whereby behaviors evident in a crime or series of related crimes are evaluated typically for the purpose of inferring attributes about probable offenders (Kocsis, 2006). A few examples of such attributes can include, but are not limited to, the age of the offenders, their gender, level of education, and general appearance; and even aspects of their personality (Rossi, 1982; Vorpagel, 1982). The amalgamation of these characteristics is, in colloquial parlance, referred to as a *criminal profile*, and individuals who compile them are often referred to as *profilers* (Douglas, Burgess, Burgess & Ressler, 2006; Jeffers, 1992; Campbell & DeNevi, 2004). This conversion of a specific task into a vocation is something of a peculiarity given that a universally accepted standard denoting who may engage in constructing a criminal profile does not currently exist (Bekerian & Jackson, 1997; Bumgarner, 2007; Kocsis & Palermo, 2007).

To fully understand what criminal profiling is also requires some explanation of what it is not, given the existence of a number of other similarly entitled techniques. One example is DNA profiling, which entails the analysis of organic matter typically found at a crime scene to establish whether the genetic code corresponds with that of a person or persons of interest in relation to that crime (Lazer, 2004). Another example is that of racial profiling (also known as actuarial profiling) (Harcourt, 2007) which, as a technique, predominantly involves the conglomeration of demographic characteristics believed to be commonly shared by individuals who engage in a particular form of crime to potentially identify similar future offenders. An illustration of such profiling involves the identification of supposedly typical characteristics of individuals engaged in smuggling narcotics through airports that customs officers may proactively use as a guide to select and search travelers. In contrast, criminal profiling is reactive via the examina-

tion of behaviors exhibited at crime scenes. Additionally, the attributes predicted for an offender in a criminal profile are determined by the interpretation of the exhibited behaviors in the particular crime under examination. Consequently, the content of criminal profiles can be quite varied, whereas the attributes contained in racial profiles are reflective of a fixed set of aggregated demographics.

Criminal profiling has also developed a number of variations in nomenclature, including offender profiling, psychological profiling, and criminal personality profiling to name but a few. The precise basis of such variations in terminology is unclear, but their use predominantly appears related to the linguistic preferences of differing regions of the world. Thus, offender profiling appears to be commonly used in the United Kingdom and Europe (e.g., Boon, 1995; Canter, 1989; Jackson & Bekerian, 1997) whereas criminal profiling seems more common in North America (Hicks & Sale, 2006; Holmes & Holmes, 2002). For convenience, however, the technique will continue to be referred to herein as criminal profiling or simply profiling.

The basic purpose of criminal profiling is to act as a tool that may assist with lines of inquiry in a criminal investigation (Douglas & Burgess, 1986; Douglas, Ressler, Burgess & Hartman, 1986; Holmes & Holmes, 2002). A number of differing avenues exist whereby this objective may be achieved. Possibly the most common method is for a profile to serve as a tool for prioritizing the investigation of known suspects. Thus, suspects who possess characteristics matching those of a profile are prioritized for greater scrutiny by investigators in comparison to suspects who do not match the profile (Douglas & Burgess, 1986). In this context it should be noted that the use of criminal profiles are only recommended as a method by which investigative resources, in terms of which leads to pursue first, can be ordered. The degree of congruence that a suspect may have with the predicted attributes of a criminal profile is not advocated as a means by which suspects are eliminated from an investigation (Douglas et al., 1986).

The context in terms of what types of crime criminal profiling may be applied to is something of a contested issue. Traditionally, criminal profiling has been recommended as most beneficial to the investigation of intractable crimes (Douglas & Oleshaker, 1995; Fisher, 1993; Ressler & Shachtman, 1992), which are suggestive of some form of psychopathology or aberrant psychological drive(s), or both, within the offender(s) (Geberth, 1983; Holmes & Holmes, 2002; Rossi, 1982; Vorpapel, 1982). This is not to suggest that profiling is not potentially applicable to more conventional forms of crime. However, it is in the context of intractable, aberrant, violent crimes where profiling is seen as being of optimal benefit in practical (i.e., operational) terms (Nowikowski, 1995). Whereas some scholars appear to endorse this perspective (e.g., Campbell & DeNevi, 2004; Hickey, 2001; Holmes &

Holmes, 2002; Kocsis, 2006) others seem to view profiling as broader in application and extending potentially to a wider variety of offences beyond intractable violent crimes (e.g., Alison, 2005; Canter, 2004).

Perhaps one of the greatest myths surrounding criminal profiling is the belief that it is a recent innovation. In contrast to popular media depictions, the concept of criminal profiling—that is, examining behavioral patterns evident in a crime to glean some impression of the probable offender—has been in use for well over a century. Beyond analogies between criminal profiling and Sir Arthur Conan Doyle's consummate fictional detective Sherlock Holmes (Doyle, 1891), examples of profiling can be found throughout history dating back as far as 1888 and the investigation of the Whitechappel murderer, also known as Jack the Ripper (Whittington-Egan, 1975). Other instances in which criminal profiling has been used (typically via the consultation of a mental health professional) appear throughout history and involve some of the world's most infamous cases. A few such examples include the kidnapping of Charles Lindbergh, Jr., in the 1920s (Shoenfeld, 1936), the evaluation of Adolf Hitler by the U.S. Office of Strategic Services (Langer, 1972), the Mad Bomber of New York, and the Boston Strangler in the 1950s and 1960s (Brussel, 1968; Frank, 1966). Although research and development into dedicated methods for criminal profiling have certainly flourished over approximately the past four decades (Dowden, Bennell & Bloomfield, 2007), the historical realities indicate that the fundamental concept of profiling, that is, evaluating crime behaviors to infer attributes about the probable offender, is in fact very old.

APPROACHES TO CRIMINAL PROFILING

Criminal profiling has evolved over time, and as a consequence what can be described as differing schools of thought or approaches to the task of constructing a criminal profile have also developed (Kocsis, 2007a). In this context, the practice of criminal profiling can be viewed as somewhat analogous to the field of personality theory. In attempting to understand human behavior there is common agreement among scholars in the fundamental construct of the mind (Gregory, 2004). However, although there is a general consensus in this basic construct, various rivaling theoretical perspectives (e.g., psychodynamic, cognitive behaviorism, gestalt) exist that endeavor to explain the operation of the mind (Monte, 1995). Within the topic of criminal profiling there is, akin to the field of personality theory, general agreement with the fundamental notion of evaluating crime behaviors to gain some insight into the probable perpetrator. Also akin to the field of personality theory are differing views concerning the best methods and principles

to employ when profiling crimes (Palermo & Kocsis, 2005). Consequently, to explain the process of profiling requires a brief overview of these differing approaches as well as some examination of the clinically oriented origins of criminal profiling and the discrete topic of geographic profiling. It must be noted, however, that the parameters of this chapter do not allow for any extensive coverage of the numerous approaches and their varying underlying principles. As a consequence, the following material is primarily focused on highlighting some of the key themes and features that predominantly characterize a number of the more well-recognized approaches to criminal profiling.

Diagnostic Evaluations: Clinical Perspectives on Profiling Crimes

As previously indicated, the historical origins of criminal profiling largely emanate from the endeavors of various mental health professionals who have been consulted on an intermittent basis to render an evaluation of a crime that may be of some assistance to police investigators. This circumstance in which the task of profiling has occurred has been referred to as diagnostic evaluation (hereinafter referred to in acronym as 'DE') (Wilson, Lincoln & Kocsis, 1997). It needs to be clarified that DEs are largely an artifact of the practical application of disciplinary knowledge inherent to psychiatry/psychology rather than being a coherent research-based approach to profiling *per se*. The term DE is best viewed as a descriptor for the aforementioned circumstance in which a criminal profile is sought from a mental health professional. Consequently, the theoretical basis for DE is the common method by which profiles are constructed. That is, with DE mental health professionals draw upon their disciplinary knowledge, typically from clinical and/or forensic psychiatry or psychology, to profile the crime. Thus, a profile is produced via an attempt to relate or diagnose possible psychopathologies indicative of the behaviors evident in a crime and from this to extrapolate some understanding of the probable offender (e.g., Badcock, 1997; Britton, 1997; Boon, 1997; Girod, 2004; Kent, 1999; Palermo, 2004; Proulx, Beauregard, Cusson & Nicole, 2007; Revitch & Schlesinger, 1989). It is from this diagnostic-like process of assessing possible psychopathology that the term diagnostic evaluation was derived (Palermo & Kocsis, 2005).

The legacy and importance of DE should not be underestimated because a number of significant dimensions to the contemporary practice of criminal profiling originate from DE. Foremost among them is that all approaches to profiling share a fundamental disciplinary grounding in psychology/psychiatry in attempting to understand human behaviors, motivations, and psychopathological factors that may explain exhibited patterns of

behavior. Additionally, DE remains one of the most readily accessible means by which a criminal profile may be developed. That is, investigators to this day may simply elect to consult mental health professionals regarding a particular crime to ascertain whether they can offer some useful insight into the crime and its likely perpetrator(s) (Wilson et al., 1997). Indeed, what have been hailed as some of the most remarkably perspicuous criminal profiles have originated from individuals who could arguably be viewed as proponents of the DE approach (Palermo & Kocsis, 2005).

Criminal Investigative Analysis

What arguably constitutes the first systematic research-based approach to criminal profiling is the collective work of personnel affiliated with the Behavioral Sciences Unit (BSU) of the Federal Bureau of Investigation's (FBI) training academy (Ressler, Douglas, Groth & Burgess, 1980; van Zandt, 1994).¹ The BSU approach to criminal profiling has been termed criminal investigative analysis (hereinafter referred to in acronym as "CIA") (Douglas & Oleshaker, 1995; Hazelwood, Ressler, Depue & Douglas, 1995). In response to a perceived prevalence of aberrant violent crime and a desire to assist in the investigation of such crimes agents attached to the BSU began a research program in the late 1970s to study the behavioral patterns manifest in these offences (Ressler, Burgess & Douglas, 1988). The ultimate purpose of this research was to garner a better understanding of the *modus operandi* and psychological mechanisms driving the perpetrator of these crimes. Integral to these research endeavors, however, was an operational agenda for law enforcement to identify features specifically focused on the needs of investigative personnel (Ressler & Shachtman, 1992). Previous research in the area was viewed as predominantly clinical in perspective and thus oriented toward topics that were not considered particularly relevant to the objectives of investigators (e.g., rehabilitation) and thus superfluous in attempting to apprehend the perpetrators of such offences (Ressler, 1985).

The method for constructing a criminal profile using the CIA method is somewhat akin to DE in that it involves a process that can be regarded as similar to the formulation of clinical judgements by a mental health practi-

1. It should be noted that within this chapter the nomenclature used to describe the approach to criminal profiling by the FBI is derived from the corresponding sources cited in this chapter. Subsequent to these cited publications the criminal profiling activities undertaken within the US Department of Justice Federal Bureau of Investigation have periodically undergone organizational restructures. At the time of publication of this book the main organizational framework within which the activities, colloquially referred to as criminal profiling, are undertaken is the National Center for the Analysis of Violent Crime (in acronym hereinafter referred to as "NCAVC"). However, the NCAVC itself is comprised of five separate divisions all tasked with differing aspects incumbent to providing behaviorally based crime analysis and support to law enforcement agencies both within North America and, when requested, throughout the world.

tioner (Dietz, 1985; Douglas et al., 1986). What differentiates CIA, however, is that instead of drawing upon diagnostic criteria for mental disorders, it draws on its own body of research concerning crime patterns, related offender characteristics, motivations, and avenues for the investigation of offences (e.g., Douglas et al., 2006). The modes of crime that have been studied by the BSU are quite diverse but have predominantly focused on crimes of interpersonal violence, such as sexual assault (Hazelwood, 1995; Hazelwood & Burgess, 1987), arson (Icove & Estep, 1987), and homicide (Ressler et al., 1988).

Possibly the most renowned piece of research developed in the CIA sphere is the organized/disorganized offender typology that was derived from the study of sexual murderers and their crime scenes (Ressler, Burgess, Douglas, Hartman & D'Agostino, 1986). The premise underpinning this dichotomy is that crime scenes of sexual murders are distinguishable and thus interpretable by their degree of behavioral sophistication (Palermo & Kocsis, 2005). Thus, an organized crime scene is indicative of a high degree of behavioral sophistication on the part of the offender, such as planning and precautionary measures undertaken in respect of the offense. A constellation of distinguishable offender characteristics has been identified as being commonly associated with these organized crime scene behaviors. A few examples of such offender characteristics include a higher standard of education, having a skilled job, and possessing a vehicle. In contrast to the patterns indicative of the organized category are the features of the *disorganized* category. Thus, a disorganized crime scene is characterized by behaviors that are viewed as being indicative of a low or minimal degree of behavioral sophistication on the part of the offender(s). In this respect, disorganized crimes are described as featuring comparative disarray and are viewed as being perpetrated in a spontaneous/opportunistic manner suggestive of no real planning. Akin to the organized category, a constellation of commonly occurring characteristics inherent to offenders who perpetrate crimes in a disorganized fashion have also been identified. Some of these attributes typically include a low standard of education, limited or no employment, and being slovenly in appearance (Ressler et al., 1988).

The construction of a criminal profile via the CIA approach involves an assessment and thus comparison of the behaviors exhibited in a sexual murder offence with the organized/disorganized dichotomy. Thus, some interpretation is made as to whether the exhibited behaviors correspond with the behavioral attributes of either the organized or disorganized category. Once such a determination is made the process of predicting offender characteristics is determined from the corresponding offender characteristics previously developed as indicative of either an organized or disorganized sexual murderer (Ressler et al., 1986).

It should, however, be kept in mind that the organized/disorganized dichotomy merely represents one of the very original cornerstone pieces of research inherent to the CIA approach to the profiling of sexual murderers.² Analogous research endeavors and theoretical paradigms have been produced in the study of a diverse array of aberrant violent crimes and applications of profiling such as serial rape (Hazelwood & Burgess, 1987), serial arson (Icove & Estep, 1987), sexual murders of the elderly (Safarik, Jarvis & Nussbaum, 2002; Stein, Schlesinger & Pinizzotto, 2010), mass murders/shootings (Jarvis & Scherer, 2015; Pete & Schweit, 2014); equivocal deaths (Hazelwood, Dietz & Burgess, 1982) and the behavioral linking of crimes (Hazelwood & Warren, 2004; 2017) to name only a few examples. Under the imprimatur of the U.S. Department of Justice and the FBI National Center for the Analysis of Violent Crime such research endeavors have continued over the decades and have collectively and broadly contributed to the advancement of the methods inherent to the CIA approach to criminal profiling (e.g., Douglas, Burgess, Burgess & Ressler, 2013; Federal Bureau of Investigation, 2008, 2011; Hazelwood & Burgess, 2017; Morton, Tillman & Gaines, 2018).

Investigative Psychology

Another research-based approach to profiling is that known as investigative psychology (hereinafter referred to in acronym as “IP”), which appears to advocate the creation of a disciplinary specialization focused on psychological principles specifically applicable to the investigation of crime (Canter, 1995, 2000). In this context, what may traditionally be viewed as criminal profiling constitutes only one of a range of topics encapsulated by IP (e.g., Canter & Young, 2009). Justification for developing the nomenclature IP is debatable, given the prior existence of other analogous specializations. That is, a number of well-established disciplinary titles already exist, such as forensic, police, and criminal psychology, which arguably already embody the topics that appear to form the basis of IP (e.g., Arrigo & Shipley, 2005; Aumiller et al., 2008; Bull et al., 2007; Kocsis, 2010; Raskin, 1989; Shipley & Arrigo, 2012).³

2. As noted by Kocsis (2015) there appears, at times, to be an almost paradoxical over-generalization and thus confusion by some scholars in the area surrounding the organized/disorganized behavior dichotomy. That is, in many instances it seems that the dichotomy is mistakenly interpreted as reflecting the only paradigm inherent to the CIA approach for criminal profiling (irrespective of crime modality) as opposed to merely representing one seminal piece of research informing the profiling of sexual murderers.

3. As such, it has been suggested that the term ‘Investigative Psychology’ may not truly represent a unique disciplinary specialization. Instead, as presented in this chapter it is perhaps better conceived as reflecting a moniker by which some scholars commonly adopt the various theoretical and methodological paradigms associated with this particular approach to criminal profiling (Kocsis, 2010).

Regardless of this point surrounding nomenclature, a coherent body of empirical research has developed in IP whereby crime behaviors have been studied for the purpose of gaining some understanding about the attributes of a probable offender that may be used in an investigative capacity. One of the characteristic features of IP research is that it advocates the analysis of crime behaviors independent of the inference of motivations attached to those behaviors. The inference of motivations with behaviors is argued as being a methodological limitation to previous research in the area (Canter & Heritage, 1989). Another common feature of IP research is the use of ideographic methods of analysis and the use of quite specialized statistics such as multidimensional scaling (MDS) (Coxon, 1982).

The findings of IP studies often focus on the identification of discernible themes that characterize particular behavioral styles exhibited in various forms of crime. As a simple example, an analysis of exhibited behaviors in domestic homicides may reveal cogent patterns indicative of either an instrumental or expressive purpose in the typically enacted behaviors of these crimes (Salfati, 2000; see Figure 13.1). From the identification of these pat-

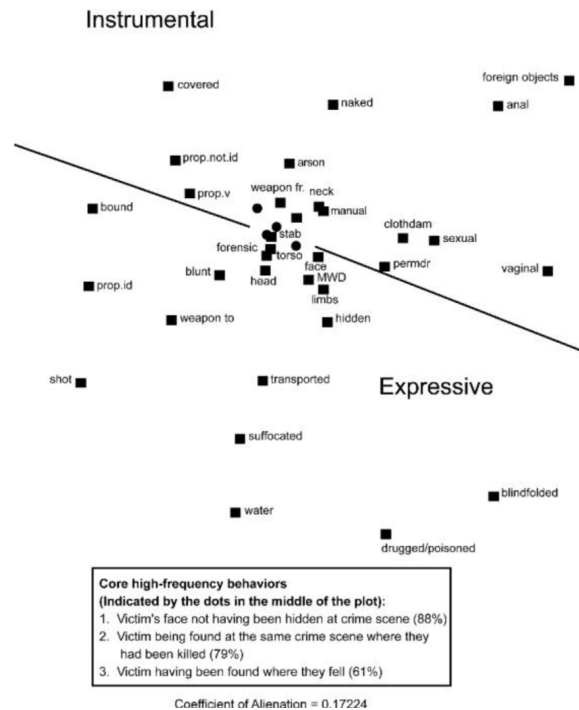


Figure 13.1. From Salfati, G. C. (2000). The nature of expressive and instrumentality in homicide. *Homicide Studies*, 4(3), 65–293. © Sage Publications, Inc. Reprinted with permission of Sage Publications, Inc.

terns general theorems can then be advanced that characterize and explain the criminal behavior observed. The development of these theorems can in turn inform any predictions concerning the probable offender of similar future crimes. Akin to other approaches to criminal profiling IP's research efforts have examined a range of crime modalities including arson (e.g., Canter & Fritzon, 1998), serial murder (e.g., Godwin, 2000), and sexual assault (e.g., Canter & Heritage, 1989).

Also analogous to the other approaches to criminal profiling, scholars associated with the IP approach have, over the decades, steadily generated a laudable wealth of research literature in developing IP doctrines for criminal profiling (Canter & Young, 2009). Likewise, with the development of many sub-disciplines a profession-based society has evolved as well as a dedicated scholarly journal promoting the IP approach and consequently, the topic of criminal profiling more broadly. Accordingly, many highly commendable advances have been accomplished under the IP banner. However, the full scope of the theoretical impact and operational application these doctrines have had on the world stage remains, at this time, uncertain as the paradigms inherent to the IP approach appear to have been mostly adopted by jurisdictions located within the United Kingdom.

Crime Action Profiling

Another research-based approach to criminal profiling is that of crime action profiling (hereinafter referred to in acronym as "CAP"). In many respects, CAP is a hybrid of its predecessors and thus, akin to CIA, endeavors to focus on operational goals of investigators. Additionally, CAP makes use of similar methods of statistical analysis (i.e., MDS) akin to IP and the initial premise of analyzing crime behaviors independent of inferring motives in an offender.

Where CAP markedly differs from other approaches however, is in the development of models in which crime behaviors are correlated with various offender characteristics and thus operate as mechanisms by which the perpetrators of future crimes may be profiled. The use of CAP models is conceptually similar to the process of reading time from a non-digital wristwatch. The models feature diagrams displaying various crime behaviors as denoted by a range of icons. The crime behaviors exhibited in the offence under consideration are then examined for their correspondence with those in the relevant CAP model. Thereafter, various arrows that have been superimposed onto a CAP model serve as guides, dependent upon their proximity to the identified behaviors in the model to attributes about the offender that may be predicted. Thus, through a somewhat mechanized process comparisons can be drawn with displayed behaviors in a crime, and from the

interpretation of the CAP model, predictions can be made about various attributes that may be related to the probable offender. One component of a CAP model is displayed in Figure 13.2.

As a final point, the CAP approach adopts a refined perspective in the application of profiling to crimes of an aberrant violent nature. In this respect only three CAP models have thus far been developed: one that is

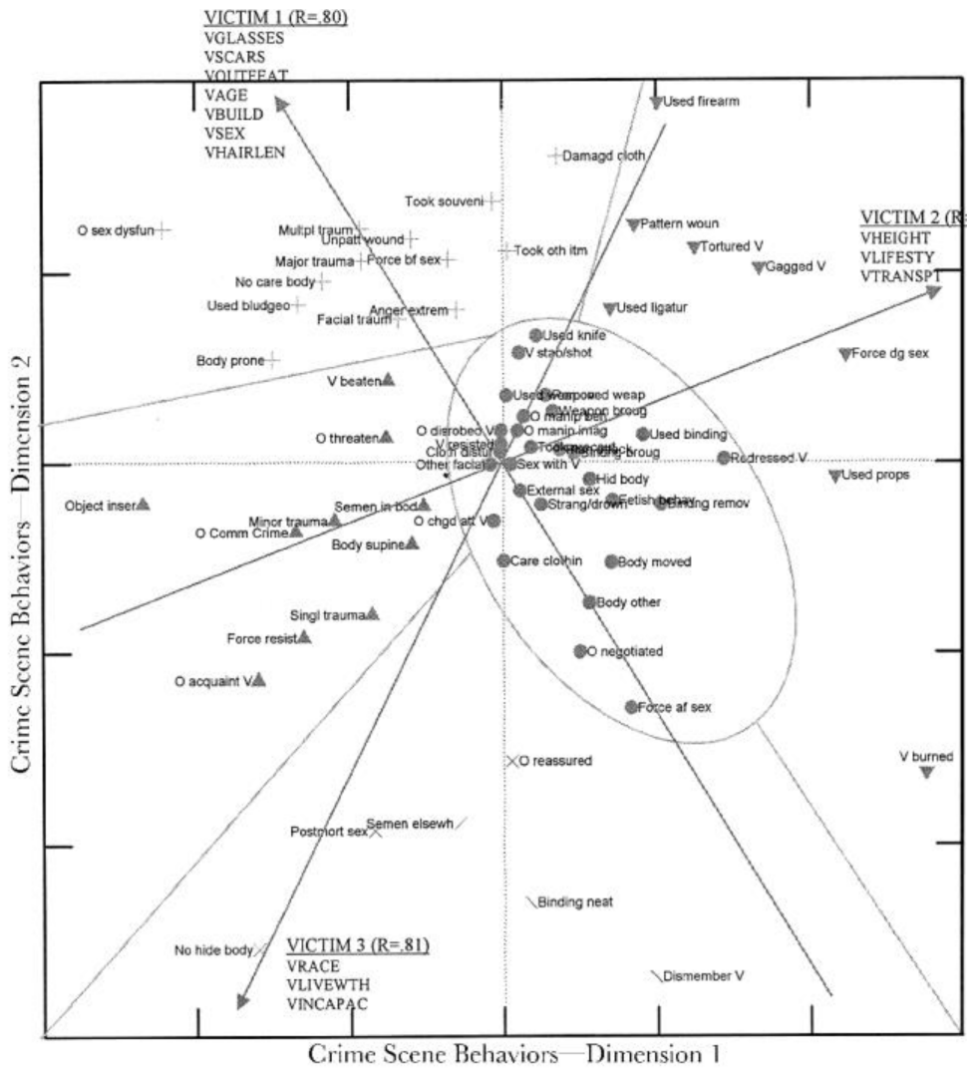


Figure 13.2. Source: Kocsis, R. N., Cooksey, R. W., & Irwin, H. J. (2002). Psychological profiling of sexual murders: An empirical model. *International Journal of Offender Therapy and Comparative Criminology*, 46(3), 532–553. © Sage Publications, Inc. Reprinted with permission of Sage Publications, Inc.

designed for the profiling of sexual murders, another focused upon the profiling of serial rape offences, and a third for the profiling of serial arson offenses. This is not to suggest that the concepts inherent to the CAP approach may not be adaptable to more conventional modes of crime but rather that the key focus is on aberrant crimes which profiling is arguably better suited to in terms of assisting criminal investigators beyond standard investigative procedures (Ault & Reese, 1980). The various principles and procedures inherent to the CAP approach to profiling crimes are best summarized in Kocsis (2006a).

Geographic Profiling

Although not a comprehensive approach to the profiling of crimes, geographic profiling is a discrete topic within the field that is focused on the geographic relevance of offense locations. The geographic examination of crime is not a recent concept to the discipline of criminology (e.g., Brantingham & Brantingham, 1981; Rengert & Wasilchick, 1985; Reppetto, 1974). Similarly, the examination of offense localities to garner some insight about a perpetrator is not a recent innovation (Kind, 1987). However, with the surge of interest in the development of criminal profiling, as well as computerized mapping programs known as Geographic Information Systems (GIS), a reinvigoration of interest in the topic has developed under the conceptual label of *geographic profiling* (Palermo & Kocsis, 2005). The objective of geographic profiling is the analysis of related crime locations for the purpose of identifying a specific region that may possess some relationship or nexus with the perpetrator(s) of the offenses (Rossmo, 1997). The nature of the nexus between the identified geographic region and the offender can manifest itself in a host of differing circumstances, including the general location of the offender's residence, workplace, or even the residence of a significant other party (e.g., parents, girlfriend). The application of this information to assist in an investigation is not unlike how other information in criminal profiles is used. As a hypothetical example, a geographic profile may identify a region of approximately two square miles containing three distinct suburbs. Investigators can then use this information as a means by which suspects may be prioritized for further investigation. That is, suspects who hold some connection with the identified region, such as their home being situated within any one of the three identified suburbs, can be prioritized for further inquiry over other suspects who do not possess such a nexus with the identified region.

Analogous to the general area of criminal profiling are a number of rivaling approaches (e.g., Canter, 2004b; Levine, 2000; Rossmo, 2000; Young, 2003) with respect to the calculations and measurements employed in devel-

oping geographic profiles, each of which possesses its unique merits and limitations (Stangeland, 2005; van der Kemp & van Koppen, 2007). In spite of their differences, however, there are some fundamental commonalities shared among the approaches. At a basic level, all approaches involve the plotting of known offense locations on some form of map. Similarly, all approaches operate on the premise that offense locations possess some form of causality with the offender, who is typically not itinerant and thus enjoys some stability in his or her own lifestyle, location, and movement patterns. From these core principles, differing methods have been developed for how offense locations are mapped and used as points of measurement from which the prediction area indicative of a geographic profile is then developed.

The differences among these theorems for geographic profiling appear to stem, to some extent, from the disciplinary origins of the differing proponents as well as their reliance on geographic information systems for undertaking certain computations. Thus, the work by Rossmo (2000) predominantly derives from disciplinary principles indicative of geography, whereas the work of Professor Canter appears to be sourced more in the disciplinary specialization referred to as *environmental psychology* (e.g., Gifford, 2016; Steg, van den Berg & de Groot, 2012). The methods advocated by Rossmo (2000) emphasized the use of GIS and thus a semi-automated approach for developing geographic profiles; an example of which is displayed in Figure 13.3. In contrast, Canter's work (e.g., Lundrigan & Canter, 2001) originally used traditional mapping techniques; however, in subsequent years, this has developed to include GIS programs for generating geographic profiles (Canter, 2004b).

THE VALIDITY AND UTILITY OF CRIMINAL PROFILING

Given the renown criminal profiling enjoys in popular media portrayals (Boon, 1995; Herndon, 2007) and true crime literature (Britton, 1997, Canter, 1994; Douglas & Oleshaker, 1995; Hazelwood & Michaud, 1999; McCrary & Ramsland, 2003; Ressler & Shachtman, 1992; Vorpapel & Harrington, 1998), it is difficult to reconcile the paucity of scientifically grounded evidence supporting the technique. This is not to assert that research into the development of criminal profiling has progressed independently of considerations concerning the fundamental validity of the technique. However, only in approximately the past three decades have some concerted attempts been made to test the accuracy (*vis-à-vis* validity) of profiles via scientifically controlled experiments.

What is arguably the largest available source of evidence relied upon in support of the merits of criminal profiling are anecdotal accounts (such as those contained in true crime literature) in which profiling is used and

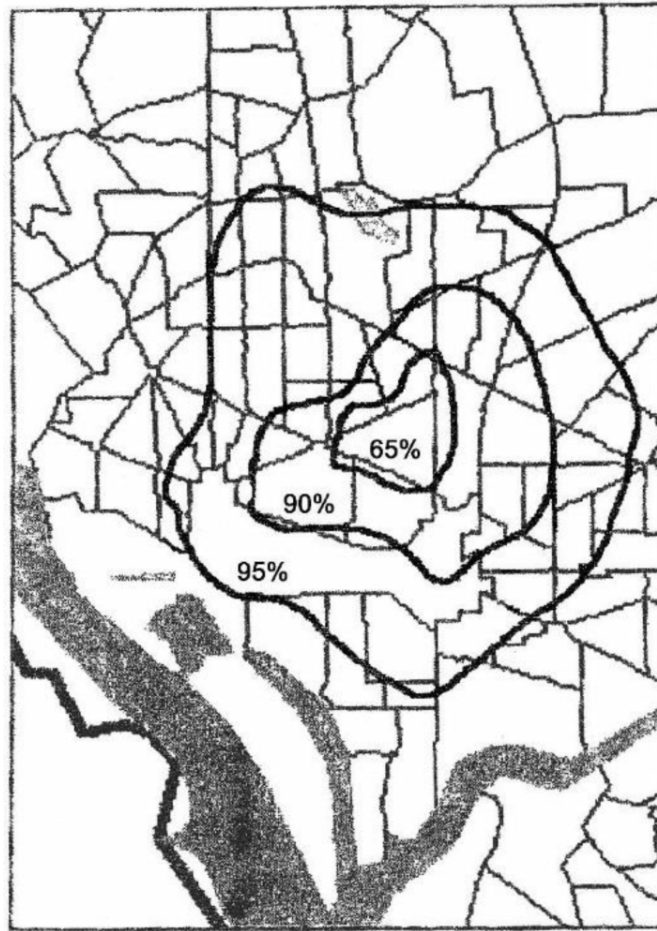


Figure 13.3. Geographic Profile Prediction Area Depicted with Probabilities Value. From: Rossmo, D.K. (1995). Place, space and police investigation: Hunting serial violent criminals. In J. E. Eck & D. A. Weisburd (Eds.), *Crime and place: Crime prevention studies* (Vol. 4, pp. 217-235). Monsey, NY: Criminal Justice Press. Reproduced with permission of Criminal Justice Press.

almost invariably judged to be useful and therefore accurate (e.g., McCary & Ramsland, 2003). Unfortunately, such accounts of profiling successes appear to have given rise to a phenomenon whereby the perceived benefits derived from the use of criminal profiles and thereby their continued use have come to be interpreted as a proxy indicator of their accuracy (e.g., Poythress, Otto, Darkas & Starr, 1993). This circumstance has been referred to as the *operational utilitarian argument* (Kocsis, 2006). The development of this argument is ironically simply a manifestation of the old saying “*the proof*

is in the pudding.” Simply put, if criminal profiles were not deemed accurate and beneficial to police investigators, law enforcement would not continue to use them. Because police investigators continue to request profiles this circumstance is cited as an indicator that profiles must therefore be accurate (Jeffers, 1992; Poythress et al., 1993).

Although the logic of the operational utilitarian argument is intuitively appealing, its rationale relies on the assumption that perceptions concerning profiles are, in fact, reliable. Unfortunately, a number of recent studies have suggested otherwise and have revealed some troubling aspects regarding the perceived merits of criminal profiles. Firstly, a study by Alison, Smith, and Morgan (2003) demonstrated the ambiguity of information contained in profiles. In this particular study participants were asked to gauge the relative merits of two profiles, one of which was genuine; while the other was deliberately contrived to be similar but inaccurate. Alarmingly, in examining the two profiles, participants judged both to be equally meritorious, indicating that even an incorrect profile could be perceived to possess some merit. Possibly the most troubling research to challenge the operational utilitarian argument however arose from a series of studies that examined the relationship between the belief (i.e., confidence) individuals possess, or were induced to possess in criminal profiling, and their evaluations concerning the merit (i.e., accuracy) of a profile (see Kocsis, 2006; Chapter 2). These studies found an incremental relationship between belief in profiling and the perceived merits of a criminal profile. Thus, the more an individual believed in the value of criminal profiling, the more meritorious a criminal profile was perceived to be.

These studies provide some troubling evidence that collectively serve to suggest that the perceptions of criminal profiles (such as those from anecdotal accounts) should not be uncritically or automatically relied upon as a measure of their merit. Indeed, the implications of these findings should not be underestimated especially when placed into a broader context of the enormous amount of commercial media (e.g., film and television) surrounding the technique which invariably portrays the technique as an almost infallible panacea for solving intractable crimes (Herndon, 2007). In this regard there is clear scope to contemplate to what degree the progression of the technique has occurred due to such depictions in the absence of scientific evidence to substantiate its merits.

Quasi-Experimental Studies on Profiler Validity

At a cursory level empirically testing the accuracy of criminal profiles would seem to be a relatively straightforward task of comparing the predictions contained in a criminal profile with the characteristics of the appre-

hended offender. Unfortunately, developing a suitably robust research methodology wherein such measurements can be objectively undertaken is inherently problematic. The difficulties are based partly due to the diversity of the information potentially found in criminal profiles and partly due to the circumstances (i.e., different modes and complexity of differing crimes) under which a criminal profile is sought. As a consequence, it is questionable how methodologically robust and representative any study may be that endeavors to combine and then measure data imbued with such potential vagaries.

A number of quasi-experiments have been conducted that simulate the profiling of a crime and thus endeavor to impartially test the abilities of profilers, *vis-a-vis* the accuracy of the profiles constructed by them. Accordingly, through this experimental procedure, many of the aforementioned methodological problems surrounding the evaluation of profiles are minimized or avoided as participants profile the same crime within roughly the same parameters. The first example of such an experiment occurred as a sub-component of a study by Pinizzotto and Finkel (1990). This experiment compared groups of various skill-based participants, including police detectives, psychologists, students, and trained profilers, on a simulated profiling task of a rape and a murder. Case files for a murder and a rape offence were presented to these participants who were then asked to predict (i.e., profile) the characteristics of the probable offender for each of the crimes via a multiple-choice questionnaire that itemized and thus quantified possible responses (i.e., predicted characteristics). Both the rape and the murder cases had been solved, with the respective offender(s) convicted. The identity of the offender(s) in terms of the correct responses to the multiple-choice questionnaires presented to the participants were known; consequently, the responses (i.e., the profiled characteristics of the offenders) could be objectively scored for accuracy.

The findings of Pinizzotto and Finkel's (1990) study were somewhat mixed with the trained profilers surpassing the other groups in accurately predicting (i.e., profiling) the characteristics of the offender in the rape case but not in the murder case. Following this study by Pinizzotto and Finkel a series of studies were embarked upon by Kocsis and colleagues which adopted a similar quasi-experimental design to further test the capabilities of profilers via a simulated profiling exercise requiring the prediction of an offender's characteristics via a multiple-choice questionnaire that could be objectively scored (Kocsis, 2006a). The findings from these individual experiments provided some tentative support for the capabilities of profilers to accurately predict the characteristics of the unknown offender at a generally superior standard to that of the variously compared groups (Kocsis, 2007b).

Subsequently, however, a number of omnibus type studies were also produced wherein all the data from these original, individual experiments (such

as that by Pinizzotto and Finkel, 1990) as well as the various experiments produced by Kocsis and colleagues) and some additional data were combined together. Moreover, these omnibus studies incorporated several different levels of analysis wherein numerous combinations of the available data were tested to gauge the performance of the sampled profilers. The overall outcomes to emerge from these various omnibus studies are chronicled across several publications (e.g., Kocsis, 2006b, 2010; Kocsis, Middeldorp & Karpin, 2008) but ultimately culminated in the findings reported in Kocsis (2013). This study in particular provides the clearest empirical evidence to date to support the superior capabilities of profilers in accurately predicting the characteristics of the unknown offenders. Whilst the findings reported in Kocsis (2013) represents a long overdue but nonetheless encouraging step forward in providing scientifically robust evidence supporting the validity of criminal profiling, it does not, by any means suggest an end to the need for more and greater evaluation of the relative merits inherent to the criminal profiling technique. Thus, whilst certainly encouraging, the conclusions in Kocsis (2013) must nonetheless be interpreted conservatively because further replication and exploration of their implications is warranted (e.g., Gogan, 2007; Hodges & Jacquin, 2008). Thus, the research so far should only be viewed as a robust start in broadly lending support to the general validity of criminal profiling. To further illustrate the imperative for future research, it should be noted that Kocsis' (2013) findings only provide support for the validity of criminal profiling in a generic context in that the findings are unable to offer any assessment of the relative accuracy of rivaling approaches to criminal profiling (e.g., Kocsis, 2007a). Likewise, due to the methodological design of the experiments, the conclusions in the Kocsis (2013) research only provide indications of validity in demonstrating the superiority of the expert profilers in accurately predicting the characteristics of an unknown offender in comparison to the other sampled groups of participants (i.e., comparisons of proficiency between the differing sampled groups). The research however, is not able to quantify, in terms of any statistically descriptive percentage, what the actual accuracy ratio of profilers is (e.g., 70%, 80%, 85% accurate etc.) which is an often elusive yet critical concept pivotal to the merits and thus validity of the technique (e.g., Pinizzotto, 1984).

Theoretical Implications from the Profiler Validity Research

Although the findings of the Kocsis (2013) research has contributed to progressing the scientific validation of the criminal profiling technique this research also raises a number of significant implications for the theoretical basis of criminal profiling and, more specifically, conceptually rivaling

approaches to the technique (Kocsis, 2007a). This issue was first identified and highlighted in Kocsis (2006b) wherein it was noted that some scholars in the field of criminal profiling contend that the accurate (i.e., valid) profiling of crimes can only be effectively accomplished via the adoption of their theorems. Accordingly, an indirect and unintended consequence of any research (such as that by Pinizzotto and Finkel (1990) but most poignantly the omnibus findings reported in Kocsis (2013)) which demonstrates the capabilities of individuals who are capable of proficiently profiling crimes (but who do not adopt these doctrines) tends to call into question the value of these espoused claims and theorems. Simply put, if some profilers are relying upon supposedly invalid principles how are they nonetheless able to accurately predict the characteristics of offenders?

An illustration of this concerns an important concept inherent to the underlying theoretical basis of criminal profiling referred to as the *'homology assumption.'* In very simplistic terms, the homology assumption presumes a degree of commonality inherent to the characteristics of offenders who commit the same types of offences. It is from this assumed commonality in characteristics amongst offenders of the same types of crime which conceptually underlies the retro-classification process which is fundamentally incumbent to criminal profiling (Turco, 1990). A small number of studies which have used secondary archival data sources have been undertaken attempting without apparent success to find evidence in support of this homology assumption (Kocsis & Palermo, 2016a). On the basis of these studies, arguments have subsequently been advanced that approaches to criminal profiling which are reliant upon the premise of offender homology must therefore be invalid and thus not viably capable of proficiently predicting the characteristics of an unknown offender.

Unfortunately, and as already foreshadowed, indirectly contradicting these arguments are the aforementioned findings concerning profiler validity (e.g., Kocsis, 2013) and individuals engaged in proficient profiling. That is, such proficiency in accurately profiling offenders' characteristics should not be possible according to the conclusions of the studies which have failed to find evidence in support of the concept of offender homology (see Kocsis & Palermo, 2015, 2016a). The overall consequence of this impasse and contradiction in the research findings has instead, served to highlight a number of significant methodological shortcomings in the studies which have sought to examine the concept of offender homology (see Kocsis & Palermo, 2016a). This has, in turn, had the follow-on effect of calling into question the merits of the profiling theorems which, (based upon the studies that were unable to find evidence of offender homology), claim to be the only approach capable of proficiently profiling crimes because they utilize principles which are purportedly not reliant upon the concept of offender

homology. A thorough discussion of these concepts and theoretical implications can be found in Kocsis and Palermo (2015, 2016a).

The Utility of Criminal Profiles

In the wake of the paucity of scientific evidence attesting to the validity of criminal profiles, one issue that occasionally seems to be overlooked is the utility of profiling in assisting with the resolution of crime (Oleson, 1996). Assuming that a criminal profile can, hypothetically, accurately predict various attributes about an offender does not necessarily imply that the knowledge of these attributes will tangibly assist in the investigation and apprehension of the offender and thus effect some meaningful reduction in crime⁴ (Farrington, 2007). Ironically, the evidence considering the utility of criminal profiling is similarly as limited as that examining the accuracy of profiles. A large part of this problem is that identifying and thus quantifying utility is a conceptually difficult task in terms of ascertaining precisely how a profile may have been of some direct material assistance (Kocsis & Palermo, 2007). Moreover, it is also important to consider the types of crime and thus their material relevance⁵ to the functional processes actually being performed in profiling. Although anecdotal examples are readily available where profiles have been used during the course of an investigation and, in retrospect, the predictions of these profiles are viewed as corresponding with the apprehended offender, how exactly these profiles assisted in apprehending the offender is not always clear (Kocsis, 2007; Pinizzotto, 1984). This has led some in the field of profiling to comment that to the best of their knowledge a profile has yet to be directly instrumental in solving a crime (Ressler & Shachtman, 1992).

Nonetheless, an interesting source of information concerning the utility of profiles can be found in various analyses of profiler services and surveys

4. In recent years an unfortunate nexus has evolved around the concept of utility wherein arguments have been promulgated that various constructs associated with utility can be transmogrified into measures for accuracy and thus validity. Unfortunately, simply because a methodology may be perceived to be useful or even if some form of correlational relationship evidencing a desirable/productive outcome can be identified—within the paradigms of scientific empiricism such evidence cannot be validly substituted as equating to evidence which substantiates a very different construct of validity. A more thorough discussion of these concepts can be found in Kocsis and Palermo (2016b).

5. For example, the commonly accepted core application of criminal profiling is in the analysis of aberrant violent crimes (Ault & Reese, 1980). Accordingly, analysis of concepts which are derived from samples of burglaries or armed robberies (crimes predominantly motivated by the desire for financial acquisition) have little theoretical relevance to aberrant violent crimes which are predominantly driven by aberrant fantasy mechanisms and psychopathologies. Unfortunately, such erroneous generalizations and thus problems with construct validity continue to plague research in the field (see Kocsis, 2015).

that have sought to gauge the satisfaction police personnel have derived from the use of criminal profiles during the course of an investigation (e.g., Copson, 1995; Jackson, van Koppen & Herbrink, 1993; Linkros, 2009; Pinizzotto, 1984; Runhovde, 2009; Trager & Brewster, 2001). It is important to note however, that these studies do not measure utility *per se* but rather the surveyed degree of consumer satisfaction by police personnel who have used criminal profiles during the course of their operations. The common theme to emerge from most of these studies is that police personnel generally consider criminal profiles beneficial and of some assistance, but ironically, indications of precisely how the profiles were of assistance is less clear.

PROFILERS AS EXPERT WITNESSES

Although the use of profiling in criminal investigations is well chronicled (e.g., Britton, 1997; Canter, 1994; Douglas & Oleshaker, 1995; Hazelwood & Michaud, 2001; Ressler & Shachtman, 1992), there have also been attempts to admit into evidence the testimony of profilers in evaluating criminal behaviors. The general view from legal scholars on this issue appears to be one of trepidation (Meyer, 2007; Ormerod, 1999; Risinger & Loop, 2002), which is evidently shared by members of the judiciary around the world when considering the admissibility of such evidence. Judicial comment for example, from the United Kingdom on profiling has opined: “psychological [i.e., criminal] profiling as an aid to police investigations is one thing, but its use as a means of proof in court is another” (*R. v. Guilfoyle*, 2001, p. 68). Similar reservations concerning profiling and in particular some of its proponents were expressed in Australia where it has been observed that:

. . . courts must exercise constant vigilance to ensure that they are not unwittingly misled. Amongst the many factors which may lead an expert witness into error is a malady which, if encountered in a new car salesperson, might be described as gross product enthusiasm. Some witnesses seem to become so fervid about the potential of their chosen discipline that they lose sight of its limitations and are borne by their enthusiasm into making claims that could not be supported by more sober and objective assessment. (*R. v. Hillier*, 2003, p. 10)

Within the United States, efforts to have the testimony of profilers admitted into evidence has experienced a somewhat chequered reception because testimony has either been excluded from the outset or initially admitted and then subsequently disallowed upon appeal (*Commonwealth of Pennsylvania v. DiStefano*, 1999; *State v. Fortin*, 1999; 2004) when subsequently examined by higher courts. The present chapter does not allow for a detailed exposition

of the legal reasoning underpinning this circumstance. Suffice it to say, without delving too deeply into North American legal doctrine such as general acceptance (*Frye v. United States*, 1923) or other criteria in the form of the *Federal Rules of Evidence* (2004), the admission of criminal profiling within the United States and abroad appears to be hampered by its inherently probabilistic (i.e., speculative) nature. Within most western common law legal systems there is an imperative to assess whether the *probative* value of any posited evidence will outweigh any *prejudicial* impact of that testimony (Davis & Follette, 2002; Kirkpatrick, 1998). Simply put western common law legal systems chiefly function on the basis of the assessment of directly pertinent factual information evident in the specific case before the court. The obstacle confronting criminal profiling and the testimony that profilers may offer is that they cannot, for example, sufficiently attest to the fact that their predictions relate to the particular person charged and tried for a crime. The testimony derived from profiling can only attest that the characteristics of the typical and/or probable offender match, or do not match, those of the accused. They cannot however, unequivocally claim that due to any correspondence, or lack thereof, the accused is likely guilty or innocent. For this reason, the evidence of profilers has in the main thus far been excluded and described as “evidence intended to address guilt by likening a defendant to a profile or stereotype of those likely to commit the crime in question” and as a consequence “has great potential for introducing bias and error” (Davis & Follette, 2002, p. 152).

Perhaps in response to the apparent aversion of courts to admitting profiling testimony, ways of introducing similar alternative testimony has, with the passage of time, been increasingly explored. These alternative avenues appear to involve testimony that seeks to avoid making inferences about the probable offender but nonetheless offers some form of analysis of the behaviors evident in the specific crime(s). Interestingly, this approach appears to have enjoyed, thus far, some limited success in Canadian jurisdictions in terms of the admission of such testimony (e.g., *R. v. Ranger*, 2003; *R. v. Clark*, 2004). However, these alternatives have not gone unnoticed and have also attracted criticism as merely being “a different suit on the same animal” and as “a distinction without a difference” (Grezlak, 1999, p. 2).

Nonetheless, a development concerning the potential admission of criminal profiling as expert witness evidence has emerged from the aforementioned findings concerning profiling validity in the Kocsis (2013) study. Although not by any stretch an unequivocal breakthrough, the findings and in particular their underlying research methodology appears to satisfy several criteria relevant to U.S. laws of evidence which are required for any technique to be considered admissible as expert witness evidence. In this regard, the Kocsis (2013) study reflects a previously unavailable body of sci-

entific research which has achieved scholarly peer-reviewed publication and independently attests to the merits of the technique (for a full examination of these issues concerning evidentiary admissibility see Kocsis and Palermo, 2016b).⁶ With this stated however, it is also important to note that the Kocsis (2013) study only serves to satisfy some (not all) of the needed criteria for legal admissibility. As a consequence, further examination and testing of the merits of criminal profiling as testimony in legal proceedings will invariably be required in the future.

CONCLUSION

The technique of criminal profiling is indicative of a long-held fascination the human race has had with attempting to understand criminal behaviors and the perpetrators of crime. Although fictional analogies describing profiling can be found in classical literature, historical examples involving the use of some external expert, typically a mental health professional, to examine crimes for the purpose of offering investigators some insight into the probable offender date back to the previous century.

In recent decades, there has been a significant increase in interest in the development of criminal profiling techniques. This heightened interest has, analogous to the field of personality theory, spawned a number of rivaling schools of thought concerning how the prediction (i.e., profiling) of offender characteristics from exhibited crime behaviors may be undertaken. At this time there does not appear to be any clear indication of the best way to profile crimes because each approach possesses its own inherent strengths and weaknesses. What is increasingly apparent from research into the topic of profiling however are the difficulties in assessing the fundamental merits of profiling in terms of its validity and utility. Although some empirically grounded research has now with time emerged to support the capabilities of profilers, this evidence seems to have been long ago eclipsed by the favorable reputation the technique appears to already enjoy almost universally.

In the wake of this apparent popularity it is perhaps unsurprising that a number of attempts have been made in the past to admit, in some capacity, criminal profiling into evidence for legal proceedings. In the judicial arena at least however, the scientific merits of criminal profiling appear to have come under far more critical scrutiny. These past attempts have generally been rejected by many jurisdictions throughout the world with profiling typ-

6. Indeed, one of the most remarkable aspects of the Kocsis (2013) study is its unanticipated congruence with many legal principles concerning the admissibility of expert witness evidence even though the research was in no capacity originally undertaken for this purpose.

ically being regarded as an unreliable form of evidence in the context of criminal proceedings. Via these past attempts however, the courts have developed legal criteria which profiling is required to satisfy in order for it to be considered admissible evidence. In this context, the recent research into the validity of criminal profiling serves to satisfy some, but not all, of these criteria and as such suggests greater potential for the use and scope of the technique of criminal profiling in criminal proceedings in the future.

REFERENCES

- Alison, L. (2005). From trait-based profiling to psychological contributions to apprehension methods. In L. Alison, (Ed.), *The forensic psychologists casebook: Psychological profiling and criminal investigation* (pp. 3–22). Devon: Willan Publishing.
- Alison, L., Smith, M., & Morgan, K. (2003). Interpreting the accuracy of offender profiles. *Psychology, Crime and Law*, 9, 185–195.
- Arrigo, B. A., & Shipley, S. L. (2005). *Introduction to forensic psychology* (2nd ed). NY: Elsevier Academic Press.
- Aumiller, G. S., Corey, D., Brewster, J., Allen, S., Gupton, H., Cuttler, M., & Honig, A. (2008). Defining the field of police psychology: Core domain & proficiencies. *Journal of Police and Criminal Psychology*, 22, 65–76.
- Ault, R., & Reese, J. T. (1980). A psychological assessment of crime-profiling. *FBI Law Enforcement Bulletin*, 49(3), 22–25.
- Badcock, R. (1997). Developmental and clinical issues in relation to offending in the individual. In J. L. Jackson & D. A. Belcerian (Eds.), *Offender profiling: Theory, research and practice* (pp. 9–42). New York: John Wiley & Sons.
- Bekerian, D. A., & Jackson, J. L. (1997). Critical issues in offender profiling. In J. L. Jackson & D. A. Bekerian (Eds.), *Offender profiling: Theory, research and practice* (pp. 209–220). New York: John Wiley & Sons.
- Boon, J. C. W. (1995). Offender profiling: Distinguishing the media prurience from the real-life science. *Inter Alia*, 1, 31–35.
- Boon, J. C. W. (1997). The contribution of personality theories to psychological profiling. In J. L. Jackson & D. A. Bekerian (Eds.), *Offender profiling: Theory, research and practice* (pp. 43–60). New York: John Wiley & Sons.
- Britton, P. (1997). *The jigsaw man*. London: Bantam Press.
- Brantingham, P. L., & Brantingham, P. J. (1981). *Environmental criminology*. Beverly Hills, CA: Sage.
- Brussel, J. (1968). *Casebook of a criminal psychiatrist*. NY: Howard Geis.
- Bull, R., Cookie, C., Hatcher, R., Woodhams, J., Bilby, C., & Grant, T. (2007). *Criminal psychology: A beginner's guide*. London: Oneworld Publications
- Bumgarner, J. (2007). Criminal profiling and public policy. In R. N. Kocsis (Ed.), *Criminal profiling: International theory, research and practice* (pp. 273–288). Tottowa, NJ: Humana Press.
- Campbell, J. H., & DeNevi, D. (2004). *Profilers: Leading investigators take you inside the criminal*. NY: Prometheus Books.

- Canter, D. (1989). Offender profiles. *The Psychologist*, 2, 12–16.
- Canter, D. (1994). *Criminal shadows*. London: Harper Collins.
- Canter, D. (1995). Psychology of offender profiling. In R. Bull & D. Carson (Eds.), *Handbook of psychology in legal contexts* (pp. 343–355). Chichester, UK: John Wiley & Sons.
- Canter, D. (2000). Offender profiling and criminal differentiation. *Legal and Criminological Psychology*, 5, 23–46.
- Canter, D. (2004a). Offender profiling and investigative psychology. *Journal of Investigative Psychology and Offender Profiling*, 1, 1–15.
- Canter, D. (2004b). *Mapping murder*. London: Harper Collins.
- Canter, D., & Fritzon, K. (1998). Differentiating arsonists: A model of firesetting actions and characteristics. *Legal and Criminological Psychology*, 3, 73–96.
- Canter, D., & Heritage, R. (1989). A multivariate model of sexual offence behavior: Developments in “offender profiling”—I. *Journal of Forensic Psychiatry*, 1, 185–212.
- Canter, D., & Young, D. (2009). *Investigative psychology: Offender profiling and the analysis of criminal action*. Chichester, UK: John Wiley & Sons.
- Commonwealth of Pennsylvania v. DiStefano, [1999]. No. 96-CR-737
- Copson, G. (1995). *Coals to Newcastle? Part 1: A study of offender profiling (paper 7)*. London, Police Research Group Special Interest Series, Home Office.
- Coxon, A. P. M. (1982). *The user's guide to multidimensional scaling*. London: Heinemann Educational Books.
- Davis, D., & Follette, W. C. (2002). Rethinking the probative value of evidence: Base rates, intuitive profiling, and the “post-diction” of behavior. *Law and Human Behavior*, 26, 133–158.
- Dietz, P. E. (1985). Sex offender profiling by the FBI: A preliminary conceptual model. In M. H. Ben-Aron, S. J. Hucher, & C. D. Webster (Eds.), *Clinical criminology* (pp. 207–219). Toronto: M & M Graphics.
- Douglas, J. E., & Burgess, A. W. (1986). Criminal profiling: A viable investigative tool against violent crime. *FBI Law Enforcement Bulletin*, 55, 9–13.
- Douglas, J. E., Burgess, A. W., Burgess, A. G., & Ressler, R. K. (Eds.). (2013). *Crime classification manual* (3rd ed.). San Francisco: Jossey-Bass.
- Douglas, J. E., Burgess, A. W., Burgess, A. G., & Ressler, R. K. (Ed.). (2006). *Crime classification manual* (2nd ed.). San Francisco: Jossey-Bass.
- Douglas, J. E., & Oleshaker, M. (1995). *Mindhunter*. New York: Scribner.
- Douglas, J. E., Ressler, R. K., Burgess, A.W., & Hartman, C. R. (1986). Criminal profiles from crime scene analysis. *Behavioral Sciences and the Law*, 4, 401–421.
- Dowden, C., Bennell, C., & Bloomfield, S. (2007). Advances in offender profiling: A systematic review of the profiling literature published over the past three decades. *Journal of Police and Criminal Psychology*, 22, 44–56.
- Doyle, A. C. (1891). *The original illustrated Sherlock Holmes*. Secaucus, NJ: Castle.
- Farrington, D. P. (2007). Book review. *International Journal of Offender Therapy and Comparative Criminology*, 4, 486–487.
- Federal Bureau of Investigation. (2008). *Serial murder: Multi-disciplinary perspectives for investigators*. Behavioral Analysis Unit. National Center for the Analysis of Violent Crime. U.S. Department of Justice, Washington, D.C.

- Federal Bureau of Investigation. (2011). *Highway serial killing initiative*. Behavioral Analysis Unit. National Center for the Analysis of Violent Crime. U.S. Department of Justice, Washington, D.C.
- Federal Rules of Evidence*. (2004). Washington, DC: U.S. Government Printing Office.
- Fisher, A. J. (1993). *Techniques of crime scene investigation* (5th ed.). NY: Elsevier.
- Frank, G. (1966). *The Boston strangler*. NY: New American Library.
- Frye v. United States, 54 App. D.C. 46, 293 F. 1013 (1923).
- Geberth, V. J. (1983). *Practical homicide investigation: Tactics, procedures and forensic techniques*. Boca Raton, FL: CRC Press.
- Gifford, R. (2016). *Research methods for environmental psychology* (1st ed.). London: Wiley-Blackwell.
- Girod, R. (2004). *Profiling the criminal mind: Behavioral science and criminal investigative analysis*. NY: iUniverse Inc.
- Gogan, D. (2007). Investigative experience and profile accuracy: A replication study. In R. N. Kocsis (Ed.), *Criminal profiling: International theory, practice and research* (pp. 383–392). Totowa, NJ: Humana Press.
- Gregory, R. L. (Ed.). (2004). *The Oxford companion to the mind*. New York: Oxford University Press.
- Grezlak, H. (1999, April 12). Profiling testimony inadmissible in murder trial: Too speculative, prejudicial judge says. *Pennsylvania Law Weekly*, 1–2.
- Harcourt, B. (2007). *Against prediction: Profiling, policing and punishing in an actuarial age*. Chicago: The University of Chicago Press.
- Hazelwood, R. R., & Burgess, A. W. (Eds.). (2017). *Practical aspects of rape investigation: A multidisciplinary approach* (5th ed.). Boca Raton, FL: CRC Press.
- Hazelwood, R. R. (1995). Analyzing the rape and profiling the offender. In R. R. Hazelwood & A. W. Burgess (Eds.), *Practical aspects of rape investigation: A multidisciplinary approach* (2nd ed., pp. 115–126). Boca Raton, FL: CRC Press.
- Hazelwood, R. R., & Burgess, A. W. (1987). An introduction to the serial rapist research by the FBI. *FBI Law Enforcement Bulletin*, 56, 16–24.
- Hazelwood, R. R., Dietz, P. E., & Burgess, A. W. (1982). Sexual fatalities: Behavioral reconstruction in equivocal cases. *Journal of Forensic Sciences*, 127(4), 763–767.
- Hazelwood, R., & Michaud, S. G. (2001). *Dark dreams*. New York: St. Martin's Press.
- Hazelwood, R. R., & Warren, J. (2017). Linkage analysis: MO, ritual and signature in serial sexual crime. In R. R. Hazelwood & J. Warren (Eds.), *Practical aspects of rape investigation: A multidisciplinary approach* (5th ed., pp. 149–158). Boca Raton, FL: CRC Press.
- Hazelwood, R. R., & Warren, J. (2004). (Erratum) Linkage analysis: Modus operandi, ritual and signature in serial sexual crime. *Aggression and Violent Behavior*, 9, 307–318.
- Hazelwood, R. R., Ressler, R. K., Depue, R. L., & Douglas, J. C. (1995). Criminal investigative analysis: An overview. In R. R. Hazelwood & A. W. Burgess (Eds.), *Practical aspects of rape investigation: A multidisciplinary approach* (2nd ed., pp. 115–126). Boca Raton, FL: CRC Press.
- Herndon, J. S. (2007). The image of profiling: Media treatment and general impressions. In R. N. Kocsis (Ed.), *Criminal profiling: International theory, practice and research* (pp. 290–303). Totowa, NJ: Humana Press.

- Hickey, E. (2001). *Serial murderers and their victims* (3rd ed.). Belmont, CA: Wadsworth.
- Hicks, S. J., & Sale, B. D. (2006). *Criminal profiling: Developing an effective science and practice*. Washington: APA.
- Hodges, E. P., & Jacquin, K. M. (2008). Psychological skills and criminal profile accuracy. In R. N. Kocsis (Ed.), *Serial murder and the psychology of violent crimes* (pp. 259–276). Tottowa, NJ: Humana Press.
- Holmes, R. M., & Holmes, S. T. (2002). *Profiling violent crimes: An investigative tool* (3rd ed.). Thousand Oaks, CA: Sage.
- Icove, D. J., & Estep, M. H. (1987). Motive-based offender profiles of arson and fire-related crimes. *FBI Law Enforcement Bulletin*, 56, 17–23.
- Jackson, J. L., & Bekerian, D. A. (1997). *Offender profiling: Theory, research and practice*. New York: John Wiley & Sons.
- Jackson, J. L., van Koppen, P. J., & Herbrink C. M. (1993). *Does the service meet the needs? An evaluation of consumer satisfaction with the specific profile analysis and investigative advice as offered by the Scientific Research Advisory Unit of the National Criminal Intelligence Division (CRI)*. The Netherlands: NISCALE Report NSCR 93-05.
- Jarvis, J., & Scherer, A. J. (2015). *Mass victimization: Promising avenues for prevention*. Washington, D.C.: U.S. Department of Justice.
- Jeffers, H. P. (1992). *Profiles in evil*. London: Warner Brothers.
- Kent, J. (1999, September 12). Monsters in the making. *The Sunday Mail Sunday Magazine*, 4.
- Kind, S. S. (1987). Navigational ideas and the Yorkshire Ripper investigation. *Journal of Navigation*, 40, 385–393.
- Kirkpatrick, L. C. (1998). Profile and syndrome evidence: Its use and admissibility in criminal prosecutions. *Security Journal*, 11, 255–257.
- Kocsis, R. N. (2006a). *Criminal profiling: Principles and practice*. Tottowa, NJ: Humana Press.
- Kocsis, R. N. (2006b). Validities and abilities in criminal profiling: The dilemma for David Canter's investigative psychology. *International Journal of Offender Therapy and Comparative Criminology*, 50, 458–477.
- Kocsis, R. N. (2007a). Schools of thought related to criminal profiling. In R. N. Kocsis (Ed.), *Criminal profiling: International theory, practice and research* (pp. 393–404). Tottowa, NJ: Humana Press.
- Kocsis, R. N. (2007b). Skills and accuracy in criminal profiling. In R. N. Kocsis, (Ed.), *Criminal profiling: International theory, practice and research* (pp. 335–358). Tottowa, NJ: Humana Press.
- Kocsis, R. N. (2010). Criminal profiling works and everyone agrees. *Journal of Forensic Psychology Practice*, 10, 224–237.
- Kocsis, R. N. (2015). The name of the rose and criminal profiling: The benefits of VICAP and ViCLAS. *Journal of Forensic Psychology Practice*, 15(1), 58–79.
- Kocsis, R. N., & Palermo, G. B. (2007). Contemporary problems with criminal profiling. In R. N. Kocsis (Ed.), *Criminal profiling: International theory, practice and research* (pp. 335–358). Tottowa, NJ: Humana Press.

- Kocsis, R. N. (2013). The criminal profiling reality: What is actually behind the smoke and mirrors? *Journal of Forensic Psychology Practice, 13*(2), 79–91.
- Kocsis, R. N., Middledorp, J. T., & Try, A. C. (2008). Taking stock of accuracy in criminal profiling. The theoretical quandary for investigative psychology. *Journal of Forensic Psychology Practice, 8*, 244–261.
- Kocsis, R. N., & Palermo, G. B. (2015). Disentangling criminal profiling: Accuracy, homology and the myth of trait based profiling. *International Journal of Offender Therapy and Comparative Criminology, 59*(3), 313–332.
- Kocsis, R. N., & Palermo, G. B. (2016a). New Horizons: The obstacles to space exploration and disentangling criminal profiling. *International Journal of Offender Therapy and Comparative Criminology, 60*(10), 1226–1232.
- Kocsis, R. N., & Palermo, G. B. (2016b). Criminal profiling as expert witness evidence: The implications of the profiler validity research. *International Journal of Law and Psychiatry, 49*, 55–65.
- Langer, W. (1972). *The mind of Adolf Hitler*. New York: New American Library.
- Lazer, D. (Ed.). (2004). *DNA and the criminal justice system: The technology of justice*. Boston: MIT Press.
- Levine, N. (2000). *Crimestat: A spatial statistics program for the analysis of crime incident locations* (Version 1.1). Washington, DC: National Institute of Justice.
- Linkros, R. (2009). *Swedish offender profiling: Scientific legitimacy, cooperation and methods*. Thesis in Sociology. Institute of Sociology, University of Gothenburg. Retrieved from: https://gupea.ub.gu.se/bitstream/2077/20321/1/gupea_2077_20321_1.pdf
- Lundrigan, S., & Canter, D. (2001). A multivariate analysis of serial murderers' disposal site location choice. *Journal of Environmental Psychology, 21*, 423–432.
- McCrary, G. O., & Ramsland, K. (2003). *The unknown darkness: Profiling the predators among us*. New York: Harper Collins.
- Meyer, C. B. (2007). Criminal profiling as expert evidence. In R. N. Kocsis (Ed.), *Criminal profiling: International theory, research and practice* (pp. 207–248). Totowa, NJ: Humana Press.
- Monte, C. (1995). *Beneath the mask: An introduction to personality* (5th ed.). New York: Harcourt Brace.
- Morton, R. J., Tillman, J. M., & Gaines, S. J. (2018). *Serial murder: Pathways for investigators*. Behavioral Analysis Unit NCAVC: U.S. Department of Justice, Federal Bureau of Investigation. Retrieved from <https://www.fbi.gov/file-repository/serialmurder-pathwaysforinvestigations-1.pdf/view>
- Nowikowski, F. (1995). Psychological offender profiling: An overview. *The Criminologist, 19*, 255–273.
- Oleson, J. C. (1996). Psychological profiling: Does it actually work? *Forensic Update, 46*, 11–14.
- Ormerod, D. (1999). Criminal profiling: Trial by judge and jury, not criminal psychologist. In D. V. Canter & L. J. Alison (Eds.), *Profiling in policy and practice* (pp. 207–261). Aldershot: Ashgate.
- Palermo, G. B. (2004). *The faces of violence* (2nd ed.). Springfield, IL: Charles C Thomas.

- Palermo, G. B., & Kocsis, R. N. (2005). *Offender profiling: An introduction to the sociopsychological analysis of violent crime*. Springfield, IL: Charles C Thomas.
- Pete, B. J., & Schweit, K. (2014). *A study of active shooter incidents in the United States between 2000 and 2013*. Texas State University and Federal Bureau of Investigation. U.S. Department of Justice, Washington, D.C.
- Pinizzotto, A. J. (1984). Forensic psychology: Criminal personality profiling. *Journal of Police Science and Administration*, 12, 32–40.
- Pinizzotto, A. J., & Finkel, N. J. (1990). Criminal personality profiling: An outcome process study. *Law and Human Behavior*, 14, 215–233.
- Poythress, N., Otto, R. K., Darkes, J., & Starr, L. (1993). APA's expert panel into the Congressional review of the USS Iowa incident. *American Psychologist*, 48, 8–15.
- Proulx, J., Beauregard, E., Cusson, M., & Nicole, A. (Ed.). (2007). *Sexual murderers: A Comparative analysis and new perspectives*. New York: Wiley.
- Raskin, D. C. (Ed.). (1989). *Psychological methods in criminal investigation and evidence*. New York: Springer-Verlag.
- Rengert, G. F., & Wasilchick, J. (1985). *Suburban burglary*. Springfield, IL: Charles C Thomas.
- Repetto, T. A. (1974). *Residential crime*. Cambridge, MA: Ballinger.
- Ressler, R. K. (1985). Violent crimes. *FBI Law Enforcement Bulletin*, 54, 1–31.
- Ressler, R. K., Burgess, A., & Douglas, J. E. (1988). *Sexual homicide: Patterns and motives*. NY: Lexington Books.
- Ressler, R. K., Burgess, A. W., Douglas, J. E., Hartman, C. R., & D'Agostino, R. B. (1986). Sexual killers and their victims: Identifying patterns through crime scene analysis. *Journal of Interpersonal Violence*, 1, 288–308.
- Ressler, R. K., Douglas, J. K., Groth, N., & Burgess, A. W. (1980). Offender profiles: A multidisciplinary approach. *FBI Law Enforcement Bulletin*, 49, 16–20.
- Ressler, R. K., & Shachtman, T. (1992). *Whoever fights monsters*. London: Simon & Schuster.
- Revitch, E., & Schlesinger, L. B. (1989). *Sex murder and sex aggression: Phenomenology, psychopathology, psychodynamics and prognosis*. Springfield, IL: Charles C Thomas.
- Risinger, D. M., & Loop, J. L. (2002). Three card monte, monty hall, modus operandi and “offender profiling”: Some lessons of modern cognitive science for the law of evidence. *Cardozo Law Review*, 24, 193–285.
- R. v. Clark [2004], 182 CCC (3d) 1 (Canada).
- R. v. Guilfoyle [2001], 2 Cr. App. Rep. 57. (United Kingdom).
- R. v. Hillier [2003], ACTSC 50, 25 June 2003 (Australia).
- R. v. Ranger [2003], 178 CCC (3d) 375 (Canada).
- Rossi, D. (1982). Crime scene behavioral analysis: Another tool for the law enforcement investigator. *Police Chief*, 18, 152–155.
- Rossmo, K. (1997). Geographic profiling. In J. L. Jackson & D. A. Bekerian (Eds.), *Offender profiling: Theory, research and practice* (pp. 159–176). NY: John Wiley & Sons.
- Rossmo, K. (2000). *Geographic profiling*. Boca Raton, FL: CRC Press.
- Runhovde, S. (2009). *Gjerningsmannsprofilering—mellom samfunnsvitenskap og politiarbeid*. PHS Forskning. Pollitihøgskolen, Oslo. Retrieved from <https://brage.bib->

- sys.no/xmlui/bitstream/handle/11250/175062/Gjerningsmannsprofilering.pdf?sequence=1&isAllowed=y
- Safarik, M. E., Jarvis, J. P., & Nussbaum, K. E. (2002). Sexual homicide of elderly females: Linking offender characteristics to victim and crime scene attributes. *Journal of Interpersonal Violence, 17*(5), 500–525.
- Salfati, C. G. (2000). The nature of expressiveness and instrumentality in homicide. *Homicide Studies, 4*, 265–293.
- Stein, M. L., Schlesinger, L. B., & Pinizzotto, A. J. (2010). Necrophilia and sexual homicide. *Journal of Forensic Sciences, 55*(2), 443–446.
- Steg, L., van den Berg, A. & de Groot, J. I. M. (Eds.). (2012). *Environmental psychology: An introduction* (1st ed.). London: Wiley-Blackwell
- Shoenfeld, D. (1936). *The crime and the criminal: A psychiatric study of the Lindbergh case*. New York: Convici-Friede.
- Shipley, S. L., & Arrigo, B. A. (2012). *Introduction to forensic psychology: Court, law enforcement and correctional practices*. Waltham, MA: Academic Press.
- Stangeland, P. (2005). Catching a serial rapist: Hits and misses in criminal profiling. *Police Practice and Research, 6*, 453–469.
- State v. Fortin, 162 NJ 517, 745 A.2d 509 (2000).
- State v. Fortin, 178 NJ 540; 843 A.2d 974 (2004).
- Trager, J., & Brewster, J. (2001). The effectiveness of psychological profiles. *Journal of Police and Criminal Psychology, 16*, 20–28.
- Turco, R. (1990). Psychological profiling. *International Journal of Offender Therapy and Comparative Criminology, 34*(2), 147–154.
- van der Kemp, J. J., & van Koppen, P. J. (2007). Fine-tuning geographical profiling. In R. N. Kocsis (Ed.), *Criminal profiling: International theory, practice and research* (pp. 347–364). Totowa, NJ: Humana Press.
- van Zandt, C. R. (1994). The real silence of the lambs: The National Center for the Analysis of Violent Crime (NCAVC). *Police Chief, 61*, 45–46.
- Vorpagel, R. E. (1982). Painting psychological profiles: Charlatanism, coincidence, charisma or new science? *Police Chief, 3*, 156–159.
- Vorpagel, R. E., & Harrington, J. (1998). Profiles in murder. New York: Plenum.
- Whittington-Egan, R. (1975). *A Casebook on Jack the Ripper*. London: Wiley.
- Wilson, P. R., Lincoln, R., & Kocsis, R. N. (1997). Validity, utility and ethics of profiling for serial violent and sexual offenders. *Psychiatry, Psychology and Law, 4*, 1–12.
- Young, G. (2003, August). *Mapping mayhem: The geography of crime*. Computeredge.

Chapter Fourteen

PSYCHOLOGICAL AUTOPSY

RICHARD N. KOCSIS

Explaining the concept of psychological autopsy is not as easy as one might expect. This difficulty appears to arise from the varying connotations the term implies. In one context, such as those in a coroner's investigation, psychological autopsy is commonly recognized as a mechanism for assessing the likely circumstances that led to an individual's death. In another context, psychological autopsy is recognized as a research paradigm by which patterns in the perpetration of suicide may be studied (Sanborn & Sanborn, 1976).¹

Another factor clouding the clear understanding of the technique is the variation in terminology used to refer to it, such as *psychiatric autopsy*, *equivocal death analysis* or *reconstructive psychological evaluation*. The nuances that are argued to justify these differences in terminology are debatable. For example, Bendheim (1979) suggests that a psychiatric autopsy is different from a psychological autopsy because it is inclusive of a psychiatric evaluation including consideration of the deceased's genetic history, environmental background, personal experiences, and history as determined by numerous sources. Similarly, equivocal death analysis is suggested to be distinguished by its examination of physical evidence and behaviors (Hazelwood, Dietz & Burgess, 1982).

However, Litman (1989) challenges the distinctions between psychiatric and psychological autopsies as being little more than semantic in nature. Similarly, the suggested differentiation of equivocal death analysis appears derivative of the psychological autopsy concept and thus a similarly questionable distinction (Ebert, 1987; Jacobs & Klein, 1993; Poythress, Otto,

1. There is also a third suggested use of the psychological autopsy as a quality assurance mechanism when assessing the suitability of treatment programs subsequent to a patient committing suicide. Although an interesting application, this role appears to have attracted limited coverage in the published literature (e.g., Neil, Benesohn, Farber & Resnick, 1974).

Darkes & Starr, 1993; Review of Navy Investigation of the USS Iowa Explosion, 1989; Shneidman, 1969, 1994). Perhaps the most strident criticism of such postulated distinctions comes from Ogloff and Otto (1993) who contend that differences between *psychiatric* and *psychological* autopsy appear to be based on little more than guild interests rather than any substantive differences in the processes and objectives of the undertaken technique.

Setting aside these arguments, for conceptual ease, the technique in this chapter will simply be referred to as psychological autopsy within an operational context, meaning “a postmortem, postdictive psychological investigative procedure by which a person’s circumstances and psychological state of mind at the time leading up to his/her death are reconstructed, in order to help determine the manner of death” (Aumiller et al., 2008, p. 74).

In light of such varied definitions, it is perhaps not surprising that psychological autopsy has been likened to the reconstruction that a historian or biographer undertakes when offering some narrative of the probable thoughts and emotions of a historical figure (Canter, 2005; Shaffer, Perlin, Schmidt & Himmelfarb, 1972). Similarly, psychological autopsy is not unlike in conception a form of indirect personality assessment (Meloy, 2004). In this respect, although the operational application of psychological autopsy originally emerged from coroner’s investigations it also appears to have developed broader application as a general means of evaluating a deceased person’s state of mind (e.g., Ebert, 1987; Lafon, 1999). As an apparent consequence of this broader conception, psychological autopsy has been used in a diverse range of circumstances. Some examples include aircraft crash investigations, evaluations of staff behavior before death, homicide investigations, the mental status of geriatric patients, and the consideration of persons of political importance (e.g., Jones, 1977; Yanowitch, Mohler & Nichols, 1972; Neill et al., 1979; Bendheim, 1979; Selkin & Loya, 1979).

THE PSYCHOLOGICAL AUTOPSY PROCESS

Despite the renown and use that psychological autopsy seems to enjoy (Jacobs & Klein, 1993), it is surprising that it does not appear, at present, to feature uniformly recognized procedures in terms of precisely how the technique is to be undertaken. The term “psychological autopsy” describes as much a goal of inquiry as it does a tangible process (Ogloff & Otto, 1993). This is not to imply that the overall process of undertaking a psychological autopsy does not involve any coherent structure, but rather that, the process of a psychological autopsy in collating and then evaluating information about a deceased person appears to be somewhat varied. A number of procedural models however, for undertaking a psychological autopsy have been

proposed over the years (e.g., Shneidman, 1969; Snider, Hane & Berman, 2006). One of the most thorough expositions for conducting a psychological autopsy is that proposed by Ebert (1987), and this appears in the Appendix to this chapter.²

Irrespective of the particular procedural model adopted, there appear to be a number of underlying generic commonalities that can be discerned from the various advocated procedures in undertaking a psychological autopsy. First and foremost, the technique involves the collection of information about the deceased person from a wide variety of sources (Botello, Weinberger & Gross, 2003). It is in the range of sources and the extent of information examined that a substantial degree of variation occurs. Some common sources of information may include interviews with the parents of the deceased; the spouse or partner of the deceased; or work colleagues, friends, or the treating physician of the deceased, or a combination of these. In addition to interviews, psychological autopsies may also draw upon a wide range of archival sources of data about the deceased, including, but not limited to, medical, school, police, and military records.

From the collation of information from these differing sources, various preliminary attributes concerning the deceased are identified. Thus, the second general phase of a psychological autopsy typically involves the evaluation of a number of common factors. A few examples include the general mental status and psychological history of the deceased, any antecedent events or possible stress factors in the life of the deceased, and possible motives as to why the deceased may have committed suicide (Ebert, 1987; Jacobs & Klein, 1993). With the initial determination of these issues about the deceased considered, the third and typically final phase of a psychological autopsy largely appears to be informed by the actual purpose for undertaking the technique. As will be discussed one well-known use of psychological autopsy is in assisting a coroner to classify an individual's death in equivocal (uncertain) circumstances. In this context, the issues under examination largely center around the likely intention of the deceased to actively and consciously bring about his or her own demise. The precise procedural parameters concerning how such determinations are ultimately made vary and are again influenced by the particular circumstances of each matter under consideration in combination with the clinical judgement of the individual(s) undertaking the psychological autopsy.

Finally, the procedure concerning how the evaluations inherent to a psychological autopsy are ultimately arrived at is also somewhat variable. Some authors appear to advocate that the process be undertaken by a single individual (e.g., Jacobs & Klein-Benheim, 1995) whereas others suggest a col-

2. Another comprehensive exposition of the psychological autopsy technique can be found in Young (1992).

laborative approach whereby colleagues may review each other's conclusion, thus offering a final determination arrived at through a process of consensus in opinion (Litman, Curphey, Shneidman, Farberow & Tabachnick, 1963). A good collection of sample psychological autopsies that serve to illustrate the technique in an operational context of coroners' investigations can be found in Shneidman and Faberow (1976).

Psychological Autopsy in an Operational Context

The coining of the term psychological autopsy is generally credited to Litman and colleagues (1963) with respect to their endeavors in assisting the L.A. County Coroner's Office in the examination of persons found dead in equivocal circumstances (Shneidman, 1981). One of the key tasks of coroners is to render some determination as to the mode of death of a deceased person. This determination within the United States generally follows a system of categorizing the circumstance of a death as being attributable to either natural causes, homicide, accidental death, suicide, or a circumstance that cannot be established (Shneidman, 1981). However, significant difficulties arise in performing this task reliably when circumstances surrounding an individual's death are ambiguous, or what is more technically referred to as equivocal in nature. Indeed, Litman and coworkers (1963, p. 102) describe such cases as being where "suicide is a possibility but in which there could be more than one interpretation and therefore, the decision is uncertain and doubtful."

The hazards with incorrectly classifying an individual's circumstance of death are well-recognized. These problems appear to begin when the boundaries of medical science (e.g., pathology, toxicology) are reached and thereafter assessment of the psychological factors inherent to the circumstances surrounding the death require consideration. For example, both Curphey (1968) and Shneidman (1981) warn of the particular difficulties in classifying circumstances of death related to the ingestion of tranquilizers or barbiturates, or both. A toxicology examination can, for example, ascertain that the mode of death was due to a lethal overdose of a particular drug that induced respiratory failure, but the toxicology examination cannot necessarily establish whether the deceased knowingly consumed the particular amount of drug to deliberately induce their death. Compounding these problems are potential misperceptions that can innocently arise among the coroner's staff. For example, Jobes, Berman, and Josselson (1986) found a bias in coroners who unjustifiably classify certain circumstances of death as suicide, such as those in which individuals were playing Russian Roulette or were simply identified as suffering from psychosis.

In light of these problems with the classification of death, particularly in equivocal circumstances, one of the earliest operational applications of psy-

chological autopsy emerged. As noted by Litman (1984), the pivotal issue in the evaluation of an equivocal death, and whether the circumstances are suggestive of suicide as opposed to some other cause, largely centers around the probable intention of the deceased. Thus, pivotal to the psychological autopsy in this context is considering whether the deceased appreciated and was knowingly cognizant of his or her self-destructive behavior. Evaluation of this element of intention, however, is neither a simplistic categorical issue nor as easy or straightforward as one might expect. Specifically, careful consideration needs to be given to the extent to which a deceased may have intended his or her own death. In adjudicating on these concepts, Shneidman (1981) indicates that an intentional death is one in which "the deceased plays a direct conscious role in effecting their own demise." Unfortunately, complicating the assessment of intention are situations in which the deceased may exhibit what Shneidman (1981) refers to as some "sub-intentional" or unconscious role in effecting their own death.

An illustration of the complexity associated with these issues can be seen in the hypothetical scenario proposed by Litman (1984) wherein an individual places a gun to their head and then shoots themselves. An autopsy of the deceased would likely determine that the cause of death was a gunshot wound to the head. The exhibited behaviors of this circumstance would also normally suggest that the intention of the deceased was to commit suicide. Similarly, it can be seen that voluntarily placing a loaded gun to one's head is a harmful act to an individual's own welfare. However, mitigating these factors may be evidence that the individual actually intended to live even though engaging in such action. For example, the deceased may not have believed that the gun was actually loaded. Alternatively, the deceased may have been engaging in a party trick, pretending to play Russian Roulette believing that when the trigger was pulled the revolver (i.e., the gun) would rotate onto an empty chamber and not the one that actually contained the bullet. If such issues were established, then the death would in fact be more suggestive of an accident than a suicide.

One key avenue by which the intent of the deceased may be ascertained comes from an analysis of behavioral features inherent in his or her life that may be suggestive of suicidal intent. A variety of studies have found various commonly recurring premonitory and prodromol indicators within individuals who commit suicide (e.g., Faberow, 1968; Farberow & Shneidman, 1961; Jacobs & Klein, 1993; Roy, 1981). In this context, the evaluative process inherent to psychological autopsy in the operational context to assist a coroner's investigation appears to be oriented toward determining the congruence, or otherwise, with identifiable risk factors associated with the perpetration of suicide. Generally, the greater prevalence of known suicide risk factors concerning the deceased, the more suggestive of possible suicide it

may be. Conversely, the fewer or absence of such risk factors is less suggestive of an intention to commit suicide, and thus the individual's death may be attributable to another reason such as an accident.

Over time the applications of psychological autopsy within an operational context in assessing equivocal deaths have become increasingly diverse. Perhaps, one of the more peculiar examples relate to the analysis of autoerotic deaths (e.g., Hazelwood, Dietz & Burgess, 1983) which are defined as occurring "during individual sexual activity in which a device, apparatus or prop that was employed to enhance the sexual stimulation of the deceased in some way caused unintended death" (Byard & Branwell, 1991, p. 74). However, a number of other authors have illustrated a variety of other unusual circumstances which have been resolved also via the application of psychological autopsies. For example, Schlesinger (2006) used psychological autopsy to analyze the mindset, motivations and behaviors of a celebrity stalker who attempted to murder their stalked target and shortly thereafter committed suicide. Likewise, Burton and Dalby (2012) document a case wherein psychological autopsy was used to study a deceased mother's mental state. In this particular case, a search of the mother's home revealed the presence of three deceased newborn children. Accordingly, the psychological autopsy was applied for the purpose of garnering some understanding of the apparent serial neonaticides before the mother (i.e., offender) herself committed suicide. Finally, Ventura, Portunato, Pizzorno, Mazzone, Verde and Rocca (2013) document a bizarre case wherein psychological autopsy was applied in examining mummified remains which were discovered inside an apartment when investigating the apparent suicide of the apartment's occupant. In this case, the mummified remains proved to be those of the occupant's mother who could not accept her death and thus retained and then mummified her corpse.

Psychological Autopsy as a Research Mechanism

As previously indicated, psychological autopsy also enjoys an alternate role as a mechanism for the study of etiologic patterns inherent in the perpetration of suicide. This role of psychological autopsy as a research tool is in no way trivial and, in many respects, the volume of published scholarly literature concerning psychological autopsy in this capacity exceeds that of the technique used in an operational context. Interestingly, although the legacy of the operational use of psychological autopsy dates back to the work of Litman and associates (1963). Indications of the research application of the technique in the study of self-destructive behavior are generally suggested to date as far back as the 1920s (Isometsa, 2001).

Suicide is an issue of concern for the medical, and mental health professions and for the general community alike. Despite the significance of this

phenomenon, the precise reasons as to why individuals continue to commit suicide remain elusive (Jacobs & Klein-Benhelm, 1995). This circumstance is not altogether unsurprising however, because research into the underlying drives associated with suicide is difficult as the most valuable source of data (i.e., the deceased person) cannot be interviewed. When there is such an impasse, the psychological autopsy is argued by many as the method by which various antecedents to the commission of suicide can be studied (Sher, 2013). Thus, the aforementioned methodological impasse can, to some extent, be overcome (Cavanagh, Carson, Sharpe & Lawrie, 2003).

Isometsa (2001) has classified the research into suicide using psychological autopsy as falling into one of two broadly conceived generations. The first generation is generally characterized by studies that provide qualitatively rich descriptions of self-destructive behavior patterns that are also, unfortunately, often imbued with various methodological limitations. The second generation of studies however, is characterized by a higher use of case-control methodological designs or use of standardized interviewing procedures, or both. Although a marked improvement, this second generation of research is not without its limitations. Further complicating the suicide research that employs the psychological autopsy method are some generic problems with respect to the conceptual parameters of how variables (i.e., certain behaviors, etc.) are uniformly measured. For example, the communication of an individual's intent to commit suicide represents a commonly agreed indicator of suicidal intent. One study illustrating this point was that by Rudestam (1971) who examined the communication of suicidal intent and found that 62 percent of persons who committed suicide communicated their intent. Unfortunately, the problem that arises from such research is the potential discordance among differing studies as to what is commonly considered or measured as communication of the individual's intent to commit suicide (Isometsa, 2001).

Notwithstanding these issues, psychological autopsy as a research tool has contributed to the study and identification of some common precursors in the perpetration of suicide. As previously indicated, these precursors and common variables can be beneficial in anticipating and deciphering circumstances of suicide (Shneidman, 1981). In one of the most thorough reviews of research utilizing psychological autopsy and encompassing a sample pool of 154 papers, Cavanagh and associates (2003) concluded that the strongest variable associated with the perpetration of suicide was the presence of mental disorder (see also Hawton et al., 1998). The predominant pathology is the presence of depression (Appleby, Cooper, Amos & Faragher, 1999; Aranto, Demeter, Rihmer & Somogyi, 1988; Beskow, 1979; Cheng, 1995; Foster, Gillespie & McClelland, 1997; Lesage et al., 1994; Shaffer et al., 1996). Other common disorders associated with the perpetra-

tion of suicide include alcoholism and schizophrenia (Hawton et al., 1998). Furthermore, a high comorbidity of such disorders has also been noticeably observed across the research findings (Conwell et al., 1996; Foster et al., 1997; Henriksson et al., 1993; Isometsa, 2001).

In addition to recurring psychopathologies, psychological autopsy research has also revealed a number of demographic patterns. Thus, successful perpetrators of suicide, in comparison with failed attempts, are twice as likely to be male than female (Clark & Horton-Deutsch, 1992). Furthermore, simply being male, having a history of past suicide attempts, having a non-supportive partner and a variety of psychosocial factors (Gould, Fisher, Parides, Flory & Shaffer, 1996) have all been found to be highly significant indicia for an increased likelihood of suicide in adult life. Finally, sickness or poor health have also been found to be notable risk factors for suicide among the elderly (Carney, Rich, Beerke & Fowler, 1994; Henriksson et al., 1995).

From a more holistic perspective a number of new studies have emerged from a diverse range of nations such as Greece and Uganda which have found strong commonalities in the patterns associated with the perpetration of suicide irrespective of the differing nationalities (Paraschakis et al., 2015; Kizza, Knizek, Kinyanda & Hjelmeland, 2012). Other studies which have been recently published have focused on various demographic or vocational variables associated with suicide. For example, Franchi et al. (2016) examined demographic features of individuals who committed suicide over a ten-year juncture and found that over time decedents had become older (i.e., more individuals committed suicide over 55) and possessed more psychiatric antecedents. While a study by Mendes et al. (2015) examined suicide patterns amongst children (under 18 years of age) and found that decedents were commonly 15 years of age (irrespective of gender), and that they typically committed suicide by hanging and left a suicide note. Likewise, Rouse et al. (2015) examined etiological factors associated with suicide amongst law enforcement personnel. This study considered whether police personnel as a vocational sub-group reflected a specific '*at-risk*' population due to the often-postulated stressors associated with the vocation. The findings of the research suggested that the risk factors amongst the examined police personnel who had committed suicide were consistent (i.e., not substantively different) with those found in decedents from the general population. An analogous study by Shah, Sava-Shah, Wijeratane and Draper (2016) employed psychological autopsy to examine the contention that the pressures upon professional sports persons (i.e., Test cricketers) may be a predisposing factor to commit suicide. Once again, this notion was not supported and most suicides amongst these sports persons occurred post-retirement in mid to late life phase with clear correlates to all persons in a simi-

lar demographic range. Thus, the vocational idiosyncrasies of professional cricket (akin to those of law enforcement) were unlikely to specifically contribute to suicide rates of individuals within those professions.

From another perspective, some of the traditional correlates associated with suicide have more recently come under far greater scrutiny via the use of psychological autopsy. The study by Ross, Kolves and DeLeo (2017) examined suicide risk factors in young adult men who did not possess any psychiatric disorder and found several factors such as previous attempts at suicide, disposing of possessions and making statements of hopelessness as important indicators of suicidality. Similarly, Milner, Sveticic and DeLeo (2012) found that suicide absent any identifiable mental disorder appeared much higher in nations such as China and India but noted that these patterns may be attributable to cultural and methodological factors as to how mental disorder is conceptualized and thus diagnosed in these cultures.

Finally, a number of contextual factors have also been focused upon in more recent research into suicide via the use of psychological autopsy. As one example, Knoll and Hatters-Friedman (2015) studied the murder-suicide phenomenon within the framework of murders involving all members of an entire family. A typology of offenders was developed which predominantly described men who were depressed, abusing substances, undergoing separation and had threatened to perpetrate the murders which they ultimately carried out. The research by Giupponi et al. (2014) investigated the differences between suicide decedents who had contact with a mental health professional in comparison to decedents who had not. Clear differences were found amongst those who had contact and they tended to be more frequently women, unemployed, had a family history of mental illness, a history of past suicide attempts, more frequently abused substances and were more likely to have visited a physician within 4 weeks prior to their suicide. Likewise, Kameyama et al. (2011) used psychological autopsy to examine key characteristics of suicide completers who possessed an unmanageable debt. Their analysis found that such individuals were predominantly differentiated by being self-employed, divorced and were far less likely to engage in help-seeking behavior.

CAUTIONS AND CONCERNS SURROUNDING PSYCHOLOGICAL AUTOPSY

Although the reputation and use of psychological autopsy has steadily grown, this progress has not occurred without reservations being expressed by some commentators (e.g., Canter, 2005). The foremost concern is possibly its fundamental validity, particularly in the context of its operational

application in the assessment of equivocal deaths. Indeed, well over three decades ago Shaffer and colleagues (1972, p. 309) poignantly noted that in psychological autopsy there is “the need to explain phenomenon on a plausible, causal, usually psychodynamic basis. Unfortunately, the plausibility of any such explanation is no guarantee of its validity.”

In this context, psychological autopsy is somewhat analogous to hypothesis testing wherein plausible explanations are generated to explain observed phenomena. However, simply because an espoused hypothesis is intuitively appealing does not necessarily imply that it is valid. Some support for this proposition emerges from the work of Canter (2005), who challenges some of the long-held prodromal cues regarded as indicative of the perpetration of suicide and relied upon when undertaking psychological autopsy of equivocal deaths. The various concerns surrounding psychological autopsy can be broadly summarized into two categories. First, there are concerns of a methodological nature principally relating to the procedures and how psychological autopsies are undertaken. Second, there are concerns of a conceptual nature relating to the validity and essential accuracy of the evaluations derived through the adoption of psychological autopsy techniques. Both of these categories will be discussed in turn.

Methodological Concerns

Possibly the most examined methodological concern relating to psychological autopsies in the published literature relates to the reliability and interpretation of the collated information (Barraclough, Bunch, Nelson & Sainsbury, 1974; Fisher & Shaffer, 1984; Knoll, 2009; Ritchie & Gelles, 2002; Snider et al., 2006; Werlang & Botega, 2003). There are numerous facets to this seemingly single issue. First, is the reliability of information garnered from informants in a state of bereavement such as parents mourning the death of a child. Such information must be considered with caution. That is, to what extent may the perceptions of the deceased be biased, influenced, or distorted due to this emotional state? Unfortunately, Barraclough and colleagues (1974) clearly forewarn of two distinct possibilities that may be encountered with informants in this circumstance, or more specifically the information such parties may provide. First, informants may exaggerate the presence of any symptomology or even mental disorder due to the suicide. Alternatively, informants may glorify the deceased and thus minimize or deny the presence of any irregularity or disorder.

Moving beyond possible perceptual distortions due to bereavement, another concern is that informants may provide unreliable information due to simple ignorance or some ulterior motive. Thus, informants may be genuinely ignorant and thus simply unaware of certain factors that may be pre-

sent within the deceased (Hawton et al., 1998). One hypothetical example are parents who may be unaware of their child's history of recreational drug use. Unfortunately, a more contrived alternative is that informants may have some vested interest in deliberately distorting, manipulating, or withholding information (Selkin & Loya, 1979). The predominant motive for informants to deliberately distort information emerges when there is a vested interest concerning the payment of a life insurance policy (Selkin, 1994). Many life insurance policies do not pay claims in the circumstance of intentional acts of death such as suicide. This circumstance therefore generates an incentive for some informants to distort information in an effort to ensure that the demise of the deceased is determined to be something other than suicide.

In addition to the previously mentioned issues there are also procedural concerns surrounding the reliability of gathered information. Despite the history of psychological autopsy, the published literature is surprisingly bereft of indications concerning what time delays may have on an informant's recollection and therefore at what time juncture they should be interviewed. Similarly, guidelines as to the optimal method for the collection of information and what weightings, if any, different sources of information should be given is also absent from the literature. As a simple illustration of this issue, in the circumstance of trying to establish the presence of various symptomologies in a deceased prior to their death, whose perception is more reliable—that of the deceased's parents, the spouse or partner of the deceased, or a close friend?

Another surprising source of concern involving psychological autopsy does not relate to informants *per se* but rather to the individual(s) undertaking the psychological autopsy. Issues of concern in this circumstance relate to disciplinary perspectives of those undertaking the psychological autopsy and any emotional empathy that may develop towards grieving relatives of a deceased. For example, Gavin and Rogers (2006) argue that there is an emphasis in psychological autopsies to focus on links between mental illness and suicide that potentially limit the conceptual scope of the evaluation in not giving adequate consideration to the deceased's social environment, which may also account for his or her death. Alternatively, Litman and associates (1963) have observed the emotional rapport investigators often develop with members of a victim's family and how sympathy can readily arise and then innocently interfere with judgements concerning the deceased. Similarly, Selkin and Loya (1979) have stressed the need for impartiality and a non-partisan role by those conducting a psychological autopsy. Perhaps one of the most ardent comments on this point comes from Shneidman (1994, p. 76) who opines that psychological autopsy cannot be properly undertaken by "a detective, a prosecutor, or a 'hired gun' psychologist (or psychiatrist)."

Lastly, Abondo, Masson, LeGruet and Millet (2008) provide an interesting analysis of the strengths and weaknesses of the psychological autopsy technique from the perspective of its application in France. They conclude that whilst the methodological procedures to psychological autopsies generally feature more merits than limitations the technique as a whole is most likely unsuitable for use in France. That is, numerous administrative and regulatory factors within the nation that inhibit its pragmatic use in terms of the involved costs as well as information that mental health practitioners are permitted to collect in such circumstances.

Methodological Solutions

In light of these concerns a number of countermeasures have been suggested over the years in an attempt to minimize or nullify these problems. For instance, to address the issue of empathy among investigators, Litman and coworkers (1963) have suggested a review process whereby determinations are checked by colleagues who have had minimal or no personal contact with informants. Similarly, to counter some of the potential distortions arising from informants, both Dregne (1982) and Hawton and colleagues (1998) have emphasized the need for interviewing multiple informants. Additionally, cross-referencing gathered information with official records whenever possible is also strongly advocated to ensure consistency and thus improve the reliability of gathered information. Other nominated measures include the use of standardized (i.e., structured) protocols for interviewing and data collection (e.g., Blau & Alberts, 2004; Rudestam, 1979; Werlang & Botega, 2003) as well as the use of psychometric instruments. For example, Shaffer and colleagues (1972) have suggested the use of the Katz Adjustment Scales (KAS)-R form in which relatives can complete the instrument and, via the scales of the KAS, provide information about a deceased's personality attributes in a more quantifiable and replicable manner.

More recently, Conner, Beutraus, Brent, Conwell, Phillips and Schneider (2011, 2012) provide an extensive analysis of the psychological autopsy technique and avenues wherein its methodology and operational procedures can be improved. Within the context of content (in terms of data collected) they identify numerous valuable data sources which sometimes appear to be overlooked in the collation of information for a psychological autopsy. Some of the items identified include the role of personality traits and medical illnesses within the deceased, the deceased's access to lethal agents and whether the deceased possessed any history of childhood maltreatment and/or family history of mental disorder. Secondly, within the context of interview procedures they identify numerous factors in how the technique can be improved upon such as the timing of when a psychological autopsy is con-

ducted as well as the structure and flow of the interview. Additionally, they illustrate that further improvements to the technique are achievable when a more systemized integration of archival records is undertaken with information obtained from interviews not to mention specific training of interviewers and systemized methods for the selection of proxy respondents when conducting psychological autopsy interviews.

Finally, some research endeavors have also been undertaken to address some of the procedural concerns. A study by Brent, Pepper, Kolko, and Zelenak (1988) found evidence to indicate that information furnished by parents concerning perceived symptomology could be regarded as reliable. Additionally, irrespective of a two- to six-month time span, the provision of this information by the parents of a deceased was still found to be reliable.

Conceptual Concerns

Psychological autopsy has been described as “a rather felicitous title for the amalgamation of a wide variety of information and conjecture pertaining to the dead subject” (Shaffer et al., 1972, p. 309). Although a somewhat rueful perspective, this statement justifiably highlights that simply because a recurring group of features can be identified within previously studied groups does not necessarily imply that these features can be used validly in some predictive capacity. Although studied samples of individuals who have committed suicide may have been found to commonly suffer from depression, for example, this in itself does not necessarily suggest that an individual who suffers from depression and is found dead in equivocal circumstances committed suicide. Thus, there are grounds to ponder the fundamental capacity of psychological autopsies in accurately explaining the intentions of a deceased person. Indeed, a number of poignant criticisms have emerged concerning the conceptual foundations to psychological autopsies. First, Pridmore and Walter (2013) argue that the psychological autopsy technique has done little to genuinely progress understanding of suicide in the past decades as it fosters a “medicalization of the human condition” (Pridmore & Walter, 2013, p. 878) and thus skews the analysis of suicide to be considered predominantly within a framework of psychopathologies.

As previously mentioned, Canter (2005) challenges some of the traditional concepts in determining an equivocal death as a suicide. One example is that suicide will necessarily have many identifiable antecedents (e.g., Shneidman, 1969) and instead argues that suicide may be committed in a seemingly spontaneous manner and thus could be a total surprise to the decedent’s friends and family (Canter, 2005). Similarly, the concept that most individuals intending to commit suicide communicate their intentions in

some capacity (e.g., Faberow & Shneidman, 1961; Shneidman, Faberow & Litman, 1976) or that suicide notes left by deceased persons will provide some coherent explanation for why they committed suicide are similarly questioned by Canter (2005).

Likewise, Hjelmeland, Dieserud, Dyregrov, Knizek and Leenaars, (2012) highlight a fundamental conundrum inherent to psychological autopsy research which predominantly contends that individuals who commit suicide invariably suffer from a mental disorder. However, Hjelmeland et al. (2012) astutely argue that it is virtually impossible for any mental health practitioner to make a validly informed diagnosis from the use of psychological autopsy (and thus the identification of symptomatology indicative of psychopathology) via interviewing proxies instead of the actual patient (i.e., the decedent).

Unfortunately, research into the ultimate validity of psychological autopsies in determining a deceased's intention in an equivocal death will always be hampered by the logistical factors of the circumstance. Whereas the effectiveness of a drug can be assessed by measuring the reduction in a particular disease, an analogous evaluation of psychological autopsy is not possible because the precise answer is lost with the deceased. Thus, the definitive reasoning and intentions of the deceased cannot ever be established because they are not alive to provide a definitive criterion by which accuracy and thus validity of the psychological autopsy can be measured.

Conceptual Solutions

Some promising research has been undertaken or proposed in an effort to remedy some of the aforementioned conceptual concerns related to the psychological autopsy technique. In examining reported symptomatology between suicide victims and attempted suicide inpatients, Brent and colleagues (1993) found encouraging results in terms of the validity of diagnosis obtained through psychological autopsy procedures. Similarly, Ogloff and Otto (1993) offer some useful suggestions wherein the validity of psychological autopsy procedures could, to some extent, be examined in the future. One suggestion is a quasi-experimental trial of subjects examining an equivocal death. The particular case under examination would involve a matter in which the *correct* mode of death had been previously determined. Consequently, subjects could evaluate the case concerning the equivocal death. The accuracy of their conclusions could be determined by their concordance with the previously ascertained correct mode of death, thus providing some tentative indications of validity through measurement.

More recently, Fang and Zhang (2010) undertook an empirically based experiment (following this general design structure) to test the validity of

obtained data collated in psychological autopsies and found favorable indications for the conceptual tenets and procedures of the technique.

PSYCHOLOGICAL AUTOPSY AND THE LEGAL SYSTEM

In comparison to other forensic psychological techniques, psychological autopsy appears to occupy a somewhat paradoxical position in terms of the admission of its testimony within the U.S. legal system. Despite concerns surrounding a paucity of scientific evidence to support the merits of psychological autopsy testimony derived from the technique has increasingly gained admission in U.S. legal proceedings, including precedent-setting appellate court decisions.

Judicial consideration of psychological autopsy in jurisdictions outside the United States, such as the United Kingdom or Canada, appear somewhat limited. In instances in which psychological autopsy, or concepts relative to the technique, have been considered (e.g., *R. v. Chard*, 1972; MacIntosh, 1997; *R. v. Valley*, 1986; *R. v. Weightman*, 1991), the judiciary appears to demonstrate a disinclination to admit such evidence (Freckelton & Selby, 2013). Possibly the most incisive decision in which the specific merits of psychological autopsy were considered within the jurisdiction of the United Kingdom was in the judgment of *R. v. Guilfoyle* (2001) in which the proffered testimony based on the technique was rejected, with the court commenting that:

Psychiatric evidence as to the state of mind of the defendant, witness or deceased falling short of mental illness may, of course, as we have said, be admissible in some cases when based, for example, on medical records and/or recognized criteria. . . . But the present academic status of psychological autopsies is not, in our judgment, such as to permit them to be admitted as a basis for expert opinion before a jury. (*R. v. Guilfoyle*, 2001, p. 68)

Irrespective of the legal position in the United Kingdom³ or Canada, within the U.S. legal system psychological autopsy as a concept appears to enjoy a rather well-established history, particularly in the context of civil litigation (e.g., Clark, 1988; Dregne, 1982; Lichter, 1981). Indeed, examples of the psychological autopsy concept can be found in U.S. case law dating back to the 1930s and the intention of a deceased in the context of a “gift in con-

3. One substantive consideration of the evidentiary admissibility of the psychological autopsy technique (largely from the jurisdictional context of the United Kingdom) can be found in Ormerod (2001).

temptation of death” (e.g., *United States v. Wells*, 1931; *Neal v. Commissioner*, 1931).

The scope of the present chapter does not allow for a detailed discussion of U.S. case law pertaining to psychological autopsy. A good overview of the judicial reasoning however, surrounding the admission of the technique in the U.S. legal system (with respect to legal principles arising from the *Frye* and *Daubert* tests) can be found in Knoll (2008). In this legal analysis Knoll notes numerous examples of civil proceedings in U.S. courts which have admitted testimony derived from psychological autopsy. The context of these cases includes matters such as workers’ compensation, medical malpractice, and insurance claims (e.g., *Campbell v. Young Motor Company*, 1984; *Evans v. Provident Life & Accident Ins. Co.*, 1990). Interestingly, however, U.S. civil jurisdictions appear not to have allowed evidence derived from psychological autopsy when the testimony relates to matters of testamentary capacity and intestate succession (e.g., *Estate of Skulina*, 1988).

The admission of testimony derived from psychological autopsy within criminal proceedings has not been as clear or as readily accepted as it has been in the civil arena. Indeed, a number of decisions concerning the admissibility of psychological autopsy testimony in criminal proceedings have seen this evidence rejected by the courts (*Arizona v. Montijo*, 1989). However, what has been suggested as a precedent setting decision arose in the case of *Jackson v. State of Florida* (1989) in which the Florida Appellate Court upheld an earlier decision to admit testimony derived from a psychological autopsy (Jacobs & Klein-Benheim, 1995). In this case, and in direct response to challenges concerning the admissibility of the testimony derived from psychological autopsy, the Florida Court held that: “We perceive no distinction between the admission of the expert’s opinion in this case and, for example, admitting psychiatric opinion evidence to establish a defendant’s sanity at the time of committing an offense or to prove the competency of an individual at the time of executing a will” (*Jackson v. State of Florida* (1989)).

Thus, within civil proceedings in the United States, and with some exceptions, there appears to be an acceptance of psychological autopsy as an admissible form of expert testimony. However, within criminal jurisdictions there appears to be some reluctance by the courts to admit testimony derived from the technique, with the exception⁴ of the decision of *Jackson v. Florida* (1989).

4. Another significant case to arise concerning the use of psychological autopsy within the jurisdiction of criminal law is that of *U.S. v. St. Jean*.

CONCLUSION

The concept of psychological autopsy is, arguably, a remarkably old technique (Isometsa, 2001). Contemporary conceptions of the technique generally see its use in varying, yet complementary, roles as both an operational mechanism to examine the mental status of a deceased party (particularly in circumstances of equivocal death) and as a method to study and understand epidemiological patterns in the perpetration of suicide. In both roles the technique generally appears to enjoy varying degrees of success (Isometsa, 2001). In addition to these functions, numerous authors have also noted the vicarious therapeutic benefits that often arise from the use of psychological autopsy with respect to interviewees such as grieving relatives of the deceased (e.g., Begley & Quayle, 2007; Beskow, Runeson & Asgard, 1991; Diller, 1979; Kizza, Hjelmeland, Kinyanda, & Knizek, 2011; Owens, Lambert, Lloyd & Donovan, 2008; Sanborn & Sanborn, 1976).

Notwithstanding the apparent growth and success of the technique, there is a range of notable concerns about both the methodological reliability of the employed procedures and the validity of the conclusions drawn from psychological autopsies. Despite these reservations, the technique, with a few exceptions, appears to enjoy good standing within the U.S. civil legal system in which expert testimony based on the technique has been admitted. However, the admissibility of psychological autopsy in U.S. criminal proceedings has not been as readily embraced despite a notable precedent that may clear a path for its further use in this jurisdiction in the future.

Appendix**PSYCHOLOGICAL AUTOPSY GUIDELINES**

1. Alcohol History
 - a. Collect family history
 - b. Research amount ingested regularly
 - c. Research evidence of binge drinking
 - d. Research evidence of blackouts (known from friends, family, acquaintances)
 - e. Research evidence of driving under the influence of alcohol
 - f. Research evidence of alcohol-related offenses
 - g. Research evidence of family problems (alcohol related)
 - h. Research evidence of work difficulties connected to alcohol
 - i. Research evidence of blood level (BAL) g/L at time of death
2. Suicide Notes
 - a. Examine content
 - b. Examine style
 - c. Have handwriting expert review writing style
3. Writing
 - a. Review any past writing by the deceased
 - b. Peruse any diary of the deceased
 - c. Examine school papers for topics of essays or term papers
 - d. Read letters to friends, family, coworkers, acquaintances
4. Books
 - a. Examine books of the deceased
 - i. Look for books on the occult, life after death, death
 - ii. Look for actual books on suicide
 - b. Assess books checked out of local libraries
5. Relationship Assessments
 - a. Interview people who knew the deceased, including
 - i. Close friends
 - ii. Close intimate heterosexual or homosexual companions
 - iii. Acquaintances
 - iv. Mother, father, siblings
 - v. Coworkers and supervisors
 - vi. Other relatives
 - vii. Physicians and/or mental health professionals
 - viii. Teachers
 - b. Construct level of intimacy on the basis of discussions with “close” friends

- c. Assess people's reactions to the victim's death
- d. Secure a history of marriages and divorces
- e. Examine relationship with children
- f. Look for anger directed toward particular people
- 6. Marital Relationship
 - a. Note any significant problems that may have made the deceased person depressed
 - b. Look for history of extramarital relationships
 - c. Assess the overall quality of the relationship
- 7. Mood
 - a. Identify mood fluctuations
 - b. Look for symptoms of depressions
 - i. Weight loss
 - ii. References to depression
 - iii. Problems with memory
 - iv. Fatigue
 - v. Sleep disturbances
 - vi. Withdrawal
 - vii. Decreased libido
 - viii. Appetite and/or taste changes
 - ix. Constipation and diarrhea
 - c. Look for mood indicators during last few days
 - i. Interview friends and family
 - ii. Interview anyone surrounding the deceased
- 8. Psychosocial Stressors (note and chart importance on Holmes & Rahe Scale factors)
 - a. Recent loss: death of people or pets
 - b. Relationship separations: divorce, breakups of significant relationships
 - c. Loss of job
 - d. Legal and financial problems
 - e. Demotion, promotion, and so on
 - f. Reaction to stressors
 - g. Move to a new location
- 9. Presuicidal Behavior
 - a. Giving away important possessions
 - b. Paying up insurance policies
 - c. Payment of debts
 - d. Arrangements for children and pets
 - e. Sudden order in deceased's life
 - f. Change or initial creation of a will

10. Language
 - a. Identify any specific references to suicide (deceased may have stated, "Have a party in remembrance of me," or "You won't have to worry about me anymore")
 - b. Note any changes in language before suicide
 - c. Analyze language (tapes, recollections of conversations, writing) for morbid content
11. Drugs Used
 - a. Identify all drugs used by deceased
 - b. Assess interactional effects of legal and illegal drugs in use
12. Medical History
 - a. Review complete medical history
 - b. Note any unusual symptoms or diagnoses
 - c. Note any terminal illnesses or diagnoses
13. Reflective Mental Status Exam of Deceased's Condition Before Death
 - a. Orientation
 - b. Memory
 - c. Attention
 - d. Concentration
 - e. Mood and affect
 - f. Hallucinations or delusions
 - g. Cognition, IQ
 - h. Language
 - i. Judgment
14. Psychological History
 - a. Look for previous suicide attempts (type, method)
 - b. Assess reason for treatment if involved in therapy
 - c. Research evidence of depression, manic depression (bipolar disorder)
 - d. Research past psychiatric hospitalizations
 - e. Examine diagnoses
 - f. Examine evidence of impulsive behavior
 - g. Examine any recent or past psychological tests (e.g., was the victim given the Rorschach and was the suicide constellation served via the Exner system?)
15. Laboratory Studies
 - a. Examine ballistics
 - b. Evaluate powder burns on hands and body
16. Coroner's Report
 - a. Conduct complete drug screen
 - b. Identify any poisons

- c. Read for detailed description of physical functioning/health of deceased at time of death
17. Motive Assessment
 - a. Make a chart divided four ways: Murder, Suicide, Accident, and Natural, recording data to support each as it is uncovered
 - b. Report the possible reasons for suicide
 - c. Report the possible reasons why the subject could have been murdered (identify enemies, illicit activities)
18. Reconstruction of Events Occurring on the Day Before Deceased's Death
 - a. Make a step-by-step chart of subject's movements and activities
 - b. Form a chronological history of the victim that immediately precedes death
19. Assess Feelings Regarding Death as Well as Preoccupations and Fantasies
20. Military History
 - a. Look for evidence of difficulty adjusting, such as letters of counseling (LOC), letters of reprimand (LOR), Article 15 action (A15), or court-martial proceedings (Note: A15 is a form of nonjudicial punishment for offenses not serious enough to warrant a court-martial and include repeated lateness, driving under the influence of alcohol, sleeping on duty, or negligence on duty. Punishment from an A15 can include reduction in rank, fines, or removal from duty.)
 - b. Attempt to secure job ratings (airman promotion rating and officer effectiveness rating)
 - c. Look for decorations or awards
 - d. Notice whether deceased was in a combat zone at any time
 - e. Look for evidence of posttraumatic stress disorder in Vietnam veterans
 - f. Determine the number of assignments and which were at the request of the victim
21. Death History of Family
 - a. Examine history for suicide by other family members
 - b. List immediate deceased family members and their mode of death
22. Family History
 - a. Identify family members and relationships with deceased
 - b. Examine the socioeconomic status of family
 - c. Identify any conflicts that occurred before death of the victim
23. Employment History
 - a. Identify number and types of jobs (high-risk work may indicate the existence of subintentional behavior for quite some time)

- b. Look for repetitive problems
 - c. Assess whether any problems existed before death (e.g., coworker conflict, failure to progress as planned)
 - d. Note any disciplinary action
24. Educational History
- a. Assess educational level
 - b. Identify any problems with teachers or subjects
 - c. Note special interests or topics (e.g., in particular, look for special interests in death)
25. Familiarity with Methods of Death
- a. Examine belongings for guns, knives (e.g., the deceased may have had five or six loaded weapons around his or her house regularly)
 - b. Look for lethal drugs
 - c. Note deceased's interest in and knowledge about weapons
26. Police Report
- a. Critical facts will be obtained by review of the police investigation
 - b. Pay special attention to ballistics data

REFERENCES

- Abondo, M., Masson, M., LeGruet, M., & Millet, B. (2008). Psychiatric autopsy: Its use and limits in France. *Encephale*, 34(4), 343–346.
- Appleby, L., Cooper, J., Amos, T., & Faragher, B. (1999). Psychological autopsy of suicides by people under 35. *British Journal of Psychiatry*, 175, 168–174.
- Aranto, M., Demeter, E., Rihmer, Z., & Somogyi, E. (1988). Retrospective psychiatric assessment of 200 suicides in Budapest. *Acta Psychiatrica Scandinavica*, 77, 454–460.
- Arizona v. Montijo, 774 P.2d 1366, 1368-70 (Ariz. Ct. App. 1989).
- Aumiller, G. S., Corey, D., Brewster, J., Allen, S., Gupton, H., Cuttler, M., & Honig, A. (2008). Defining the field of police psychology: Core domain & proficiencies. *Journal of Police and Criminal Psychology*, 22, 65–76.
- Barracrough, B., Bunch, J., Nelson, B., & Sainsbury, P. (1974). A hundred cases of suicide: Clinical aspects. *British Journal of Psychiatry*, 125, 355–373.
- Begley, M., & Quayle, E. (2007). The lived experience of adults bereaved by suicide: A phenomenological study. *Crisis*, 28, 26–34.
- Bendheim, O. L., (1979). The psychiatric autopsy: Its legal application. *Bulletin of the American Academy of Psychiatry and the Law*, 7, 400–410.
- Beskow, J. (1979). Suicide and mental disorder in Swedish men. *Acta Psychiatrica Scandinavica*, 277, 1–138.
- Beskow, J., Runeson, B., & Asgard, U. (1991). Ethical aspects of psychological autopsy. *Acta Psychiatrica Scandinavica*, 84, 482–487.
- Blau, T. H., & Alberts, F. L. (2004). *The forensic documentation sourcebook* (2nd ed.). Hoboken, NJ: Wiley.
- Botello, T. E., Weinberger, L. E., & Gross, B. H. (2003). *Psychological autopsy*. In R. Rosner (Ed.), *Principles and practice of forensic psychiatry* (2nd ed., pp. 90–94). London, UK: Arnold Press.
- Brent, D. A., Pepper, J. A., Kolko, D. J., & Zelenak, J. P. (1988). The psychological autopsy: Methodological considerations for the study of adolescent suicide. *Journal of the American Academy of Child and Adolescent Psychiatry*, 27, 362–366.
- Brent, D. A., Perper, J. A., Moritz, G., Allman, C., Friend, A., Roth, C., Schweers, J., Balach, L., & Baugher, M. (1993). Psychiatric risk factors for adolescent suicide: A case control study. *Journal of the American Academy of Child and Adolescent Psychiatry*, 32, 521–529.
- Byard, R. W., & Branwell, N. H. (1991). Autoerotic death definition. *American Journal of Forensic Medicine and Pathology*, 12, 74–76.
- Burton, S., & Dalby, T. (2012). Psychological autopsy in the investigation of serial neonaticides. *Journal of Forensic Sciences*, 57(1), 270–272.
- Campbell v. Young Motor Company, 684 P.2d 1101, 1103 (Mont. 1984).
- Canter, D. V. (2005). Suicide or murder? Implicit narratives in the Eddie Guilfoyle case. In L. Alison (Ed.), *Forensic psychologists casebook: Psychological profiling and criminal investigation* (pp. 315–333). London: Willan Publishing.
- Carney, S. S., Rich, C. L., Burke, P. A., & Fowler, R. C. (1994). Suicide over 60: The San Diego study. *Journal of the American Geriatric Society*, 42, 174–180.

- Cavanagh, J. T. O., Carson, A. J., Sharpe, M., & Lawrie, S. M. (2003). Psychological autopsy studies of suicide: A systematic review. *Psychological Medicine, 33*, 395–405.
- Cheng, A. T. A. (1995). Mental illness and suicide: A case control study in East Taiwan. *Archives of General Psychiatry, 52*, 594–603.
- Clark, D. C. (1988). Psychological autopsy in the courtroom. *Suicide Research Digest, 2*, 3–4. Clark, D. C., & Horton-Deutsch, S. (1992). Assessment in absentia: The value of the psychological autopsy method for studying antecedents of suicide and predicting future suicides. In R. Maris, J. Berman, J. Maltzberger, & R. Yufit (Eds.), *Assessment and prediction of suicide* (pp. 144–182). New York: Guilford.
- Conner, K. R., Beautrais, A. L., Brent, D. A., Conwell, Y., Phillips, M. R., & Schneider, B. (2012). The next generation of psychological autopsy studies: Part 2. Interview Procedures. *Suicide and Life-Threatening Behavior, 42*(1), 86–103.
- Conner, K. R., Beautrais, A. L., Brent, D. A., Conwell, Y., Phillips, M. R., & Schneider, B. (2011). The next generation of psychological autopsy studies: Part 1. Interview Content. *Suicide and Life-Threatening Behavior, 41*(6), 594–613.
- Conwell, Y., Duberstein, P. R., Cox, C., Hermann, J. H., Forbes, N. T., & Caine, E. D. (1996). Relationships of age and Axis I diagnosis in victims of completed suicide: A psychological autopsy study. *American Journal of Psychiatry, 153*, 1001–1008.
- Curphey, T. (1968). The psychological autopsy: The role of the forensic pathologist in the multidisciplinary approach to death. *Bulletin of Suicidology, 4*, 39–45.
- Danto, B. L. (1979). New frontiers in the relationship between suicidology and law enforcement. *Suicide & Life Threatening Behavior, 9*, 195–204.
- Diller, J. (1979). The psychological autopsy in equivocal deaths. *Perspectives in Psychiatric Care, 17*, 156–161.
- Dregne, N. M. (1982). Psychological autopsy: A new tool for criminal defense attorneys? *Arizona Law Review, 24*, 421–439.
- Ebert, B. W. (1987). Guide to conducting a psychological autopsy. *Professional Psychology: Research and Practice, 18*, 52–56.
- Estate of Skulina, 425 N.W. 2d 135 (Mich App. 1988).
- Evans v. Provident Life & Accident Ins. Co., 803 P.2d 1033 (Kan. Ct. App. 1990).
- Faberow, N. (1968). Suicide: Psychological aspects. *International Encyclopedia of the Social Sciences, 15*, 390–394.
- Faberow, N., & Shneidman, E. S. (1961). *The cry for help*. New York: McGraw-Hill.
- Fang, L., & Zhang, J. (2010). Validity of proxy data obtained by different psychological autopsy information reconstruction techniques. *The Journal of International Medical Research, 38*(3), 833–843.
- Fisher, P., & Shaffer, D. (1984). Methods for investigating suicide in young children and adolescents: An overview. In H. S. Sudak, A. B. Ford, & N. B. Rushford (Eds.), *Suicide in the young* (pp. 139–257). Littleton, MA: John Wright PSG.
- Foster, T., Gillespie, K., & McClelland, R. (1997). Mental disorders and suicide in Northern Ireland. *British Journal of Psychiatry, 170*, 447–452.

- Franchi, A., Bagur, J., Lemoine, P., Maucort-Boulch, D., Malicier, D. & Maujean, G. (2016). Forensic autopsy of people having committed suicide in 2002 and in 2012: Comparison of epidemiological and sociological data. *Journal of Forensic Science*, *61*(1), 109–115.
- Freckelton, I., & Selby, H. (2013). *Expert evidence: Law, practice and procedure* (5th ed.). Sydney: Law Book Company.
- Gavin, M., & Rogers, A. (2006). Narratives of suicide in psychological autopsy: Bringing lay knowledge back in. *Journal of Mental Health*, *15*, 135–144.
- Giupponi, G., Pycha, R., Innamorati, M., Larris, D. A., Schmidt, E., Conca, A., Kapfhammer, H. P., Lester, D., Girardi, P., & Pompili, M. (2014). The association between suicide and the utilization of mental health services in South Tirol, Italy: A psychological autopsy study. *International Journal of Social Psychology*, *60*(1), 30–39.
- Gould, M. S., Fisher, P., Parides, M., Flory, M., & Shaffer, D. (1996). Psychosocial risk factors of child and adolescent completed suicide. *Archives of General Psychiatry*, *53*, 1155–1162.
- Hawton, K., Appleby, K., Platt, S., Foster, T., Cooper, J., Malmberg, A., & Simkin, S. (1998). The psychological autopsy approach to studying suicide: A review of methodological issues. *Journal of Affective Disorders*, *50*, 269–276.
- Hazelwood, R. R., Dietz, P. E., & Burgess, A. W. (1982). Sexual fatalities: Behavioral reconstruction in equivocal cases. *Journal of Forensic Sciences*, *27*, 763–773.
- Hazelwood, R. R., Dietz, P. E., & Burgess, A. W. (1983). *Autoerotic fatalities*. Lexington, MA: Lexington Books.
- Henriksson, M. M., Aro, H. M., Martunen, M. J., Heikkinen, M. E., Isometsa, E. T., Kuoppasalmi, K. I., & Lonnqvist, J. K. (1993). Mental disorders and comorbidity in suicide. *American Journal of Psychiatry*, *150*, 935–940.
- Henriksson, M. M., Martunen, M. J., Isometsa, E. T., Heikkinen, M. E., Aro, H. M., Kuoppasalmi, K. L., & Lonnqvist, J. K. (1995). Mental disorders in elderly suicide. *International Psychogeriatrics*, *7*, 275–286.
- Hjelmeland, H., Dieserud, G., Dyregrov, K., Knizek, B. L., & Leenaars, A. A. (2012). Psychological autopsy studies as diagnostic tools: Are they methodologically flawed? *Death Studies*, *36*, 605–626.
- Isometsa, E. T. (2001). Psychological autopsy studies: A review. *European Psychiatry*, *16*, 379–85.
- Jackson v. Florida, 553 So 2d 719 (Fla Dist Ct App 1989).
- Jacobs, D., & Klein, M. (1993). The expanding role of psychological autopsies. In A. A. Leenaars (Ed.), *Suicidology: Essays in honor of Edwin S. Shneidman* (pp. 209–247). Northvale, NJ: Aronson.
- Jacobs, D., & Klein-Benheim, M. (1995). The psychological autopsy: A useful tool for determining proximate causation in suicide cases. *Bulletin of the American Academy of Psychiatry and Law*, *23*, 165–182.
- Jobes, D. A., Berman, A. L., & Josselson, A. R. (1986). The impact of psychological autopsies on medical examiners' determinations of manner of death. *Journal of Forensic Sciences*, *31*, 177–189.

- Jones, D. R. (1977). Suicide by aircraft: A case report. *Aviation, Space and Environmental Medicine, 48*, 454–459.
- Kameyama, A., Matsumoto, T., Katsumata, Y., Akazawa, M., Kitani, M., Hirokawa, S., & Takeshima, T. (2011). Psychosocial and psychiatric aspects of suicide completers with unmanageable debt: A psychological autopsy study. *Psychiatry and Clinical Neuroscience, 65*, 592–595.
- Kizza, D., Hjelmeland, H., Kinyanda, E., & Knizek, B. L. (2011). Qualitative psychological autopsy interviews on suicide in post-conflict northern Uganda: The participant's perceptions. *Omega, 63*(3), 235–254.
- Kizza, D., Knizek, B. L., Kinyanda, E., & Hjelmeland, H. (2012). Men in despair: A qualitative psychological autopsy study of suicide in Northern Uganda. *Transcultural Psychiatry, 49*(5), 696–717.
- Knoll, J. K. (2009). The psychological autopsy, Part II: Toward a standardized protocol. *Journal of Psychiatric Practice, 15*(1), 52–59.
- Knoll, J. K. (2008). The psychological autopsy, Part I: Applications and methods. *Journal of Psychiatric Practice, 14*(6), 393–397.
- Knoll, J. K., & Hatters-Friedman, S. (2015). The homicide-suicide phenomenon: Findings of psychological autopsies. *Journal of Forensic Sciences, 60*(5), 1253–1257.
- LaFon, D. S. (1999). Psychological autopsies for equivocal deaths. *International Journal of Emergency Mental Health, 1*, 183–188.
- Lesage, A. D., Boyer, R., Grunberg, F., Vanier, C., Morissette, R., & Menard-Buteau, C. (1994). Suicide and mental disorders: A case control study of young men. *American Journal of Psychiatry, 151*, 1063–1068.
- Lichter, D. (1981). Diagnosing the dead: The admissibility of the psychiatric autopsy. *American Criminal Law Review, 18*, 617–635.
- Litman, R. (1984). Psychological autopsies in court. *Suicide and Life-threatening Behavior, 14*, 88–95.
- Litman, R. (1989). 500 Psychological autopsies. *Journal of Forensic Sciences, 34*, 638–646.
- Litman, R., Curphey, T., Shneidman, E., Farberow, N. L., & Tabachnick, N. (1963). Investigations of equivocal suicides. *Journal of the American Medical Association, 184*, 924–929.
- Meloy, J. R. (2004). Indirect personality assessment of the violent true believer. *Journal of Personality Assessment, 82*, 138–146.
- Mendes, R., Santos, S., Taveira, F., Dinis-Oliveira, R.J., Pharm, D., Santos, A., & Magalhaes, T. (2015). Child suicide in the North of Portugal. *Journal of Forensic Sciences, 60*(2), 471–475.
- Milner, A., Sveticic, J., & DeLeo, D. (2012). Suicide in the absence of mental disorder? A review of psychological autopsy studies across countries. *International Journal of Social Psychiatry, 59*(6), 545–554.
- Neal v. Commissioner, 53 F.2d 806 (8th Cir. 1931).
- Neill, K., Benesohn, H. S., Farber, A. N., & Resnik, H. (1974). The psychological autopsy: A technique for investigating a hospital suicide. *Hospital and Community Psychiatry, 25*, 33–36.
- Ogloff, J. R. P., & Otto, R. K. (1993). Psychological autopsy: Clinical and legal perspectives. *St. Lewis Law Journal, 37*, 607–646.

- Ormerod, D. (2001). Psychological autopsies: legal applications and admissibility. *The International Journal of Evidence & Proof*, 5(1), 1–31.
- Owens, C., Lambert, H., Lloyd, K., & Donovan, J. (2008). Tales of biographical disintegration: How parents make sense of their sons' suicides. *Social Health and Illness*, 30, 237–254.
- Paraschakis, A., Michopoulos, I., Christodoulou, C., Koutsaftis, F., Lykouras, L. & Douzenis, A. (2015). A 2-year psychological autopsy study of completed suicides in the Athens Greater Area, Greece. *Psychiatry Investigation*, 12(2), 212–217.
- Poythress, N., Otto, R.K., Darkes, J., & Starr, L. (1993). APA's expert panel into the Congressional review of the USS Iowa incident. *American Psychologist*, 48, 8–15.
- Pridmore, S., & Walter, G. (2013). Psychological autopsies. *Australian and New Zealand Journal of Psychiatry*, 47(9), 878.
- R. v. Chard, 56 Cr App R 268 (1972).
- R. v. Guilfoyle, 2 Cr. App. Rep. 57 (2001).
- R. v. MacIntosh, 117 C.C.C. (3d) 385 (Ont. C. A.) (1997).
- R. v. Valley, 26 C.C.C. (3d) 207 (1986).
- R. v. Weightman, 92 Cr.App.R.291 (1991).
- Review of the Navy Investigation of USS IOWA Explosion*: Joint hearings before the Investigations Subcommittee and the Defense Policy Panel of the Committee of Armed Services, House of Representatives, 101 Cong. Hearings held December 12, 13, and 21, 1989.
- Ritchie, E., & Gelles, N. G. (2002). Psychological autopsy: The current department of defense effort to standardize training and quality assurance. *Journal of Forensic Science*, 47, 1370–1372.
- Rouse, L. M., Frey, R. A., Lopez, H., Wollers, H., Xiong, I., Llewellyn, K., Lucci, S. P., & Wester, S. R. (2015). Law enforcement suicide: Discerning etiology through psychological autopsy. *Police Quarterly*, 18(1), 79–108.
- Ross, V., Kolves, K., & DeLeo, D. (2017). Beyond psychopathology: A case-control psychological autopsy study of young adult males. *International Journal of Social Psychology*, 63(2), 151–160.
- Roy, A. (1981). Suicide in chronic schizophrenia. *British Journal of Psychiatry*, 141, 171–177.
- Rudestam, K. E. (1979). Some notes on conducting a psychological autopsy. *Suicide and Life Threatening Behavior*, 9, 141–144.
- Ruderstam, K. E. (1971). Stockholm and Los Angeles: A cross-cultural study of the communication of suicidal intent. *Journal of Consulting and Clinical Psychology*, 36, 82–90.
- Sanborn, D. E., & Sanborn, C. J. (1976). The psychological autopsy as a therapeutic tool. *Diseases of the Nervous System*, 37, 4–8.
- Schlesinger, L. B. (2006). Celebrity stalking, homicide, suicide: A psychological autopsy. *International Journal of Offender Therapy and Comparative Criminology*, 50, 39–46.
- Selkin, J. (1994). Psychological autopsy: Scientific psychohistory or clinical intuition? *American Psychologist*, 49, 74–75.
- Selkin, J., & Loya, F. (1979). Issues in the psychological autopsy of a controversial public figure. *Professional Psychology*, 10, 87–83.

- Shaffer, D., Gould, M. S., Fisher, P., Trautman, P., Moreau, D., Kleinman, M., & Flory, M. (1996). Psychiatric diagnosis in child and adolescent suicide. *Archives of General Psychiatry*, *53*, 339–348.
- Shaffer, J. W., Perlin, S., Schmidt, C. W., & Himmelfarb, M. (1972). Assessment in absentia: New directions in the psychological autopsy. *Johns Hopkins Medical Journal*, *130*, 308–316.
- Shah, A., Sava-Shah, S., Wijeratane, C., & Draper, B. (2016). Are elite cricketers more prone to suicide? A psychological autopsy study of Test cricketer suicides. *Australian Psychiatry*, *24*(3), 295–299.
- Sher, L. (2013). Psychological autopsy studies: Past, present and future. *Australian and New Zealand Journal of Psychiatry*, *47*(8), 884.
- Shneidman, E. S. (1969). Suicide, lethality and the psychological autopsy. *International Psychiatry Clinics*, *6*, 225–250.
- Shneidman, E. S. (1981). The psychological autopsy. *Suicide and Life-Threatening Behavior*, *11*, 325–340.
- Shneidman, E. S. (1994). The psychological autopsy [comment]. *American Psychologist*, *49*, 75–76.
- Shneidman, E. S., & Faberow, N. L. (1976). Sample psychological autopsies. In E. S. Shneidman, N. L. Farberow, & R. E. Litman (Ed.), *The psychology of suicide* (pp. 497–510). New York: Jason Aronson.
- Shneidman, E. S., Farberow, N. L., & Litman, R. E. (Ed.). (1976). *The psychology of suicide*. New York: Jason Aronson.
- Snider, J. E., Hane, S., & Berman, A. L. (2006). Research Note: Standardizing the psychological autopsy: Addressing the Daubert standard. *Suicide and Life-Threatening Behavior*, *36*(5), 511–518.
- United States v. Wells, 283 U.S. 102 (1931).
- U.S. v. St. Jean (U.S. Court of Appeals for Armed Forces, 1996).
- Ventura, F., Portunato, F., Pizzorno, E., Mazzone, S., Verde, A., & Rocca, G. (2013). The need for an interdisciplinary approach in forensic sciences: Perspectives from a peculiar case of mummification. *Journal of Forensic Sciences*, *58*(3), 831–836.
- Werlang, B. S. G., & Botega, N. J. (2003). A semistructured interview for psychological autopsy: An inter-rater reliability study. *Suicide and Life-Threatening Behavior*, *33*(3), 326–330.
- Young, T. J. (1992). Procedures and problems in conducting a psychological autopsy. *International Journal of Offender Therapy and Comparative Criminology*, *36*, 43–52.
- Yanowitch, R. E., Mohler, S. R., & Nichols, E. A. (1972). The psychosocial reconstructive inventory: A postdictal instrument in aircraft accident investigation. *Aerospace Medicine*, *44*, 675–678.

Chapter Fifteen

CRISIS NEGOTIATION

JAMES S. HERNDON

Over the past forty years or so, the techniques and practice of negotiation have been applied to crisis situations confronted by law enforcement personnel. The early beginnings are generally traced back to the New York Police Department (NYPD) in the 1970s, to events in the world that tended to feature hostage taking as a key element of criminal and political behavior. From infrequent use to standard practice, crisis negotiation has become commonplace in law enforcement. The context, content, and process of crisis negotiation will be broadly considered in this chapter.

Because of the extensive literature on the topics of crisis/hostage negotiation and space limitations in a chapter such as this, the approach taken herein is to organize the material according to distinct subtopics. Each subtopic will be briefly covered, paying particular attention to information that may be useful for those interested in applied criminal psychology. Reference citations at the chapter's end should be helpful in further exploring the many aspects of crisis/hostage negotiation.

Throughout the chapter, the terms crisis negotiation, hostage negotiation, and crisis/hostage negotiation will be used interchangeably. This is often the case in the literature cited. Crisis intervention is also a term that is frequently paired with negotiation. The use of these terms, which is reflective of changes in philosophy and practice as the field evolved, should be clear when taken in the context of an article, chapter, or book cited. A barricade situation is one in which a subject refuses to come out, sometimes with or without hostages. Hostages (persons held against their will as a form of barter) play a key role in negotiation considerations. Unless otherwise stated, negotiator refers to appropriately trained and duly authorized police personnel.

BACKGROUND, HISTORY, AND ICONS

The historical events that laid the foundation for the need for hostage negotiation as a police approach include the Munich massacre of Olympic athletes at the hands of terrorists in 1972, as well as the spate of airline jackings that seemed epidemic in the 1970s. McMains and Mullins (1996) provide a concise discussion of the events in the development of the NYPD hostage negotiation concept as well as the Federal Bureau of Investigation (FBI) initiatives that followed. Many of the classic articles on hostage negotiation were assembled in a compendium by Romano, Getz, and McCann (1998). Other authors have devoted some attention to the development of hostage negotiation techniques in law enforcement (e.g., Blau, 1994) and crisis situations (e.g., James, 2008).

What has been referred to as “first-generation” hostage negotiation (the police response to terrorist and political activities) has gradually evolved into “second-generation” crisis intervention (applying crisis intervention principles to criminal encounters and domestic disturbances). Many hostage negotiation teams (HNT) were renamed crisis negotiation teams (CNT) to reflect this refinement of philosophy and technique (e.g., OCSO, 1999, 2001). A good summary of the evolution of hostage negotiation in law enforcement is provided by Call (2003).

When one enters the literature on crisis/hostage negotiation, almost immediately two names come to the fore: Frank Bolz and Harvey Schlossberg. These two individuals share the credit for introducing and developing the techniques of crisis negotiation for law enforcement application. Each gave an account of his role in the process—Bolz in *Hostage Cop* (Bolz & Hershey, 1979) and Schlossberg in *Psychologist with a Gun* (Schlossberg & Freeman, 1974). In person, each can tell many tales of how things came to be. No doubt one person played off the other in a synergistic way that led to the refinement of a method that has found its way to almost all law enforcement agencies today. However, recognition must also go to the late Simon Eisdorfer, who is credited with developing the NYPD hostage negotiation team (*New York Times*, 2005).

EARLY TRAINING AND DEVELOPMENT OF BASIC MODELS

In the beginning, the application of negotiation in the law enforcement context simply meant talking to the suspect, rather than using a tactical approach to resolve a crisis situation. Talking was seen as a better alternative to force, especially when the lives of innocent hostages hung in the balance (Soskis & Van Zandt, 1986). So, the strategy to “isolate, contain, and negoti-

ate” emerged. Training models emphasized the importance of time and containment to the effective resolution of potentially lethal encounters. Trainers instructed would-be negotiators in the history, development, philosophy, and techniques of negotiation that emerged from police trial and error applications. Anecdotes and “war stories” were plentiful in early training sessions (Bolz & Hershey, 1979; Schlossberg & Freeman, 1974). Not much emphasis was placed on communication techniques *per se*, other than the need to convince the barricaded suspect/hostage taker to give up and come out. Negotiators were generally selected for their ability to carry on a good conversation.

As negotiation began to take hold in the law enforcement arsenal, the process came under scrutiny in an effort to better understand the dynamics in typical situations (see Abbott, 1986; Wesselius & DeSarno, 1983; Whittle, 1988). In a study conducted by Holmes (1991), an attempt was made to formulate a developmental phase model of negotiation; however, the model seemed to fit training simulation situations better than it did actual hostage situations. Other models attempted to fit the elements of a crisis situation into negotiator training (Herndon, 1994) or to provide useful analogies that might facilitate training (Herndon, 1996), or both.

Abbott (1986) presented a time-phased model for hostage negotiation based on time-sequence relationships that occur during the negotiation process. This was intended to be used as a yardstick by which to measure the process of negotiations. Similarly, Strentz (1995) discussed the cyclic crisis negotiation time line that can help a negotiator determine that a situation is winding down toward a peaceful solution.

Figure 15.1. shows the major components in police crisis negotiation, around which this chapter is organized. The content (players) of negotiation includes the hostage taker, the hostages (victims), and the hostage negotiator. Issues surrounding each are presented in what follows. The context of negotiation, in terms of this chapter, is the law enforcement crisis team call out. The process of negotiation includes the dynamic interactions that occur between and among all players. External forces, such as organizational, social and political pressures, tend to impinge on the process. Mental health consultants often play a role in the outcome. In addition, time is always a factor.

APPLICATION AND EXAMINATION OF THE PROCESS

From the very beginning of the application of negotiation techniques to law enforcement situations, there have been efforts to examine the process, not only to explicate and elucidate but also to educate. Schlossberg (1979)

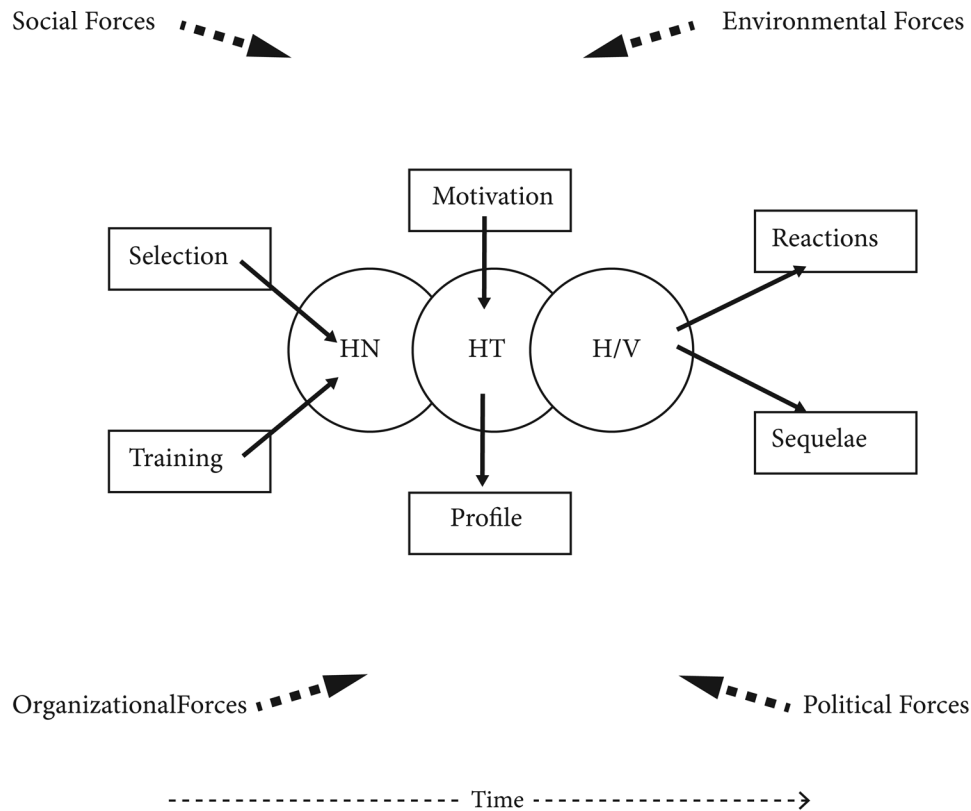


Figure 15.1. Organizing framework.

described in general terms the police response to hostage situations, and Fuselier (1981) provided a practical overview of hostage negotiations. Even the moral considerations involved in police responses to hostage takers have been explored (Betz, 1982).

Maksymchuk (1982) provided a very basic outline of the types of hostage takers, hostage situations, and offensive actions to be considered in most police calls for assistance. The anatomy of a hostage situation was presented by Wesselius and DeSarno (1983) as they exemplified the social psychological interplay between hostage and hostage taker. Friedland (1986) examined hostage negotiation types, processes, and outcomes. An empirical examination of the process of negotiation between a barricaded subject and police negotiators was detailed by Powell (1989) in his doctoral dissertation at the University of Iowa.

The high-risk factors associated with crisis/hostage situations were discussed by Fuselier, Van Zandt, and Lanceley (1991); these factors were iden-

tified as those that increase the possibility of the victim being killed or the hostage taker committing suicide. Among these factors were the subject being under multiple stressors prior to the incident, the subject's background of male dominance, prior similar incidents and problems with the hostage, and, the subject's lack of family or social support systems. Ramesh (1992) was critical of police negotiation by stating that strategies employed not only may fail to resolve certain hostage situations but may also continue to invest the police with power to define meanings and to characterize the service they render to the public.

Dolnik (2003) contrasted the dynamics of crisis negotiations in barricade versus kidnapping incidents. Because of the differences cited (location of victims and identity of perpetrators), the components of crisis negotiation that have been successful in resolving barricade situations may be inapplicable to kidnappings. Other important variables and distinctions occurring in crisis situations faced by negotiators are discussed in the edited work of Rogan, Hammer and Van Zandt (1997). A full range of psychological aspects of crisis negotiation is covered in the chapters put together by Strentz (2006).

COMMUNICATIONS AND SPECIALIZED TECHNIQUES

Negotiation is fundamentally communication. This statement may seem overly simplistic; however, it is important to realize that the emphasis on communication techniques did not come until many lessons had been learned through ineffective communications in hostage situations. Early negotiation was a strategy of containment and isolation, allowing time to work in favor of the release of hostages and using negotiation to stall and vent (defuse) the situation. Unfortunately, in law enforcement (as well as in other occupations), time is money, and overtime pay considerations often led to an action imperative to "go tactical." Better communication techniques were needed to resolve situations peacefully in a timely manner.

Early arguments were made for negotiation over tactical assaults (e.g., Bolz, 1982). Organizational resistance and inertia were hard to overcome in the early years of negotiation. Talk was tolerated, but only for so long. Communication strategies came under scrutiny. Richardson (1983) examined the communication strategies in barricade and hostage confrontations to include the rationale for the commitment to resolve such crises through communication rather than through tactical assault, the underlying theory and research, and the actual strategies recommended and practiced by negotiators as taught by the FBI Academy. He proposed suggestions to refine communication response strategies, both short term and long term. Other communication analysis studies are reported by Fowler, Devivo and Fowler (1985)

and Rogan (1990). Mullins (1995) offered some advanced communication techniques for hostage negotiators, those designed to influence others and increase compliance. Other researchers examined the message effect in crisis negotiations (Rogan & Hammer, 1995), and Slatkin (1996) made the case for therapeutic communication.

Recognition of the importance of active listening became the focus of consideration among hostage negotiators (Noesner & Webster, 1997). Royce (2005) analyzed the critical role of active listening in the case of a police negotiator in New South Wales, Australia during the process of serving a high-risk warrant on an armed suspect. Royce concluded that active listening was a critical factor in the resolution of the crisis. Keenan (2007) encouraged the development of an empathic response in police crisis negotiators, noting that trainees who were exposed to the FBI-CNT model showed no increase in the level of observed emotional empathy as demonstrated by pre- and post-training testing.

Some researchers have argued for the importance of roleplaying as a means to increase negotiator effectiveness (Van Hasselt & Romano, 2004; Van Hasselt, Romano & Vecchi, 2008). Certainly, roleplaying contributes to the development of better negotiation skills by adding situational realism. Research focusing directly on the communication process during crisis situations has shown that verbal communication has a direct impact on the outcome (McClain, 2004; McClain, Callaghan, Madrigal, Unwin & Castoreno, 2006). The value of words as disarming tools was noted by Charles (1999; 2007) and Slatkin (2005) who offered a general guide to some useful communication stratagems and strategies for law enforcement.

Taylor (2002) proposed a cylindrical model of communication behavior that posited the interrelationships among communication behaviors in crisis negotiation. By analyzing 189 dialogue spans transcribed from nine resolved cases and using forty-one coding variables, Taylor identified three dominant levels of suspect-negotiator interaction (avoidance, distributive, integrative) and three thematic styles of communication (identity, instrumental, relational). Such research contributes to a better understanding of communication dynamics, which are essential to crisis resolution.

Communication as negotiation, and vice versa, is essential to effective crisis resolution. Listening and understanding require disciplined practice, and true communication can be inhibited by world view differences between law enforcement and other categories of people (see Docherty, 1998). Intelligence gathering is a never-ending component of crisis negotiation.

HOSTAGE-TAKER ISSUES

Behind hostage-taking behavior can be found motive. Behavior tends to be purposeful; hostages are usually taken for a reason. An excellent discussion of the variations of motives found in different types of hostage takers can be found in Hacker (1976). Knowing that one is motivated by personal (emotional), criminal (instrumental), or social/political (ideological) issues certainly makes a difference with regard to the negotiation tactics and strategies employed. Why people take hostages is a paramount issue in resolving standoffs successfully. As a minimum, such knowledge can serve to facilitate communication.

There has been some consideration in the literature for the case of dealing with various personality types (disordered or otherwise), such as the anti-social personality or the paranoid schizophrenic. Lanceley (1981) discussed the former, describing features of this type of personality disorder and offering the negotiator tips on how to deal with such hostage takers. Strentz (1983) focused on the “inadequate personality” as a hostage taker. It is interesting that this carryover from the 1968 *Diagnostic and Statistical Manual of Mental Disorders (DSM-II)* still influences present-day negotiator thinking. This speaks to the danger of getting stuck on labels. Whereas mental health professionals may be able to ignore such archaic labels (i.e., no longer in *DSM*) and focus on the presenting symptoms, less knowledgeable negotiators may get stuck (the training literature still uses the term “inadequate personality” to this day) to the detriment of effective negotiation. A hostage taker is not merely a diagnostic label, and poor labeling clouds behavioral prediction. Perhaps, it would be better to focus on overt behavior during and immediately prior to a crisis, rather than off-the-cuff diagnoses or someone else’s opinion of the suitable label.

No doubt, however, mental status of the negotiator is an issue to contend with. A common encounter during crisis situations tends to be the person suffering from paranoid schizophrenia. Strentz (1986a) discussed negotiating with the hostage taker who displays symptoms of paranoid schizophrenia. More recently, Mohandie and Duffy (1999) spoke to the symptoms of paranoid schizophrenia in greater detail, its prevalence in society, violence risk associated with the illness, and crisis management strategies. They provide negotiator/first responder guidelines. Taking a broader view, Miller (2007) presented an outline of guiding principles and techniques for negotiating with the most common forms of mentally disordered hostage takers.

Other complicating factors besides motivation and mental status include language and age. DiVasto (1996) considered the particular difficulties encountered when one attempts to negotiate with a hostage taker who does not speak English as a first language. It becomes imperative to have inter-

preters available if negotiation is to proceed effectively. When dealing with older persons in crisis, there may be a particular concern about suicide potential. Slatkin (2003) pointed out that “negotiators need to employ strategies designed to incorporate the effects of aging and the older individual’s reaction to the aging process.” Terhune-Bickler (2005) addressed the impact of subject suicide on the negotiator. She noted, “when the negotiators were unable to ‘succeed’ in the sometimes unrealistic task of preventing the suicide, they felt a myriad of emotions, including defeat and betrayal.”

NEGOTIATOR ISSUES

What would crisis and hostage negotiation be without the negotiator? More than likely, it would become a police tactical engagement. Thus, the negotiator is the essential component in the process, the person in the middle between hostage takers and hostages. The negotiator is the wedge between peaceful surrender and dynamic confrontation. The negotiator is pivotal in ensuring a nonviolent resolution to situations that all too often escalate into chaos and tragedy. Given such a heavy responsibility, it is essential to consider the characteristics needed to be successful in the role of hostage negotiator.

Gelbart (1979) was among the first to address this issue. In his doctoral dissertation at the University of Southern California, he examined the psychological, personality, and biographical variables that seemed to be related to success as a negotiator. Strentz (2006) summarized the California study by pointing out that effective negotiators had highly adequate social skills, communications ability, self-assurance, and social presence. They were also intelligent, ambitious, forceful, insightful, resourceful, and versatile, according to measures on the California Psychological Inventory (CPI) and other instruments.

Other early research on the desirable qualities of hostage negotiators was conducted by Tatar (1982). He administered a standardized battery of personality and motivation measures to a group of experienced law enforcement officers who had volunteered for hostage negotiator training. He found that factor analysis produced four dimensions of high relevance to police work and hostage negotiation: emotional stability, extraversion, instinctual gratification, and liberal orientation.

Knowing something about what makes an effective hostage negotiator leads the way to the identification of optimal selection criteria and the delivery of relevant training. Gettys and Elam (1988) sought to do just that, to identify characteristics of negotiators and develop a selection model based on personality data. Survey data reflecting personality characteristics impor-

tant to hostage negotiators were compared with personality test data obtained from a sample of hostage negotiators. Results indicated that hostage negotiators were above average in their ability to communicate effectively with others, self-confident, good at divergent thinking, and helpful and sympathetic in their dealings with other people. Going beyond test data and personality characteristics, Birge and Birge (1994) pointed to the importance of police employment history as a predictor of success as a negotiator, meaning that past success in resolving crises should predict future success in similar situations. Gruchacz (1997) and Slatkin (1996) also addressed selection and training issues, respectively. Strentz (1996) focused on the sociopsychological traits of successful negotiators. More recent attention to the negotiator selection process (balancing departmental policies while selecting the right personnel) was the focus of research conducted by Kisthardt (2000). This research questioned the assumption that there is a specific set of personality traits common to all negotiators across all law enforcement agencies. Rather, each job in each agency is unique; job analysis must be completed prior to selection to ensure the psychological dimensions are fully understood.

Regini (2002) addressed the selection of the CNT leader, as well as the rest of the team, and the assignment of team responsibilities. His discussion provided an assortment of general traits of the effective leader (e.g., experience and knowledge), as well as some mention of specific familiarity with behavioral sciences and psychological and sociological concepts. The best CNT members seem to come from the ranks of the best criminal investigators; they tend to be nonconfrontational and nonjudgmental in their approach to cases and have exceptional interview and interrogation skills. The roles of primary negotiator, secondary negotiator, and other team members figure heavily in team effectiveness.

Firsthand accounts of the job of a hostage negotiator are insightful and aid one's understanding of the nature of the work and what kind of person is successful and effective. A publicized conversation between current and former members of the NYPD hostage negotiation team and an FBI crisis negotiator is a case in point (Cambria, DeFilippo, Loudon, & McGowan, 2002). Most recently, retired FBI agent Cliff Van Zandt published an account of his "life on the edge as an FBI hostage negotiator" (Van Zandt & Paisner, 2006). Lanceley (1999) published a useful on-scene guide that provides a good insight into the nature of the work of a negotiator. Mullins and McMains (2015) prepared a *Negotiator Quick Reference Guide* for use during training and actual situations.

HOSTAGE ISSUES

The hostage is at the heart of hostage negotiation. Safety and survival of the hostage undergird the process of negotiation and dictate the dynamics thereof. The physical and psychological well-being of the hostage(s) is an ever-present concern for all parties involved. Hostages are the bargaining chips and become the focus of much attention, either directly or indirectly. The effects of being held hostage have received attention in the literature.

One of the earliest discussions of a well-recognized hostage reaction to being held captive, the Stockholm Syndrome, was provided by Strentz (1979). Identifying with the aggressor as an ego defense and developing negative feelings toward the police (who are seen as posing danger due to imminent tactical assault) form the basis for hostage survival strategy. Hillman (1981) described the psychopathology of being held hostage, and Solomon (1982) carried out an empirical study involving thirty-five former hostages using a forty-one-item questionnaire. The results supported the belief that the Stockholm Syndrome does develop in hostage situations and can be affected by negative hostage-taker treatment of hostages. On the other hand, Olin and Born (1983) argued that the Stockholm Syndrome is not inevitable and may depend on factors that are under police control to reduce the likelihood of violence being done to the hostages by the hostage-taker.

Fuselier (1988) considered, among other things, victim responses to being held hostage, the theoretical explanations for the Stockholm Syndrome, the psychological sequelae, and treatment suggestions after release from captivity. Suggestions for persons who may become hostages were provided by Bolz (1987) as a form of inoculation against negative effects and as tips to maximize survival. Giebels, Noelanders, and Vervaeke (2005) conducted eleven semi-structured and in-depth interviews with victims of two types of hostage taking (sieges and kidnapping); results showed that all hostages reported feelings of helplessness, but feelings of isolation and uncertainty were stronger among kidnap victims.

Attempts to put the Stockholm Syndrome in a balanced perspective are evident (see Fuselier, 1999). A relevant article does a very good job of summarizing what is understood and misunderstood about the Stockholm Syndrome and victim responses to being held hostage (De Fabrique, Romano, Vecchi, & Van Hasselt, 2007). An estimated prevalence rate of 27 percent (derived from data suggesting that 73 percent of captives show no evidence of the syndrome) is sufficient to warrant treatment approaches such as debriefings and posttraumatic stress disorder (PTSD) interventions.

The primary aim of hostage negotiation is to obtain the release of hostages. Their well-being and safety drives the need for sound theory and practical applications of the behavioral sciences.

ROLE OF MENTAL HEALTH PROFESSIONALS AND USE OF PSYCHOLOGICAL DATA

Central to the importance of this chapter is the role played by mental health professionals of various backgrounds in the process and outcome of crisis situations. Utilization of and reliance on these professionals has become more typical over the past few decades as law enforcement agencies have come to recognize the contributions that can be made by someone knowledgeable in applied behavioral science. Some of the relevant literature is highlighted in the following paragraphs.

As early as 1977, consideration was being given to the role of mental health professionals (i.e., non-law enforcement personnel) in police negotiations (see Pearce, 1977). Johnson (1978) expanded the discussion to a broader range of behavioral scientists. Powitsky (1979) considered the use and misuse of psychologists in a hostage situation. Hibler (1984) developed a consultation guide for mental health professionals who take part in hostage situations. Other early writings on this topic include Wardlaw (1984), Fuselier (1988), and McMains (1988). More recently, Feldman (2004) presented a general discussion of the role of the mental health consultant on hostage negotiation teams. Similarly, DeBarnardo (2004) considered the psychologist's role in his discussion targeting emergency mental health professionals.

An empirical study conducted by Butler, Leitenberg and Fuselier (1993) surveyed 300 law enforcement agencies in the United States that employed a negotiator in hostage incidents. Thirty-nine percent indicated that they used a mental health consultant for negotiation teams. The use of a mental health consultant contributed to an increase in the number of incidents ending in surrender and a decrease in the number of incidents ending in tactical assault. The use of a mental health consultant to assess the perpetrator reduced the number of incidents resulting in injury or death of a hostage. This study provided data-driven support for the use of mental health professionals in crisis negotiation. Updated statistics pertaining to utilization and effectiveness can be found in Delprino and Bahn (1988) and Fuselier (1988).

Havassy (1994) supported the use of a psychologist as part of the negotiating team. Taking it further, Hatcher, Mohandie, Turner, and Gelles (1998) discussed the four roles and related functions of psychologists on crisis/hostage negotiation teams. They prefaced this by noting that "the invitation to the psychologist to participate in the hostage/crisis negotiation team appears to depend upon three factors." Hatcher and colleagues (1998) identify these factors as mutual acceptance, professional credibility, and an ability to function in the field. The roles typically fulfilled by psychologists in crisis/hostage negotiation include the consultant/advisor, the integrated

team member, the primary negotiator, and the primary controller. These roles are ordered from most frequent to least frequent.

When using a mental health consultant, there are a series of questions that may be asked during the incident phase that call upon the expertise of a psychologist. Slatkin (2000) suggested a number of questions that can aid the negotiation process during the beginning, middle, and terminal phases. These questions focus on the psychological profile of the hostage taker; characterizations of the situation; and suggested negotiation strategies, approaches, and directions.

The use of psychological data was a consideration raised by Poythress (1980). This predated the widespread use of psychologists who are better able to interpret and apply psychological data. The point is noted, however; psychological data in the wrong hands can be a hindrance as well as an aid to understanding behavior in the hostage/barricade context. Personal accounts about the experiences of psychologists on crisis negotiation teams add to the appreciation for their roles and insights (Herndon, 2003, 2006; Strentz, 2006).

Since the publication of this chapter in 2009, there has been at least one summary article in a peer-reviewed journal that provided an overview of the roles for mental health professionals in critical law enforcement incidents (Augustin & Fagan, 2011). Areas for future research are proposed.

ORGANIZATIONAL AND SYSTEM RESPONSES

Law enforcement organizations that assemble crisis negotiation teams must consider a number of issues. Matters of individual negotiator selection and training were mentioned earlier, but, from an organizational perspective, it is important to consider the structure and readiness of the entire team (see Regini, 2002). Early discussions in the literature focused on organizing the team (Maher, 1976), team values (Schlossberg, 1980), team development (McMains, 1995), and team profiles (Hammer, Van Zandt & Rogan, 1994; Rogan, Hammer & Van Zandt, 1994). The team must function as a unit, and it is imperative that joint training be conducted with the tactical team to ensure coordination and cooperation during high-risk calls (see OGSO, 2001 for an example of a high-risk incident general order). The high-risk incident commander has to ensure that both teams work well together. Magers (2007) discusses the importance of leadership, especially the ethical issues involved in making the best decision: negotiation versus tactical assault. Wind (1995) clarified the role of the field commander in critical incidents while Noesner (1999) addressed negotiation concepts for commanders. Vecchi (2002) offered insight into the conflicts that can arise between tactical and negotiat-

ing teams and how the two teams can collaborate for a successful outcome. Birge (2002) noted that balance is the key when it comes to the use of negotiation versus tactical responses.

The value of situation boards for use by negotiation teams is the subject of an article by Duffy (1997). Position papers are a means whereby expert negotiators can provide advice to teams during incidents (Dalfonzo & Romano, 2003). These tools can facilitate the process and contribute to an effective outcome.

Crisis negotiation is not just the concern of law enforcement. As Turner (1989) noted, there is the necessity for other organizations, such as health-care facilities, to have a written response plan in place for the eventuality of a hostage incident. In a world of ever-increasing workplace violence, corporations and private companies must do their part to protect employees and customers/clients from danger while developing contingency plans that facilitate working with law enforcement in the event of an incident.

PROCESS AND OUTCOME ASSESSMENT AND EVALUATION OF EFFECTIVENESS

With forty or so years of development and application, a fair question to ask, is how effective is crisis negotiation? Over the years, tracking incidents has been a hit or miss effort, with some agencies doing a better job than others of keeping accurate records of hostage/barricade situations that resulted in a team call out, and the resolution or outcome thereof. It was, and is, not uncommon in many agencies for negotiation teams to keep an after-action report; the challenge has been to build and maintain a centralized, nationwide database that is accurate and reliable. In the mid-1990s, the FBI began the hostage/barricade data system (HOBAS) in an attempt to rectify this problem. Only one reported study has been found in the peer-reviewed literature that reports an evaluation of the effectiveness of HOBAS. This study questioned whether HOBAS can be reasonably expected to render the representative, unbiased data that is expected from it (Lipetsker, 2004).

Prior to HOBAS, there were several noteworthy academic attempts at assessment and evaluation. For example, Leary (1980) focused his doctoral research at George Mason University on an evaluation of the FBI's hostage negotiation training program. Similarly, Strentz (1986b), in his doctoral research at Virginia Commonwealth University, conducted an evaluation of two training programs designed to enable hostages to cope more effectively with captivity stress. Head (1989) took a broader, systems perspective in his doctoral research at the State University of New York at Albany when he considered the specific characteristics of hostage incidents and the policies

used by U.S. law enforcement agencies in handling them. For this research, Head created a database of U.S. hostage incidents occurring over a ten-year period by drawing upon a number of official and unofficial sources. Survey research conducted by Zatwarnitski (1998) at George Mason University looked at the interpersonal and situational dynamics of hostage negotiation situations. Responses indicated that 70 percent of hostage takings were of a domestic nature and most hostages were women and children. Hostage takers were predominately male and were typically known by or related to the hostages. Louden (1999) analyzed the hostage negotiation practices of 276 local, county, and state police agencies in the United States (with at least 100 sworn officers) that used some standard system of negotiation response to hostage and barricade situations. This was a comprehensive study examining nine specific hypotheses and gathering extensive descriptive data. The findings added to what is known about the structure and processes of hostage negotiation teams. McGowan (2004) focused on the NYPD to study whether hostage and barricade incidents (selected sample) that are resolved violently differ from incidents that are resolved without violence. Findings and conclusions from this nontraditional contextual model approach to evaluation (departing from research that used a motivational model) support the hypothesis that a phenomenological model based on context, containment, and conversation is superior to a motivational model for predicting incident resolution. As laudable as these doctoral research projects are, more systematic research along these lines is needed before firm conclusions can be reached.

There is ample anecdotal and testimonial evidence that argues for the utilization of crisis negotiation over a tactical response, and there are corresponding accounts of success in the overwhelming number of incidents. Tracking hostage/barricade calls and tabulating peaceful resolutions in one medium-sized law enforcement agency in the southeastern United States from September 1992 through March 2002 revealed that 90.6 percent of the incidents resulted in a peaceful surrender (Herndon, 2003). One atypical incident was the focus of national media and served as the basis for refined training in tactics (Herndon, 2001). Taken as a whole, review of ten years' experience as a psychologist on a hostage negotiation team pointed to several lessons learned: behavioral profiling is more effective than instant *DSM* diagnosis, criminal history is a good predictor of situation outcome, listening trumps talking, shrink talk can be nonsensical, and some situations are nonnegotiable (Herndon, 2006). Lanceley (2004) addressed lessons learned from the vantage point of an FBI hostage negotiator; he compared the job of a salesman with being a negotiator. His lessons include recognizing a nonnegotiable situation; realizing it is not about you; everyone on scene is a salesman/negotiator, so a consistent message is important; people believe in demonstrations far more than in words; keep it simple; and it is not over until it is over.

In *Facing Down Evil*, retired FBI negotiator Clint Van Zandt recounted most of his memorable cases and gave the reader a glimpse of what it is like to be on the inside (Van Zandt & Paisner, 2006). Impressions about the effectiveness of hostage negotiations can be derived from such personal accounts.

The most-recent evaluation research that appears in the peer-reviewed literature is that of Van Hasselt and colleagues (2006) and Van Aelstyn (2007). Van Hasselt and co-workers (2006) report on an empirical investigation of crisis (hostage) negotiation training. Using forty-five FBI special agents, a pretest and posttest design found significant gains in scores as a result of the two-week training course. This, however, can in no way guarantee transfer of training success in the field. Van Aelstyn (2007) looked at perceived characteristics that facilitate the successful conclusion of crisis situations. He had difficulty discerning the degree to which negotiator education, experience, and training affected the outcome of negotiations.

The importance of crisis/hostage negotiation to police work in particular, and society in general, requires that evaluation research be an on-going effort. There should be formative as well as summative program evaluation, and attention needs to be paid to proximal as well as distal criteria. Content and process issues must be considered, as well as contextual variables. Only in this way will the technique be refined through systematic validation.

CINEMA AND FILM PORTRAYAL

As with many areas in police work, the movies can play an important role in informing the public about what goes on behind the badge. Some movies (documentary or fictional) may contribute to a better understanding of police procedure; some may obfuscate matters. A few popular examples of hostage negotiation are mentioned in the following.

An incident that was made famous by the movie *Dog Day Afternoon* (Warner Home Video, 1989) gave the NYPD much notoriety over hostage negotiation. This film is a fictionalized version of a bank robbery gone bad, in which police negotiators are called in to peacefully resolve the standoff. It is not an altogether unfamiliar theme in movies of this genre, but, being based on a true incident, *Dog Day Afternoon* can be considered a classic introduction to police hostage/crisis negotiation.

Scenes of hostage negotiation doubtless appear in numerous Hollywood produced movies; one attempt to glean some of these scenes for the benefit of self-reflection occurred at a hostage negotiator conference (Herndon, 2000). One movie that emphasized negotiators as individuals was *The Negotiator* (Warner Brothers, 1998). In this film a wrongfully accused negotiator (Samuel L. Jackson) takes hostages in the police department and will

only negotiate with a fellow negotiator (Kevin Spacey). Techniques and tactics of negotiation are displayed with the intensity and drama of an action film. Of course, the best negotiator wins. In a similar vein, but with a different twist, a made-for-TV movie, *Hostage Negotiator* (USA Network, 2001), tells the story of an FBI negotiator who is set up by her spouse, also an FBI agent who has blown his career; she uses her skills to resolve a hostage standoff involving her own children. Again, superior skills in communication prevail. An older HBO movie, *Dead Silence* (HBO, 1997), that starred James Garner and Marlee Matlin, featured an FBI negotiator (Garner) tasked with resolving a standoff in an old slaughter house where a busload of deaf children were being held as hostages. Personal issues and past mistakes intruded in the negotiator's mission yet all ended well. Taken together, these three films depict negotiators as complex people who have their own personal crises to contend with whilst performing their duties effectively by drawing on experience and training in negotiation.

Two documentaries place hostage negotiation in a more realistic perspective. A&E released *Hostage Negotiators* in 1998; this episode of "Dangerous Missions" features pioneers in the field (e.g., Frank Bolz) and former hostages (e.g., Larry Haber) to provide a glimpse of what it is like from both the negotiator's perspective and that of the hostage. The Discovery Channel aired *On the Inside: Hostage Negotiators* in 2001; it "looked at the difficult jobs of hostage negotiators and their successes in the past 30 years." Actual incidents are examined and experts are interviewed. One of the incidents was the Waco, Texas, event involving David Koresh and the Branch Davidians. This example is one that has received much criticism because of the disastrous outcome. A recent ABC News (2007) presentation (*Death in Waco*), hosted by Ted Koppel, took a hard look at what went wrong and questioned the FBI's role.

The popular appetite for negotiator fare was fueled for a while by a short-lived TV series (September 5, 2006–July 20, 2007; 18 episodes) titled *Standoff* (Fox, 2006). The demise of this series may be due in part to poor acting and poor casting as much as it was due to an annoying subplot that involved sexual innuendo among star negotiators. The FBI took a hit when this series aired and failed, at least in terms of negotiator prestige.

A discussion of negotiator films would not be complete without mention of *Inside Man* (Universal, 2006). Starring Denzel Washington, Clive Owen, and Jody Foster, this thriller pits the wits of a detective/negotiator against a shrewd bank robber and his crew, leaving the viewer wondering who actually outwitted whom. It was exciting, but true to life?

The portrayal of hostage negotiation in movies and films, although entertaining and possibly informative, leaves much to be desired in terms of a balanced presentation of the complexities of the field, the intense training in-

volved, the dedication of police personnel, and the importance of behavioral science knowledge to effective crisis resolution.

FOCUS ON THE FUTURE

As we consider the history and development of crisis negotiation, the past good and bad challenge us to look to the future with the thought of where the field is going and needs to go. Not much has been written from this point of view. Greenstone (1995) was among the first to lament the divide that has developed between tactical teams and negotiation teams, suggesting that the future should return to a past recognition of the importance of a synergistic effect derived from cross trained personnel. It is important to remember that negotiation should be given every opportunity to succeed and that a tactical response should not be the police imperative. We only need to look at some recent famous examples to realize that a rush to storm the fortress has disastrous consequences (e.g., Agne, 2003). Take time to talk should be the mantra.

Hancerli (2005) examined the history and development of hostage negotiation on a worldwide scale and offered future recommendations to governments, police agencies, and researchers. Among his five recommendations for governments were that they should always allow negotiation with hostage takers (reversing the policy that “we never negotiate with terrorists”) and trust their own police units to take responsibility and resolve the situation peacefully. For police agencies, he offered four recommendations, including the need for all agencies to establish negotiation teams, that negotiation teams not “compete” with tactical teams because neither is subordinate or superior to the other, and that agencies establish behavioral science units to assist with crisis calls. For researchers, Hancerli recommended that more empirical studies be conducted and that more academic contributions be made to the literature of hostage negotiation resolutions. Greater cooperation between police agencies and researchers will lead to more effective strategies in crisis negotiation.

More recently, Grubb (2010) in a review of the evolution of hostage (crisis) negotiation within the policing arena, suggested possible advancements or directions for further research. She argued for cross-cultural comparison of techniques and strategies used by negotiators internationally. And, at a very recent conference, Mullins (2017) suggested that negotiation philosophy and techniques must keep pace with the ever-changing geo-political nature of world events that impact all law enforcement agencies.

What the next forty years hold is impossible to precisely predict. By examining the past practices of crisis negotiation and by continuing to exam-

ine the process through research and evaluation, the future should be characterized by improvements and refinements in this aspect of police work.

CONCLUSION

Crisis negotiation is an important area of police work. Over the past forty years, the techniques of negotiation have been modified and refined, better selection and training methods have been utilized to build a cadre of highly skilled practitioners, lessons learned have been applied, and the role of behavioral science has been expanded as an adjunct to crisis/hostage negotiation. Research has been, and continues to be, carried out that examines the various aspects of the negotiation process. The future looks bright for crisis negotiation as an effective intervention for difficult situations.

REFERENCES

- ABC News. (2007). ABC news classics: *Death in Waco* [released May 24]. Burbank, CA: The Walt Disney Company.
- Abbott, T. E. (1986). Time-phase model for hostage negotiation. *The Police Chief, April*, 34–35.
- A&E. (1998). *Dangerous mission: Hostage negotiators*. New York: A&E Television Networks.
- Agne, R. A. (2003). Interaction problems in crisis negotiation: A case study of the Waco standoff. *Dissertation Abstracts International, 64*, 1131.
- Augustin, D., & Fagan, T. J. (2011). Roles for mental health professionals in critical law enforcement incidents: An overview. *Psychological Services, 8*(3), 166–177.
- Betz, J. (1982). Moral considerations concerning the police response to hostage takers. In F. Elliston & N. Bowie (Eds.), *Ethics, public policy, and criminal justice*. Boston, MA: Oelgeschlager, Gunn and Hain, Pub.
- Birge, R. (2002). Balance is key: Conducting successful hostage negotiations. *Law and Order, 50*, 102–106.
- Birge, A. C., & Birge, R. (1994). Crisis negotiators: Personnel selection. *The U.S. Negotiator, Winter*, 5–7.
- Blau, T. H. (1994). *Psychological services for law enforcement*. New York: John Wiley & Sons.
- Bolz, F., & Hershey, E. (1979). *Hostage cop*. New York: Rawson, Wade.
- Bolz, F. A. (1982). Hostage negotiations—When every word counts. In R. A. Scanlon (Ed.), *Law enforcement bible, no. 2*. South Hackensack, NJ: Stoeger Pub. Co.
- Bolz, F. A. (1987). *How to be a hostage and live*. Secaucus, NJ: Lyle Stuart.
- Butler, W. M., Leitenberg, H., & Fuselier, G. D. (1993). The use of mental health professional consultants to police hostage negotiation teams. *Behavioral Science & the Law, 11*, 213–221.

- Call, J. A. (2003). Negotiating crises: The evolution of hostage/barricade crisis negotiation [Online]. Retrieved March 12, 2008. Available: <http://www.crisisinc.com>
- Cambria, J., DeFilippo, R. J., Louden, R. J., & McGowan, H. (2002). Negotiation under extreme pressure: The "mouth marines" and the hostage takers. *Negotiation Journal*, 18, 331-343.
- Charles, L. L. (1999). A disarming conversation: Creating critical incident change in a crisis negotiation. *Dissertation Abstracts International*, 62(10A), 3341.
- Charles, L. L. (2007). Disarming people with words: Strategies of interactional communication that crisis (hostage) negotiators share with systemic clinicians. *Journal of Marital & Family Therapy*, 33, 51-68.
- Dalfonzo, V. A., & Romano, S. J. (2003). Negotiation position papers: A tool for crisis negotiations. *FBI Law Enforcement Bulletin*, October, 27-31.
- DeBarnardo, C. R. (2004). The psychologist's role in hostage negotiations. *International Journal of Emergency Mental Health*, 6, 39-42.
- De Fabrique, N., Romano, S. J., & Van Hasselt, V. B. (2007). Understanding Stockholm syndrome. *FBI Law Enforcement Bulletin*, July, 10-15.
- Delprino, R. P., & Bahn, C. (1988). National survey of the extent and nature of psychological services in police departments. *Professional Psychology: Research and Practice*, 19, 421-425.
- Discovery Channel. (2001). *On the inside: Hostage negotiations*. Silver Spring, MD: Discovery Communications, Inc.
- DiVasto, P. A. (1996). Negotiating with foreign language-speaking subjects. *FBI Law Enforcement Bulletin*, 65, 11-15.
- Docherty, J. S. (1998). When the parties bring their gods to the table: Learning lessons from Waco. *Dissertation Abstracts International*, 59, 6115.
- Dolnik, A. (2003). Contrasting dynamics of crisis negotiations: Barricade versus kidnapping incidents. *International Negotiation*, 8, 495-526.
- Duffy, J. E. (1997). Situation boards. *FBI Law Enforcement Bulletin*, June, 17-19.
- Feldman, T. B. (2004). The role of mental health consultants on hostage negotiation teams [Online]. *Psychiatric Times*, XXI. Retrieved April 11, 2008. Available: <http://www.psychiatristimes.com/show/Article.jhtml?articleID=59100159>.
- Fowler, R., Devivo, R. P., & Fowler, D. J. (1985). Analyzing police hostage negotiations: The verbal interactional analysis technique. *Emotional First Aid: A Journal of Crisis Intervention*, 2, 16-28.
- FOX. (2006). *Standoff*. New York: News Corporation.
- Friedland, N. (1986). Hostage negotiations: Types, processes, outcomes. *Negotiation Journal*, 2(1), 57-72.
- Fuselier, G. D. (1981). A practical overview of hostage situations. *FBI Law Enforcement Bulletin*, June/July, 1-11.
- Fuselier, G. D. (1988). Hostage negotiation consultant: Emerging role for the clinical psychologist. *Professional Psychology: Research and Practice*, 19(2), 175-179.
- Fuselier, G. D., Van Zandt, C. R., & Lanceley, F. J. (1991). Hostage/barricade incidents: High-risk factors and the action criteria. *FBI Law Enforcement Bulletin*, 60, 6-12.
- Fuselier, G. D. (1999). Placing the Stockholm syndrome in perspective. *FBI Law Enforcement Bulletin*, July, 22-25.

- Gelbart, M. (1979). Psychological, personality and biographical variables related to success as a negotiator. *Dissertation Abstracts International*, 39, 4558-B.
- Gettys, V. S., & Elam, J. D. (1988). Identifying characteristics of hostage negotiators, and using personality data to develop a selection model. In J. Reese & J. Horn (Eds.), *Police psychology: Operational assistance*. Washington, DC: Federal Bureau of Investigation.
- Giebels, E., Noelanders, S., & Vervaeke, G. (2005). The hostage experience: Implications for negotiation strategies. *Clinical Psychology and Psychotherapy*, 12, 241–253.
- Greenstone, J. L. (1995). Tactics and negotiating techniques (TNT): The way of the past and the way of the future. In M. I. Kurke & E. M. Scrivner (Eds.), *Police psychology into the 21st century*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Grubb, A. (2010). Modern day hostage (crisis) negotiation: The evolution of an art form within the policing arena. *Aggression and Violent Behavior*, 15, 341–348.
- Gruchacz, J. A. (1997). Crisis negotiator selection. *The International Journal of Police Negotiations and Crisis Management*, 1, 55–59.
- Hacker, F. J. (1976). *Crusaders, criminals, crazies: Terror and terrorism in our time*. New York: W. W. Norton & Co.
- Hammer, M. R., Van Zandt, C. R., & Rogan, R. G. (1994). A crisis/hostage negotiation team profile. *FBI Law Enforcement Bulletin*, April, 8–11.
- Hancerli, S. (2005). Toward successful negotiation strategies in hostage situations: Case study approach and future recommendations. *Masters Abstracts International*, 44, 1216.
- Hatcher, C., Mohandie, K., Turner, J., & Gelles, M. G. (1998). The role of the psychologist in crisis/hostage negotiations. *Behavioral Sciences & the Law*, 16, 455–472.
- Havassy, V. (1994). *The psychologist as part of the negotiating team*. Unpublished manuscript. Los Angeles, CA: Psychological Resources.
- HBO. (1997). *Dead silence*. New York: Home Box Office, Inc.
- Head, W. B. (1989). The hostage response: An examination of U.S. law enforcement practices concerning hostage incidents. *Dissertation Abstracts International*, 50, 4111.
- Herndon, J. S. (1994). *Crisis theory for crisis negotiators*. Orlando, FL: Orange County Sheriff's Office.
- Herndon, J. S. (1996). *The runner's guide to negotiations*. Orlando, FL: Orange County Sheriff's Office.
- Herndon, J. S. (2000). *Cinema portrayal of the hostage negotiator: Part shrink, part psychic, part sage*. Presentation at the Florida Association of Hostage Negotiators, Orlando, Florida, May 25, 2000.
- Herndon, J. S. (2001). *The meadow woods incident: inside the hostage negotiation van and the hostage taker's mind*. Presentation at the Texas Association of Hostage Negotiators, San Marcos, Texas, January 9, 2001.
- Herndon, J. S. (2003). *Shrink in the van: The psychologist's view of crisis negotiation*. Invited presentation, University of Central Florida psychology honors program, November 23, 2003.

- Herndon, J. S. (2006). *Ten years on a hostage negotiation team: Insights from a sheriff's psychologist*. Presentation at the annual conference, Society for Police and Criminal Psychology, Bethesda, Maryland, October.
- Hibler, N. S. (1984). *Hostage situations: A consultation guide for mental health professionals*. Washington, DC: U. S. Air Force Office of Special Investigations.
- Hillman, R. (1981). The psychopathology of being held hostage. *American Journal of Psychiatry*, *138*, 1193–1197.
- Holmes, M. E. (1991). An interaction analysis of developmental phases in authentic and simulated negotiations between police and hostage-takers and barricaded suspects. *Dissertation Abstracts International*, *52*, 2756.
- James, R. K. (2008). *Crisis intervention strategies* (6th ed.). Belmont, CA: Thomson.
- Johnson, T. A. (1978). A role for the behavioral scientist in hostage negotiation incidents. *Journal of Forensic Sciences*, *23*, 797–803.
- Keenan, G. J. (2007). *The development of the empathic response in police crisis negotiators*. Unpublished manuscript.
- Kisthardt, A. M. (2000). Selecting hostage negotiators for the Pennsylvania State Police Special Emergency Response Team: An examination of methods of personnel selection. *Masters Abstracts International*, *45*, 2946.
- Lanceley, F. J. (1981). Antisocial personality as a hostage-taker. *Journal of Police Science and Administration*, *9*, 28–34.
- Lanceley, F. J. (1999). *On-scene guide for crisis negotiators*. Boca Raton, FL: CRC Press.
- Lanceley, F. J. (2004). Negotiation lessons learned by an FBI hostage negotiator [Online]. *The Negotiator Magazine*. Available: http://www.negotiator magazine.com/article235_1.html
- Leary, E. R. (1980). *An evaluation of the FBI's hostage negotiation training program* (Unpublished doctoral dissertation). Fairfax, VA: George Mason University.
- Lipetsker, A. (2004). Evaluating the hostage barricade database system (HOBAS). *Journal of Police Crisis Negotiations*, *4*.
- Louden, R. J. (1999). The structure and procedures of hostage/crisis negotiation units in United States police organizations. *Dissertation Abstracts International*, *60*, 1338.
- Magers, J. S. (2007). Crisis negotiation leadership: Making ethical decisions. *Journal of Police Crisis Negotiation*, *7*, 5–25.
- Maher, G. F. (1976). Organizing a team for hostage negotiations. *The Police Chief*, *43*, 61–62.
- Maksymchuk, A. F. (1982). Strategies for hostage-taking incidents. *The Police Chief*, *49*, 58–65.
- McClain, B. U., Callaghan, G. M., Madrigal, D. O., Unwin, G. A., & Castoreno, M. (2006). Communication patterns in hostage negotiations. *Journal of Police Crisis Negotiation*, *6*, 27–59.
- McGowan, H. M. (2004). Context, containment and conversation model: A study of the New York City Police Department's hostage and barricade resolution strategies. *Dissertation Abstract International*, *65*, 1129.
- McMains, M. J. (1988). Expanding the psychologist's role as a consultant to police departments hostage negotiations. *Journal of Police and Criminal Psychology*, *4*, 2–8.

- McMains, M. J. (1995). Developing teams for crisis negotiation. *Journal of Crisis Negotiation, 1*, 17–25.
- McMains, M. J., & Mullins, W. C. (1996). *Crisis negotiation: Managing critical incidents and hostage situations in law enforcement and corrections*. Cincinnati, OH: Anderson Pub. Co.
- Miller, L. (2007). Negotiating with mentally disordered hostage takers: Guiding principles and practical strategies. *Journal of Police Crisis Negotiation, 7*, 68–83.
- Mohandie, K., & Duffy, J. E. (1999). Understanding subjects with paranoid schizophrenia. *FBI Law Enforcement Bulletin, December*, 8–16.
- Mullins, W. C. (1995). Advanced communication techniques for hostage negotiators. *Journal of Crisis Negotiation, 1*, 7–15.
- Mullins, W. C. (2017). *Recent developments and critical issues for crisis response teams*. Presentation at the Annual Conference, Society for Police and Criminal Psychology, San Diego, CA. September 14.
- Mullins, W. C., & McMains, M. J. (2015). *Negotiator quick reference guide*. School of Criminal Justice, Texas State University.
- New York Times (March 22, 2005). Simon Eisdorfer, 87, who began the hostage unit, dies [Online]. Available: <http://www.nytimes.com/2005/03/22/obituaries/22eisdorfer.html>
- Noesner, G. W. (1999). Negotiation concepts for commanders. *FBI Law Enforcement Bulletin, January*, 6–14.
- Noesner, G. W., & Webster, M. (1997). Crisis intervention: Using active listening skills in negotiation. *FBI Law Enforcement Bulletin, August*, 13–19.
- OCSO. (1999). Special Order 15.0: Crisis Negotiation Team. Orlando, FL: Orange County Sheriff's Office. Effective April 13.
- OCSO. (2001). General Order 280: High Risks Incidents. Orlando, FL: Orange County Sheriff's Office. Dated April 23.
- Olin, W. R., & Born, D. G. (1983). Behavioral approach to hostage situations. *FBI Law Enforcement Bulletin, 52*, 18–24.
- Pearce, K. I. (1977). Police negotiations: A new role for the community psychiatrist. *Journal of the Canadian Psychiatric Association, 22*, 171–175.
- Powell, J. O. (1989). Negotiation processes in hostage and barricaded incidents. *Dissertation Abstracts International, 50*, 3747.
- Powitsky, R. J. (1979). The use and misuse of psychologists in a hostage situation. *The Police Chief, 46*, 30, 32–33.
- Poythress, N. G. (1980). Assessment and prediction in the hostage situation: Optimizing the use of psychological data. *The Police Chief, 47*, 34–36, 38.
- Ramesh, C. N. (1992). The influence of power on hostage negotiation outcomes: A contextual, descriptive, and fantasy-theme analysis. *Dissertation Abstracts International, 53*, 2163.
- Regini, C. (2002). Crisis negotiation teams: Selection and training. *FBI Law Enforcement Bulletin, November*, 1–5.
- Richardson, L. K. (1983). Communication strategies in barricade-hostage confrontations: Theory, research, and police experience. *Dissertation Abstracts International, 44*, 0322.

- Rogan, R. G. (1990). An interaction analysis of negotiator and hostage-taker identity, goal, relational goal, and language intensity message behavior within hostage negotiations: A descriptive investigation of three negotiations. *Dissertation Abstracts International*, 51, 3957.
- Rogan, R. G., & Hammer, M. R. (1995). Assessing message affect in crisis negotiations: An exploratory study. *Human Communication Research*, 21, 553–574.
- Rogan, R. G., Hammer, M. R., & Van Zandt, C. R. (1994). Profiling crisis negotiation teams. *The Police Chief*, 61, 14–18.
- Rogan, R. G., Hammer, M. R., & Van Zandt, C. R. (1997). *Dynamic processes of crisis negotiation: Theory, research, and practice*. Westport, CT: Praeger.
- Romano, S. J., Getz, V. L., & McCann, M. F. (Eds.). (1998). *Crisis negotiation: A compendium*. Washington, DC: Federal Bureau of Investigation.
- Royce, T. (2005). The negotiator and the bomber: Analyzing the critical role of active listening in crisis negotiations. *Negotiation Journal*, 21, 5–25.
- Schlossberg, H. (1978). [Book review] Crusaders, criminals, crazies: Terror and terrorism in our time. *Crime & Delinquency*, 24, 102–104.
- Schlossberg, H. (1979). Police response to hostage situations. In J. T. O'Brien & M. Marcus (Eds.), *Crime and justice in America*. Elmsford, NY: Pergamon Press.
- Schlossberg, H. (1980). Values and organization in hostage and crisis negotiation teams. *Annals of the New York Academy of Sciences*, 347, 113–116.
- Schlossberg, H., & Freeman, L. (1974). *Psychologist with a gun*. New York: Coward, McCann & Geoghegan, Inc.
- Slatkin, A. A. (1996). Enhancing negotiator training: Therapeutic communication. *FBI Law Enforcement Bulletin*, 65, 1–6.
- Slatkin, A. A. (1997). *The Stockholm syndrome and situational factors related to its development* (Doctoral dissertation). Louisville, KY: University of Louisville.
- Slatkin, A. A. (2000). The role of the mental health consultant in hostage negotiations: Questions to ask during the incident phase. *The Police Chief*, July, 64–66.
- Slatkin, A. A. (2003). Suicide risk and hostage/barricade situations involving older persons. *FBI Law Enforcement Bulletin*, April, 26–31.
- Slatkin, A. A. (2005). *Communication in crisis and hostage negotiations: Practical communication techniques, stratagems, and strategies for law enforcement, corrections, and emergency service personnel in managing critical incidents*. Springfield, IL: Charles C Thomas.
- Solomon, V. M. (1982). Hostage psychology and the Stockholm syndrome: Captor, captive and captivity. *Dissertation Abstracts International*, 43, 1269.
- Soskis, D. A., & Van Zandt, C. R. (1986). Hostage negotiation: Law enforcement's most effective nonlethal weapon. *Behavioral Sciences & the Law*, 4, 423–435.
- Strentz, T. (1979). Law enforcement policies and ego defenses of the hostage. *FBI Law Enforcement Bulletin*, 48, 2–12.
- Strentz, T. (1983). Inadequate personality as a hostage taker. *Journal of Police Science and Administration*, 11, 363–368.
- Strentz, T. (1986a). Negotiating with the hostage-taker exhibiting paranoid schizophrenic symptoms. *Journal of Police Science and Administration*, 14, 12–16.

- Strentz, T. (1986b). *An evaluation of two training programs designed to enable hostages to cope more effectively with captivity stress* (Doctoral dissertation). Richmond, VA: Virginia Commonwealth University.
- Strentz, T. (1995). The cyclic crisis negotiation time line. *Law and Order, March*, 73–76.
- Strentz, T. (1996). Hostage/crisis negotiation: The socio-psychological traits of successful negotiators. *Law and Order, June*, 70–73.
- Strentz, T. (1997). Understanding Waco and other disasters. *Law and Order, April*, 86–92.
- Strentz, T. (2006). *Psychological aspects of crisis negotiation*. Boca Raton, FL: CRC Press.
- Tatar, M. A. (1982). The police personality and desirable qualities of hostage negotiators: An investigation of psychological dimensions and approaches to the assessment of state policemen who volunteer for training as hostage negotiators. *Dissertation Abstracts International*, 43, 2396.
- Taylor, P. J. (2002). A cylindrical model of communication behaviors in crisis negotiations. *Human Communication Research*, 28, 7–48.
- Terhune-Bickler, S. D. (2005). That wasn't supposed to happen: . . . crisis negotiators' responses to incidents that resulted in suicide. *Dissertation Abstracts International*, 66, 351.
- Turner, J. T. (1989). Hostage-taking incidents: An organizational response. *Journal of Police and Criminal Psychology*, 5, 25–29.
- Universal. (2006). *Inside man*. Universal City, CA: Universal Studios.
- USA Network. (2001). *Hostage negotiator*. Hollywood, CA: Paramount Pictures.
- Van Aelstyn, M. A. (2007). Crisis negotiation: An evaluation of perceived characteristics that facilitate the successful conclusion of crisis situations. *Dissertation Abstracts International*, 68.
- Van Hasselt, V. B., Baker, M. T., Romano, S. J., Schlessinger, K. M., Zucker, M., Dragone, R., & Perera, A. L. (2006). Crisis (hostage) negotiation training: A preliminary evaluation of program efficacy. *Criminal Justice and Behavior*, 33, 56–69.
- Van Hasselt, V. B., & Romano, S. J. (2004). Role-playing: A vital tool in crisis negotiation skills training. *FBI Law Enforcement Bulletin, February*, 12–17.
- Van Hasselt, V. B., Romano, S. J., & Vecchi, G. M. (2008). Role playing: Applications in hostage and crisis negotiation skills training. *Behavior Modification*, 32, 248–263.
- Van Zandt, C., & Paisner, D. (2006). *Facing down evil: Life on the edge as a FBI hostage negotiator*. New York: G. P. Putnam's Sons.
- Vecchi, G. M. (2002). Hostage/barricade management: A hidden conflict within law enforcement. *FBI Law Enforcement Bulletin, May*, 1–7.
- Wardlaw, G. (1984). The psychologist's role in hostage negotiations. *The Police Chief*, 51, 56–58.
- Warner Brothers. (1998). *The negotiator*. Burbank, CA: Warner Brothers, Inc.
- Warner Home Video. (1989). *Dog day afternoon*. Burbank, CA: Warner Brothers, Inc.
- Wesselius, C. L., & DeSarno, J. V. (1983). The anatomy of a hostage situation. *Behavioral Sciences & the Law*, 1, 33–45.

- Whittle, R. A. (1988). Hostage negotiations: A situational/motivational approach for police response. In M. J. Palmiotto (Ed.), *Critical issues in criminal investigations* (2nd ed.). Cincinnati, OH: Anderson Pub. Co.
- Wind, B. A. (1995). A guide to crisis negotiations. *FBI Law Enforcement Bulletin*, *October*.
- Zatwarnitski, T. A. (1998). Hostage negotiations: A survey of police negotiators trained at the Canadian Police College. *Dissertation Abstracts International*, *59*, 6115.

INDEX

A

Aberrant psychological drives/violent
crime, 294, 297, 299, 303, 310
Active listening, 238, 354
Actuarial instruments, 144
Age-regression, 256–258, 263
Alcohol intoxication, 141
Alienists, 49
Alloplastic, 27
American Medical Association (AMA), 252,
265
American Psychiatric Association (APA),
xvii, 8, 10, 49, 54, 81,
Amnesia, 13, 17, 114, 254, 263–264, 268,
Amphetamines, 129
Anhedonia, 15, 34
Antisocial behaviors, 23, 33,
Arson, 8, 33, 162, 298, 299, 301, 303, 327
Autopsy, 62, 321
Automatism, 95, 113–117

B

Battered woman syndrome, 69, 74, 77,
87–88
Barricade situation, 349, 353, 361–362
Behavioral Science Unit (BSU), xiii, 297–
298, 365
Bias, 14, 45, 176, 186, 199, 209, 214, 217,
265, 276, 278, 312, 324, 330, 361
Bernheim, Hippolyte, 251–252, 260
Boston Strangler, The, 295
Brain injury, 96, 104, 136–137,
Breuer, Josef, 252
Bolz, Frank, 350, 358

C

Catatonic behavior, 13–14
Chaotic behavior, 14
Charcot, Jean, 251
Child sexual abuse, 76, 88, 212
Cocaine, 129
Cognitive behavioral therapy (CBT), 15,
Cognitive interview (CI), xv, 229–250
Comorbidity, 9, 129, 135, 328
Competence, *see* Fitness to stand trial
Confabulation, 257, 260–261
Control question test (CQT), 158, 172–173,
179, 191–192
Coroner's investigation/inquiry, 321–322,
325
Counter interrogation methods, 178
Crack, 129
Criminal profile, 293–320
Criminal profiling, 293–320
Accuracy, 306–308
Alternate titles, 293
Approaches, 295
Diagnostic Evaluations (DE), 296
Criminal Investigative Analysis (CIA),
297
Organized/Disorganized dichoto-
my, 297–299
Investigative Psychology (IP), 299–
301
Crime Action Profiling (CAP), 301–303
Geographic profiling, 303–304
Legal admissibility, 311–313
Utility, 310–311
Validity 306–308
Theoretical Implications from
validity, 308–310

Crisis Negotiation Team (CNT), 350, 359–360

Crisis/Hostage Negotiation, 349–373
 Negotiation Models, 352
 Isolate, contain and negotiate, 350
 Developmental phase model, 351
 Time-phased model, 351
 FBI-CNT model, 354
 Processes, 352, 362
 Testimonial evidence, 362

Criteria-Based Content Analysis (CBCA), 169, 190

D

Daubert v. Merrell Dow Pharmaceuticals, 59, 71–75, 88, 251, 266, 268–270, 336

Deceit (detection), 157–198

Delusion, 13, 15, 27, 34–36, 39, 51, 96, 102, 106, 110, 130–134, 140, 142,

Detectives, 60, 235, 240, 295, 307, 331, 364

Diagnostic and statistical manual of mental disorders—(4th Ed.)—(DSM-IV) and/or Diagnostic and statistical manual of mental disorders—(4th Ed.)—text revision (DSM-IV-TR), and/or DSM-5, xvii, 8–21, 23–24, 36, 43, 49, 54–55, 59, 63–65, 81–84, 111, 137, 355, 362

Diagnostic interviews, 81, 87

Diminished responsibility, 95, 110–113, 117

Distracter task, 234

DNA sample, 282

Doyle, Sir Arthur Conan, 295

E

Ego, 26–27, 30–31, 33–34, 38–40, 42, 50, 254, 358

Egocentric, 31, 33, 38, 40, 50, 52, 82–83

Empathy, 25, 36, 40, 57, 59, 82, 137, 331–332, 354

Enhanced Cognitive Interview (ECI), 236–241

Environmental psychology, 304

Epilepsy, 114, 136–137, 259

Ethics, viii, 50

Exact copy theory, 260

F

False confession, 273–286

Voluntary, 275, 281, 284–285

Compliant, 275

Internalized, 275–276

Familicide, 142

Federal Bureau of Investigation (FBI), 167, 265, 297, 299, 350, 353–354, 357, 361–364

Federal Rules of Evidence (FRE), 71, 73, 312

Filicide, 134, 142

Fitness to stand trial, 78, 95–103, 117–118

Folkes v. Chadd, 74

Forensic hypnosis, xv, 235–236, 251–272

Forensic psychiatrist, 5–6, 12, 42, 49

Forensic psychologist, xv, 6, 69–94,

Franklin, George, 199, 263,

Freud, Sigmund, 30, 40–41, 52, 206, 251–252, 260

Frye v. United States, 59, 71–72, 312

Functional Magnetic Resonance Imaging (fMRI), 44–45, 174, 179, 192–193

G

General acceptance, 71–73, 88, 268, 312

General Electric Co. v. Joiner, 72–73, 88

Geographic Information Systems (GIS), 303–304

Guided imagery, 237

Guilt-presumptive interrogation question, 278, 283

Guilty Knowledge Test (GKT), 158, 172–173, 179, 191

H

Hallucinations, 13–14, 34, 51, 130, 132–133, 259, 340

Command, 132–133

Heavy drinking, 137,

Hitler, Adolf, 295

Holmes, Sherlock, 295

Homicidal

Ideation 138

Acting out, 41

Homicide, 41–43, 59, 63, 110–111, 117, 125, 128, 136, 138, 140–141, 277, 298, 300, 322, 324

Hostage/barricade 360–362
 Hostage negotiation, 349–350, 352, 356–359, 361–366
 Hostage negotiator qualities, 356
 Hostage takers/motives, 355
 Hostage situation, 351–353, 358–359
 Hypermnnesia, 256, 264
 Hypnosis, xv, 88, 208, 235–236, 251–272
 Hypnotic memory theory, 257
 Hypnotically refreshed memory, 268
 Hypothesis testing, 43, 330
 Hysteria, 114, 251

I

Identity diffusion syndrome, 34
 Impulsivity, 27, 29–31, 34, 38–39, 50, 57, 84, 136
 Incest, 18, 39
 Informants, 330–332
 Innocence Project, 199, 274
 Insanity, 49, 75–76, 81–82, 95, 104–111, 113–114, 116–117, 130
 Intelligence Quotient (IQ) low/high, 12, 59, 70, 82, 340
 International Classification of Disease (ICD-10), xvii, 8–10, 81, 111
 International Society of Hypnosis, 265
 Internet, 139
 Interrogation, 57, 158, 160, 176–178, 191, 211, 266, 273, 275–286
 PEACE model, 238, 242

J

Jack the Ripper, 295
Jackson v Florida, 336

K

Kidnapping, 101, 295
 Kraepelin, Emil, 36–37, 50
Kumho Tire Co. v. Patrick Carmichael, 72–73, 88

L

Leading/misleading question, 203, 205, 208, 236

Lindbergh Jr., Charles, 295
 Los Angeles Police Department (LAPD), 235, 239, 253

M

MacArthur Study of Mental Disorder and Violence, 126–127, 129–131, 134
 Mad Bomber of New York, The, 295
 Magnetic Resonance Imaging (MRI), 44–45
 Malingering, 16, 62, 78–79, 85, 89, 264
Mallard v. The Queen, 76
 Mania, 15, 20, 36, 134–135
 Mask of Sanity, 37, 51–52
 Mass killers/murderers, 143, 299
 Memorial performance, 231, 242–243
 Memory, xv, 12–13, 17, 44, 70, 75–76, 81, 104, 113, 116, 144, 168–170, 174, 189, 192, 199–272, 276, 339–340
 Code, 201–202, 204, 233–234, 237
 Distortion, 204, 206, 209
 Encoding, 200–202, 232–234
 Erroneous recall, 240
 False/pseudo memories, 200, 206–210, 260, 262, 276
 Free recall, 177, 239, 242, 244, 252
 Implicit theory of memory, 260
 Recovered memories, 262–263
 Retrieval of memory, 200–202, 229, 231–233, 235, 237, 239, 244, 267
 Trace, 233
 Mental Disorders DSM-5 (DSM-IV Axis I),
 Adjustment disorder, 11, 20, 110, 112
 Anxiety disorders, 11, 13, 16
 Obsessive compulsive disorder, 16, 20
 Post-traumatic stress disorder (PTSD), 16, 74, 76, 86–88, 212, 358
 Cognitive disorders, 11–12
 Delirium, 12–13, 36, 81, 110
 Dementia, 12–13, 81
 Disorders usually first diagnosed in
 Infancy, 11
 Attention-deficit hyperactivity disorder (ADHD), 12
 Asperger's disorder, 12
 Autism, 12, 244
 Conduct disorder (CD), 11–12, 19–20, 55, 82, 84, 134
 Disruptive behavior disorders, 12, 81

- Learning disorders, 12
 - Oppositional defiant disorder, 12, 20, 82
 - Dissociative disorders, 11, 17, 82, 87
 - Dissociative amnesia, 17
 - Dissociative fugue, 17
 - Dissociative identity disorder, 17, 82
 - Eating disorders, 11, 19, 206
 - Anorexia nervosa, 19
 - Bulimia nervosa, 19
 - Factitious disorder, 11, 16
 - Mood disorders (DSM-5 Depressive Disorders), 11, 14–15, 81, 134
 - Bipolar disorder, 15, 27, 62, 102, 128–129, 134–136, 340
 - Major depression, 14–15
 - Depressive disorder, 34, 134–136
 - Dysthymic disorder, 15
 - Impulse Control Disorders Not Elsewhere Classified, 11, 19
 - Intermittent explosive disorder, 20
 - Pathological gambling, 20
 - Pyromania, 20
 - Kleptomania, 20
 - Trichotillomania, 20
 - Sexual and Gender Identity Disorders, 11, 19
 - Paraphilias, 17–19
 - Exhibitionism, 18, 26, 33
 - Fetishism, 18
 - Frotteurism, 18
 - Necrophilia, 18
 - Pedophilia, 18, 33
 - Sexual sadism, 18, 30, 40–41, 60
 - Sexual masochism, 18
 - Transvestic Fetishism, 18
 - Voyeurism, 18
 - Zoophilia, 18
 - Schizophrenia and Other Psychotic Disorders, 11, 13–15, 30, 36, 44, 53, 60, 62, 81, 101, 108–110, 128–130, 133–134, 138, 328, 355
 - Psychotic disorder, 11, 13–15, 81, 135
 - Schizoaffective disorder, 15, 34, 130
 - Sleep disorders, 13
 - Somatoform disorder, 11, 16
 - Substance-related disorders, 11, 13, 19–20
 - Mental reinstatement of context (MRC), 231–232, 237, 239, 242, 244
 - Mental status (examination), xviii, 79–81, 285, 322–323, 337, 340, 355
 - Mentally retarded, 49, 112
 - Mind reading, 176
 - Modus Operandi* (MO), 297
 - Monomania, 36
 - Multidimensional Scaling (MDS), 300
 - Multiphasic Personality Inventory, 56, 84
 - Munchausen syndrome (and by proxy), 16
 - Munich Massacre, 350
 - Murder, xviii, 33, 38–39, 41, 43, 59–63, 65, 105, 108, 112, 114–115, 134, 140–143, 162, 199, 211, 252, 263–264, 268–269, 273–274, 295, 298–299, 301, 303, 307, 326, 329, 341
- N**
- Neuroimaging studies, 42–45, 192,
 - Neurotransmitter, 32, 44
 - Neurovegetative system, 32
 - Neurotic, 30, 41
- O**
- Operational utilitarian argument, 306
 - Opinion evidence, 336
 - Outpatient, 135, 138, 145–146
- P**
- Paranoia, 13, 30, 35, 39, 51
 - Parental alienation syndrome, 69, 75
 - Partial complex seizure, 259
 - Penfield, Wilder, 255, 258
 - Persecutory (delusions/delirium/ideation), 36, 132–134
 - Personality disorders (DSM-5 & DSM-IV/DSM-IV-TR Axis II), xv, xvii, 9–10, 20, 23–49, 54–55, 57, 63–65, 81–82, 137
 - Antisocial personality disorder, 30–33, 36, 45, 49, 55, 59, 61, 63–65, 82, 137
 - Borderline personality disorder, 27, 33–34, 44, 60
 - Narcissistic personality disorder, 24, 27, 33, 39, 102

- Paranoid personality disorder, 27, 33, 35
 - Sadistic personality disorder, 33, 40
 - Schizoid personality disorder, 24, 33, 36
 - Schizotypal personality disorder, 33, 42, 44
 - Personality tests, *see* Psychological tests
 - Personality theory
 - Personality traits, 8, 24–25, 32, 56, 59, 332, 357
 - Phencyclidine (PCP), 129
 - Polygraph (examinations), 71, 75, 88, 158, 172, 179, 185, 191–194, 235, 277, 279–280
 - Police (law enforcement), xv, 57, 61, 63, 74–75, 80, 88, 95, 106, 140, 143, 145, 158, 162, 164, 166–167, 177, 188, 203, 212, 229–231, 233, 235–237, 240–245, 252–258, 260–261, 265–267, 273–274, 277, 282, 284, 296, 299, 306–307, 311, 323, 328, 342, 349–359, 362–366
 - Positron Emission Tomography (PET), 42, 192
 - Profiling/profilers, *see* Criminal profiling
 - Protection order, 140
 - Psychiatric/psychological evaluation, 8, 78–89, 125, 321
 - Psychic (force/power), 7, 9, 40, 253,
 - Psychoanalysis/Psychoanalytic (Psychodynamic theories), 7, 24, 40, 52–54, 254–255, 258–259, 295, 330
 - Psychological autopsy, 321–348
 - Applications Legal, 335–336
 - Operational, 324–326
 - Research, 326–329
 - Procedure, 322–324
 - Concerns, 329–334
 - Solutions, 332–335
 - Psychological/psychometric tests/instruments, 8, 56, 83, 85, 332, 340
 - Intelligence 12, 25, 31, 38, 52, 62, 127, 274
 - Maze test (Porteus), 43
 - Wechsler Adult Intelligence Scale—Revised (WAIS-R), 82
 - Neuropsychological Tests
 - Bender Gestalt Test, 43
 - Block Designs (also used for Intelligence), 43
 - Tinker Toy Test, 43
 - The Halstead category test (HCT), 43
 - The Wisconsin Card Sorting Test (WCST), 43
 - Other
 - Anxiety Disorder Interview Schedule-Revised (ADIS-R)
 - (ADIS-IV), 81
 - Novaco Anger Scale and Provocation Inventory (NAS-PI), 128
 - Psychopathic personality inventory (PPI), 57, 83
 - Sensation Seeking Scale, 84
 - Sensitivity to Punishment and Sensitivity Reward Questioner (SPSRQ), 84
 - Personality
 - Minnesota Multiphasic Personality Inventory 2 (MMPI-2),
 - Minnesota Multiphasic Personality Inventory Adolescent (MMPI-A), 56, 59, 62, 82, 84–85, 87
 - NEO Personality Inventory Revised (NEO-PI-R),
 - Risk Assessment 125–156
 - HCR-20 Assessing Risk for Violence, 144,
 - Psychopathy Checklist Revised (PCL-R), 56–57, 64, 83, 137
 - The Violence Risk Appraisal Guide (VRAG), 144
 - Psychomotor agitation, 15, 81
 - Psychopathy/psychopathic, xvii, 30, 36–37, 45, 49–67, 82–85, 89, 111, 137,
 - Psychophysiological stress, 33
 - Pre-interrogation interview, 276
 - Prime suspect, 261
- Q**
- Quasi-experimental studies/trial (profiler accuracy), 306–308
- R**
- Rampage killers, xviii, 143

- Rape, xviii, 19, 33, 39, 41, 60, 76, 86–87, 101, 162, 199, 273–274, 299, 303, 307
- Rape trauma syndrome, 76, 86
- Reality monitoring (RM), 158, 170–171, 189
- Reality testing, 34–35
- Repression, 207, 212, 252–255, 258–260, 263–264, 267
- Restraining order, 140,
- Retardation, 12, 75, 81, 127
- Revenge, 137–138
- Risk assessment, xv, 5, 14, 64, 125–156
- R. v. West London Youth Court*, 98
- R. v. B*, 75
- R. v. Berry*, 96
- R. v. Blackman*, 112
- R. v. Bowman*, 74, 88,
- R. v. Byrne*, 112
- R. v. Charlson*, 113
- R. v. Cogdon*, 122
- R. v. Cottle*, 113
- R. v. Fong*, 75
- R. v. Golds*, 112
- R. v. Guilfoyle*, 311, 335
- R. v. Harris*, 74
- R. v. J-L*, 76
- R. v. M*, 76, 97
- R. v. McCarthy*, 76
- R. v. Mohan*, 76
- R. v. Murray*, 76
- R. v. M'Naghten*, 106–108, 110
- R. v. Presser*, 98
- R. v. Pritchard*, 96
- R. v. Quick*, 115
- R. v. Rabey*, 114
- R. v. Radford*, 122
- R. v. Robertson*, 97
- R. v. Sally Loraine Emery*, 74
- R. v. Smith*, 75
- R. v. Swain*, 107
- R. v. Taylor*, 96
- R. v. Turner*, 74–75, 88
- S**
- Safety behaviors, 133
- Satanic ritual abuse, 206
- Schlossberg, Harvey, 350–351, 360
- Scientific Content Analysis (SCAN), 158, 174, 179, 189–190
- Self-destructive behavior, 325–327
- Serial murder/killer, 40–41, 62, 301
- Serial rape/rapist, 299, 303,
- Sexual murder/homicide, 41, 59–63, 298–299, 302–303
- Short Message Service (SMS), 139,
- Society for Clinical and Experimental Hypnosis, 265
- Somatic disease/disorder, 9, 11, 15–16
- Spiegel, David, 262
- Stalker/stalking, xi, 139–140, 326
- Standard police interview (SI), 235
- Standardized Risk Assessment Instruments, 143
- Strategic use of evidence (SUE), xiii, 158, 175, 185, 191
- Statement validity assessment (SVA), 158, 168–171, 175, 179, 190
- Stockholm syndrome, 358
- Sociopathic Personality Disorder/Sociopath, 49–50, 54–56, 63–65,
- Structured/unstructured/semi-structured interview, 62, 81, 83, 169, 240
- Structured Clinical Interview for DSM Disorders (SCID), 81
- Subjective units of distress (SUDS), 87
- Substance abuse, 13, 63, 128–129, 135
- Suicide, 51–52, 62, 80, 102, 106, 134, 138, 140–143, 321, 323–334, 337, 338–341, 353, 356
- Murder-suicide, 134, 140–141, 143, 329
- Suicidal intent, 325, 327
- Suicide note, 328, 334, 338
- Epidemiological patterns, 337
- Risk, 138, 142, 325, 329
- T**
- Tactical assaults, 353
- Tarasoff v. Regents of the University of California*, 145
- TBR (To be remembered), 230, 232–234
- Testamentary capacity, 336
- Testimony,
- Expert, 69–94
- Witness, 199–272
- The National Violent Death Reporting System (NVDRS), 140

- The prison inmate study, 42
The Vietnam veteran head injury study, 42
Trauma, 11–12, 16–17, 20, 26, 40–41, 75–76, 86–88, 117, 136–137, 206–212, 232, 252, 254, 262–264, 358
- U**
- US Office of Strategic Services (OSS), 295
United States v. Plaza, 73, 88
- V**
- Victims, xv, 18, 42, 60–63, 69, 75, 78–79, 85–89, 106, 135–136, 139–143, 145, 168, 206–207, 212, 215, 229, 231, 238, 240, 244, 251–252, 262, 265, 268, 277, 282–283, 331, 334, 339–341, 351, 353, 358,
- Violence prevention plan, 138
Voice stress analysis (VSA) & Layered VSA, 174
- W**
- Watkins, John, 264, 266
Witness-compatible questioning, 237
Word association experiments, 232
Wrongful conviction, 274, 277, 279–281, 284
- Y**
- Young offender (young age–violence), 28
- Z**
- Zoophilia, *see* Mental disorders–paraphilias

