Psycho-pathology
A Social Neuropsychological Perspective

In *Psycho-pathology: A Social Neuropsychological Perspective*, Lee and Irwin argue that mental distress often defies traditional forms of medical classification. Integrating both psychosocial and neuropsychological frameworks, they present a unique and balanced perspective on psychopathology, emphasising the importance of context, relationships and neuroplasticity. Written to support teaching and learning at the undergraduate level, *Psycho-pathology: A Social Neuropsychological Perspective* encourages students to explore alternatives to the traditional biomedical model. Pedagogical features such as discussion questions in each chapter encourage critical engagement and classroom debate. The result is an original examination of mental distress and a stand-alone resource for students in this area.

**Alison Lee** is Senior Lecturer in Psychology and Postgraduate Tutor in the College of Liberal Arts at Bath Spa University, Bath, UK.

**Robert Irwin** is Senior Lecturer in Psychology in the College of Liberal Arts at Bath Spa University, Bath, UK.
Psychopathology
A Social Neuropsychological Perspective

Alison Lee
Bath Spa University, Bath, UK

Robert Irwin
Bath Spa University, Bath, UK
For AEL and JRE.
## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>List of Figures</td>
<td>xiv</td>
</tr>
<tr>
<td>List of Tables</td>
<td>xv</td>
</tr>
<tr>
<td>List of Boxes</td>
<td>xvi</td>
</tr>
<tr>
<td>Preface</td>
<td>xix</td>
</tr>
<tr>
<td><strong>1 Introduction</strong></td>
<td>1</td>
</tr>
<tr>
<td>1.1 How Theories are Developed</td>
<td>2</td>
</tr>
<tr>
<td>1.2 The Biomedical Model</td>
<td>3</td>
</tr>
<tr>
<td>1.2.1 What is the Difference Between a Mental and a Physical Illness?</td>
<td>5</td>
</tr>
<tr>
<td>1.2.2 Dualism</td>
<td>5</td>
</tr>
<tr>
<td>1.2.3 Dualism and the Perils of Reductionism</td>
<td>6</td>
</tr>
<tr>
<td>1.3 Do Discrete Mental Illnesses Exist?</td>
<td>9</td>
</tr>
<tr>
<td>1.4 Diagnosing Discrete Mental Distress Conditions</td>
<td>10</td>
</tr>
<tr>
<td>1.4.1 Diagnostic Reliability of the Psychoses using Operational Criteria</td>
<td>12</td>
</tr>
<tr>
<td>1.4.2 Manic-Depression and Schizophrenia</td>
<td>13</td>
</tr>
<tr>
<td>1.4.3 Schizoaffective Disorder</td>
<td>14</td>
</tr>
<tr>
<td>1.5 Alternatives to the Idea of Discrete Categories</td>
<td>15</td>
</tr>
<tr>
<td>1.5.1 Spectra of Behaviour</td>
<td>15</td>
</tr>
<tr>
<td>1.5.2 Symptom Clusters and Dimensional Models</td>
<td>17</td>
</tr>
<tr>
<td>1.6 Features of Complex Behaviour</td>
<td>19</td>
</tr>
<tr>
<td>1.6.1 Causality</td>
<td>20</td>
</tr>
<tr>
<td>1.6.2 Does ‘Mental Illness’ Exist?</td>
<td>21</td>
</tr>
<tr>
<td>1.7 The Role of Psychology</td>
<td>24</td>
</tr>
<tr>
<td>Further Reading</td>
<td>25</td>
</tr>
</tbody>
</table>

**2 Madness – A History of Ideas**

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>27</td>
</tr>
<tr>
<td>2.1 Humoral Theory</td>
<td>28</td>
</tr>
<tr>
<td>2.2 Cartesian Dualism</td>
<td>30</td>
</tr>
</tbody>
</table>
# Contents

2.3 Associationism 31
2.4 Nervous Disorders 32
2.5 Faculty Psychology 32
2.6 Phrenology and Localisation – Mapping Behaviour to the Brain
- 2.6.1 General Paresis of the Insane 34
- 2.6.2 Moving Away from Localisation 35
2.7 Asylums 35
- 2.7.1 Philippe Pinel and the Bicêtre Hospital 35
- 2.7.2 Moral Treatment 36
- 2.7.3 Alienists and Descriptive Psychopathology 37
2.8 Degenerationism 38
2.9 Neurasthenia 39
2.10 Kraepelinian Nosology 40
2.11 Psychoanalysis 41
2.12 Adolf Meyer and the Emergence of Social Psychiatry 43
2.13 Madness in a Neo-Kraepelinian World 44
Chapter Summary 47
Further Reading 48

## 3 Emotion

Introduction 50
3.1 Emotions
- 3.1.1 Problems with Studying Emotion 51
3.2 Basic emotions
- 3.2.1 How are Emotions Experienced? 53
- 3.2.2 How are Emotions Generated? 54
3.3 Emotion and Motivation
- 3.3.1 Approach (Appetitive) Emotions 57
- 3.3.2 Withdrawal (Avoidance) Emotions 58
3.4 Stress, Personality and Affect
- 3.4.1 Anhedonia 60
- 3.4.2 Subjective Well-Being 61
3.5 Psychological Equilibrium 63
3.6 Social Cognition
- 3.6.1 Self-Regulation 65
- 3.6.2 Emotional Regulation 66
- 3.6.3 Using Emotions 67
- 3.6.4 Reappraising and Ruminating 68
Chapter Summary 70
Further Reading 71
4 Control, Stress and Coping

4.1 The Further Actions of Prefrontal Cortex
4.1.1 Cognitive Control
4.1.2 Why is Control Important?
4.1.3 How is Control Assessed?
4.1.4 The Cascade Model of Cognitive Control

4.2 Self-Regulation
4.2.1 Goals and Sub-Goals
4.2.2 Are All Goals Conscious?

4.3 The Neurobiology of Stress
4.3.1 The Sympathetic Adrenomedullary System
4.3.2 The Hypothalamic-Pituitary-Adrenocortical Axis
4.3.3 Allostatic Load

4.4 Resilience

4.5 Coping
4.5.1 Coping Resources: Dispositional Factors
4.5.2 Coping Resources: Social Support
4.5.3 Coping Processes
4.5.4 Back to Emotional Regulation

Chapter Summary
Further Reading

5 Distress

5.1 Depression and Anxiety
5.1.1 The Basics
5.1.2 Aetiology and Treatments
5.1.3 Depression and Anxiety in History

5.2 The Emotional Disorders

5.3 The Neural Substrates of the Emotional Disorders

5.4 The Hippocampal Formation
5.4.1 What Do We Know about the Functions of the Hippocampal Formation?
5.4.2 The Hippocampus and Memory
5.4.3 Stress and Context
5.4.4 The Role of Neurogenesis in Human Behaviour

5.5 The Potential Relationship between the Hippocampi, Neurogenesis and Mental Distress
5.5.1 Neuroplasticity and Mental Distress

5.6 Depression
5.6.1 The Hippocampus in Depression
5.6.2 The Anterior Cingulate Cortex in Depression
Contents

5.6.3 The Basal Ganglia in Depression ........................................... 119
5.7 Treating Depression
   5.7.1 The Brain’s Default Mode Network ........................................ 122
Chapter Summary .................................................................. 125
Further Reading .................................................................... 125

6 Psychosocial Perspectives on Distress ........................................... 127
6.1 Distress: A Normal Response or a Clinical Disorder? ............... 127
6.2 The Vulnerability–Stress Hypothesis ........................................... 130
6.3 A Social Psychiatric Perspective
   6.3.1 Psychosocial Vulnerabilities ................................................. 137
   6.3.2 A Lifespan Perspective ......................................................... 138
6.4 A Social Cognitive Perspective
   6.4.1 The Cognitive Vulnerability Hypothesis ................................. 139
   6.4.2 An Attachment Framework .................................................. 141
6.5 A Social–Materialist Perspective ............................................. 143
Chapter Summary .................................................................. 145
Further Reading .................................................................... 146

7 Psychosis: Symptoms and Causes ............................................... 147
7.1 The Symptoms of Psychosis ...................................................... 147
   7.1.1 Disordered Thought .......................................................... 149
7.2 Epidemiology of Psychosis
   7.2.1 What Causes Psychosis? .................................................... 152
7.3 Brain Changes in Psychosis ...................................................... 153
   7.3.1 Dopamine and Psychosis .................................................... 153
   7.3.2 Antipsychotics ................................................................. 153
   7.3.3 Extrapyramidal Side Effects and the Role of Dopamine in
         Movement ........................................................................ 155
   7.3.4 The Efficacy of Medication .............................................. 156
   7.3.5 The Action of Neuroleptics .............................................. 159
   7.3.6 Atypical Neuroleptics ...................................................... 160
   7.3.7 The Status of Antipsychotics ........................................... 161
7.4 The Dopamine Hypothesis ...................................................... 162
7.5 Revising the Dopamine Hypothesis .......................................... 163
   7.5.1 The Status of the Dopamine Hypothesis of Depression ........... 166
7.6 The Neuropsychology of Psychosis .......................................... 167
   7.6.1 Psychological Theories of Psychosis .................................... 169
   7.6.2 Testing the Theories using Traditional Frontal Lobe Tasks ... 171
   7.6.3 Concept Formation, Reward and the WCST ....................... 171
8 Psychosocial Perspectives on Psychosis

Introduction

8.1 The Views of People who have Psychotic Experiences

8.2 The Vulnerability–Stress Hypothesis

8.2.1 Vulnerability

8.2.2 Stress

8.2.3 The Vulnerability–Stress Hypothesis Revisited

8.3 Environmental Risk Factors for Psychosis

8.3.1 Childhood Trauma

8.3.2 Poverty

8.3.3 Urbanicity

8.3.4 Migration and Minority Ethnicity

8.3.5 Social Hostility and Re-Traumatisation

8.3.6 How do Environmental Factors ‘Get into the Mind’?

8.4 Is There a Clear Distinction between Psychosis and Normality?

8.4.1 A Psychosis Continuum

8.4.2 Emotion and Psychosis

Chapter Summary

Further Reading

9 Recovery

Introduction

9.1 Models of Mental Distress

9.2 Defining Recovery

9.3 The Recovery Journey

9.4 What Helps?

9.4.1 Adaptation and Coping Strategies

9.4.2 Personal Control

9.4.3 Personal Relationships and Social Support

9.4.4 Employment
Contents

9.4.5 De-Stigmatisation 215
9.5 The Contribution of Mental Health Professionals to Recovery 217
Chapter Summary 219
Further Reading 220

10 Psychological Therapies 221
Introduction 221
10.1 Diagnosis or Formulation? 221
10.2 Does Psychological Therapy Work? 226

10.2.1 Outcomes Research 227
10.2.2 Empirically Supported Therapies 229
10.2.3 The Limitations of Randomised Controlled Trials 232
10.2.4 Practice-Based Research 233
10.2.5 Process Research 234

10.3 So Just How do Psychological Therapies Work? 236
10.4 Can Psychological Therapy be Harmful? 237
Chapter Summary 240
Further Reading 241

11 The Treatment of Mental Distress with Psychiatric Medication 243

11.1 Modern Pharmaceutical Research 244
11.1.1 Serendipity 245
11.2 The Early History of Psychoactive Drugs 246
11.3 The Later History of Psychiatric Drugs 250
11.4 The Clinical Trial 251

11.4.1 Problems Involved in Testing Pharmacological Treatments 252
11.4.2 Pragmatic Clinical Trials 254

11.5 Clinical Effectiveness 257
11.5.1 Meta-Analyses of Treatment Effectiveness 260
11.6 The Clinical Effectiveness of Antidepressants 262

11.6.1 Irving Kirsch and the Use of Unpublished Clinical Data 262
11.6.2 The Exploration of Dirk Eyding and Co-Workers (2010) into Reboxetine, a Selective Noradrenaline Reuptake Inhibitor 263
11.6.3 The STAR*D Study – an Example of Researcher Bias 264
11.6.4 An Analysis of these Studies 267

11.7 Models of Drug Action 269
11.8 Things to Consider in Future Research 271
Chapter Summary 272
Further Reading 273
12 Conclusions

12.1 The Dynamic Brain
   12.1.1 Cognitive Reserve
   12.1.2 Other Forms of Dynamism
   12.1.3 Flashbulb and False Memories
   12.1.4 Confabulation
   12.1.5 Self and Context

12.2 Social Context
   12.2.1 Social Causation
   12.2.2 The Importance of Social Relationships
   12.2.3 Social Identity
   12.2.4 Social Power

12.3 Things to Think About

Further Reading

References

Index
# List of Figures

4.1 The Importance of Self-Regulation. (Zimmerman, 1989)  
4.2 Response to Stress and Allostatic Load. (McEwen, 1998)  
5.1 The Relationship between DSM Diagnoses of Anxiety and Depressive Disorders and the New Drugs Developed for Treating Them. (Shorter and Tyrer, 2003)  
5.2 A Model for Organising Common Mental Health Problems. (Kendler, et al., 2003b)  
5.3 A New Formulation for the Anxiety and Mood Disorders. (Watson, 2005)  
5.4 The Dentate Gyrus. (Treves, et al., 2008)  
5.5 The Anterior Cingulate Cortex and Pregenual Cortex. (Gray, et al., 1995)  
5.6 The Brain’s Default Network. (Buckner, 2013)
List of Tables

5.1 Specific Cingulate Cortex Subdivisions with Associated Psychiatric Conditions. (Holtzheimer and Mayberg, 2009) page 119

11.1 Differences between Drug Trials Estimating Efficacy Compared to those Estimating Effectiveness. (Tansella, et al., 2006) 258

11.2 A Comparison of Disease-Centred and Drug-Centred Models of Psychiatric Drug Use. 270
List of Boxes

1.1 Classic Paper: On Being Sane in Insane Places. (Rosenhan, 1973) page 22
2.1 Insight: The Seventeenth Century 29
2.2 Insight: The Eighteenth Century 31
2.3 Insight: The Nineteenth Century 33
2.4 Insight: The Twentieth Century 40
2.5 Classic Paper: The Myth of Mental Illness. (Szasz, 1960) 44
3.1 Classic Paper: The Somatic Marker Hypothesis and the Possible Functions of the Prefrontal Cortex. (Damasio, 1996) 55
4.1 Insight: The Case of Phineas Gage 76
4.2 Insight: What is Stress?
5.1 Classic Paper: Rethinking the Mood and Anxiety Disorders: A Quantitative Hierarchical Model for DSM-V. (Watson, 2005) 103
6.1 Insight: Demoralisation 128
6.2 Insight: Grief 129
6.3 Classic Paper: The Need for a New Medical Model: A Challenge to Biomedicine. (Engel, 1977) 131
7.1 Classic Paper: Dopamine as the Wind of Psychotic Fire: New Evidence from Brain Imaging Studies. (Laruelle and Abi-Dargham, 1999) 164
8.1 Insight: Making Sense of the Causes of Psychosis 181
8.2 Classic Paper: Crises and Life Changes and the Onset of Schizophrenia. (Brown and Birley, 1968) 185
8.3 Insight: The Insight Paradox 198
9.1 Insight: Post-Traumatic Growth 204
9.2 Classic Paper: Recovery from Psychosis: Learning More from Patients. (Chadwick, 1997) 208
9.3 Insight: The Impact Stigma has on Recovery 216
10.1 Insight: Psychological Explanations of Distress 224
10.2 Insight: The Power of Expectancy 228
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.3</td>
<td>Classic Paper: The Necessary and Sufficient Conditions of Therapeutic Personality Change. (Rogers, 1957)</td>
<td>231</td>
</tr>
<tr>
<td>10.4</td>
<td>Insight: The Therapeutic Alliance</td>
<td>235</td>
</tr>
<tr>
<td>12.1</td>
<td>Insight: The Bradford Hill Criteria for Inferring Causation</td>
<td>287</td>
</tr>
</tbody>
</table>
Preface

Bringing together neuropsychological and psychosocial perspectives on mental distress, we outline in this book a way of thinking about mental health problems that emphasises the importance of context, relationships and neuroplasticity. In doing so, we seek to present alternative ways of understanding mental distress to that provided by the biomedical model.

Despite its many limitations, the biomedical model (also referred to as the psychiatric model) of mental distress not only informs clinical practice and research, but is also perpetuated by such activities. It is, therefore, unsurprising that, with certain exceptions, the biomedical model tends to dominate the discussion of mental distress in psychology textbooks.

Unlike many ‘abnormal psychology’ textbooks, which use traditional psychiatric diagnostic categories as a framework for talking about mental distress, this book addresses two broad categories of mental suffering: distress, which includes emotional problems such as depression and anxiety (often referred to as ‘common mental health problems’), and psychosis, a term used to denote various forms of mental distress, where, at times, contact with reality is assumed to be lacking or impaired. We decided to take this approach partly because of concerns about the validity and reliability of many traditional diagnostic categories, but also because it enabled us to consider in more depth how the alternative approaches we outline might explain mental distress. Despite this, as we wrote this book, we were constantly reminded of how deeply the biomedical model has insinuated itself into our thinking; it is difficult to escape the psychiatric perspective fully and this is apparent sometimes in our writing. Indeed, it is apparent in the very title of this book. The term ‘psychopathology’ is a medical concept that equates mental distress with disease and sickness. Yet the psychosocial and neuropsychological perspectives we outline in this book challenge this medical conceptualisation of mental distress in different ways, suggesting that far from being manifestations of pathology, the experiences and behaviours that constitute mental distress are often understandable when a person’s context and the meaning s/he attaches to his/her experiences are taken into account.
Preface

The perspectives on mental distress discussed in this book reflect our own professional interests: AL is a neuropsychologist and RI is a social psychologist with a particular interest in therapeutic psychology. While the approaches we outline do not provide a complete explanation for why mental distress occurs, they are important for furthering our understanding of mental health problems and how such difficulties may be prevented or ameliorated. In the last two decades, study of the ‘neurological’ and ‘social’ aspects of human behaviour and experience has drawn these concepts ever closer, generating new disciplines such as social neuroscience. It seems a good moment, therefore, to explore how our developing understanding of the relationships between behaviour, brains and the social world might help us to respond more effectively to mental distress.

This book is written primarily for students who are studying psychology at undergraduate or taught postgraduate level. However, it is likely to be of interest to students in other disciplines, such as counselling and nursing, who have a particular interest in mental health.

Most of the chapters in this book (up to Chapter 9) have been written in pairs and are best read as such. In the first chapter, we discuss some of the main limitations of the biomedical model and outline some key debates concerning mental distress such as the relationship between mind and body, cause and effect, person and environment. We describe, in the second chapter, some of the specific social and historical contingencies that have influenced the ways in which mental distress has been viewed and people who experience mental distress have been treated in Western societies.

The focus of Chapter 3 is very much on the role of emotions in mental health and social well-being. Despite the difficulties associated with studying emotions, research indicates that the experience and production of emotions seem to be associated with specific regions of the brain. The roles played by the dorsomedial prefrontal cortex (PFC) and dorsal anterior cingulate cortex in the regulation of emotions are considered in this chapter. We explore further the functions of the PFC in Chapter 4 and consider the importance of cognitive control in maintaining a psychological equilibrium. In this chapter, we also review the neurobiology of stress and introduce the transactional model of stress and coping.

The next two chapters deal specifically with the experience of distress. In Chapter 5, the relationship between the hippocampal formation, neurogenesis and mental distress is explored. The importance of studying the brain’s default network is also highlighted, given the opportunities this may provide for developing new ways of helping people who experience distress. Alternative ways of classifying emotional problems are also considered. A discussion of the vulnerability-stress hypothesis in Chapter 6 sets the scene for considering how social and environmental factors may impact on mental health. It is argued that most manifestations of distress are understandable reactions to adverse life events and experiences. Three psychosocial
Frameworks for considering how and why mental distress develops are presented: a social psychiatric perspective, a social cognitive perspective and a social materialist perspective.

Psychosis is the focus of the next two chapters. In Chapter 7 we review some of the evidence for a biological basis for psychosis, including the dopamine hypothesis, and a brief overview is provided of the development of antipsychotic medications. We discuss neuropsychological theories of certain psychotic behaviours and experiences and discuss the possibility that such experiences may be associated with connectivity problems in the brain’s default mode network. Environmental factors such as abuse, trauma and poverty that increase the likelihood of a person experiencing psychotic symptoms, such as voice-hearing, are discussed in Chapter 8.

A key argument in this chapter (and indeed this book) is the importance of understanding and treating mental distress at the level of the individual symptom/problem rather than on the basis of a diagnostic label. To do this effectively, we need to take into account the context or situation in which problematic behaviours or experiences occur, the possible functions such behaviours serve and the meanings that individuals attach to their experiences.

From here on, the format of this book changes. In the next three chapters, we consider how people who experience mental distress can be supported and helped. We begin in Chapter 9 by introducing the concept of recovery, focusing particularly on ‘personal’ definitions of recovery rather than ‘clinical’ ones. Although personal definitions are idiosyncratic, they are generally characterised by the importance individuals place on hope, identity-enhancing personal relationships, self-determination and making sense of their experience of mental distress. A key question here concerns the extent to which these elements of personal recovery can be supported by existing mental health services, in which the biomedical model predominates and recovery is measured in terms of changes in clinical symptoms and functioning. We encourage you in Chapter 10 to think more critically about the claims made about psychological therapies, which, although helpful to some people, are certainly not a panacea for mental distress. We look at some of the criticisms made of therapeutic psychology and also consider to what extent the practice of psychological therapy can, or should, be decoupled from the biomedical model. The treatment of mental distress using psychotropic drugs is the main focus of Chapter 11, in which we discuss some important processes involved in the conduct and reporting of clinical trials to establish the safety and efficacy of such treatments.

In the final chapter, we revisit and build on some of the key themes identified in previous chapters: neuroplasticity, the importance of understanding behaviour in context, and relationships.

To promote engagement with the ideas and debates put forward in this book, we have included a number of specific features. In all but the final chapter, we have provided a summary of and commentary on a ‘classic paper’. Some of these papers
Preface

have had a significant impact in the field of mental health and may already be known to you (Szasz, 1960; Rosenhan, 1973; Engel, 1977), whereas others are likely to be unfamiliar but illuminate an important issue discussed in that chapter. Key ideas are highlighted and discussed in boxes within chapters and chapter summaries appear at the end of most chapters. In all of the chapters there are 'reflection points' that encourage you to think carefully about what you are reading and its impact (if any) on how you think about mental distress.

To understand the causes of mental distress and the impact such distress has on those of us who experience it first-hand or through our everyday interactions with family members, friends and colleagues who are living with mental health problems, requires a multilevel analysis. We would suggest that an analysis of mental distress, which attends to contributing factors at different levels in both the inner and outer worlds of those affected by such distress, is far more likely to generate effective and compassionate approaches to the support and care of those of us who experience mental health problems. After reading this book, which brings together research findings and theories from psychosocial and neuropsychological perspectives on mental distress, we hope that you will feel better prepared and more confident to begin to undertake such a multilevel analysis.