



**FRANK RYAN**  
**COGNITIVE THERAPY**  
**FOR ADDICTION** **MOTIVATION**  
**AND CHANGE**

 **WILEY-BLACKWELL**



# Cognitive Therapy for Addiction



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*Motivation and Change*

Frank Ryan

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# Contents

About the Author	ix
Preface	xi
1 The Tenacity of Addiction	1
<i>Introduction and Overview</i>	1
<i>Discovering Cognition</i>	5
<i>Implicit Cognition and Addiction</i>	6
<i>Neuropsychological Findings</i>	9
<i>Addictive Behaviour is Primary, Not Compensatory</i>	11
<i>Changing Habits is the Priority</i>	14
<i>Diagnostic Criteria</i>	15
<i>Towards Integration</i>	15
<i>Equivocal Findings from Research Trials</i>	16
<i>Time for CHANGE</i>	16
<i>Evolution, Not Revolution</i>	17
<i>Something Old, Something New</i>	18
2 Existing Cognitive Behavioural Accounts of Addiction and Substance Misuse	21
<i>The Evidential Basis of CBT for Addiction</i>	23
<i>Meta-analytic Findings</i>	23
<i>Behavioural Approaches</i>	24
<i>Diverse Treatments Mostly Deliver Equivalent Outcomes</i>	25
<i>What Are the Mechanisms of Change?</i>	26
<i>The Missing Variable?</i>	27
<i>A Dual-Processing Framework</i>	28
3 Core Motivational Processes in Addiction	33
<i>Is Addiction About Avoiding Pain or Seeking Reward?</i>	33
<i>How Formulation Can Go Astray</i>	34
<i>Incentive Theories of Addiction</i>	35
<i>Learning Mechanisms in Addiction</i>	36

	<i>Distorted Motivation and Aberrant Learning: the Emergence of Compulsion</i>	41
	<i>'Wanting and Liking' in the Clinic</i>	41
	<i>The Role of Secondary Reinforcers</i>	43
	<i>Beyond Pleasure and Pain: a Psychoanalytic Perspective</i>	43
	<i>Conclusion</i>	44
4	<b>A Cognitive Approach to Understanding the Compulsive Nature of Addiction</b>	45
	<i>Theories of Attention</i>	46
	<i>Top-Down Influences Can Be Automatic</i>	47
	<i>Automatic Processes Can Be Practically Limitless</i>	48
	<i>Motivationally Relevant Cues are Prioritized</i>	48
	<i>Biased Competition</i>	50
	<i>Attention and Volition</i>	51
	<i>Appetitive Cues Usually Win</i>	52
	<i>Purposeful Behaviour Can Occur in the Absence of Consciousness</i>	53
	<i>Attentional Bias and Craving</i>	54
	<i>Cognitive Cycle of Preoccupation</i>	56
5	<b>Vulnerability Factors In Addiction</b>	63
	<i>Individual Differences in Addiction Liability</i>	63
	<i>Personality Traits</i>	63
	<i>The 'Big Five' Personality Factors</i>	65
	<i>Personality Disorders</i>	66
	<i>Affective Vulnerability Factors</i>	67
	<i>Brain-Derived Neurotrophic Factors</i>	69
	<i>Neurocognitive Vulnerability</i>	70
	<i>Findings from the Addiction Clinic</i>	71
	<i>From Research to Practice</i>	72
6	<b>Motivation and Engagement</b>	75
	<i>Impaired Insight and the Therapeutic Relationship</i>	75
	<i>The Sad Case of Julia</i>	80
	<i>Conflicted Motivation is the Key</i>	81
	<i>Goal Setting and Maintenance</i>	82
	<i>The Importance of Between-Session Change</i>	83
	<i>Neurocognitive Perspectives on Motivation</i>	83
	<i>Motivational Interviewing in Practice</i>	84
	<i>Formulating and Planning the Intervention</i>	88
	<i>Attributional Biases: the Blame Game</i>	90
	<i>Case Formulation</i>	91
	<i>Summary</i>	97



7	Managing Impulses	99
	<i>Introduction and Overview</i>	99
	<i>Structuring the Session</i>	99
	<i>Building Resilience</i>	100
	<i>Impulse Control</i>	102
	<i>Craving and Urge Report</i>	103
	<i>Cognitive Processing and Craving</i>	104
	<i>Cognitive Bias Modification</i>	105
	<i>Attentional Bias in the Context of Addiction</i>	106
	<i>The Alcohol Attention-Control Training Programme</i>	108
	<i>Modifying Implicit Approach Tendencies</i>	110
	<i>Reversing the Bias: Conclusion</i>	112
	<i>Brain Training and Neurocognitive Rehabilitation Approaches</i>	112
	<i>Clinical Implications of Delayed Reward Discounting</i>	117
	<i>Tried and Tested Techniques</i>	119
	<i>The Road to Recovery is Paved with Good Implementation Intentions!</i>	125
	<i>Neurophysiological Techniques</i>	129
	<i>Neuropsychopharmacological Approaches</i>	130
8	Managing Mood	135
	<i>The Reciprocal Relationship Between Mood and Addiction</i>	135
	<i>Pre-existing Vulnerability to Emotional Distress</i>	137
	<i>Negative Affect Due To Drug Effects</i>	141
	<i>Stepped Care for Addiction</i>	145
	<i>An Integrated Approach to Addressing Negative Emotion</i>	147
9	Maintaining Change	155
	<i>Relapse Prevention Strategies from a Neurocognitive Perspective</i>	155
	<i>The Importance of Goal Maintenance in the Long Term</i>	158
	<i>A Neurocognitive Perspective on Relapse</i>	159
	<i>Twelve-Step Facilitation Therapy</i>	161
	<i>Implicit Denial</i>	162
10	Future Directions	171
	<i>Neurocognitive Therapy</i>	171
	<i>Increasing Cognitive Control is the Goal</i>	172
	<i>Do We Know Anything New?</i>	173
	Appendix Self-Help Guide Six Tips – a Pocket Guide	
	to Preventing Relapse	179
	<i>Introduction: Why Six Tips?</i>	179
	<i>1. Don't Always Trust Your Memory!</i>	180
	<i>2. Beware of the 'Booze Bias'!</i>	180

3. <i>Separate Thoughts from Actions</i>	181
4. <i>Learn How to Distract Yourself</i>	181
5. <i>Willpower Is Sometimes Not Enough</i>	182
6. <i>Beware of the Dog that Doesn't Bark. . .</i>	182
References	185
Index	201

## About the Author

Dr Frank Ryan trained as a clinical psychologist at Edinburgh University and works as a consultant in Camden & Islington National Health Service Foundation Trust in London, UK. He practices as a cognitive behaviour therapist with a special interest in addiction and co-occurring disorders. He is an Honorary Senior Lecturer in the Centre for Mental Health, Faculty of Medicine at Imperial College and an Honorary Research Fellow at the School of Psychology, Birkbeck College, University of London. He is a former Chair of the Addiction Faculty of the British Psychological Society's Division of Clinical Psychology. He has also served as consultant in cognitive therapy to the United Nations Office on Drugs and Crime. The focus of his research is behavioural and cognitive processes in addiction and translating research into practice, with particular emphasis on findings derived from cognitive neuroscience.



# Preface

The story begins with Bill, who was addicted to alcohol. He was attending a group along with eight other men and women in a specialist clinic in Hammersmith, West London, more than ten years ago. They also had experienced problems associated with their use of alcohol and were trying to abstain or reduce their level of alcohol consumption. As group facilitator, my first task was usually to ask members to 'check in' with an update on how the past week had been for them: the problems, the worries, the cravings, the lapses and the coping. When it was Bill's turn to say something about the week just passed, he froze momentarily. Unlike some in the group, Bill did not experience anxiety in social situations; on the contrary, he was usually a fluent, relaxed speaker. I asked whether he wanted to collect his thoughts and let someone else speak in the interim but he declined. He quickly recovered his composure and said that his pause was due to hearing the word 'binge' uttered by the woman sitting next to him. Bill apparently found this word distracting and he was unable to concentrate on what he had intended to say about his own ups and downs in the preceding week.

I was intrigued by this episode: if the mere mention of an alcohol-related word could be so distracting, how potent could other addiction-related cues be in capturing attention, especially outside the confines of the clinic, where temptation was everywhere? A subsequent literature search revealed just one study of what is termed *attentional bias* in addiction. This investigation (Gross *et al.*, 1993) found that when cigarette smokers were deprived of nicotine for 12 hours they were more likely to be distracted by smoking related cues compared with fellow smokers who did not experience deprivation. Distraction was indexed by the slightly longer time it took the deprived smokers to name the colour used to print smoking-related words such as *tobacco* or *lighter*. Thus, they were slower to correctly respond with 'red' or 'blue' to these words than to neutral words such as *locker* or *man*. It was as if the words associated with cigarette smoking exerted a magnetic effect on the minds of abstinent smokers and distracted them from the

primary task of simply naming a colour. The difference in reaction time between smoking-related and neutral words was tiny, a few milliseconds (ms), but was not observed with current smokers or people who had never smoked. To me, this appeared to be an analogue of what happened with Bill. Regardless of the task in hand, simply saying 'red', 'blue' 'green' or 'yellow' was slower if the word was connected with alcohol, but unaffected by the neutral words.

Although a definitive role for selective attention in anxiety disorders had by then been proposed (Williams *et al.*, 1988), it was clear to me that attentional bias was equally important in relation to addictive disorders. The seminal work of Marlatt and Gordon (1985) had already highlighted the cue-specific nature of relapse in addiction, and how people could learn alternative coping strategies to forestall this. But what if an encounter with these so-called 'high-risk situations' reflected a cognitive bias rather than chance or circumstance? What if, after leaving the treatment centre or the rehabilitation unit, individuals were drawn to precisely the situations they were advised to avoid? Important questions, it seemed to me. But not just to me: cigarette smoking is estimated to cause 5 million deaths worldwide each year (Thome *et al.*, 2009). In the United Kingdom in 2009, 8,664 deaths were attributed to alcohol-use disorders (ONS, 2011). It is estimated in the *World Drug Report* (UNODC, 2009) that between 11 and 21 million people in 148 countries worldwide inject drugs, of whom between 0.8 and 6.6 million are infected with human immunodeficiency virus (HIV). Addiction is also associated with massive healthcare costs: Gustavsson *et al.* (2011) estimated that in 30 European countries (27 European Union member states plus Iceland, Norway and Switzerland) addictive disorders cost €65.7 billion in direct and indirect healthcare costs. For comparison, anxiety disorders were estimated to cost €74.4 billion, and mood disorders (unipolar and bipolar depression) €43.3. An entire volume would be needed to describe the full extent of human misery and costs attributable to the spectrum of substance misuse and addiction.

Here, the focus is on the cognitive and motivational processes that enable diverse behaviours such as smoking a cigarette, sipping an alcoholic beverage or injecting heroin to persist in parallel with awareness of the harmful consequences that ensue and a sincere desire to desist. In order to learn more about the role of cognitive bias in addiction, I conducted an experimental study using a modified Stroop test (Ryan, 2002a) with the invaluable help of the clients and colleagues in the clinic. It seemed to me

that if attentional bias could operate at an early stage of cue reactivity it could thereby influence the frequency and intensity of urges and clinical outcome as indexed by relapse rates. I began to explore the theoretical and clinical implications of this mental process, which seems to occur unconsciously, involuntarily and, by all accounts, relentlessly. This, I thought, helped to explain the disparity between the commitment to recovery shown by many addicted individuals and the high frequency with which they failed. It still seemed sensible to teach coping strategies in anticipation of encountering the people, places and things that might trigger appetitive impulses. But sometimes this seemed to be too little, too late.

By then, I realized that my interest in the role of cognition in addiction was shared by many talented researchers and clinicians. This helped me recognize that selective attention can only be understood, or at least partially grasped, when seen as a property of a highly sophisticated system of cognitive or executive control. Inspired by their efforts and continuing my clinical practice in parallel, I began to develop the ideas that form the basis of this book. These were elaborated through a series of presentations and workshops at events such as the European Association of Behavioural and Cognitive Therapies and the World Congress of Behavioural and Cognitive Therapies in exotic locations such as Acapulco, Vancouver, Paris and Dubrovnik. This entailed a reappraisal of cognitive therapy for addiction that accentuated the core theme of this text: addiction is quintessentially a disorder of conflicted motivation that is reflected in impaired cognitive control, defined as the ability to flexibly guide behaviour in the pursuit of desired outcomes or goals.

However, in the clinical arena within which many of the readers of this book operate, this cognitive–motivational process can often be obscured by the diversity of the presenting problems associated with addictive behaviour. Accordingly, it is necessary to place this focus on cognitive control in a broader therapeutic framework known as *CHANGE*, an acronym of Change Habits and the Negative Generation of Emotion. An acronym is always a compromise but *CHANGE* serves to remind those tasked with overcoming addiction, whether therapist or treatment seeker, that this entails reversing compulsive habits and managing emotions. The journey of the book thus began in the clinic, then detoured through a process of research and innovation only to return once again to the clinical arena. Along the way, academic and clinical colleagues have generously shared their knowledge and skills. I am deeply indebted to them. In particular, I would like to