

SECOND EDITION

Case Formulation in Cognitive Behaviour Therapy

*The treatment of challenging
and complex cases*



Edited by
Nicholas Tarrier and
Judith Johnson

ROUTLEDGE



Case Formulation in Cognitive Behaviour Therapy

Since the successful first edition of *Case Formulation in Cognitive Behaviour Therapy*, there has been a proliferation of psychological research supporting the effectiveness of CBT for a range of disorders. Case formulation is the starting point for CBT treatment, and *Case Formulation in Cognitive Behaviour Therapy* is unique in both its focus upon formulation, and the scope and range of ideas and disorders it covers. With a range of expert contributions, this substantially updated second edition of the book includes chapters addressing the evidence base and rationale for using a formulation-driven approach in CBT; disorder-specific formulation models; the formulation process amongst populations with varying needs; formulation in supervision and with staff groups. New to the book are chapters that discuss:

- Formulation amongst populations with physical health difficulties
- Formulation approaches to suicidal behaviour
- Formulation with staff groups

Case Formulation in Cognitive Behaviour Therapy will be an indispensable guide for experienced therapists and clinical psychologists and counsellors seeking to continue their professional development and aiming to update their knowledge with the latest developments in CBT formulation.

Nicholas Tarrier has held academic appointments in Brazil and Australia and worked as a clinical psychologist in the NHS. From 1991 to 2011 he was Professor of Clinical Psychology at the University of Manchester and at the Institute of Psychiatry, King's College London from 2011 to 2014. His main research interests have been in investigating psychosocial environments in the development of mental disorders and the development and evaluation of cognitive-behavioural and family interventions. He is now retired.

Judith Johnson is a Clinical Psychologist and Lecturer at the University of Leeds and the Bradford Institute of Health Research. Her research is focused upon understanding and supporting the development of wellbeing and resilience, and how this can be applied in healthcare settings to improve interventions and service delivery.

‘Cognitive behavior therapists are scientist practitioners whose work is informed by advances in theory and research, and guided by an understanding of the unique problems and circumstances of each person they treat. Case formulation is a powerful tool for systematically identifying critical factors leading to and maintaining maladaptive functioning, and then developing, evaluating, and modifying treatment plans until the desired goals have been achieved. This second edition of *Case Formulation in CBT* is a treasure trove for any practicing clinician. The book includes useful introductory material on contemporary approaches to case formulation, specific chapters delving into a broad range of behavioral health problems replete with case examples, applications in non-clinical populations (such as carers and asylum seekers), and supervision. This book fills a critical gap in the need for clinicians to stay abreast with the latest advances in developing state-of-the-art case formulations essential to effective clinical practice.’

–Kim T. Mueser, PhD, Executive Director, Center for Psychiatric Rehabilitation,
Professor of Occupational Therapy, Psychology and Psychiatry,
Boston University

‘This authoritative edited book places the individual client squarely front and centre in formulating that person’s mental health problems and consequently in planning appropriate treatment. It presents a clear and superior alternative to the simple dissemination of treatments in the absence of formulation of the individual’s problems. I highly recommend this important book to all mental health practitioners.’

–Henry Jackson, Emeritus Professor of Clinical Psychology,
University of Melbourne, Australia

‘Treatment tailoring has entered our vocabulary relatively recently and we have endorsed it but without the evidence base. This book fills this space and provides an understanding of why personalisation is vital not just for successful treatment but because it is valued by the individuals who use mental health services. Case formulation is one way of building the therapeutic collaboration essential for any therapy and also makes the therapeutic targets more focussed for both the therapist and the client. This book provides a step by step guide and evidence for benefits of specific techniques across disorders giving both clinicians and academics access to valuable information – all in one place.’

–Til Wykes, Vice Dean Psychology and System Sciences,
Professor of Clinical Psychology and Rehabilitation,
Co-Director Service User Research Enterprise,
Institute of Psychiatry, King’s College London, UK

‘Excellence in clinical practice requires in equal parts attention to nomothetic issues, or how the individual patient resembles others generally in such broad areas as diagnostic categories or treatment response, and idiographic issues, or what is unique about the individual patient. In this age of treatment manuals it is this latter area that is most often neglected, and yet it is crucially important since clinicians see individuals and not large groups in most settings. In this excellent book, now in its second edition, idiographic case formulation is highlighted by expert clinicians from the UK and the USA. Clinical training and clinical practice cannot be complete without this perspective and all clinicians should be familiar with this excellent resource.’

–David H. Barlow, PhD, ABPP, Professor of Psychology and Psychiatry,
Boston University, Founder and Director Emeritus,
Center for Anxiety and Related Disorders, Boston, USA

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Second Edition

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Preface

We are delighted to have the opportunity to edit a second volume on case formulation in cognitive behaviour therapy (CBT), building on the success of the first edition published in 2006. Since the publication of the first edition, CBT has continued to expand on both the national and international stage with a greater variety of clinical problems being addressed along with advances in knowledge and skills, so that an ever greater population of people both in the UK and abroad have access to effective and evidence-based psychological treatments. This is to be applauded, as is the recognition of CBT at government and policy levels as an efficacious and cost-effective method of treating psychological problems and disorders. Since 2006, the field of CBT has advanced and we have asked our contributors to reflect these advances in their updated chapters. The updated edition includes chapters reflecting increasingly important issues in clinical psychology, in particular, formulation in populations with physical health problems, formulation with staff teams and carers and how to formulate in supervision. Unavoidably, some, although remarkably few, authors from the first edition have been unavailable to contribute to this update. However, we are delighted with the strong team of contributors in this second edition, and confident that this volume will further advance the field and serve as a guide and resource to clinicians and researchers now and in the future. Lastly, we would like to extend a heartfelt thanks to our contributors who, through their hard work and dedication, have given themselves and their knowledge and skills to the readers.

Nicholas Tarrier and Judith Johnson
August 2014

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Introduction

Nicholas Tarrier and Judith Johnson

In introducing this second volume on case formulation we thought it worthwhile to revisit some of the stages in the development of case formulation and review and update some of the issues that have been raised. As with all aspects of clinical practice, the process of case formulation – working towards a psychological explanation of a client's problem – is not static. There remain numerous challenges and no doubt further challenges will arise in the future. To stop and reflect on these issues and the challenges they impose is helpful both to the individual clinician and to the clinical researcher. This is especially true with increasing changes in clinical services brought about by prevailing economic conditions and the accelerating development of new technologies. These factors potentially change the environments within which cognitive behaviour therapy (CBT) is delivered and hence in which case formulation is practiced.

The Boulder model of training in clinical psychology enshrined the concept of the scientific practitioner in both the training of clinical psychologists and in the practice of psychological treatment. The historical importance of this cannot be overestimated. This represented a new paradigm in psychological practice in general and in psychological treatment in particular. The scientific practitioner established the idea that psychological knowledge can be applied to clinical problems and that this should be done in a manner in accordance with scientific methodology and convention. This has many implications, but two are important here. First, psychological treatments are evaluated and adopted based upon the results of empirical evaluation. This has now been subsumed into the wider paradigm of evidence-based practice or evidence-based health care (see, for example, Sackett, 1998). The second implication is that a psychological understanding of clinical problems is adopted to underpin psychological intervention. A seminal paper published in 1965 by Kanfer and Saslow further advanced this endeavour by proposing a psychological alternative, behavioural analysis, to the then-dominant medical conceptualisation of mental health problems.

Kanfer and Saslow's (1965) paper can really be thought of as the natural precursor to case formulation, which represented a second paradigm shift. It is interesting to look in a little more detail at what Kanfer and Saslow proposed. They dismiss psychiatric diagnosis as being limited by issues of precision, consistency,

reliability and validity to 'a crude and tentative approximation to a taxonomy of effective individual behaviours' (1965: 529). Some may well argue that this situation has not radically altered over the past 40 years. Kanfer and Saslow also outlined the criticisms, current at the time, of the medical model in psychiatry with which the contemporary reader will no doubt be familiar. Their main point remains pertinent: given the wide range of variability in an individual's circumstances and condition and the largely unknown aetiology of most psychiatric disorders, does a reduction to a crude taxonomic classification help or hinder treatment? They progressed to outline an alternative model of understanding clinical problems based upon learning theory in the form of a functional behavioural-analytic approach. This is encapsulated by:

It [functional analysis] implies that additional information about the circumstances of the patient's life pattern, relationships among his behaviours, and controlling stimuli in his social milieu and his private experience is obtained continuously until it proves sufficient to effect a noticeable change in the patient's behaviour, thus resolving 'the problem'.

(Kanfer and Saslow, 1965: 533)

Interestingly, although their model is couched in learning-theory terms, they anticipated the cognitive revolution that was to follow by including the necessity to assess subjective experience. They suggested that the clinician should collect and organise information from a number of areas: analysis of a problem situation, classification of the problem situation, motivational analysis (reinforcers), developmental analysis (including 'biological equipment' and 'socio-cultural experience'), analysis of self-control, analysis of social relationships and analysis of the social-cultural-physical environment. The formulation, and Kanfer and Saslow used this term, is 'action oriented' (535) in that the problem is defined in operational terms so as to specify a feasible treatment option. Although written over 40 years ago there is much within this paper, both in terms of the inadequacies of psychiatric diagnosis and alternative conceptualisation of clinical problems, that modern-day cognitive behaviour therapists and clinical psychologists would find very familiar.

One of the problems that this new individualised approach unveiled was how to know whether an individualised formulation of a particular person's problem is correct and parsimonious: that is, is it true in a broad sense of the word and does it have functional value – is it clinically useful? That a formulation can be incorrect would also imply that there would be ways, potentially identifiable, by which a formulation could go wrong or deviate from accuracy. However, it may be difficult to discriminate a 'right' from a 'wrong' answer when the formulation pertains only to one individual. The nature and types of error that may contaminate clinical decision-making may include availability heuristic, representative heuristic, anchoring heuristic, biased search strategies, overconfidence and hindsight bias (Nezu and Nezu, 1989a). By this, Nezu and Nezu meant that a clinician

may be subject to a number of sources of bias such as being overly influenced by recent clinical experience, being too quick to categorise or reach a conclusion on insufficient information and, without the flexibility to adjust or modify those conclusions, selectively attending to types or aspects of information and further searching for information based upon a confirmatory bias and being unable to react to new information in a way that increases accuracy and precision rather than confirms initial impressions. There is a tendency to look back retrospectively on a case with confirmatory zeal. Unfortunately, although perhaps not surprisingly, clinicians and therapists appear to be subject to all the information-processing distortions that they try to assess and rectify in their clients. The area of clinical judgement and decision making is clearly one that requires further research and clinicians would benefit from reflection upon it.

A consideration of alternative explanations, a wider viewpoint and a further appraisal of possible options would perhaps benefit clinical practice. A related difficulty identified by Nezu and Nezu (1989a: 29) is how and when to select the appropriate treatment techniques from the array available. This problem is also pivotal to the work of other writers on case formulation (for example, Bruch, 1998; Persons, 1989; Turkat, 1985) and in my experience it is often the issue that trainees and students find one of the most difficult. Nezu and Nezu (1989a) rightly say that because individual formulations take into account a large array of unique characteristics across a variety of person and environmental variables it is very difficult to know how to select the most effective treatment strategy. Nezu and Nezu (1989b: 57) advocate a problem-solving approach to clinical decision-making which consists of problem orientation, problem definition and formulation, generation of alternatives, decision-making and solution implementation and verification. They also make the useful distinction between treatment strategy, tactics and methods. Treatment strategies are linked to each identified problem and provide a general approach to how that problem will be resolved, such as decreasing negative cognitive biases and self-defeating thoughts in someone with a depressed mood. Each treatment strategy should have a list of specific treatment tactics which indicate how the strategy will be achieved. For example, in the strategic example given the tactics might include monitoring automatic thoughts, investigation of the cognitive processes and identification of bias, examination of supporting evidence, generation of alternative interpretations of events, behavioural experiments to test out various expectations and so on.

Nezu and Nezu (1989b) also introduce the idea of different treatment methods: they mean different ways in which tactical treatment techniques might be implemented. For example, a behavioural experiment to test out a biased interpretation of events may well be applied differently if the client is a depressed adolescent male of 14, rather than a depressed middle-aged woman with a family, or a 28-year-old man with a psychotic illness who is also depressed. The overall approach is that the formulation is a way of generating testable hypotheses about the clinical case; these hypotheses are tested through the application of treatment, and whether the formulation is functional or not will depend on the consequences – whether the

problem is resolved. Case formulation is thus the translation of theory into therapy, but it is the function of all theories to be disproved if possible. The clinician should create explanatory structures or heuristics for understanding the client's problems but proceed with caution not to muster evidence selectively only in their support but to examine critically why their heuristic and hypotheses may be incorrect and can be shown to be so. It is this refinement of testable hypotheses upon which treatment strategies are based that prevents cognitive behaviour therapy from becoming a mere cookbook of clinical techniques.

A further ongoing issue has been whether it is possible to abandon psychiatric classification altogether or replace it with an alternative, psychologically based system of taxonomy. This has been of mixed success. One of the advantages of a classificatory system is that it lumps together clinical problems on the basis of their shared characteristics which aids research and provides a starting point for case formulation. As a method of providing a shorthand for communication it has its advantages but also brings with it the baggage of psychiatric diagnosis and by implication the medical model. Currently we have tended to stick with the extant classification as a method of organisation, largely because this is the world in which we find ourselves and because as of yet there has not arisen a viable behavioural alternative. This does not suggest that case formulation is less than an individualised approach but more that it will be carried out within an existing classificatory system which provides that shorthand.

Although Kanfer and Saslow (1965) anticipated the importance of personal and subjective experience, the inclusion of this into clinical formulation and treatment following the 'cognitive revolution' introduced further challenges. The greater interest in unobservable cognitive products and processes rather than observable behaviour undoubtedly increased the availability of clinically powerful techniques but it also increased the possibility of biases in formulation, as described by Nezu and Nezu (1989a, 1989b). In some ways the concept of disease, rejected along with the psychiatric medical model, was in danger of being replaced by explanatory concepts such as dysfunctional assumptions, schema and similar, that could be equally diffuse (Tarrier and Calam, 2002). Persons (1989) usefully made the distinction between 'overt difficulties', which were the client's 'real life' difficulties, and the 'underlying psychological mechanisms', which were the putative psychological dysfunctions which underpin the client's overt difficulties. The overt difficulties could be described at the macro or micro levels. These distinctions not only referred to quantifiable levels of analysis, where the macro level was an overall description and the micro level was a much more detailed description of the problem, but also referred at the macro level to how the problems 'might be described in the patient's own terms' (Persons, 1989: 2). The micro level includes a breakdown into the three components of cognition, behaviour and moods (emotion or affect), and includes concepts such as synchrony – the positive correlation between these three components (or lack of it as in desynchrony) – and interdependence, where a change in one component will bring about a change in the others. So not only do the macro and micro levels involve a difference in the

level of description and detail; they also imply a difference in explanation. The client's subjective description and most probably explanation or representation is characterised by the overall descriptor at the macro level, for example being depressed, anxious, having relationship problems and so on. The psychologist or clinician's view is characterised by the more detailed micro level.

A number of implications arise from this: to be effective the process of case formulation should be collaborative and not imposed, and it needs to take into account and accommodate the client's views and beliefs about their problem. In health psychology this is known as illness representation, which is a set of complex beliefs about the origin, nature, severity, course and progress, prognosis and potential and appropriate and acceptable treatments of the client's condition (see, for example, Leventhal et al., 1997). It seems safe to assume that anyone seeking the services of a cognitive behaviour therapist or psychologist will have similar representations or beliefs about their condition. These beliefs may be well worked out or rudimentary, and they may be held with strong conviction or be more tentative, but they do need to be assessed so that the client collaborates in the process of arriving at a case formulation. This is encapsulated in a quote from Persons (1989: 24): '[A] failure to agree on the problem list dooms the treatment.' Persons gives an excellent example of this. She describes a client, after six months of unsuccessful treatment, declaring that she did not really consider that an inability to leave the house was her major problem, which instead she construed as the fact that 'she was fragile and delicate and that she needed to stay home and rest' (63–65). It would appear that the client's definition of her problem was different from the therapist's and her cognitive (illness) representation and beliefs were also contrary. Part of the case formulation should be a thorough understanding of the client's beliefs, understanding and expectations about his/her condition and what has lead them to consultation and treatment and into the health care system.

Persons's 1989 book, *Cognitive Therapy in Practice: A Case Formulation Approach*, provided one of the first guidebooks on case formulation and had an immense impact in terms of formalising the procedure and in particular incorporating psychological and cognitive mechanisms. It became the natural successor to Kanfer and Saslow's (1965) paper on behaviour analysis. Persons described the process of case formulation as having six parts: (a) creating the problem list; (b) describing the proposed underlying mechanisms; (c) accounting for the way in which the proposed mechanisms produce the problems on the problem list; (d) identifying the precipitants of current problems; (e) identifying the origins of the mechanism in the client's early life and (f) predicting obstacles to treatment based on the formulation. Central to Persons' process of case formulation is describing and understanding the underlying psychological mechanisms; these are in the main cognitive and information-processing factors although due attention is paid to the antecedents and consequences of any problem. Persons addresses the problem that these mechanisms are not frequently open to observation and run the potential risk of becoming causal fictions by suggesting a number of tests to which the hypothesised underlying mechanism can be subjected. The first test

relates to how well the mechanisms account for the identified problems. This is a good criterion because a logical, comprehensive and above all parsimonious explanation has very clear advantages. Further, the formulation should easily be able to accommodate and be in accord with aspects of the client's report, such as events associated with the onset of the problem or episode.

The formulation, as an explanation, should generate specific hypotheses which when tested will support or refute the explanation. The sign of a robust formulation is that it can survive the rigours of such tests. Furthermore, the outcome of treatment based upon the formulation can also be viewed as hypothesis testing and thus there is a pragmatic test of the formulation which, if correct, should result in a good response to treatment. Persons also includes the client's reaction to the formulation as a final test; if the formulation makes sense to the client then it has at least some validity. The formulation, in common with any hypothesis put to an experimental test, can be refined, modified or even abandoned. All advocates of case formulation agree that the testable nature of the formulation is an essential characteristic (e.g. Bruch and Bond, 1998; Persons, 1989; Tarrier and Calam, 2002), and that this should be embarked upon in a collaborative manner. There are also ethical reasons why the formulation should be shared with the client, in that they have the right to know how the therapist has formulated their problem and intends to treat it (Turkat, 1990: 12). It is very difficult to understand how without this shared information and collaborative approach the client could give informed consent to be assessed and treated.

It is the collaborative nature of this activity that should help forge engagement. However, whether this is so is an empirical question and there is some evidence to suggest that, in some patient groups, it might not always be the case. Chadwick et al. (2003), in a study of case formulation as part of cognitive behaviour therapy in the treatment of psychosis, found that although the formulation strengthened the therapeutic alliance as perceived by the therapist, it did not have the same effect from the client's viewpoint. Although a good proportion viewed the case formulation as helpful and beneficial, nearly half of what was admittedly a small sample also made negative comments. These related to a concern about the magnitude and longstanding nature of their problems, which seemed to elicit a sense of pessimism. It is worth noting that four of the six clients who made negative comments also made positive comments. This effect may have been specific to clients with chronic psychotic disorders but it may also indicate that an excessive concentration on the childhood origins of problems, which the clients indicated had occurred, is neither parsimonious nor functional. This raises a further point about the function of case formulation: it must be a precise account of the client's problems, which must be accurate, parsimonious, comprehensive, logical and functional but which also must provide to the client a meaningful account of their problems. That is, it must have both clinical utility and subjective utility. Interestingly, AuBuchon and Malatesta (1998) describe ways in which the therapeutic relationship can be incorporated into the case formulation so that it can be utilised in the therapeutic process.

Tarrier and Calam (2002) have suggested three further additions to traditional case formulation: (a) the conceptualisation of the dysfunctional system, especially relating to maintenance factors; (b) the historical background in terms of vulnerability and epidemiological factors; and (c) the important role of interpersonal and social behaviour and context. The dysfunctional system consists of a systemic and circular relationship between the problem, in its micro-level form, and antecedent and consequential events. This attempts to capture the intimate relationship between cognition, behaviour and mood in which, for example, a problem cognition could become an antecedent for another problem or be a consequence of a third (this is represented diagrammatically in Figure 1.1). The point of entry to the system is the problem as defined by the client – the macro level. This systemic analysis has advantages over a purely linear account as it better accommodates the complex interactions of different factors and how they maintain the problem. It is hypothesised that in any person's life there are stresses and strains, both internal and external, but a natural homeostatic process regulates activity to return to a normal level of functioning. A dysfunctional system arises from a failure of this corrective feedback or homeostasis. In spite of the most atrocious experiences, many people do not go on to develop psychological disorders. Thus some type of resilience must be operating which buffers against this adversity. This resilience can be understood as a characteristic of the person, such as personality or coping mechanisms, but is likely to have been affected by aspects of their environment, such as social support or low stress levels (Johnson et al., 2011). Even when destabilisation occurs, restitution and a return to a regulated and normal mental state occurs naturally and relatively quickly in many people.

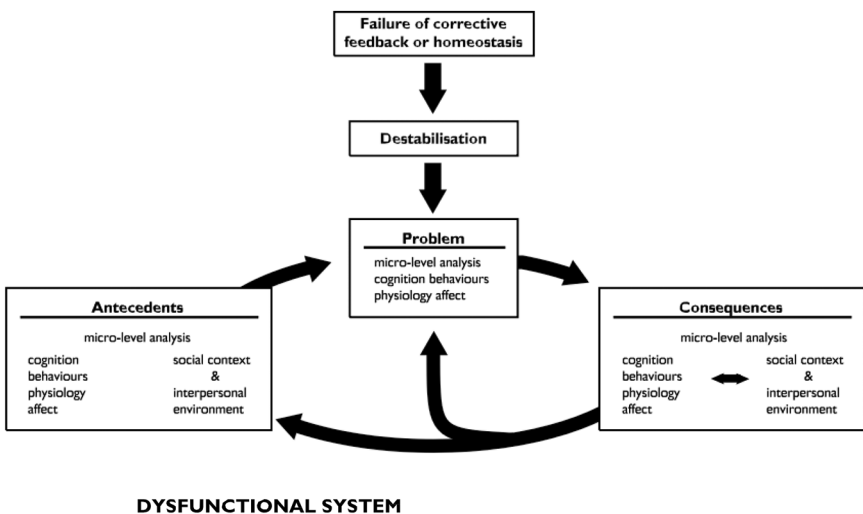


Figure 1.1 The dysfunctional system approach to case formulation.

In others there is a tendency for feedback to destabilise and so amplify or maintain feedback processes which mitigate against self-correction; a dysfunctional system becomes established. Response patterns, cognitive, emotional and behavioural, often become entrenched and cyclical, and take on numerous secondary functions. So, because the chain of events often becomes circular rather than linear, it is easier to think of a dysfunctional system being activated in which the various components have interacting relationships which are strengthened through activation of the feedback system.

To avoid some of the tautological reasoning identified by Nezu and Nezu (1989a) in identifying historical events as causal in current problems, Tarrier and Calam (2002) proposed a probabilistic model in which individual characteristics of the client's life and experience were matched to known vulnerability and risk factors drawn from the research literature to suggest possible pathways to the origins of the current problem. Thus historical aspects of case formulation need to be founded on epidemiological data on risk factors associated with the development of any subsequent disorder. The occurrence of a clinical problem or psychological disorder is postulated to be the product of vulnerability and stress. That some common characteristics render individuals more at risk of developing a specific disorder is seen as evidence of vulnerability. Increased vulnerability results in increased risk but does not inevitably result in the occurrence of disorder; some further destabilisation or stress is required to precipitate the disorder and also trigger help seeking (this is represented in Figure 1.2). Vulnerability may well be acquired through exposure to specific environments but such contentions should be supported by the research literature. This reiterates the place of case formulation within the scientific practitioner model, in which formulation and treatment have an empirical foundation.

One consequence of the development of cognitive models of psychological disorders and their strong influence on case formulation has been the potential decrease in importance being placed upon environmental (including social) factors. The focus on internal cognitive processes has distanced the analysis from the client's social context. Meaningful social interactions and the interpersonal environment are central to human behaviour and clinical problems, and therefore their analysis needs to take centre stage in case formulation. There is good reason to do this: human beings have evolved into complex social animals with very complex social behaviours and goals.

Socialisation and all that it entails is highly influential in our lives. It is also highly probable that mechanisms to elicit, maintain and regulate social interactions have also evolved and are operational in every aspect of a person's functioning. Aspects of problems seen in the clinic may well have their origins in this social evolution (Gilbert, 2001). To emphasise the importance of social context Baumeister and Leary (1995), in their review of the need for meaningful social interactions, concluded that: (a) people naturally seek and form relationships with others; (b) efforts to dissolve relationships are strongly resisted;

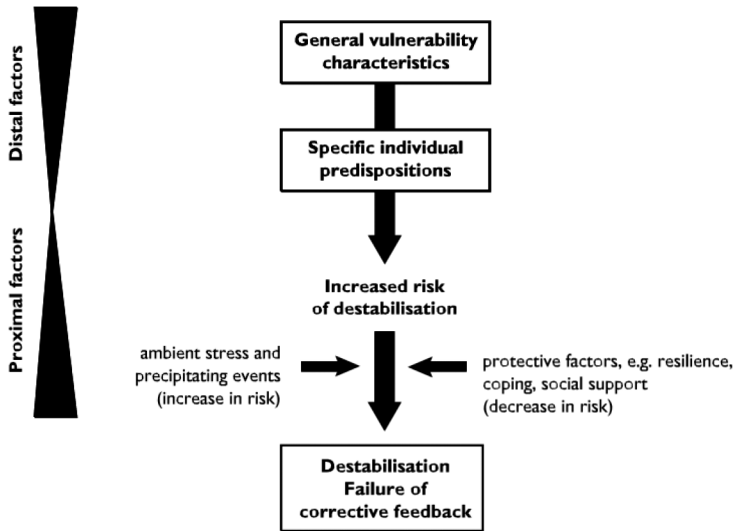


Figure 1.2 Systemic destabilisation as a result of stress and vulnerability.

(c) information about meaningful relationships and relationship partners are more thoroughly processed than information about other people; (d) the quality and intensity of relationships are directly associated with mood; and (e) intermittent or superficial social bonds do not result in the same mental health benefits as meaningful bonds.

There is evidence that good social support has a positive effect and can impact on mental health in two ways – by buffering against stress (Cohen and McKay, 1984; Johnson et al., 2010) or through social cognition (Cohen and Willis, 1985; Rhodes and Lakey, 1999). In the former, perceived social support may impact on the appraisal of stress by providing the individual with the belief that additional resources, in the form of others, are available. In the latter the positive role of social support may be in providing access to others who can provide information about positive health-related behaviour and positive beliefs and conceptualisation of situations and self-perceptions (Penn et al., 2004). Conversely, there is also ample evidence for the negative effect of interpersonal relationships on the course and outcome of psychological and psychiatric disorders (for example, Butzlaff and Hooley, 1998; Wearden et al., 2000), further emphasising the importance of incorporating aspects of social context into case formulation and treatment. Lastly, incorporating social context into case formulation increases the treatment options available to the clinician in a range of different situations (for example, Henggeler et al., 1992; Keller et al., 2000; Tarrrier and Humphreys, 2003).

The advantages of the case formulation approach are that it allows a flexible and idiosyncratic understanding of each client's individual problems irrespective

of their diagnostic classification. It is collaborative, treats the client with true regard and takes into account the importance of their beliefs and expectations. It is sufficiently flexible to be accommodated into clinical research and is based upon an empirical foundation generated from research. It can include epidemiological information on vulnerability and risk, a systemic approach to problem maintenance and the client's interpersonal and social context. It is further advantageous in that individualised treatment strategies, tactics and methods can be produced from the formulation that are specific to the needs of that individual. Case formulation is particularly advantageous in treating complex cases that do not conform to standard classification and pigeon-holing (Tarrier et al., 1998).

Two issues have arisen since the publication of the first edition which we feel are worthy of mention. The first relates to the extensive roll-out of CBT, for example in the UK through the Improving Access to Psychological Therapies (iapt.nhs.uk), which started in 2006 with a set of very ambitious goals in increasing public access to, and availability of, effective psychological treatments. This is not the place to discuss this and other initiatives in detail but to raise the issue of the role of case formulation in such initiatives and the availability (or even the necessity) of appropriate training in individualised case formulation for IAPT practitioners. The issue here is an old one and is the possible conflict between using a pre-defined treatment protocol on a 'one size fits all (at least with a specific disorder)' which requires less (or even minimal training) compared to an individualised case formulation-based intervention which may require considerably more training, experience and expertise. The former would allow a much greater access to treatment and thus work to the public good but would it sacrifice quality and efficacy of treatment? Case formulation may result in much more effective treatments but would the cost, in time and money, result in greatly reduced access to treatment? The basic and quite uncomfortable question is raised: 'is case formulation and individualised treatment necessary?' If it is, are initiatives such as IAPT so watered down as to become ineffective and thus not good value for money? If it is not then is case formulation just an expensive and time consuming form of professional protectionism? A compromise may be that protocol-driven treatment is best targeted at simple clinical problems and case formulation best reserved for complex cases. This might be a sensible division and selective use of resources. It raises the question then, as to whether IAPT-type initiatives can be used successfully in the treatment of severe mental illnesses such as psychosis, bipolar disorder and personality disorder, which is the current aim (www.iapt.nhs.uk/smi). This debate will no doubt continue.

The second issue relates to the use of new technologies in assessment and treatment platforms. The internet, computers and mobile phones have the potential to revolutionise the way we think about psychological disorders and treatment platforms. Mobile devices have the potential to access mental states in real time and carry out real-time assessments and potentially function as a platform for real-time interventions. Much has been made of the advantages of such e-CBT approaches

over traditional care platforms in the context of public health and cost-effectiveness (Musiat and Tarrier, 2014). However, as of yet there is little in the way of empirical evidence to support that these benefits or ‘collateral outcomes’ occur (Musiat and Tarrier, in press). Much of computerised CBT and e-CBT is in effect the transfer of self-help material to computers or the internet and does not lend itself to case formulation. However, the potential for mobile-based intelligent systems to create and use data sets to make individual predictions and tailored interventions is exciting (Kelly et al., 2012). Whether therapists and their clients would accept artificially created formulations remains to be seen (Musiat et al., 2014). Interestingly, although the advantages for e-CBT are in populations with little access to conventional therapy (i.e. clinic-based delivery) most of the developments have been in locations where conventional therapy is widely available (Musiat and Tarrier, 2014). One can foresee, however, an opportunity in the developing world where there is little in the way of mental health service infrastructure but mobile phones are ubiquitous. Here, the use of e-CBT may leapfrog the need to develop service infrastructure, unlikely due to the cost and expertise needed, and provide access to treatment in high need and risk populations (Kahn et al., 2010; Musiat and Tarrier, 2014). In 2009, the World Health Organization urged their member states to implement e-health services in both physical and mental health care. The use of case formulation based within the e-technologies could play a pivotal role in the future delivery of effective psychological treatment to the world population.

Although widely adopted, the research on case formulation continues to increase as indicated by the chapters within this second edition. There are, however, many challenges which I hope the readers of this second volume and the subsequent chapters will be stimulated to take up both in their clinical practice and also as active clinical researchers. There is a strong mutually dependent relationship between clinical research and clinical practice, and it is through this relationship, in which both the clinician and researcher identify problem areas and unanswered questions, that the practice and understanding of case formulation will expand and flourish.

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Case formulation and the outcome of cognitive behaviour therapy

Jacqueline B. Persons and Janie J. Hong

Cognitive behaviour therapy guided by a case formulation or by a standardised protocol

Cognitive behaviour therapy guided by a case formulation

CBT that is guided by a case formulation (case formulation-driven CBT) has three elements, as shown in Figure 2.1. First, the therapist collects assessment data and uses it to develop a formulation of the case. A comprehensive case formulation includes information about all of the following: (1) the patient's problems, symptoms, and disorders; (2) the psychological mechanisms (e.g., beliefs and attitudes, contingencies, skills deficits) that cause and maintain the patient's problems; (3) origins of the mechanisms; (4) precipitants that are activating the mechanisms to cause the symptoms and problems and (5) features of the patient or the environment that are likely to affect treatment progress, including the patient's cultural and ethnic background, personality features, motivation for change and social support.

Second, the therapist uses the formulation to select interventions and to make other treatment decisions, such as to focus on increasing the patient's motivation to change before initiating exposure sessions, for example, in order to maximise the chances that the treatment will be successful in accomplishing the patient's idiographic goals. Third, as the therapist implements the treatment, she collects feedback. She collects progress-monitoring data in every session to evaluate the patient's response to the therapy and to test the formulation, and, if necessary, uses the data to revise the formulation and the treatment in order to improve the patient's response.

A case formulation-driven approach to treatment is highly individualised, and based on a lot of assessment information that is collected at the beginning of the treatment and at every step during the treatment. Treatment is informed by feedback, so that decisions the therapist makes in later sessions are guided by the results of earlier decisions and interventions. The assessment and treatment process is quite collaborative, with the patient and therapist working together at every step.

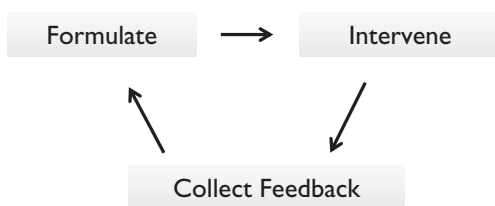


Figure 2.1 Case formulation-driven cognitive behaviour therapy (© Copyright Jacqueline B. Persons).

Cognitive behaviour therapy guided by a standardised protocol

In a standardised protocol approach to treatment, the therapist conducts an assessment in order to make a diagnosis, and then follows the protocol to deliver the treatment. Assessment focuses on diagnosis, as most standardised protocols target a disorder, and a diagnosis is needed in order to determine which protocol is applicable. The interventions in the protocol are based on a nomothetic (general) formulation of the disorder the protocol is designed to treat. For example, Beck's cognitive therapy for depression specifies that schemas are activated by life events to cause symptoms that are made up of mutually causal emotions, automatic thoughts and behaviours. Interventions target the mechanisms (automatic thoughts, behaviours and schemas, in the case of Beck's cognitive model) described in the formulation. In addition to assessing diagnosis, assessment in standardised protocol therapy also focuses on getting information about the details of the patient's symptoms, and the **idiographic** details of the mechanisms the protocol targets in the treatment. For example, in the case of cognitive therapy for depression (Beck et al., 1979), the therapist identifies behaviours, automatic thoughts and schemas that drive the particular patient's depressive symptoms, and the assessment information is used to guide intervention. However, the protocol typically does not describe detailed strategies to obtain this **idiographic** assessment information – to obtain schema hypotheses, for example – nor does it provide guidance on how to address problems that interfere with treatment (e.g. low motivation to change) and comorbid disorders. Treatment goals are standardised: the goal of treatment is to bring the disorder to remission. Standardised protocols tend to be fixed, not feedback-guided; typically the interventions and the order in which they are delivered are pre-determined.

Randomised controlled trials comparing **formulation-guided and protocol-guided CBT**

Several randomised trials compare outcomes of standardised protocol treatment and some type of case formulation-driven treatment. We group these studies into categories based roughly on the type of information the investigators used

to develop a case formulation or individualised treatment plan, and on whether a feedback element was included in the treatment. We describe studies in which the formulation was based on diagnosis or symptoms, those in which a formulation was based on a hypothesis about the mechanisms causing or maintaining the patient's problems and disorders, and those that included a feedback element. We describe the randomised controlled trials in each section in backwards chronological order, with more recent studies first.

Case formulation based on diagnosis or symptoms

Johansson and colleagues (2012) investigated the effectiveness of individually tailored internet-based CBT for depression in a randomised controlled trial in which participants were assigned to one of three groups: individually tailored CBT, standardised CBT, or the control group. Individuals in the two active treatment groups completed a specified list of treatment modules over a 10-week period, and received email support from a therapist who answered questions about the material and provided feedback on the exercises. Individuals in the standardised treatment group received a set of eight self-help chapters, whereas each individual in the individualised treatment group received chapters that were chosen by the research team from a pool of 25 chapters, and chosen based on data about the patient's symptoms and disorders. For example, a patient with social anxiety would receive a chapter focused on that problem. Individuals assigned to the control group participated in a weekly moderated online discussion group focused on topics that related to depression or its treatment.

Both active treatment groups showed large treatment gains when compared with the control group. This treatment effect was moderated by pre-treatment depression severity. That is, individuals identified as severely depressed at pre-treatment (with Beck Depression Inventory-II scores of greater than 24) experienced greater gains in the individualised treatment group at post-treatment and six months later compared to the standardised one and compared to the control group. By contrast, there was no differential effect on outcome of group assignment for individuals who were less severely depressed at pre-treatment. These results provide some support for the benefit of individualising treatment on the basis of the patient's symptoms or disorders when patients are severely depressed.

Jacobson et al. (1989) compared the outcome of individualised and standardised social learning-based marital therapy. Thirty married couples were randomly assigned to a standardised treatment or a clinically flexible treatment. The standardised treatment consisted of 20 sessions in which a series of modules was provided in order (behaviour exchange, companionship enhancement, communication training, problem-solving training, sexual enrichment and generalisation and maintenance) to all couples. In the clinically flexible version of the treatment, the decision about which modules the couple received, the order of delivery of the modules and the duration of the treatment was determined on a case-by-case basis based on the team's judgment about each individual couple's needs. The

authors do not describe how the team made these decisions, but presumably the decisions were based on the nature of the couple's presenting problems, so that if a couple did not have a sexual problem, the sexual enrichment module could be omitted from the treatment plan, for example. A social learning model was used to conceptualise all of the cases (that is, the same hypothesis about psychological mechanisms was used to conceptualise all of the cases). Although couples in both treatments showed significant gains on the two measures of global marital satisfaction, there were no differential treatment effects at post-treatment or at the six-month follow-up point. The treatments did not differ in average duration; couples in the standard treatment received 20 sessions, and those in the flexible condition received a mean of 22 sessions.

Case formulation based on psychological mechanisms

In another study examining the benefits of individualised internet-delivered CBT for depression, participants were randomly assigned to a standardised self-help treatment protocol, individualised email therapy or a wait-list control condition (Vernmark et al., 2010). In the individualised treatment, a case formulation was developed based on each participant's assessment data, and therapists used the formulation to provide CBT strategies via email. The authors do not describe in detail how they developed formulations for each patient, but refer to using a functional analysis and elements of the case formulation-driven approach described by Persons (2008). The study found no difference between the two CB treatments on all depression outcome measures. Both treatments led to significantly better outcomes than the wait-list control condition.

Ghaderi (2006) compared treatment for bulimia nervosa that was guided by a formulation based on a functional analysis to a standardised protocol treatment. The individualised treatment was anchored in the standardised treatment developed by Fairburn and colleagues (1993), and elements were added to or deleted from that standard treatment based on the results of a functional analysis that was conducted to identify perpetuating factors for that particular patient. For example, if the functional analysis showed that social isolation was a maintaining factor for a particular patient's symptoms, interventions to target social isolation were included in that patient's treatment. Patients in both treatments showed statistically significant changes and maintained their gains at the six-month follow-up point. Patients in the individualised treatment showed superior gains on 4 of approximately 22 treatment outcome variables; the treatments did not differ on the remaining variables. Ghaderi (2006) pointed out that the failure to find more differences between the treatments may in part have been due to inadequate power.

Conrod and colleagues (2000) conducted a randomised controlled trial in which individuals with substance abuse problems were randomly assigned to receive interventions that matched the individual's personality profile, interventions that did not match the individual's personality profile or a nonspecific intervention. In

the matching treatment, individuals received interventions that addressed one of four personality profiles (anxiety sensitivity, introversion-hopelessness, impulsive sensation seeking, non-impulsive sensation seeking). This study was based on findings that these profiles increase an individual's susceptibility to using different drugs (Conrod et al., 2000). For example, individuals high in anxiety sensitivity were more likely to suffer from anxiolytic substance dependence, whereas individuals with an introversion-hopelessness profile were more likely to struggle with depressive symptoms and opioid dependence.

Individuals in the matched-treatment condition received detailed, individualised feedback about their personality type and the severity of their drug use relative to norms, and learned cognitive behavioural strategies targeting their motivations for substance use based on their personality profile. Individuals in the mismatched personality profile treatment condition learned about 'potential' motivations to use substances (deliberately mismatched with their own profile) and strategies that 'potentially' could be helpful to someone with substance use problems. Those in the nonspecific condition watched a motivational film on substance use, and discussed with a therapist their reactions to the film and how it related to their personal experiences with substance use. Each treatment was delivered in a single 90-minute session.

The authors do not report ANOVA testing for a main effect of treatment condition on the post-treatment data, but in planned contrasts between the different treatment conditions, they found that six months after the intervention, individuals in the personality-matched treatment condition had a significantly greater reduction in substance dependence symptoms, higher rates of abstinence from drinking alcohol and using other substances, and fewer concerns about current consumption levels than those in the nonspecific treatment condition, but did not significantly differ from those in the mismatched treatment. The authors did not find group differences in overall the amount of alcohol consumed or the frequency of prescription drug use.

Schulte and colleagues (1992) randomly assigned 120 patients with various types of phobias to one of three treatments: (1) standardised *in vivo* exposure treatment and retraining of self-verbalisations, (2) individualised treatment in which the therapist 'is allowed to use all therapeutic methods commonly employed in behaviour therapy and cognitive therapy' (p. 69) or (3) a yoked control group, in which each patient received a treatment that was assigned to one of the patients in the individualised group. The individualised treatment was designed on the basis of the therapist's 'behavioural analysis' (p. 68) or 'problem analysis' of the case, which was 'guided by a system of meta-rules about the important items of information to be gathered and about their interpretation' (p. 69). There were few differences among the treatments. A MANOVA showed that the three treatment conditions differed significantly at the $p < .05$ level for 3 of 9 outcome measures at post-treatment, 2 of the 9 measures at six-month follow up, and none at two-year follow up. No statistical tests reporting pairwise comparisons between the treatment conditions were reported.

Schneider and Byrne (1987) randomly assigned 35 children aged 7 to 13 years old who were receiving treatment for anxiety, attention deficit disorder or conduct disorder to receive standardised or individualised social skills training. All children in the standardised group received social skills training using the same 12 modules, and those in the individualised group received a selection of modules from the standardised treatment based on an initial assessment of both symptoms (e.g. aggression) and skills that were viewed as mechanisms underpinning the child's behavioural symptoms (e.g. social perception skills). Increases in cooperative play were statistically significantly greater for children who received individualised rather than standardised treatment; the treatments did not differ in their effects on observed aggression.

Case formulation-driven treatment that included a feedback element

We review two randomised trials comparing formulation-driven and standardised treatment that included a feedback element in the formulation-driven treatment: a study of modular treatment for youths (Weisz et al., 2012; Chorpita et al., 2013), and a study of behavioural treatment of alcohol abuse (Litt et al., 2009). We also briefly review research examining the effects on treatment outcome of feedback alone.

Weisz et al. (2012) and Chorpita et al. (2013) compared modular, standardised and usual care for youths aged 7 to 13 who sought treatment for mood, anxiety and/or conduct problems. This study is particularly interesting, and therefore we examine it in some detail. The standardised treatment consisted of an empirically supported CBT protocol for depression (Primary and Secondary Control Enhancement Training), anxiety (Coping Cat) or conduct problems (Defiant Children) that treated the child's main presenting problem.

The modular treatment consisted of intervention modules that the therapist selected from the standardised protocols on the basis of assessment data and decision flowcharts. The flowcharts guided therapists to select modules on the basis of the child's symptoms and problems (e.g. if anxiety was a problem, the flowchart suggested modules from the Coping Cat protocol), and to make adjustments as needed on the basis of feedback data that were obtained in every session. Thus, if another problem (e.g. conduct problems or depression) interfered with the treatment the therapist was implementing, the therapist could select modules from those protocols and if the feedback data indicated, for example, that the patient was not practicing exposure, the flowchart prompted the therapist to consider adding a reward module to increase compliance. Independent assessors collected weekly feedback data on the patient's symptoms and problems, and on treatment compliance, and reviewed the data with the supervisor, who transmitted it to the clinician. In the usual care condition, 'therapists agreed to use the treatment procedures that they used regularly and believed to be effective' (Weisz et al., 2012, p. 277).

The investigators compared the treatments on the child's mean number of diagnoses at post-treatment, controlling for number of pre-treatment diagnoses. Because treatment duration varied among the conditions, the investigators examined differences between treatments on the main symptom dependent variables (Brief Problem Checklist, Top Problems Assessment, Child Behavior Checklist (CBCL) and Youth Self Report (YSR) by conducting regression analyses that compared the slope of the change trajectory for the treatments, rather than comparing the post-treatment outcomes. The investigators compared the treatments on functional impairment and services utilisation at the 12- and 24-month follow-up points.

Results showed that youth who received modularised treatment had statistically significantly fewer diagnoses after treatment than those who received usual care, but did not differ from those who received standardised treatment (Weisz et al., 2012). Youths who received standardised treatment did not differ from usual care.

On both the Brief Symptom Checklist and Top Problems Assessment, youths who received modular treatment had statistically significantly steeper change trajectories between baseline and post-treatment than those who received standardised treatment and those who received usual care (Weisz et al., 2012). Youths who received standardised treatment did not differ from usual care. On the two other symptoms measures, Child Behavior Checklist (CBCL) and Youth Self Report (YSR), an examination of the trajectory of change over the entire study period, including the two-year follow-up, showed that modular care was superior to usual care but not to standardised treatment (Chorpita et al., 2013). Standardised treatment did not differ from usual care. The groups did not differ on functional impairment or service utilisation (Chorpita et al., 2013).

Thus, the study provides some support for the use of a case formulation-driven mode of treatment. The 'formulation' that guided decision making was based primarily on the patient's symptoms and disorders, and interventions were selected from a set of modules. The strongest support for the modular treatment was seen for diagnosis, and for the two measures of symptoms and problems (Brief Problem Checklist and Top Problems Assessment) for which feedback data were collected at every session.

In a treatment study of individuals with alcohol dependence, Litt and colleagues (2009) randomly assigned participants to receive a manualised or an individualised cognitive behavioural treatment program. For both groups, treatment consisted of 12, weekly 60-minute outpatient sessions. During the two weeks before treatment and the two weeks after treatment ended, the study employed an experience-sampling method in which participants answered a phone call multiple times every day, and responded to a series of questions about their current mood, thoughts, behaviours and environment. For each participant in the individualised treatment condition, a research assistant used the experience-sampling data to create a personalised functional analysis chart that was given to the participant's therapist before the first session. Therapists used

the data to identify the situations in which a patient was at high risk to drink or feel urges to drink, and tailored the treatment to target these vulnerabilities. Although the content of the treatment sessions was pre-determined (e. g. sessions 1–3 focused on analysing high-risk drinking situations), interventions in the individualised treatment were based on the difficulties identified in the functional analysis chart.

At post-treatment, individuals in the individualised treatment had outcomes that were superior to the standardised treatment on one of the three drinking outcome variables (proportion of days abstinent). The groups did not differ in the proportion of heavy drinking days or in the proportion of individuals who remained abstinent for at least 90 days. Using the post-treatment experience-sampling data, the study found that patients in the individualised treatment reported significantly fewer urges to drink, were significantly less likely to drink in response to urges and were more likely to use adaptive coping responses than those in the standardised treatment.

The study provides some support for the use of the case formulation approach, and includes all three elements of the approach we previously described. Although the study did not formally collect feedback data, the study therapists repeatedly referred to the case formulation and assessment data throughout treatment, and presumably gained informal feedback from the client as to the accuracy of the data when developing strategies to target their problems.

A substantial literature (see reviews by Goodman et al., 2013 and Carlier et al., 2012, and a meta-analysis by Knaup et al., 2009) examines the effects on treatment outcome of the feedback element of the model described in Figure 2.1. Large numbers of randomised controlled trials have shown that when clinicians collect feedback data to monitor the progress of their patients, those patients have better outcomes. The effect has been shown in many disorders and problems and populations, including students seeking treatment at a university counselling centre (Lambert and Shimokawa, 2011; Reese et al., 2009), youth receiving home-based mental health treatment in community settings (Bickman, 2011), patients receiving treatment for schizophrenia or related disorders in community mental health care in Europe (Priebe et al., 2007), depressed patients treated in primary care settings (Yeung, 2012) and couples receiving treatment at a community clinic (Anker et al., 2009) or a training clinic (Reese et al., 2010). Two outcomes monitoring systems, Lambert's OQ-45 (Lambert et al., 1996) and the Partners for Change Outcomes Monitoring System (PCOMS; Miller et al., 2005) have sufficient empirical support to be included in the US Substance Abuse and Mental Health Services Administration's (SAMHSA) National Registry of Evidence-based Programs and Practices (NREPP).

In summary, randomised controlled trials provide some evidence in support of the notion that outcome of treatment that is guided by a case formulation is superior to standardised treatment. We did not find any studies that showed that standardised treatment was superior to case formulation-driven treatment. The strongest evidence supported the use of the feedback element of the model.

Uncontrolled trials

Two uncontrolled trials conducted by this chapter's first author showed that treatment of depressed (Persons et al., 1999) and depressed anxious patients (Persons et al., 2006) that is guided by a CB case formulation and weekly progress monitoring has outcomes similar to outcomes of patients receiving CBT or CBT plus pharmacotherapy in randomised controlled trials. Patients in the Persons et al. (1999, 2006) studies were adult outpatients who had completed treatment in her private practice or her group practice in Oakland, California. Minimal selection criteria were used, in order to evaluate as heterogeneous a sample as possible. Patients in the Persons et al. (1999) study met the following criteria: Initial Beck Depression Inventory (BDI) score of 14 or greater, the clinical record had a written case formulation, and a minimum of three BDI scores were available. Patients in the Persons et al. (2006) study met the following criteria: at least four sessions of symptom data on the BDI or the Burns Anxiety Inventory were available, and the patient was aged 19–75 years. All patients were treated with individual CBT, and many also received adjunct therapies, such as pharmacotherapy or couples therapy. The major weakness of these studies is the lack of a control group to which the results can be compared. The major strength is that the studies examine treatment that included all three elements of the model of case formulation-driven CBT, a heterogeneous unselected sample of patients with multiple comorbid mood and anxiety disorders, and naturalistic treatment, including multiple adjunct therapies, that was provided in a real-world clinical setting.

Forand and colleagues (2011) reported results of an uncontrolled trial of CBT provided by trainees at a university-based outpatient training clinic. Treatment approximated the use of the model of case formulation-driven treatment described in Figure 2.1. Treatment was not manualised, so it was flexible and adjusted to meet the needs of the individual patient; however, there is no evidence that a formal, written case formulation was developed. The fact that 'treatment plans are based on empirically supported treatment protocols' (p. 615) suggests that therapists used interventions and, presumably, formulations they learned from those protocols, to guide their work. Treatment included a feedback element; therapists collected scores on measures of anxiety and/or depression at the beginning of every therapy session, and used the data 'for assessing symptom change and treatment planning' (p. 615).

Minimal selection criteria were used to select the sample of 249 patients. Patients were selected for study if they had a primary diagnosis of a mood or anxiety disorder, a minimum Beck Depression Inventory score of 11 or Beck Anxiety Inventory score of 11 at intake and at least three sessions of symptom data.

The authors found that the trainee therapists in their sample achieved rates of recovery and improvement that were comparable to those in the effectiveness and efficacy studies they used for comparison purposes, except that recovery rates for severely depressed patients were lower than in the comparison studies, and pre-post effect sizes were somewhat lower than in the comparison studies.