3 Clinical Behaviour Analysis

Within this chapter, we formulate the case of Molly using the principles of Clinical Behaviour Analysis (CBA). At its core, CBA is the application of empirically established behavioural learning principles to the clinical domain, providing a framework for the systematic analysis of a person’s historical and current contexts, in terms of the personal learning that has occurred through interaction with those contexts, and using this information to understand the function and maintenance of an individual’s clinically-relevant behaviour.

Unlike other established approaches to formulation and therapy, CBA is often misunderstood by individuals who are unfamiliar, or only partially familiar, with the central tenets of the approach. Common charges levied against CBA (and its variants, such as applied behaviour analysis, ‘behaviourism’, ‘behavioural approaches’, etc.) include: the apparent dismissal of thoughts, feelings and emotions as unobservable and therefore unimportant to the clinician or analyst; the use of aversive techniques and punishment to change behaviour; and the reduction of the complexity of individual experience into simplistic behavioural units. While these criticisms may be valid for some forms of mechanistic behaviourism or misinformed individual therapists, they do not apply to the radical behaviourism of B F Skinner (Skinner, 1974) – the behavioural philosophy that underpins our approach.

3.1 Defining Features

The key principles of radical behaviourism are that behaviour is: (a) functional – that is, it serves a purpose within the context in which it arises; (b) elicited through the interaction of a person’s specific biology, learning history, and current context; and (c) selected, shaped and maintained by the contextual consequences of the behaviour itself. Before examining these principles in closer detail, however, it is first important to define what is specifically meant by the term ‘behaviour’ within this approach.

From a radical behavioural perspective, everything a person does is behaviour and can be subject to a behavioural analysis. Some behaviour is conspicuous, overt, and observable, and this form of behaviour is perhaps most frequently considered the chief interest of behaviour analysts. However, radical behaviourism is also concerned with private behaviours – such as thinking, planning, and feeling – that are only available to the individual who is engaged in them. While it is accepted that such behaviours are difficult to observe and measure, such difficulties do not constitute a rationale for excluding them from a CBA:
Clinical Behaviour Analysis

“Radical behaviourism...does not insist upon truth by agreement and can therefore consider events taking place in the private world within the skin. It does not call these events unobservable, and it does not dismiss them as subjective. It simply questions the nature of the object observed and the reliability of the observations” (Skinner, 1974, p. 17).

The classification of cognitions, emotions, and other interoceptive events as ‘private behaviour’ is more than a simple taxonomic sleight of hand, and alludes to one of the key defining features of radical behaviourism. Unlike other psychological theories, and more in line with the natural sciences, ‘cognitions’ – from this perspective, private verbal or visual behaviours – do not have primacy, and are thus classified as dependent, rather than independent, variables.

This demarcation is central to radical behaviourism and bears closer scrutiny. Within CBA, a holistic approach to the individual is adopted and cognitions and emotions are treated as important, complex responses (blends of overt, private, and physiological behaviour) that arise in a specific context; however, they are not the causes of the behaviour. An individual who experiences anxiety in a busy supermarket, for example, may experience visible signs of physiological arousal, and will likely experience private verbal behaviour with respect to the perceived threat (“I have to get out before something really bad happens to me”). However, within CBA, these experiences are epiphenomenological in the sense that they are the felt experience of interacting with a specific environmental context – they are not the cause of the anxiety, but a collection of complex responses to the supermarket as a contextual discriminative stimulus. Nonetheless, they are important responses – they provide the analyst with information regarding the personal meaning of particular stimuli (in terms of the learning that has previously taken place in relation to the stimuli), the salience of the stimuli (the strength and range of responses the stimuli elicit), and what consequences may be helping to maintain the behaviour (for example, escape behaviours may be maintained by resultant reductions in feelings of threat).

CBA therefore necessitates an idiographic, collaborative, and person-centred approach to therapy; the therapist is required to understand how an individual’s unique learning experiences have led to the person’s difficulties, and crucially, to understand how any therapeutic intervention may interact (favourably or unfavourably) with this prior learning. This emphasis on contextualising emotional experience is highly congruent with recent critiques of the Diagnostic and Statistical Manual of Mental Disorders (DSM) system (Brown & Gillard, 2015) which, given its structuralist underpinnings, tends to decontextualise difficulties and thus negate the personal meaning of the experience for the individual.

The key to understanding and working therapeutically with an individual within a CBA approach is through the production of a functional analysis – essentially a hypothesis (or series of hypotheses) about the acquisition, instigation, and maintenance of an individual’s behaviour. The analyst aims to understand how an individual’s learning history has led certain antecedent stimuli (such as events, interactions
with others, verbal comments, etc.) to elicit specific *behaviours*, and how these
behaviours, and different habits of approach and avoidance, have been shaped and
maintained by their *consequences* through the mechanisms of reinforcement and
punishment (outlined below). A functional analysis of a specific behaviour is there-
fore often delineated using a standard A:B:C: (antecedent, behaviour, consequences)
framework. It is important to note the colons within the A:B:C: analysis: these serve
to highlight that, as we are necessarily working with the retrospective recall of clients,
we cannot always reliably determine that A caused B, and that B was maintained by
C. However, we can establish that these events appear to follow each other in reliable
ways, that changes in behaviour are consistent with learning theory principles, and
that the analysis is congruent with current behaviour. In this way, functional anal-
ysis is underpinned by a pragmatic rather than positivistic epistemology (Biglan &
Hayes, 1997).

In keeping with the scientific origins of CBA, the hypotheses generated about
the maintenance of current behaviour should be both supported by the available
data and testable (although this may not always be possible when analysing historic
accounts of the acquisition of behaviours, as here). The ultimate goal of functional
analysis from our perspective is to be able to predict and influence future behaviour
with precision, scope, and depth (see Biglan & Hayes, 1997; Hayes, 1993).

### 3.2 Historical Origins and Key Principles

CBA is embedded in learning theory and can trace its origins to the late 19th and early
20th centuries, and the empirical work of Pavlov (1927; conditioned reflexes and clas-
sical conditioning); Thorndike (1931; trial and error learning and connectionism);
Watson (1919; the formulation and fixation of habits and methodological behaviour-
ism – specifically redefining psychology as the study of observable behaviour); and
Skinner (1974; operant conditioning and radical behaviourism).

Within CBA, the primary interests of the analyst are the development of behav-
iour (through learning) and the function (rather than form or topography) of the
behaviour (in terms of the consequences of the behaviour on the environment). The
major learning theories that inform our approach are classical conditioning (often
associated with Pavlov) and Skinner’s operant conditioning. Although it is beyond
the scope of this chapter to give a detailed account of the principles of classical and
operant learning paradigms (see Pierce & Cheney, 2013, for an excellent overview) it is
nevertheless necessary to articulate how we understand and use some of the key prin-
ciples associated with these theories. At the simplest level, these approaches share
the principle of temporal contiguity: Behaviours that are preceded by a stimulus can
come to be elicited by that stimulus (classical conditioning), and behaviours that are
followed by specific stimulus (consequence) can be reinforced and maintained by
that stimulus (operant conditioning).
Many psychological models of clinical problems are in essence based on ‘two factor theory’ (e.g., Mowrer, 1956) in which clinically problematic behaviours initially develop through classical conditioning. An event – often something which induces fear or nausea, for example – becomes associated with a more neutral stimulus (such as a supermarket), and consequently, the supermarket comes to elicit a fearful or nausea-inducing learned response, in much the same way that a bell came to elicit salivation for Pavlov’s dogs. However, unlike in Pavlov’s original experiments with animals, when a neutral stimulus is associated with aversive, painful, or fear-inducing stimuli in humans, the association will often persist, and the strength of fearful response to the previously neutral stimulus may actually exceed the response to the original stimulus – a phenomenon known as “incubation” (Eysenck, 1968).

In two factor theory, however, the fearful behaviour is also maintained by operant processes. In operant theory, behaviours are effectively selected, shaped, and maintained by the influence they have on the environment; behaviours that have positive consequences for the individual, or which reduce the severity or probability of negative consequences, are maintained (reinforced), while those that are less effective in meeting their goals are reduced or abandoned (extinction). This process is analogous to the process of Darwinian natural selection, and Skinner highlighted the similarities between the environmental selection and shaping of biological processes at the level of the species, and the process of environmental selection and shaping of behaviours at the level of the individual within their own lifetime (Skinner, 1974).

Continuing our example above, if an individual experiences fear when entering a supermarket (possibly due to classical conditioning), that individual may leave the situation in an attempt to manage experienced anxiety; if this behaviour is successful and the individual’s anxiety reduces, the avoidance/escape behaviour is likely to reoccur in the future – the behaviour has been negatively reinforced through the successful removal of the threat and will therefore be drawn upon again in similar circumstances.

Whereas reinforcement is defined as any consequence that increases the probability that a behaviour will reoccur in the future, punishment is the term given to any consequence that functions to reduce the likelihood of a behaviour recurring. However, in anything but extreme cases (such as immediate danger to life), and in line with Skinner’s own views, punishment should have no place in therapy. Aside from the moral and ethical issues of using punishment within a therapeutic environment, such strategies generally function to merely suppress behaviour, often temporarily, rather than to eliminate it. Furthermore, by definition, punishment is experienced as highly aversive; can unintentionally result in other, undesired behaviours (such as anger or anxiety) becoming more salient; and only informs the punished individual about what not to do – it does not provide guidance or learning regarding what to do (i.e., punishment does not foster alternative functional behaviours):
“In the long run, punishment, unlike reinforcement, works to the disadvantage of both the punished organism and the punishing agency. The aversive stimuli that are needed generate emotions, including predispositions to escape or retaliate, and disabling anxieties” (Skinner, 1953, p. 183).

Unfortunately, punishing behaviour can be very reinforcing for the punisher given that it can often result in immediate, albeit temporary, cessation of an unwanted behaviour, and perhaps explains why punishment can become part of the culture of any institution which has power and control over less-powerful individuals.

Due to common misunderstanding, however, it is important to note that reinforcement and punishment are functionally defined – they are defined by their effect on behaviour, not their topography. For example, public praise may act a positive reinforcer for one individual (it may increase a desirable behaviour by functioning as a ‘reward’), but could function as a punisher for another individual (it may be experienced as embarrassing and decrease the likelihood of the targeted behaviour recurring). Similarly, what appears to be a punishing stimulus, such as the infliction of pain, may actually function as a reinforcer for some individuals in some contexts (e.g., individuals who enjoy masochistic sex practices).

In addition to reinforcement and punishment – the frequency and temporality of the delivery of such consequences (or ‘schedule of reinforcement’) is also crucial. Behaviours that are always reinforced in predictable ways are much easier to extinguish than behaviours that are subject to intermittent or unpredictable schedules of reinforcement – these latter schedules are very successful at maintaining behaviour over long periods, and are the types of schedules most frequently encountered by clinicians in the therapy room. A classic example of an intermittent schedule is found in gambling – the individual does not know how many times they need to gamble in order to win, and consequently, the gambling behaviour can be very resistant to extinction; the gambler may ‘chase’ losses, expecting reinforcement (winning) to occur at any time, and thus the behaviour continues.

Radical behaviourists also take full account of the role of language in learning and influencing behaviour; people are verbal beings living in a verbal community, and language can shape and influence behaviour by changing the abstract value and relative importance of stimuli and reinforcers, or by verbally specifying the consequences of a particular behaviour or course of action (termed ‘rule governed behaviour’ within radical behaviourism). In this way, individuals not only learn by direct experience (e.g., through direct contact with the environmental consequences of their own behaviour) but also through verbal means such as rules, instruction, and culture (Hayes, Barnes-Holmes, & Roche, 2001; Skinner, 1974).

Finally, within CBA, the analyst is also interested in the identification of behavioural conflicts which emerge through competing appetitive (positively reinforced) and/or aversive (negatively reinforced and/or punished) histories of reinforcement. Examples include: (1) approach/avoidance conflicts – ‘I want to eat the chocolate bar
(appetitive) but if I do I may put on weight (aversive); (2) avoidance/avoidance conflicts – ‘I don’t want to write this essay (aversive) but if I don’t I may fail my course (aversive)’; and (3) approach/approach conflicts ‘I want to go to the concert (appetitive) but I also want to stay at home and take a bath (appetitive)’. While these examples illustrate the phenomenon, more significant conflicts can result in stress, indecision, and important clinical presentations.

3.3 Empirical Evidence

The mechanisms underpinning behavioural approaches are amongst the most broadly applicable and empirically-supported in the whole of applied (and experimental) psychology. Strong evidence for the effectiveness of behavioural approaches to therapy can be found in a myriad of meta-analyses across a range of presentations and populations, including: depression (e.g., Cuijpers, van Straten, Andersson, & van Oppen, 2008; Cuijpers, Van Straten, & Warmerdam, 2007), anxiety disorders (e.g., Deacon & Abramowitz, 2004; Feske & Chambless, 1995; Kobak, Greist, Jefferson, Katzelnick, & Henk, 1998), autism (e.g., Eldevik et al., 2009), attention-deficit hyperactivity disorder (Fabiano et al., 2009), chronic pain (e.g., Morley, Eccleston, & Williams, 1999), insomnia (Smith et al., 2014) and many others (for an overview, see Kazdin, 2013). Indeed, Pierce and Cheney (2013) state that the principles underpinning behavioural approaches are so broadly applicable “because the world actually operates according to these principles” (p.399) and the effective components of other therapies are often found to be those that rely on behavioural principles (e.g., Weinberger & Rasco, 2007).

3.4 Critique

The approaches of Watson and other early methodological behaviourists, predicated on logical positivism, have historically been somewhat conflated with Skinner’s radical behaviourism. This erroneous assumption has led to any approach using the term ‘behaviourism’, including radical behaviourism, to be seen as simplistic, mechanistic, punitive, and dismissive of the roles of language and cognition, regardless of Skinner’s own writings to the contrary (e.g., Skinner, 1974, 1989). However, Skinner’s early accounts of therapy, language, and verbal behaviour are certainly not beyond critique, and Skinner’s primary writings on these subjects (e.g., 1953, 1957) were initially based on extrapolations rather than solid data. However, radical behaviourism-informed approaches have continued to make significant data-driven advances in psychological theory and practice, leading to the development of Relational Frame Theory as a coherent behavioural account of language and cognition (Hayes et al., 2001), and radical behavioural-informed therapeutic approaches such as Acceptance
and Commitment Therapy (Hayes, Strosahl, & Wilson, 1999; see Chapter 5) and Functional Analytic Psychotherapy (Kohlenberg & Tsai, 1991).

In addition to the general criticisms of radical behaviourism as a model of human functioning, negative perceptions of behavioural approaches are found amongst clinicians, healthcare professionals, and the general public more broadly. These appear to arise for a number of reasons:

1. Behavioural approaches have good ‘common sense’ face validity and can therefore appear both simplistic and mechanistic. Consequently, inexperienced practitioners can assume an expertise on the basis of very limited basic training, understanding, and supervision, leading to problematic and non-person-centred delivery of the approach with clients.

2. Behavioural approaches are very effective at reducing clinical behaviours when correctly applied, but if misapplied, can result in a strengthening of those behaviours or the development of other problematic behaviours.

3. Within some settings, inexperienced and poorly supervised healthcare professionals have at times developed ‘behavioural programmes’ based almost exclusively on punishment schedules that are highly reinforcing for staff members – they change behaviour quickly within the short-term – at the expense of a positive, helpful, and therapeutic experience for the client.

4. The term ‘behavioural’ has become somewhat of a stigmatising term when applied to clients by some healthcare professionals, where presentations or difficulties that seem purposeful are dismissed as ‘behavioural’ (deliberate), with the erroneous implication that these behaviours require less understanding or intervention.

Given that few other psychological approaches are as consistent as radical behaviourism with the scientist-practitioner philosophy prevalent in modern clinical psychology, or are as holistic in their attempts to balance all of the components of human experience (including emphasising the role of context), why have these criticisms remained? Skinner (1974) observed that the person with whom we are most familiar is our self and, before we come to study psychology, we typically have many years of being reinforced for explaining our own behaviour in terms of mental and emotional causes: change is often difficult, even for psychologists.

### 3.5 Formulation in Action

When working with Molly from a CBA perspective, our assessment would focus on (1) developing a functional analysis/formulation of her current behaviour (including private behaviour) in relation to her specific learning history (e.g., exploring what behaviours have been conditioned, reinforced, punished, and shaped historically); and (2) examining the function and consequences of her current behaviour in relation
to her reported difficulties and therapeutic goals. Given our functional underpinnings, the classification of Molly’s behaviour in terms of diagnosis would not be a priority.

The case material provided already contains some of the information we would attempt to elicit during an assessment and we can therefore begin to make provisional hypotheses. However, the information provided does not facilitate the identification of discrete behavioural chains or provide us with a means to examine the specific consequences of what appear to be key learning events. This somewhat precludes a traditional A:B:C: analysis, and consequently our formulation is tentative and the analysis provisional. In contrast to our usual clinical practice, wherein we would work with the client to refine the analysis, the formulation presented below is necessarily somewhat assumptive and accordingly loses some precision.

3.5.1 Initial Formulation

The working hypotheses outlined below are based on our reading and abstraction of events from Molly’s self-report and presentation within therapy. We identified a number of areas that appear to be adversely impacting on Molly and would aim to explore these further in line with her therapeutic goals (see intervention objectives below). We have clustered these into three broad domains: (1) sex and relationships; (2) depression; and (3) social interaction. Given that we are unable to undertake a comprehensive functional analysis without further detailed information, we examine each of these domains in turn utilising a narrative framework (based on behavioural principles) to highlight salient events, learning, and behavioural mechanisms that appear relevant to understanding how Molly’s difficulties may have developed.

3.5.1.1 Sex and Relationships

There is evidence from Molly’s self-report that she may be experiencing difficulties with respect to her sexual functioning, and her ability and willingness to form and sustain relationships. Regarding sex, Molly reports feeling “dirty” when experiencing a sexual response, worries that if she doesn’t have sex with a partner they will leave her, intimates that she is “not going to get that lucky again” (in finding a partner), but also worries about sexual encounters “going too far”. Sexual stimulation and access to intimate partners are typically strong appetitive reinforcers and are important aspects of psychological wellbeing (e.g., Laumann et al., 2006; Laumann, Paik, & Rosen, 1999). However, in Molly’s case, her history of rejection and humiliation within sexual relationships (such as her encounter with Jack at university) appears to have led to sexual activity becoming associated (conditioned) with aversive consequences.

Most of Molly’s familial and social relationships appear to have been similarly marked by disappointment, rejection, and potential abuse, incrementally consolidating learning that relationships are generally difficult and hurtful. We would therefore
hypothesise that these experiences have led to the development of a significant approach/avoidance conflict: meaningful relationships and intimacy are strongly desired but are unsafe and to be avoided.

### 3.5.1.2 Depression

Molly’s self-report contains numerous references to low mood and factors commonly associated with ‘depression’. She is tearful and tense in her sessions with the therapist, she discloses feeling “miserable”, “useless”, “depressed”, and “unattractive” – among other negative self-evaluations – and reports sleep disturbance, poor motivation, poor concentration, changed eating habits, and a lack of pleasure in previously enjoyed activities.

From a behavioural perspective, an individual experiences depression when a significant reduction in response-contingent positive reinforcement occurs, such as separation from a long-term partner, or as their behaviour becomes subject to increasing levels of aversive control (e.g., Ferster, 1973; Lewinsohn, 1974), such as having to perform excessive duties to avoid negative consequences (see Kanter, Busch, Weeks, & Landes, 2008, for an overview). Although most people will experience such changes in contingencies periodically within their lifetime, for some individuals, depressive behaviour can become more entrenched. This may occur through a lack of established adaptive behaviours that can help an individual to re-establish positive contingencies (such as social skills – see below), or through excessive avoidance behaviour, which functions to reduce imminent distress but at the cost of reducing the probability of contact with future sources of positive reinforcement.

Molly’s avoidance of relationships is reducing her access to a number of strong primary reinforcers, such as sex, love, intimacy, social support, and safety. We would hypothesise that the series of events Molly has reported (and others which she has not yet reported) have led to a reduction in response-contingent reinforcement: many previous sources of positive reinforcement (such as work, baking, socialising with work colleagues, etc.) have subsequently become punishing through their association with humiliation, rejection, and failure. As a consequence, instead of actively approaching aversive situations or managing conflicts, Molly avoids activities and opportunities that may lead to positive reinforcement (such as socialising) in order to reduce potential near-term distress; this functions to maintain her behaviour through the mechanism of negative reinforcement.

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1 We use ‘depression’ cautiously here as an umbrella term for a number of behaviours (overt and private) that commonly occur together when an individual is poorly reinforced by their environment. Within a behavioural analysis, depression is not something a person ‘has’ that causes these behaviours, but is simply a shorthand term for those behaviours.
Much of Molly’s current and historical behavioural activity also appears under aversive control: her academic achievements, and university and career ambitions, appear to function to reduce her parent’s “disappointment” rather than being aligned with her own personal values, and she reports running errands and meeting her parent’s “excessive demands” in order to assuage feelings of guilt. Aside from contributing to low mood, another common consequence of such aversive schedules of reinforcement is anger and frustration, and there is evidence of both within Molly’s self-report and therapeutic presentation. From a behavioural perspective, anger is typically considered to function as an energising/invigorating response to facilitate escape from an aversive environment, and Molly’s occasional outbursts, both towards others and within therapy, provide us with important information about the dominance of negative reinforcement and punishment within her current context.

3.5.1.3 Social Interaction

There are indications from Molly’s self-report and her presentation within therapy that she may have difficulties with social interactions. She describes herself as “too controlling” and “emotionally demanding” within most of her previous social and romantic relationships, and communicates feelings of social uncertainty (e.g., “not fitting in”, not wanting to “impose” on other people at university, etc.). While Molly’s difficulties in this domain may simply be bad luck (e.g., not meeting the right type of people), we would want to explore this further and have three (overlapping) tentative hypotheses at this stage:

(1) It is possible that Molly has not had sufficient opportunity to develop mature social interaction skills and her difficulties in this area may indicate a skills deficit. Some information within the case description is supportive of this hypothesis. Her parents do not appear to have modelled appropriate interaction behaviour – they are dismissive, avoidant, and critical of each other, and do not appear to have fostered sufficient “warmth” within the family home where the development (reinforcement) and refinement (shaping) of good social skills could occur. Similarly, any expression of need from Molly appears to have been labelled “dramatic”, “clingy”, and “histrionic” by her parents, partners, and even healthcare professionals during her hospital admission. These punishing consequences fail to provide Molly with opportunities to learn how to meet her needs in more socially acceptable ways and simply function to confirm her negative views of herself as an “irritation” and a “disappointment”. Given that Molly’s self-report indicates that her sister Ella has developed good social skills, however, we would want to examine this issue further: perhaps Ella was more favoured, or perhaps the alleged abuse is an important consideration here.

(2) Given Molly’s reported history, we would also hypothesise that she has developed a need to tightly control the parameters of her relationships. She describes being “too controlling” and “emotionally demanding”, and her behaviour in this regard – if these descriptions are accurate – may function as an attempt to minimise the
probability of harm (punishment) from potential relationships. Given that almost all of the relationships Molly has disclosed have resulted in distressing consequences for her (conditioned association), “clingy” and “controlling” behaviours are perhaps being maintained through perceived threat reduction – the more she controls her relationships, the more in control and less threatened she feels (negative reinforcement). However, the undesirable consequence of her controlling behaviour is that her relationships are more likely to breakdown given her difficult behaviour within them; this leads to the eventual removal of strong appetitive reinforcers (likely to contribute to low mood) and maintains (through a strong intermittent negative reinforcement schedule) her controlling behaviour in future relationships.

(3) Related to the above hypotheses, we would also want to explore the function of Molly’s self-report and presentation during therapy. When first encountering Molly’s history and the words she uses to describe herself, our first reactions are sympathy and compassion. However, while her report of her difficulties may well be accurate (and we would not aim to explore this further until a firm therapeutic relationship had been established), it may also be the case that the self-report itself, or more accurately, the style Molly uses to convey her history, is a prima facie indication of her social interaction difficulties. This is by no means to diminish Molly’s distress, but her style of interaction may function to elicit sympathy and associated comfort from others, including the therapist. This would be congruent with the above hypotheses, perhaps suggesting limited skills for achieving intimacy in other, less demanding ways, and/or a behavioural style that aims to influence other people’s emotional consideration towards her. While such an interaction style may be positively reinforced in the short-term, the long-term consequences may again be frustration and relationship breakdown as others start to consider Molly “emotionally demanding” and begin to avoid her: maintaining her problematic interaction style while also reducing her opportunities for long-term positive reinforcement through more subtle positive social interaction.

3.5.2 Intervention Objectives

When working with a client from within a CBA framework, our broad intervention objectives are: (1) to determine the nature and meaning of the client’s therapeutic goals; (2) to establish the therapist and the therapeutic relationship as a robust source of positive reinforcement and a non-punishing context (this should occur at all stages of the assessment and intervention); (3) to undertake a detailed assessment leading to the production of an agreed formulation; (4) to use the formulation with the client to identify and understand helpful and unhelpful current behaviours (defined pragmatically as those that move the client closer to, or further away from, their therapeutic goals), and the reinforcement schedules that are maintaining or reducing them; and
(5) to develop with the client techniques, strategies, and behavioural experiments that facilitate therapeutic learning and behavioural change.

From a radical behavioural perspective, behaviour change (regardless of therapeutic modality) is effected through a limited number of processes. When working therapeutically with a client, we would therefore be guided by the principles that (1) desired behaviours are most successfully developed, shaped, and maintained through positive reinforcement (initially using a direct 1:1 ratio schedule where possible, before moving to intermittent ratios to ensure resilience); (2) problematic behaviours (those that have consequences that lead the client away from their therapeutic objectives) can be reduced through differential non-attendance on the part of the therapist when they occur, and can often be replaced through reinforcement of alternative behaviours that have a similar function (they meet the client’s needs but without the previous negative consequences – termed differential reinforcement of alternative behaviour); (3) previously entrenched responses to specific stimuli, including those underpinned by rule-governed behaviour, can be disrupted and new learning take place through techniques such as structured exposure and desensitisation. Below, we describe how we would bring these elements together when working with Molly, the difficulties that may arise, and how we might assess the effectiveness of the intervention.

### 3.5.3 Intervention Plan

When working directly with clients we would always ensure that therapeutic goals are clearly stated in terms of measurable change, and would spend considerable time helping clients to identify and articulate these before beginning any intervention. We would use questions such as: ‘if you were to achieve that goal, how would I know you had achieved it?’; ‘how would other people know?’; ‘if you managed to change that aspect of your life, what would you be doing differently?’ The purpose of these types of questions is for the therapist and client to have a shared understanding of the specific nature of the behaviours the client wishes to change or develop, and importantly, provides a more concrete basis against which therapeutic gains can be evaluated.

Given Molly’s history, we would expect her to have difficulties in specifying her therapeutic goals, and this seems to be the case; a great deal of her previous and current behaviour appears to have been orientated towards avoiding disapproval from others (negatively reinforced), and identifying goals for herself is likely to be relatively novel and therefore difficult. We would consequently spend time within initial sessions focussing Molly’s attention on this issue, and using functional analysis to examine the function of her stated therapeutic goals: who are the desired changes for? What might the long-term consequences of those changes be? Are the changes likely to lead to more positive feedback from the environment, or just less negative feedback? Do the proposed changes look similar to previously problematic behaviour (in terms of function), or do they open up new possibilities?
Concurrently, we would also focus on building the formulation and developing the therapeutic relationship by positioning ourselves as a source of positive reinforcement and non-punishment. We would be attentive to and increase the types of comments, actions, and behaviours on our part that appeared to increase Molly’s feelings of trust, safety, and openness, and would reduce behaviours (at the beginning of therapy) that had the opposite effect. Our behaviour here would again be based on function and not topography; for example, what we may consider a positive comment or behaviour may be experienced by Molly as condescending or dismissive. The therapist is therefore required to track the impact of their behaviour on the client to ensure that the therapeutic context is functioning to increase desired behaviour while reducing the frequency of undesired behaviour, in line with the client’s therapeutic goals. From a behavioural perspective, everything that happens within the therapy room (including the therapist’s own behaviour) can be subject to a functional analysis, and the negotiation of therapeutic goals and the development of the therapeutic relationship are no different.

As Molly became more comfortable within therapy (that is, following repeated experiences of direct response contingent positive reinforcement), we would begin to examine her history, presentation, and difficulties in closer detail, collaboratively building the formulation and developing functional analyses of her current behaviour. We would expect that Molly would become more tolerant of challenges from the therapist, given that such challenges, and her responses to them, would not necessitate withdrawal of positive reinforcement, and this initial foundation would be used to frame the whole therapeutic process.

It is important to note here that within CBA, the processes of assessment and formulation are not always clearly demarcated; what happens within the therapy room (and outside, during homework tasks and behavioural experiments) will impact on the formulation, more details are likely to be shared as the therapeutic relationship is developed, and the aims of therapy may change once understood within the context of the client’s broader history. However, as noted above, before the principal intervention can proceed it is imperative that the client’s therapeutic goals, and criteria for determining whether they have been achieved, are clearly established.

We cannot negotiate intervention targets directly with Molly and therefore we must make some assumptions regarding her therapeutic goals. Based on our provisional formulation, we would initially focus on Molly’s social interaction and her depressive behaviour. We would expect that focussing on these components would have secondary benefits for the other domains of Molly’s life (e.g. relationships) by providing her with skills to express and meet her needs in ways that are less problematic and that facilitate greater opportunity for positive reinforcement.
3.5.3.1 Social Interaction

We would use a combination of functional analysis, within-session interactions, and behavioural experiments to help Molly develop more adaptive social interaction behaviours. Using functional analysis, we would outline how certain events (such as comments from colleagues) appear to elicit specific behaviours (e.g., rumination, avoidance, etc.) and identify the consequences of these behaviours – in terms of whether they move Molly closer to, or further away from, the type of life she wishes to lead. We would hope to demonstrate to Molly that her behaviour (generally avoidance and isolation), although seemingly beneficial in the short-term, has significant long-term consequences for her. Through this process, we are attempting to undermine the learned associations and rule-governed behaviour that impact on Molly (e.g., ‘the only way to cope with hurtful experiences is to avoid them’) and to begin to introduce and reinforce alternative considerations (e.g., ‘the cost of avoiding all difficult situations is having few friends and not being valued’).

Using the therapeutic relationship as a basis of support, we would also strongly reinforce Molly’s socially adaptive behaviour within the therapy session (such as appropriate, assertive expression of her needs; using more positive and less derogatory self-referential terms; challenging the therapist in an appropriate and socially skilled manner, etc.) and would attend less to any inappropriate (again, functionally defined, in terms of therapeutic goals) social behaviour. Although other approaches may refer to this process as ‘non-specific factors’, we would highlight the purposive use of differential reinforcement and shaping here to help develop Molly’s social skills set.

Through the above, we would hope that Molly would begin to understand the potential (unintended) consequences of her previous interaction behaviours, to understand (at least in principle) that avoidance behaviours can have detrimental long-term consequences, and to have developed, through practice with the therapist, more adaptive ways of communicating her needs.

At this stage, we would want Molly to experience putting her new skills into practice, and would collaboratively develop behavioural exposure tasks for that purpose. Although the specific nature of the task would depend on Molly’s therapeutic goals (for example, initiating a conversation with her work colleagues), the function of the task would be for Molly to experience direct, positive contingencies for her differential behaviour (in this case, tolerating rather than avoiding social discomfort), in order to promote and consolidate alternative, adaptive learning (in this case, through the process of exposure and habituation).

3.5.3.2 Depression

Behavioural activation is an effective behavioural approach for depression that aims to increase response-contingent positive reinforcement and reduce the occurrence of aversive control within an individual’s life (Jacobson et al., 1996; Jacobson, Martell,
(Dimidjian, 2001; Martell, Addis, & Jacobson, 2001). Similar to the process of exposure for anxiety-related behaviours, ‘activation’ encourages individuals to engage in activities that they have been avoiding, in order to disrupt entrenched schedules of negative reinforcement and increase the opportunity for response-contingent positive reinforcement.

In line with behavioural activation, we would work with Molly to create a rank order of potentially reinforcing activities, and construct a schedule and structure for these activities (including planned frequency, intensity, and duration). Molly would then be encouraged to work through the agreed schedule between sessions, engaging in tasks in a graded manner (increasing activity over time, in order of task difficulty). Given that the aim of the procedure is to increase positive reinforcement and reduce aversive consequences, it is important that the tasks identified by the client are personally meaningful and are achievable. It is therefore judicious to start with readily-attainable, but personally salient tasks, so that the client has immediate experience of success, helping to maintain (positively reinforce) the approach behaviour for the remainder of the hierarchy, and consolidating learning. When engaging in a specified activity (for example, baking cakes for her colleagues again), Molly would be asked to rate each activity in terms of pleasure, mood, and mastery; these ratings would be discussed within subsequent therapy sessions, highlighting and reinforcing the relationship between activity and positive mood (and avoidance and negative mood).

We would expect that through the above interventions, Molly would become readily aware of the role of negative reinforcement in the maintenance of many of her difficulties; accordingly, we would expect Molly to become less avoidant and more approach-focussed in her response-style, and would therefore anticipate secondary positive effects in other areas of Molly’s life that we have not directly targeted (such as her familial and sexual relationships).

### 3.5.3.3 Evaluation
The effectiveness of a behavioural intervention is determined pragmatically by whether the targeted behaviour(s) have significantly changed (e.g., increased or decreased) in line with the therapeutic goals established during the initial stages of therapy. To assess change in these behaviours, a combination of observation, self-report, and idiographic outcome measures are typically used, and the therapist may employ single-case methods (such as visual analysis of plotted data, reliable and clinical change statistics, etc.; Barlow, Nock, & Hersen, 2009; Hageman & Arrindell, 1999; Morley, 2013), in addition to the client’s self-report, to ascertain intervention efficacy. Such methods allow for an idiographic but empirically-grounded approach to outcome assessment, and would underpin our work with Molly.
3.5.3.4 Potential Difficulties

Behaviour change is difficult, and it is likely that we would encounter a number of problems when initially working with Molly. Given her apparent tendency to avoid challenging situations (particularly social situations), her mistrust of relationships, her experiences of parental disapproval, and her possible limited social interaction skills, we would expect the beginning stages of therapy to be marked by a similar approach-avoidance style as her broader relationships. Consequently, frequent displays of emotion, followed by withdrawal and negative self-appraisals might be expected, as perhaps would be over-reporting on baseline measures of distress (given her limited ability, at that stage, to communicate her distress in other ways) – and this would need to be taken into account when attempting to measure therapy outcomes. We would aim to strike a balance between validating Molly’s distress (in order to create a safe therapeutic space, to develop the therapeutic relationship, and to reduce the likelihood of premature therapy termination) and inadvertently reinforcing her problematic behaviours (making it more difficult to challenge those behaviours in the future). As therapy progressed, we would be optimistic that this gentle shaping process would reduce Molly’s approach-avoidance conflict and would facilitate a strong, therapeutic relationship that would form the foundation for the above intervention.

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3.6 CBA Formulation: Critical Commentary

Reading the opening of this chapter was surprisingly pleasant, like taking a nostalgic trip down memory lane. Clinical Psychologists trained over the last few decades have been drilled and skilled in behavioural therapy and its derivatives as part of their training, and behavioural theory is therefore inseparable from the history and identity of Clinical Psychology in the UK. The principal hurdle to be overcome in critiquing this chapter is the strong sense of familiarity it is likely to induce in any Clinical Psychologist who reads it. In addition, more integrative approaches, such as Body-Centred Psychotherapy (see Chapter 9), openly acknowledge influences from behavioural theory among others.

It is therefore difficult to strongly assert that CBA is wrong per se. The early theoretical sections of the chapter state the principles of behavioural learning, most of which are undeniably true: we learn, animals learn, classically, operantly, two-factorily…and so on. But there is a point in this discourse where it turns from stating what is self-evidently true to what is unreflectively speculative. The main weakness of this chapter and the application of CBA to Molly’s case is therefore not so much that the basic principles of CBA are wrong, but that they are overextended and narrow.
CBA bears all the marks of attempting to be a ‘theory of everything’ – a psychological approach, the basic principles of which can render a complete account of the essence of all human experience. ‘Theories of everything’ are closed and inflexible in their doctrines and therefore less open to development and consideration of new ideas. An approach such as CBA, as a theory of everything, not only has to demonstrate that it is clinically effective but it also has to show that other conceptualisations are not. Or, it has to account for the clinical effectiveness of other approaches by asserting that they are really just crypto-CBA – behaviourism in disguise. It therefore leans towards intolerance of alternative systems of thinking – an intolerance that will no doubt be demonstrated in the critique of our BCP chapter. Ironically, exclusive adherence to learning theory leads to a curious inability to learn from other theories.

In addition, while the writers of the CBA chapter are keen to stress that radical behaviourism is neither mechanistic nor reductive, simply stating the fact does not make it so. It seems likely that CBA at least qualifies as a conceptually reductive system of thought. CBA, it would appear, asserts that when push comes to shove, everything is behavioural contingency. Ultimately though, CBA is not an approach that allows any external critique. Skinner, it would appear, considered psychologists who detracted from behaviourism to be suffering the unfortunate consequences of having their introspective meanderings inappropriately reinforced. This is a good example of what social psychologists call an intra-textual hermeneutic, the way in which a social group closes itself to information outside of its borders – otherwise known as fundamentalism.

All of the above is likely to impact on the therapeutic practice offered by CBA. The central feature of which seems to be the excessive and unnecessary need to translate everything that happens into the language of behavioural contingencies. Take, for example, the description of Molly’s growing comfort with the therapeutic situation. A behavioural account of this gradual acclimatisation to a novel environment is perfectly acceptable, but the language of relationship is surely much more appropriate to denote this development. Whereas other approaches would frame this in terms of increasing trust, rapport, collaboration, or empathy, the authors of this chapter prefer the heart-warming phrase, “repeated experiences of direct response contingent positive reinforcement”, with the therapist a “source of positive reinforcement and non-punishment”. The authors’ reactions to Molly’s history are “sympathy and compassion”, but seemingly pathologise “her style of interaction” functioning to “elicit sympathy and associated comfort”, with a “behavioural style that aims to influence other people’s emotional consideration towards her”. Surely this is a fundamental part of human to human interaction, so of course Molly’s behaviour aims to influence other people in this way.

More hearteningly, later in the chapter, the phrase “a basis of support” is used to describe the therapeutic relationship. However, during therapy, the therapist would presumably decide which “socially adaptive behaviours” to reinforce and which “inappropriate” behaviours to attend less to. This represents a balance of power in
favour of the therapist, which is further reinforced by phrases like “at this stage we would want Molly to...”. It is acknowledged that there is likely to be difficulty in establishing goals, due to Molly avoiding disapproval from others. One wonders therefore how pressing on with specifying goals would seem to the client who is likely to want to avoid disapproval from the therapist, and how they would ensure that the goals were from the client and not imposed by the therapist. It is stated earlier in the chapter that there are professional and public negative perceptions of behavioural approaches, and reinforcing the power imbalance by the use of such terminology is unsurprisingly likely to maintain these perceptions. It is helpful to acknowledge the potentially damaging result of the misunderstanding and misapplication of behaviour theory but it is also easy to see how this could occur.

Our final comments centre around the use of the word “holistic” to describe CBA. Despite claiming to be a theory of everything, the physical aspect of Molly’s experience has largely been ignored in this formulation, or dismissed as a ‘response’. However, as we discussed within our chapter, physiological experience (e.g., IBS, pelvic pain, butterflies, etc.) is an important part of Molly’s presentation, as are the ‘past traumas’ which Molly alludes to being unable to move on from. It seems that these aspects of her experience would be largely ignored amongst the goal-focused behavioural work, potentially dismissing aspects of Molly’s experience which make up the ‘whole’. Therefore it is doubtful whether CBA can truly be described as holistic, as the whole of the client is not embraced in therapy; rather, aspects of their experience are rejected when they don’t fit with the theory.

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3.7 Author Response

As behaviourists, although we would argue that CBA is not a “conceptually reductive system of thought”, we do not find the allegation particularly aversive. The use of phrases such as “trust, rapport, collaboration, or empathy” when talking about relationships is of course perfectly reasonable, but as scientists, we want to explore these constructs in more depth, and this deeper level of analysis requires a different, more precise form of understanding and language – language such as that used (and critiqued) in our chapter. When we understand the mechanisms that underpin constructs such as ‘collaboration’, ‘trust’, ‘rapport’, etc., we can identify how to facilitate these more effectively. It is of course important that the client feels safe and contained within the therapeutic vehicle – but if that vehicle breaks down, we need to understand the underlying mechanics and components so that we can get the vehicle running and back on the road again.

As CBA practitioners, we aim to be explicit and transparent about potential power imbalances, negotiating measurable goals in therapy, using methods of intervention
that have been empirically derived and tested, and evaluating our effectiveness as therapists – we do not fear exposure or obscure the mechanisms of our practice through the use of vagaries. By contrast, our BCP critics look to achieve goals “that are difficult to put into words”.

It is true that, by and large, we take the view “all other approaches are really just crypto-CBA”. Radical behaviourism is indeed a theory that accounts for all of human behaviour – including the bodily experiences focused on by our BCP colleagues. This does not mean we cannot learn from other theories, including BCP, although as scientist-practitioners, we are inclined to wait for an evidence-base to develop before taking their concepts on board uncritically.

Finally, behaviourists have sometimes been accused of lacking a sense of humour, but we cannot help but relish the irony of being accused of not “embracing the whole of the client” by “Body-Centred Psychotherapists”. In fact, for us, the strength of CBA is that it acknowledges that human responses are complex multi-component processes, and that if we want to make credible attempts to understand them, we also need to consider and analyse the contexts that have shaped our responses, and how those contexts elicit and maintain our responses. Our view remains that no other approach is as balanced, explicit, evidence-based, holistic, or transparent in its methods and goals as CBA – consequently we are surprised when our critics attempt to punish our democratic stance. As CBA therapists we find working in this open way reinforcing, and consequently find the prospect of being less collaborative with our clients and not putting our goals “into words”, highly aversive.

References


References


